

WHAT COMES AFTER VICTORY FOR BEHAVIORAL LAW AND ECONOMICS?

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The battle to separate the economic analysis of legal rules and institutions from the straightjacket of strict rational choice assumptions has been won by the proponents of “behavioral law and economics.” With the “revealed preferences” assumption of neoclassical economics—that individual behavior necessarily maximizes subjective expected utility—discarded, what comes next for the discipline of law and economics? This Article argues that theorists should turn their attention to a series of philosophical and methodological problems that surround the measurement of subjective expected utility: (1) the need to recognize and value autonomy for its own sake, separate from its ability to enhance utility; (2) the need to advance a theory of subjective utility that takes into account the use of heuristics in the construction of preferences as well as in understanding facts and judging probabilities; and (3) the need to recognize and confront the consequences of individual difference in the extent of bounded rationality.

I. INTRODUCTION

In the mid-1990s, when I first began relying on the research of Daniel Kahneman and Amos Tversky in the field of behavioral decision theory to provide a behavioral basis for legal analysis, one of the leading figures in the law and economics community told me that my work was interesting, but that it was not law and economics. Another law and economics luminary, no doubt intending to be helpful, asked me why I was wasting my time with psychology.

How times have changed.

The beginning of the sea change in attitude in the legal academy probably can be marked by the publication in 1998 of *A Behavioral Ap-*

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proach to Law and Economics, by Christine Jolls, Cass Sunstein, and Richard Thaler,¹ the first of several major articles that suggested that law and economics analysis need not be weighed down by the unforgiving behavioral assumptions of rational choice theory. Two years later, Professor Thomas Ulen and I published our manifesto of sorts, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*,² making a similar point but offering a somewhat different framework for thinking about the issue.³

Citation counts do not necessarily reflect academic quality, of course, but they do provide insight into what trends and scholarly approaches are being followed by others within the academy.⁴ And citation analysis demonstrates the remarkable degree of success enjoyed by behavioral law and economics over the last fifteen years. According to recent HeinOnline and Westlaw database searches,⁵ *A Behavioral Approach to Law and Economics* is the most-cited law journal article published since 1995. It holds this position by a wide margin—no other article comes within a hundred citations.⁶ According to the same searches, *Law and Behavioral Science* is the most-cited law journal article published since the appearance of *A Behavioral Approach to Law and Economics*,⁷ with no articles published after *Law and Behavioral Science* coming within eighty-five cites of it, according to either database.⁸ Of the

1. Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

2. Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051 (2000).

3. As is often the case in other areas of culture, high and low, California was on the vanguard of the coming trend. The *Stanford Law Review* published the Jolls, Sunstein, and Thaler article, and the *California Law Review* published the article written by Thomas Ulen and me.

4. For a thorough discussion regarding factors that contribute to citation frequency including journal placement, time of release, article topic, and article quality, see William M. Landes & Richard A. Posner, *Heavily Cited Articles in Law*, 71 CHI.-KENT L. REV. 825 (1996).

5. On April 11, 2011, the HeinOnline Law Journal Library was searched for all articles published in 1995 and later with results sorted by number of other articles in the database that cited them. On April 24, 2011, a manual search was conducted in the Westlaw Journals and Law Reviews (JLR) database for citations to articles that had been cited in at least two hundred other articles according to the Hein-Online search. Nearly all of the articles considered achieved a higher citation count in the Westlaw database than in the HeinOnline database, but differences in the ordinal ranking of the articles, based on the number of articles that cited them, varied little.

6. *A Behavioral Approach to Law and Economics* has been cited in 808 articles according to Westlaw; 676 according to HeinOnline. David R. Johnson & David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996) came in second in the Westlaw search with 625 citing articles (521 in HeinOnline). Linda Hamilton Krieger, *The Content of Our Categories: A Cognitive Bias Approach to Discrimination and Equal Employment Opportunity*, 47 STAN. L. REV. 1161 (1995), finished second in the HeinOnline search with 533 citing articles (610 in Westlaw).

7. In the Westlaw database, there are 481 citing articles; in the HeinOnline database, there are 533.

8. E.g., William J. Stuntz, *The Pathological Politics of Criminal Law*, 100 MICH. L. REV. 505 (2001), registering 385 citations in the Westlaw database and 322 in HeinOnline, is the second most-cited article published since the year 2000. Margaret M. Blair & Lynn A. Stout, *A Team Production Theory of Corporate Law*, 85 VA. L. REV. 247 (1999) (registering 411 citations in Westlaw and 358 citations in HeinOnline) comes in second to *Law and Behavioral Science* in the ranking of all articles published after *A Behavioral Approach to Law and Economics* in May 1998.

ten most-cited law journal articles published since 1995, half fall within the framework of behavioral law and economics.⁹

As this data suggests, the battle to separate the economic analysis of legal rules and institutions from the straightjacket of strict rational choice assumptions¹⁰ has been won. The fundamental methodological assumption of rational choice economics, that individual behavior necessarily maximizes subjective expected utility, given constraints,¹¹ has been largely rejected as an unyielding postulate for the analysis of legal policy. Yes, such an assumption, even if inaccurate, simplifies the world, but it does so in an unhelpful way—much in the way that it is unhelpful for a drunk who has lost his car keys in the bushes to search under the street-lamp because that is where the light is.¹²

The behavioral economic analysis of law—which is ecumenical enough to adopt basic insights of traditional analysis such as that law acts as a price system, that there tends to be an inverse relationship between the price of a good and the quantity demanded, and that in some situations individuals might, in fact, act optimally—has become *the* economic analysis of law. Those who seek to defend the methodological assumption of rational choice theory generally are more likely to argue that the anomalies and inconsistencies documented by behavioral decision theory can be incorporated into the neoclassical model by expanding the concept of “rationality”—a claim that is not inconsistent with the behavioral view—than to defend the strict assumptions of the last century.¹³ Even Richard Posner, the leading figure in the field of law and economics for forty years, falls into this category, conceding that:

[E]conomic analysis of law, without abandoning its commitment to the rational model of human behavior, has abandoned the model of hyperrational, emotionless, unsocial, supremely egoistic, omniscient, utterly selfish, nonstrategic man (or woman), operating in

9. In addition to *A Behavioral Approach to Law and Economics* and *Law and Behavioral Science*, see Krieger, *supra* note 6 (registering 610 citations in Westlaw and 533 citations in HeinOnline); Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338 (1997) (registering 473 citations in Westlaw and 431 citations in HeinOnline); and Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903 (1996) (registering 486 citations in Westlaw and 440 citations in HeinOnline).

10. See Korobkin & Ulen, *supra* note 2, at 1060–66 (describing four variations of rational choice theory as it is used in legal and policy analysis).

11. See, e.g., Faruk Gul & Wolfgang Pesendorfer, *The Case for Mindless Economics*, in THE FOUNDATIONS OF POSITIVE AND NORMATIVE ECONOMICS 3, 8 (Andrew Caplin & Andrew Schotter eds., 2008) (“As its welfare criterion, standard economics uses the individual’s choice behavior, that is, revealed preferences. . . . Hence, welfare is defined to be synonymous with choice behavior.”).

12. This well-worn fable is commonly referred to as “the Drunkard’s Search.” See, e.g., Robert Jervis, *The Drunkard’s Search*, in EXPLORATIONS IN POLITICAL PSYCHOLOGY 338 (Shanto Iyengar & William J. McGuire eds., 1993).

13. See, e.g., Yulie Foka-Kavalieraki & Aristides N. Hatzis, *Rational After All: Toward an Improved Model of Rationality in Economics* 18–20 (Oct. 19, 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1692441 (claiming to defend “rational choice theory” while arguing that “the concept of rationality should be appropriately extended so as to include and explain the presence of some seemingly cognitive quirks or ‘irrationalities’”).

conditions of costless information acquisition and processing, that cognitive psychologists rightly deride as unrealistic, and, more important, that is deficient in explanatory and predictive power with regard to a number of the phenomena in which economists and economically minded lawyers are interested.¹⁴

To the extent that legal scholars wish to premise their conclusions on the assumption that the relevant actors are perfect optimizers of their material self-interest, they bear the burden of persuasion that this assumption is realistic in the particular context that interests them.¹⁵

And so, to begin this Article in honor of the retirement of my esteemed friend, colleague, mentor, and coauthor, Professor Thomas Ulen, and with apologies to the late Senator George Aiken,¹⁶ I am declaring victory in the battle for the methodological soul of the law and economics discipline. There is a sharply declining marginal benefit to be gained by continuing to pursue the debate between behavioralists—that is, proponents of incorporating insights previously limited to the discipline of psychology into the economic analysis of legal rules and institutions—and the defenders of the traditional faith in individual optimization as a core analytical assumption of legal analysis. Not everyone has been won over, of course,¹⁷ but enough have to justify granting amnesty to the captured and politely ignoring the unreconstructed.

Declaring victory has two pragmatic benefits. First, it allows me to avoid an extended discussion of the following claims that I would otherwise feel obligated to make: (1) that a mind built for optimization of subjective expected utility is highly improbable from the perspective of evolutionary theory; (2) that only in very atypical settings, even in business contexts, would it be reasonable to expect nonoptimizing behavior to be completely “driven out” of the market by optimizing behavior in the

14. Richard A. Posner, *Behavioral Law and Economics: A Critique*, ECON. EDUC. BULL., Aug. 2002, at 1, 2.

15. See, e.g., Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 544 (2003) (limiting their rational choice analysis of contract law to business-to-business transactions).

16. The Vermont senator famously advised that “[t]he United States could well declare unilaterally . . . that this stage of the Vietnam War is over—that we have ‘won’ in the sense that our armed forces are in control of most of the field and no potential enemy is in a position to establish its authority over South Vietnam.” Richard Eder, *Aiken Suggests U.S. Say It Has Won War*, N.Y. TIMES, Oct. 20, 1966, at 1. Today, a reference to Aiken’s suggestion is sometimes understood as a call for abandoning a failed policy without admitting defeat. See, e.g., Richard Gwyn, *Victory in Afghanistan Just Means Avoiding Defeat*, TORONTO STAR, July 23, 2010, at A19. But this was not Aiken’s message. Rather, his point was that when an objective has been achieved, sometimes nothing is left to fight for, or at least not enough to justify the costs. See Mark A. Stoler, *What Did He Really Say? The “Aiken Formula” for Vietnam Revisited*, 46 VT. HIST. 100, 100–08 (1978) (stating that Aiken was merely suggesting a way to de-escalate the goals of U.S. policy in Vietnam back to what he felt were the original goals upon first entering into the country).

17. As an example, in a blog post responding to an earlier draft of this article, George Mason Law Professor Josh Wright defends traditional, rational choice law and economics against the behavioral approach by alleging the greater usefulness of the former in the realm of prediction. See Josh Wright, *Declaring Victory or Premature Celebration?*, TRUTH ON MKT. (Apr. 15, 2011, 10:34 AM), <http://truthonthemarket.com/2011/04/15/declaring-victory-or-premature-celebration/>.

short or medium term (and in the long term, of course, we are all dead anyway¹⁸); and (3) that, although a more complex model of human behavior often results in an indeterminate set of predictions about how individual actors will react to law and institutional structures, rational choice assumptions too usually fail to yield a determinate set of predictions, except in the most general way (such as, for example, that higher prices will lead to lower demand, all other things being equal).¹⁹

More importantly, the victory proclamation frees me, and hopefully others, to focus attention on addressing the variety of problems raised by the new paradigm. In this Article, I will describe three consequences of the success of behavioral analysis in reshaping the discipline of law and economics and challenges that the field now faces as a result of those successes. I hope that my assertions will be at least provocative, if not compelling, but I assert no claim to have provided even an approximately complete list of consequences and challenges. My attention here is focused specifically on normative law and economics; that is, the consequences and challenges to legal economists who wish to provide normative policy recommendations. I will assume that legal economists view as their normative goal the maximization of individual or social welfare, depending on the particular social or legal context under examination. (Although it might be possible to make the case that, in the world of behavioral law and economics, a law and economics scholar need not necessarily be a consequentialist, I will not make that case.)

My central thesis, which runs through the three parts of the Article to follow, is that now that law and economics has discarded the “revealed preferences” assumption of neoclassical economics—that individual behavior *necessarily* maximizes subjective expected utility—we need to confront a range of philosophical and methodological problems that surround the measurement of subjective expected utility if we are to keep normative law and economics vital. We have moved the proverbial drunk from the sidewalk, where the light is bright, into the bushes, where the lost set of keys resides. This is a step in the right direction, but it is dark in the bushes, and we need lanterns to guide our search.

18. JOHN MAYNARD KEYNES, A TRACT ON MONETARY REFORM 80 (1923) (“[The] *long run* is a misleading guide to current affairs. *In the long run* we are all dead.”).

19. On the last of these points, see Eric A. Posner, *Economic Analysis of Contract Law After Three Decades: Success or Failure?*, 112 YALE L. J. 829, 865–67 (2003).

II. THE WEDGE BETWEEN EFFICIENCY AND LIBERTARIANISM

A. *The Rise of Regulatory Agnosticism*

In the rational choice world, it was assumed that each individual's behavior necessarily maximizes his subjective expected utility, given external constraints. This syllogism leads to a close relationship between normative law and economics theory seeking productive and allocational efficiency and a libertarian political philosophy. The normative goal of maximizing social welfare in a world of perfectly rational actors does not necessarily entail proscribing government regulation in every circumstance. Market failures, such as the existence of negative externalities stemming from private behavior, collective action problems that encourage free riding, or the presence of high transaction costs that impede private ordering can justify regulatory intervention in some circumstances.²⁰ But the tenor of normative law and economics analysis in the twentieth century was usually that a laissez-faire approach by the state was presumptively efficient, unless proven otherwise. The consequence was an extremely cozy relationship between traditional law and economics scholarship and political libertarianism.²¹ When I attended law school in the early 1990s, and even when I became a law professor in the late 1990s, the common assumption was that students and scholars with more than a passing interest in law and economics embraced a libertarian political philosophy, and my sense was that this presumption was usually, although certainly not always, correct.

The ascendancy of behavioral law and economics has shattered this relationship. Once the airtight bond between observed choice and individual welfare maximization is broken, there is no longer a syllogistic relationship between the goal of welfare maximization and a bias against regulation. Importantly, as careful readers of the behavioral law and economics literature know, although the behavioral law and economics revolution brought with it a greater interest in and openness to regulation,²² its rise did not signal the replacement of a strong antiregulation presumption with an equally strong presumption against free markets. Jolls, Sunstein, and Thaler identified the normative consequence of behavioral law and economics as “anti-antipaternalism,” to make the point that behavioral analysis was not propaternalism, but rather cautiously

20. See, e.g., DANIEL H. COLE & PETER Z. GROSSMAN, *PRINCIPLES OF LAW AND ECONOMICS* 19 (2005).

21. See, e.g., Michael W. McConnell, *The Counter-Revolution in Legal Thought: Four Conservative Ideas Are Setting the Terms of Debate*, 41 *POL'Y REV.*, Summer 1987, at 18, 23–24 ([W]hile law and economics “has no overt ideological element . . . [.] law and economics scholars will—with only rare exceptions—take positions comparable with libertarian conservatives.”).

22. As Mark Kelman appropriately generalizes from the literature, behavioral law and economics scholarship (what Kelman calls “Heuristics and Biases Scholarship”) “has tended, to some extent, to favor, or at least be more tolerant of, expert displacement of both market choices and democratic preference expression.” MARK KELMAN, *THE HEURISTICS DEBATE* 67 (2011).

skeptical about the antipaternalist commitment of traditional law and economics scholarship.²³ Individual inability to maximize expected utility in a computer-like fashion provides an argument against a dogmatic resistance to regulation, but it does not necessarily suggest, much less prove, that paternalism will do a better job of approximating efficiency.

In place of an antiregulation bias, the rise of behavioral law and economics should be understood as substituting an agnosticism toward regulation and refocusing the general policy discussion in law and economics scholarship away from a pro- or antiregulatory dogmatism toward comparative institutional analysis, in which the unregulated market must compete with administrative, legislative, and judicial activism for claims to normative superiority in different contexts.²⁴ According to this world view, regulation can improve efficiency, even in the absence of substantial negative externalities or transaction costs, but it is not certain to, and it could end up making things even worse. At the end of the day, the shortcomings of unregulated markets compared to theoretical optimality are often clear. The content of the second-best policy prescription, however, is often obscured by uncertainty as to whether the pathologies of government decision making—including the distorting effects of interest group advocacy described by public choice theory and principle-agent conflicts along with the ordinary bounded rationality of the government decision makers themselves—are more or less at odds with a welfarist analysis than the bounded rationality of individual decision makers who might be cognitively less sophisticated than so-called experts.²⁵

B. Challenge: Valuing Autonomy

In any particular set of circumstances, the question of whether regulation or laissez-faire will maximize social welfare will be a difficult problem to resolve. In some cases, empirical analysis might shed light on the problem; in other cases, such hope is probably overly optimistic.²⁶

One component of this problem that must be considered, but to my knowledge has received very little attention, is the question of how to value individual autonomy for its own sake within the construct of consequentialist welfare analysis. That is, once we accept that autonomous choice will not necessarily maximize social welfare, and that regulation might have a larger role to play in a welfarist analysis than previously be-

23. Jolls, Sunstein & Thaler, *supra* note 1, at 1541.

24. See, e.g., Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1293 (2003).

25. Cf. KELMAN, *supra* note 22, at 164 (raising the question of whether, even if paternalism would “be effective in some world in which regulating paternalists were better-than-human,” the “alternative decisions makers [will be] even worse”).

26. See generally Russell Korobkin, *Empirical Scholarship in Contract Law: Possibilities and Pitfalls*, 2002 U. ILL. L. REV. 1033, 1050–61 (describing the reasons that empirical data often does not resolve disputes over legal rules using examples from contract law scholarship).

lied, an analyst concerned with the goal of welfare maximization must take account of the intrinsic value of unregulated, autonomous behavior.

Consider, as an example, the question of Americans' personal savings for retirement. A recent report calculated that, conservatively, Americans between the ages of thirty-two and sixty-four have saved \$6.6 trillion, too little compared with the projected cost of maintaining their standard of living during their retirement years.²⁷ In a rational choice world, in which revealed preferences are assumed to represent subjective expected utility, we might assume that this behavior demonstrates a collective preference for consuming more today and accepting a lower standard of living in retirement (or perhaps working more years in order to avoiding having to accept a lower standard of living). If this collective choice imposes negative externalities on society—perhaps by increasing the strain that those who save the least place on the social safety net—some additional amount of forced savings might be justified, but otherwise the appropriate conclusion would be that the apparently insufficient savings represents a set of efficient choices in light of individual preference functions.

In the new world of law and economics, individuals are understood not as ruthless optimizers, but as boundedly rational human beings who have a limited supply of cognitive energy and attention and rely on a cacophony of heuristic cues. Against this background, it is plausible that expected utility across the population might be increased if government were to impose a savings requirement (or, to the extent you conceive of the social security system as a forced savings program, an increased forced savings requirement). Perhaps as a result of the greater salience of today's expenses compared to tomorrow's,²⁸ a tendency toward hyperbolic discounting,²⁹ or systematically excessive optimism concerning our future income prospects,³⁰ as a society we save less money for the future than we would were we perfectly rational optimizers. If this is the case, perhaps the enjoyment of life in our declining years would increase more than the utility that we enjoy in our current lives would decrease if our elected leaders were to impose upon us a requirement that ten percent of every dollar earned be diverted to a private, individual retirement account that could not be accessed prior to age sixty-five. For this analysis

27. *The Retirement Income Deficit*, RETIREMENT USA, www.retirement-usa.org/retirement-income-deficit-0 (last visited July 31, 2011).

28. On the role of information salience, see RICHARD NISBETT & LEE ROSS, HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT 8 (1980). See generally Norbert Schwarz & Leigh Ann Vaughn, *The Availability Heuristic Revisited: Ease of Recall and Content of Recall As Distinct Sources of Information*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 103 (Thomas Gilovich et al. eds., 2002).

29. On hyperbolic discounting, see generally Shane Frederick et al., *Time Discounting and Time Preference: A Critical Review*, 40 J. ECON. LITERATURE, June 2002, at 351, 351.

30. On the optimism bias, see generally David A. Armor & Shelley E. Taylor, *When Predictions Fail: The Dilemma of Unrealistic Optimism*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT, *supra* note 28, at 334.

to be complete, however, we need to consider not just the costs and benefits from the consumption decisions that result from an income stream weighted more toward the future than the present, but also the resulting costs of the loss of autonomy.

In their influential book, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Richard Thaler and Cass Sunstein suggest that we can have welfare maximization while simultaneously eating our libertarian cake by encouraging, but not requiring, the choices that seem to be in the best interests of individuals.³¹ Concerning the example of the retirement savings problem, Thaler and Sunstein propose changing the default rule: make 401(k) enrollment automatic, subject to a low-cost means of opting out for those who truly object.³² This might well be the pragmatic approach to an intractable problem—I have also advocated manipulating default rules in furtherance of public policy objectives³³—but it is important to recognize that it does not really confront the problem head on. Assume the following: a society includes three individuals, *A*, *B*, and *C*. If the default rule is nonenrollment, *A* will fill out the necessary forms to establish and fund his or her 401(k) plan, and *B* and *C* will not. If the default rule favors enrollment, *C* will take the necessary steps to de-enroll and thus override the default, while *A* and *B* will not. If the policy-making community is convinced that more savings is better for individuals, selecting a proenrollment default rule will benefit *B*, but it will do nothing to improve the welfare of poor *C*!

One possible response is that by taking the affirmative steps necessary to opt out of retirement savings notwithstanding the contrary default, *C* demonstrates a utility function that makes living as a spendthrift today, future consequences be damned, a choice that maximizes his or her subjective expected utility. That is, in a world in which individuals are entitled to have, and in fact do have, heterogeneous preferences, careful use of default rules enables optimal sorting. But this argument would be based on the same flaw that plagues the strict rational choice assumption: that demonstrated behavior is necessarily consistent with utility maximization. This might be true in some, or even many, cases, but it cannot be universally so.

If the only heuristic that prevented employees from making utility maximizing retirement planning decisions were a propensity toward loss aversion, flipping the default rule might perfectly separate the *B*s of the world, who would really be subjectively better off saving more for retirement, from the *C*s of the world, who would really be subjectively better off spending their entire income now. By changing the salient refer-

31. RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 4–6 (2008).

32. *See id.* at 103–18.

33. Russell Korobkin, *Libertarian Welfarism*, 97 CALIF. L. REV. 1651, 1677–80 (2009) (advocating “policy-forcing” default rules”).

ence point from spending to saving, the proenrollment default would remove the stumbling block that prevented *Bs* from saving, while simultaneously allowing *Cs* (who would not benefit from saving) to continue to spend. But what if *Cs*, like *Bs*, would also benefit subjectively from saving, but they are led astray by the use of a decision-making heuristic other than the heuristic of choosing the status quo? In this situation, we cannot avoid the problem of having to decide whether to favor *C*'s liberty, by allowing him or her to spend now and save nothing, or his or her welfare, by requiring *C* to participate in the 401(k) plan.

Implicitly, by supporting a default rule rather than a command and control regulatory regime, *Nudge* favors liberty over utility. But, unless one is a strict libertarian on deontological grounds, the conceptually proper choice must depend upon a comparison between the cost to the material welfare of *Cs* if they are allowed to forego saving and the cost to their autonomy if they are forced to save. Although too much choice can be paralyzing,³⁴ it seems safe to assume that autonomy, distinct from the end-states it helps produce, usually has significant value to most individuals. But this value cannot be infinite. Notwithstanding the emotional appeal of Patrick Henry's demand to "give me liberty or give me death,"³⁵ few are manning the barricades in an effort to abolish the Social Security system on the ground that it deprives workers of autonomy by effectively forcing them to enroll in a retirement savings system (albeit one in which there is not a tight correlation between contributions and benefits). Conservative critics of Social Security usually advocate privatization, not abolition.³⁶ Privatization would provide more individual control over investment choices and perhaps a tighter correlation between contributions and benefits³⁷ but, notably, it would not alter the forced-savings element of the system. The few libertarians who would abolish the system entirely are generally considered far outside of the U.S. political mainstream.³⁸

34. See, e.g., BARRY SCHWARTZ, *THE PARADOX OF CHOICE: WHY MORE IS LESS* (2004).

35. Patrick Henry, Remarks at the Virginia Convention: Give Me Liberty or Give Me Death (Mar. 23, 1775).

36. See, e.g., President George W. Bush, U.S. President, Address Before a Joint Session of the Congress on the State of the Union 1 Pub. Papers 113 (Feb. 2, 2005) (advocating privatization with restrictions on available types of investments and on withdrawal options).

37. See, e.g., KARL J. BORDEN, CATO INST., CATO INSTITUTE SOCIAL SECURITY CHOICE PAPER NO. 1: DISMANTLING THE PYRAMID: THE HOW & WHY OF PRIVITIZING SOCIAL SECURITY (1995), <http://www.cato.org/pubs/ssps/ssp1.pdf>; Louis D. Enoff & Robert E. Moffit, *Social Security Privatization in Britain: Key Lessons for America's Reformers*, BACKGROUNDERS, Aug. 6, 1997, at 1-2, 29.

38. In the 2010 Congressional elections, much was made of the fact that Nevada's Republican senatorial candidate Sharron Angle had favored the abolition of the Social Security system, a position considered out of the mainstream, even for a conservative. See Michael R. Blood, *Tea Party Candidate Is Nevada Hopeful on the Rise*, TAHOE DAILY TRIB. (June 1, 2010), <http://www.tahoe-dailytribune.com/article/20100601/NEWS/100609992>; *During the Primary, Angle Said Social Security "Can't Be Fixed,"* ST. PETERSBURG TIMES POLITIFACT.COM (June 24, 2010), <http://www.politifact.com/truth-o-meter/statements/2010/jun/24/harry-reid/during-primary-angle-said-social-security-cant-be-/>. Notwithstanding the antigovernment sentiment that swept the unknown Angle to the Republican senatorial nomination, during the general election campaign she changed her position, supporting

III. HEURISTICS IN PREFERENCE IDENTIFICATION

A. *Means Versus Ends*

As is typical in a behavioral law and economics analysis, the prior Part of this Article suggests that reliance on heuristics could cause individuals to misestimate the pattern of savings that would maximize the satisfaction of their utility function. The general problem identified in the example is that, for certain individuals, the means selected (the savings pattern followed) are ill-suited to the desired ends (the optimal balance between current and future consumption).

Given a specified goal and known facts about the current state of the world, it is often possible to classify some behavioral options as “mistakes,” by which I mean that if the decision maker were to be informed as to the error, the decision maker would change his or her course of action. For example, if a person wishes to choose a mode of transportation based on the safety risk associated with it, and he or she decided to drive rather than fly because of a perception that air travel is riskier than car travel, we can say, with little controversy, that the person has made a mistake. Driving is more dangerous than flying,³⁹ but because airline crashes are more memorable than car crashes to some, reliance on the heuristic can lead an individual to make a demonstrable, factual error. If a person chooses a credit card with a high interest rate because optimistic overconfidence causes him or her to give an unduly low assessment of the chance that the person will lose his or her job and not be able to pay off the balance each month, relative to the objective likelihood, we can also label this a mistake. All other things being equal, welfare would be enhanced if the decision maker could avoid the error.

But just as behavioral decision research has made clear that decision makers rely on heuristics to understand and judge the world, it has also demonstrated that decision makers rely on heuristics when attempting to understand their own subjective preferences. What we think we want (and how much we want it) is often constructed at the time choices are required, based at least in part on available contextual cues.⁴⁰ Traditional law and economics analysis is formally agnostic as to the content of individual preferences. (In practice, however, selfishness and a desire to

only privatization rather than abolition of Social Security. See Mark Murray, *Angle's 180-degree Turn on Social Security*, FIRST READ FROM NBC NEWS (Aug. 12, 2010, 3:30 PM), http://firstread.msnbc.msn.com/_news/2010/08/12/4875847-angles-180-degree-turn-on-social-security (quoting Angle as advocating “sav[ing] Social Security by locking the lock box”).

39. See Michael Sivak & Michael J. Flannagan, *Flying and Driving After the September 11 Attacks*, AM. SCI., Jan.–Feb. 2003, at 6, 6–8 (stating that flying the distance of a typical nonstop flight is sixty-five times less risky than driving that distance).

40. See Sarah Lichtenstein & Paul Slovic, *The Construction of Preference: An Overview*, in THE CONSTRUCTION OF PREFERENCE 1 (Sarah Lichtenstein & Paul Slovic eds., 2006); John W. Payne et al., *Measuring Constructed Preferences: Towards a Building Code*, 19 J. RISK & UNCERTAINTY 243, 245 (1999).

maximize financial gains are almost always assumed, at least in the absence of any obvious and conflicting selfish desire.) The traditional approach does assume, however, that preferences are fixed and stable.⁴¹

Taking the context dependence of preferences seriously makes it not only practically difficult, but also theoretically difficult, for the analyst who wishes to use legal policy as a tool to help maximize the individual or social welfare to determine whether a particular course of action would enhance or diminish subjective expected utility in any particular case. The much-discussed phenomenon of loss aversion provides a good example of this problem.⁴²

Behavioral decision research has demonstrated that, on average, choices are not reference point independent, as rational choice theory assumes. For most people, perceived losses weigh more heavily than equivalent gains.⁴³ A consequence of this is known as the “status quo bias”: people prefer the status quo state of the world to alternative states, all other things equal.⁴⁴ A more specific version of the status quo bias is the “endowment effect”⁴⁵: many people seem to value a tangible item or a legal right if they possess it than if they do not, especially when the item does not have a close market substitute.⁴⁶ Assume now that an individual would prefer *A* to *B* if he or she possessed neither. Given current background entitlements, however, the person has an ownership interest in *B*, but not in *A*. He or she is given the opportunity to exchange *B* for *A* but, as a consequence of loss aversion, rejects the offer. Is this choice welfare maximizing, or not? The answer depends on how we go about determining the relationship between heuristic-influenced preference formation and “true” utility.

B. Challenge: Developing a More Nuanced Theory of Individual and Social Welfare

In the wake of the behavioral revolution, law and economics cannot progress as a normative discipline without a richer theory of welfare than it now possesses. The revealed preference assumption of traditional, rational choice law and economics was tautological and implausible—decision making that relies on heuristics cannot possibly maximize sub-

41. See, e.g., Foka-Kavalieraki & Hatzis, *supra* note 13, at 7; Matthew Rabin, *Psychology and Economics*, 36 J. ECON. LITERATURE, Mar. 1998, at 11, 13–16 (1998).

42. Amos Tversky & Daniel Kahneman, *Loss Aversion in Riskless Choice: A Reference-Dependent Model*, 106 Q. J. ECON. 1039, 1039–40 (1991).

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

44. William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 7–8 (1988).

45. See Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 44 (1980).

46. For an attempt to describe the circumstances in which the endowment effect is and is not likely to exist, see Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227, 1235–42 (2003).

jective expected utility in every case. But the field now needs a replacement theory.

Some years ago, in the context of lawyering rather than policy making, Chris Guthrie and I suggested that, whereas choices that reflect incorrect understanding of facts or probabilities undermine welfare maximization, choices that reflect subjective preferences, such as a desire to maintain the status quo, are consistent with welfare maximization.⁴⁷ In later work on the status quo bias and the endowment effect, I argued that choices made as a consequence of loss aversion are at least locally welfare maximizing.⁴⁸ The government might increase welfare globally by reallocating initial entitlements so that they are controlled originally by those who would value them most.⁴⁹ But taking background entitlements as a given, the person who keeps entitlement *B* rather than trading it for *A*, which he or she values more highly in the abstract, because doing so avoids the pain of losing *B*, is making the welfare-maximizing choice.⁵⁰ The implicit assumption was that if an individual can value chocolate ice cream over vanilla or vice versa, certainly the individual can prefer to avoid the pain associated with loss over any difference in value between chocolate and vanilla ice cream, and thus maximize utility by maintaining his or her initial endowment.

I now recognize that the issue is more complicated. The problem is that, while the specter of loss aversion affects our predictions about the utility we will experience in the future, contingent on various states, those predictions might be inaccurate. Recent research in the field of hedonics demonstrates that “miswanting” is a common problem.⁵¹ It turns out that many, if not most, of us are not particularly good at “affective forecasting”—predicting how we will feel when we experience future states of being—even if we are unbiased in our understanding and processing of underlying facts and probabilities.

The example of loss aversion is particularly instructive. Researchers have learned that people tend to overestimate the emotional consequences, both in terms of duration and intensity, of both positive and negative events, a phenomenon known as “impact bias.”⁵² Positive

47. Russell Korobkin & Chris Guthrie, *Psychology, Economics, and Settlement: A New Look at the Role of the Lawyer*, 76 TEX. L. REV. 77, 133–34 (1997); accord Payne et al, *supra* note 40, at 265 (“[C]oding an outcome as a gain or a loss relative to a particular reference value may reflect how that outcome in fact will be experienced by the decision maker and hence need not be a fault.”).

48. Russell Korobkin, *The Status Quo Bias and Contract Default Rules*, 83 CORNELL L. REV. 608, 667 (1998) (“[P]arties that choose to indulge their preference for the status quo do not necessarily behave inefficiently by doing so.”).

49. *Id.* at 667–68.

50. *Id.* at 667.

51. See generally Chris Guthrie & David F. Sally, *Miswanting*, in THE NEGOTIATOR’S FIELDBOOK 277 (Andrea Kupfer Schneider & Christopher Honeyman eds., 2006).

52. See Daniel T. Gilbert et al., *The Trouble with Vronsky: Impact Bias in the Forecasting of Future Affective States*, in THE WISDOM IN FEELING: PSYCHOLOGICAL PROCESSES IN EMOTIONAL INTELLIGENCE 114, 116 (Lisa Feldman Barrett & Peter Salovey eds., 2002); Timothy D. Wilson &

events do not tend to leave people as ecstatic as they predict for as long as they predict, and negative events do not tend to leave people as miserable as they forecast. Lottery winners are initially ecstatic when they hit the jackpot, but they find that their new-found wealth does not provide as much future happiness as they originally predicted.⁵³ Hedonic adaptation also tends to cause people to experience less unhappiness after suffering a life-altering illness or injury than they would have predicted in advance.⁵⁴ A consequence of this is that if an actor prefers *A* to *B* in the abstract, but chooses to keep *B* based on the forecast that he or she will experience strong feelings of loss if he or she gives up *B*, this choice might not maximize the actor's net utility over time.

Legal scholars have begun to make some attempts to address this problem. Matthew Adler and Eric Posner, for example, have argued that the welfare effects of end-states should be judged based on how the actor would subjectively experience them if he or she were unbiased both cognitively and affectively.⁵⁵ This seems logically correct (although there obviously will be difficulties in application). Just as the heuristics we use to estimate facts in the world can lead us to make errors concerning reality, the heuristics we use to estimate the utility consequences of choices can lead us to make errors concerning how we will feel about that reality in real time. If, for example, a policy maker could know that an actor who expresses a preference for *B* (which he or she owns) over *A* (which he or she does not own) as a result of the endowment effect would actually experience more satisfaction from *A*, net of the experienced utility cost of being separated from *B*, it is difficult to think of a good reason why the welfarist policy maker should not force the trade, assuming that the utility consequence of foregoing his or her autonomy plus the utility consequences of anticipating more unhappiness than he or she will actually feel is smaller than the difference between the experienced utility of *A* and *B*.⁵⁶

Clear principles seem more elusive when we shift from choosing between predicted experience and felt experience to choosing whether to privilege contemporaneous or reflected experience. Research indicates that these two perspectives often diverge; that is, subjective utility felt in the moment does not necessarily correspond well to reflected interpreta-

Daniel T. Gilbert, *Affective Forecasting*, 35 *ADVANCES EXPERIMENTAL SOC. PSYCHOL.* 345, 351 (2003).

53. See Philip Brickman et al., *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 *J. PERSONALITY & SOC. PSYCHOL.* 917, 920–21 (1978).

54. *Id.*; see also John Bronsteen et al., *Hedonic Adaptation and the Settlement of Civil Lawsuits*, 108 *COLUM. L. REV.* 1516, 1538–40 (2008) (reviewing literature).

55. Matthew Adler & Eric A. Posner, *Happiness Research and Cost-Benefit Analysis*, 37 *J. LEGAL STUD.* S253, S257 (2008).

56. See *supra* Part I.B.

tions of subjective utility.⁵⁷ To take one startling example, a large body of research shows that having children is associated with reduced levels of self-reported happiness or well-being.⁵⁸ But, at the same time, surveys that ask people to judge what elements of their lives are most important to their happiness often find that children are viewed as a substantial source of satisfaction and feelings of well-being.⁵⁹ One possible explanation for this apparent inconsistency is that the stresses of child rearing reduce moment-to-moment positive feelings, but parenthood fosters a deeper sense of meaning, purpose, and satisfaction with one's life. That is, the average person might not enjoy dealing with his or her children, but likes knowing that he or she has them.

If this explanation is correct, does it suggest that average utility will be increased or decreased if more adults remain childless or choose to have fewer children? From one perspective, this might appear to reveal a measurement challenge but not raise any serious conceptual problems. Utility can include the satisfaction we derive from first-order activities and from second-order reflection upon those activities, and in some situations what at first appears to be evidence of serious intrapersonal inconsistencies is actually just the failure of researchers to net out the negatively experienced part of an activity (e.g., "changing your child's diaper") from the positively experienced part of the same activity (e.g., "having taken care of your child's basic needs").

On the other hand, such conflicts might present a more fundamental problem of how to choose between potentially incommensurable views of what counts as utility. Should we judge utility only based on affective responses to stimuli, or can a case be made for giving more weight to reflective satisfaction than would be justified by how such satisfaction would rate on a hypothetical "affect-o-meter"?

57. See, e.g., Norbert Schwarz et al., *Global and Episodic Reports of Hedonic Experience*, in *CALENDAR AND TIME DIARY: METHODS IN LIFE COURSE RESEARCH* 157, 159 (Robert F. Belli et al. eds., 2009).

58. See, e.g., Daniel Kahneman et al., *A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method*, 306 *SCIENCE* 1776, 1777 tbl.1 (2004); Sonja Lyubomirsky & Julia K. Boehm, *Human Motives, Happiness, and the Puzzle of Parenthood: Commentary on Kenrick et al.*, 5 *PERSP. ON PSYCHOL. SCI.* 327, 330 (2010); Schwartz et al., *supra* note 57, at 166–67; Debra Umberson et al., *Parenthood, Childlessness, and Well-Being: A Life Course Perspective*, 72 *J. MARRIAGE & FAM.*, 612, 613–14 (2010).

59. See, e.g., CABLE NEWS NETWORK, CNN POLL (2006) (on file with author) (stating that eighty-seven percent of respondents said that having children made them "much happier" or a "little bit happier" in life); MASS. MUT. LIFE INS. CO., FAMILY VALUES SURVEY (1991) (on file with author) (stating that sixty-nine percent of respondents "agree strongly" or "agree somewhat" with the statement: "My children are the main satisfaction in my life"); PEW RESEARCH CTR., PEW SOCIAL TRENDS POLL (2007) (on file with author) (stating that thirty-one percent of respondents rate their relationship with their minor or adult children as the factor "most important to your personal happiness and fulfillment[.]" trailing only their relationship with their spouse (thirty-two percent)); READER'S DIGEST, READERS' DIGEST POLL (1992) (on file with author) (stating that seventy-seven percent of respondents "strongly agree" or "somewhat agree" with the statement: "Having children makes a person's life happier overall").

John Bronsteen, Christopher Buccafusco, and Jonathan Masur have recently presented a strenuous argument for judging welfare solely on the basis of contemporaneously felt positive affect:⁶⁰ in other words, the satisfaction associated with having taken care of your kids “counts” in the welfare analysis to the extent that it generates positive feelings in the moments that you reflect upon it, but no more than that. But it is not clear to me that an individual who understands that the sum of his or her contemporaneous judgments of happiness would favor one course of action but his or her cognitively reflected judgment of satisfaction would favor a different course would necessarily prefer that the sum total of contemporaneous affective responses be privileged.

Psychologists believe a significant reason for the divergence between what is felt in the moment and reflected judgment might be that after-the-fact recall is selective: when people consider the time spent with their children, for example, they focus on the enjoyable times, not the instances in which their kids were troublesome.⁶¹ But, even if correct, this observation does not resolve the issue. Selective recall is a fact of the human condition, and there is utility in positive memories, even if establishing them was not particularly pleasurable at the time. True utility almost certainly resides in some combination of the doing and the remembering, but it is not obvious to me that the right balance is struck by treating the remembering precisely as we treat the doing, only at the time of the remembering. At a minimum, how we weigh first-order experience and second-order reflection in overall welfare analysis deserves further consideration and debate.

IV. INDIVIDUAL VARIATION

A. *Differential Proclivities to Decision Bias*

As noted above, traditional neoclassical economics is formally agnostic about the shape and content of individuals’ utility functions. A corollary to this agnosticism is that different individuals might have different preferences: Adam might prefer a Mercedes Benz to a bicycle, whereas Bill might prefer a bicycle to a Mercedes Benz. The rational choice tradition usually assumes, however, that all humans have computer-like ability to identify facts in the world, calculate the likelihood of various probabilistic future outcomes associated with different choice options, and make decisions that maximize subjective expected utility, given available information.⁶²

60. John Bronsteen, Christopher Buccafusco & Jonathan S. Masur, *Welfare As Happiness*, 98 GEO. L. J. 1583, 1585–88 (2010).

61. See, e.g., Schwarz et al., *supra* note 57, at 167.

62. Exceptions are often made for clearly defined classes of people, such as minors and the mentally incompetent.

As a by-product of challenging the traditional, heroic assumptions of law and economics about the extent of human cognitive ability, research in behavioral decision making also implicitly undermines the assumption of identical cognitive ability across individuals. This consequence of the behavioral revolution is sometimes overlooked by legal scholars, who often assume deviations from behavior predicted by rational choice theory will be similar across individuals.⁶³ As Jeff Rachlinski has hypothesized, this frequent mistake is likely due, at least in part, to the methodological and presentation choices made by the behavioral decision theorists on whose work behavioral law and economics analysis builds.⁶⁴ Much of the basic empirical work uses a between-subject or within-subject experimental model, in which a single variable is manipulated between control and experimental groups to determine the effect of that manipulation *on average*. Other experimental work describes how a *statistically significant* percentage of subjects responds to a decision-making problem or situation in a way that is inconsistent with rational choice theory.

Very little of this work, if any, however, claims to demonstrate that *all* experimental subjects (much less all human beings) use the same heuristics or fall prey to the same decision-making biases, or to the same extent, in any particular situation. In fact, when read closely, the underlying experimental work nearly always suggests the opposite, if it does not quite prove this outright. Consider, for example, the original version of the famous Kahneman and Tversky “Asian disease” problem.⁶⁵ When the mortality probabilities that will result from two medical options for treating those suffering from a hypothetical disease are framed as gains, seventy-two percent of subjects preferred the safer (risk averse) option of saving some lives (and accepting other deaths).⁶⁶ In contrast, when the choice was presented in the frame of potential losses, seventy-eight percent preferred the riskier of the two options, which would save all or kill all.⁶⁷ This means that, most likely, only half of the subjects would have their treatment choice affected by the frame; the other half would choose either the risky or safe option in both cases. We cannot rule out the possibility that the fifty percent whose decision would not depend on the frame were equally affected by choice of frame mentally, but this cohort just happened to have more extreme underlying preferences for one choice or the other compared to the fifty percent whose treatment pref-

63. See Jeffrey J. Rachlinski, *Cognitive Errors, Individual Differences, and Paternalism*, 73 U. CHI. L. REV. 207, 208 (2006) (claiming that behavioral law and economics scholars “have largely assumed that consumers share identical cognitive processes and vulnerabilities”).

64. *Id.* at 211–15 (2006) (explaining how the research design of the famous Kahneman & Tversky “Asian disease” problem, along with how the results were presented, can produce a misinterpretation that all relevant subcategories of the population are affected in the same way by framing biases).

65. See Daniel Kahneman & Amos Tversky, *Choices, Values and Frames*, 39 AM. PSYCHOLOGIST 341, 343 (1984).

66. *Id.* at 343.

67. *Id.*

erence would depend on the frame. It seems more likely, though, that a significant number of subjects—if not necessarily a full half—were unaffected by the frame.⁶⁸

Behavioral decision theorists, including Daniel Kahneman in his Nobel laureate address, have suggested that human beings have two mental strategies for responding to the problems of the world, the first being intuition and the second being reasoning.⁶⁹ These divergent approaches are sometimes referred to as “System 1” and “System 2.”⁷⁰ System 1 is “fast and frugal.”⁷¹ It is automatic, reliant on simplifying heuristics, and relatively undemanding of cognitive effort and capacity.⁷² It allows us to navigate our way through the morass of judgments and decisions that life calls upon us to make constantly. Without it, few of us could make it through the day. But while it is clearly adaptive overall, its speed and information frugality can cause errors in individual circumstances. System 2 is more deliberate, analytical in nature, and able to take into account more information.⁷³ It resembles, in quality if not always in degree, the type of nonselective, fully compensatory analysis assumed to be universal by rational choice theorists. Rather than taking shortcuts to ensure speed, the System 2 reasoning process takes into account all information relevant to a particular decision. When used selectively, System 2 reasoning can improve the overall quality of judgments and decisions, but its cumbersome nature makes it an impractical basis for decision making except on relatively rare occasions.

The recognition that all humans employ both System 1 and System 2 reasoning does not suggest that every person relies on each to the same degree or in the same circumstances, nor does it suggest that everyone is equally likely to make biased judgments. One theory is that people with higher degrees of analytical intelligence, for whom System 2 reasoning might be faster or otherwise relatively less costly to employ, are more likely to override initial System 1 heuristic judgments with more consi-

68. Cf. Rachlinski, *supra* note 63, at 213 (explaining how it is possible, given the results reported, that half the subjects are unaffected by the frame, all subjects are affected equally by the frame, or somewhere in between).

69. Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449, 1450–52 (2003) (providing a revised version of his Nobel address); see also KELMAN, *supra* note 22, at 33 (calling this the “dominant general story about the place of heuristic thinking in overall cognition”).

70. The labels were coined by Stanovich and West. See Keith E. Stanovich & Richard F. West, *Individual Differences in Reasoning: Implications for the Rationality Debate?*, 23 BEHAV. & BRAIN SCI. 645, 658 (2000).

71. See generally Gerd Gigerenzer & Daniel G. Goldstein, *Reasoning the Fast and Frugal Way: Models of Bounded Rationality*, 103 PSYCHOL. REV. 650 (1996).

72. Stanovich & West, *supra* note 70, at 658–59.

73. *Id.*

dered, analytical System 2 analyses.⁷⁴ There is some direct evidence that supports this claim with regard to certain heuristics.⁷⁵

Shane Frederick has pioneered what he calls the Cognitive Reflection Test (CRT) to measure individual differences in propensity to employ System 2 reasoning to double check and potentially overrule System 1 instincts.⁷⁶ The test presents logic problems that superficially suggest an incorrect answer, but that nearly all test takers who deliberate carefully can answer correctly. For example, one question posits that a bat and a ball together cost \$1.10 and that the bat costs \$1 more than the ball, and asks what is the price of the ball.⁷⁷ Most people have an initial reaction that the correct answer is ten cents, but the correct answer is actually five cents.⁷⁸ Frederick's theory is that individuals who do well on the CRT are less likely to rely on decision-making heuristics in ways that lead to demonstrable errors than are individuals who do poorly on the CRT.⁷⁹ Frederick has given the CRT to students enrolled in a number of universities, and he has found that average scores are correlated with the academic credentials of the student bodies.⁸⁰

Although thinner, there is also some evidence that training or education in making a certain type of decision can increase the likelihood of an individual employing a System 2 approach to decision making.⁸¹

B. Challenge: Confronting the Implications of Protecting the Less Astute

Many scholars have noted that one implication of individual variation in propensity to rely on decision-making heuristics is that the desirability of paternalistic policies could be highly situationally specific. For example, it is sometimes argued that regulatory protections that might be appropriate in the context of consumer contracts are inappropriate in sophisticated business transactions where the relevant actors are presumed to be more cognitively skilled and/or experienced in the particular decision-making realm.⁸²

74. See *id.* at 648–49.

75. For discussions of some of this evidence, see KELMAN, *supra* note 22, at 34–36; Rachlinski, *supra* note 63, at 216–19.

76. Shane Frederick, *Cognitive Reflection and Decision Making*, 19 J. ECON. PERSP., Fall 2005, at 25, 25–26, 41.

77. *Id.* at 26.

78. *Id.* at 26–27.

79. *Id.* at 25–26.

80. *Id.* at 29–30; see also KELMAN, *supra* note 22, at 111 (finding that highly credentialed Stanford University students were substantially more likely than Foothill Junior College students to use compensatory, nonlexical decision processes rather than simple single-cue heuristics when attempting to determine which city of a pair presented has a larger population).

81. See Rachlinski, *supra* note 63, at 219–21 (reviewing evidence regarding the effects of training or education).

82. See, e.g., Schwartz & Scott, *supra* note 15, at 544 (limiting their normative theory of contract to law to business-to-business transactions).

I wish to focus, however, on a different challenge posed by individual variation in decision-making ability: differential ability can result in situations in which regulation can increase the utility of some members of a protected class while decreasing the utility of other members of the class.

Consider some of the potential implications of behavioral analysis for the regulation of consumer standard-form contracts. I have argued that, because cognitive limitations cause individuals to consider only a subset of attributes of competing products when making purchasing decisions, sellers will have an incentive to make nonsalient product attributes—including most boilerplate terms—“low quality.”⁸³ By making the nonsalient terms low quality, sellers will have more leeway to compete on salient product attributes (often but not exclusively price).⁸⁴ In fact, because providing low quality on nonsalient attributes will not place them at a disadvantage, but failing to provide high quality on salient attributes will, market pressure will force firms in competitive markets to provide low-quality terms to avoid finding themselves at a competitive disadvantage.⁸⁵

Assume, for example, that a credit card company, SneakyCorp, wishes to keep its annual fee as low as possible, or even negative (i.e., provides card holders with perks or rebates for using the card), and one of the ways that it is able to satisfy this goal is by seeding its boilerplate terms with a variety of high fees for late payment, exceeding credit limits, failure to use the card at all, etc. Assume also that these types of contingent charges are nonsalient attributes for would-be customers, meaning that such customers will not take them into account when choosing between competing credit card offers. As a result, these fees subsidize the salient perks that SneakyCorp offers and attract customers to the company’s product. If the expected costs of the hidden fees outweigh the expected benefits of the perks, SneakyCorp’s business practice reduces consumer welfare and thus provides a case for legislative or administrative prohibition of such fees or a judicial finding that such terms are unconscionable.⁸⁶

This analysis, however, fails to confront the implications of differential cognitive capacity. Assume now that the hidden fees are nonsalient to a certain percent of potential customers with the most limited cognitive capacity, focus, or energy. For the remaining percentage of potential customers, who possess greater cognitive ability and/or are more likely to employ System 2 analysis to such decisions, the presence of the fees is taken into account when selecting a credit card. Members of this group

83. Korobkin, *supra* note 24, at 1234.

84. *See id.*

85. *See id.*

86. *See id.* at 1247–54 (describing these alternatives to a laissez-faire approach that allows an unregulated market to induce inefficient terms).

can be further subdivided into two categories. Those in Category 1 are likely enough to be assessed fees that their subjective expected utility is maximized by rejecting the SneakyCorp offer, and they do just that. Those in Category 2 are unlikely to engage in behavior that will result in fees. In addition, because these customers are well informed about the existence of the fees, they can expend effort to avoid them when doing so will maximize their subjective expected utility. Category 2 customers eagerly accept the terms offered by SneakyCorp with full understanding and appreciation of the costs and benefits, and they enjoy an implicit subsidy that is provided by the customers for whom the choice of the card produces negative subjective expected utility but do not realize this at the time the card choice is made. This group of customers will be disadvantaged by a legislative, administrative, or judicial action that prohibits SneakyCorp from offering their preferred package of terms, which will presumably result in SneakyCorp eliminating hidden fees and reducing the quality of more salient prices and benefits in order to maintain a relatively constant level of profitability.

Positive behavioral law and economics analysis usually fails to consider such cognitive and behavioral heterogeneity of relevant actors when attempting to explain the range of behavior that might be subject to legal regulation. Normative behavioral law and economics usually fails to take such heterogeneity into account when considering the efficiency implications of regulatory choices. Heterogeneity of this sort not only presents difficult measurement problems (such as how to compare the utility of the cognitively more sophisticated to the cognitively less sophisticated), but also some complicated conceptual issues. For example, when considering a regulatory prohibition of “hidden fees,” should we count as costs not only the lost subjective value of the implicit subsidy to the cognitively sophisticated in the credit card transaction, but also the reduction in cognitive effort that these individuals might expend in future transactions?

V. CONCLUSION

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.

This victory is rewarding, but only partially so, because the rejection of the revealed preference assumption creates new challenges for normative legal scholarship. Without claiming comprehensiveness, this Article

describes and discusses three critical challenges: (1) the need to recognize and value autonomy for its own sake, (2) the need to advance a theory of subjective utility that takes into account the use of heuristics in identifying preferences as well as in understanding facts and judging probabilities, and (3) the need to recognize the consequences of individual difference in the extent of bounded rationality. Attempts to respond to these challenges will increase the efficacy of economic analysis of law going forward.