

Law and Economics After Behavioral Economics

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I. INTRODUCTION

Economic theory is a sort of distilled common sense: it draws out the implications of the view that people act to best get what they want, given what they believe about their circumstances. That basic insight is used to build mathematical models that are intended to explain and predict human behavior. Those models are useful in many ways—most centrally, they allow us to structure incentives in order to achieve important ends.¹ Structuring incentives on any kind of large scale is a job for governments, and the tool they use is the law. Thus, it should come as no surprise that lawmakers have looked to economic theory for guidance. And, indeed, the law and economics movement has become, by almost any measure, the most dominant school of legal thought in the last half a century.²

But there is sufficient reason to conclude that economic theory, as it stands, is flawed. While economic models have had their successes, a large and growing body of empirical evidence reveals that people often fail to live up to the rational-actor ideal of standard economics.³ Real people, it turns out, use mental shortcuts. They display systematic biases when they make judgments. And they occasionally take actions that conflict with their interests, in both the long and short term. As a result,

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1. There is some debate about what those ends should be. Normally, we try to maximize people's ability to get what they want, on the assumption that they know their own needs. In certain cases, however, we seek to discourage the pursuit of certain ends, e.g., heroin-induced stupors.

2. E.g., Francesco Parisi, *Introduction* to THE ECONOMIC STRUCTURE OF THE LAW: THE COLLECTED ECONOMIC ESSAYS OF RICHARD A. POSNER, at ix, xxxii (Francesco Parisi ed., 2000); Thomas S. Ulen, *A Crowded House: Socioeconomics (and Other) Additions to the Law School and Law and Economics Curricula*, 41 SAN DIEGO L. REV. 35, 36 (2004). See generally RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* (6th ed. 2003) (applying economic theory to virtually every field of law); STEVEN SHAVELL, *FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW* (2004) (same).

3. See *infra* Parts II.B, III.A (discussing this failure and the emergence of behavioral economics).

the behavior of real people is often at odds with that predicted by standard economic theory.

Social scientists respond to this evidence in a variety of ways. Economists usually stick with their standard tools and attempt to explain the anomalous empirical results by reference to some overlooked input (some new belief, for example) or by applying the models in new ways.⁴ Sufficiently subtle application of economic analysis, they claim, can account for the troublesome cases. Behavioral economists accept standard consumer theory as both a normative benchmark and a rough approximation of the relevant causal mechanisms of behavior, but propose new models meant to capture the way behavior deviates from the standard account.⁵ These models retain the basic structure of economic theory while replacing its simple mathematical representations of belief and desire with alternatives that better fit the evidence.

In the last decade, legal scholars have taken up the cause and incorporated behavioral economics into their study of the law. Some have carried out empirical research involving legal situations that confirm or, in some cases, suggest further refinements to behavioral models. Others take the behavioral models as given, and use them to make suggestions about specific areas of the law (such as contract law) or to argue broader normative points (such as the proper scope of governmental paternalism). As a result, much of the work of fleshing out the findings of behavioral economics is now being done in law schools rather than departments of economics.

But behavioral economics and its legal incarnation are not without problems of their own. Chief among these is the fact that, unlike standard economics, behavioral economics has not coalesced into a unified theory of behavior. At its core is a collection of psychological phenomena—norms, biases, and heuristics—connected only in the sense that each runs counter to some fundamental tenet of traditional rational-actor economics. Some have charged, we think unfairly, that behavioral economics is nothing more than this collection. Like many exaggerations, however, this one contains a grain of truth. Behavioral economists generally do just build the data into their models. Where, for example, behavior seems risk averse for gains and risk loving for losses, behavioral accounts posit motivational structures (e.g., wants, interests, values) that are risk averse for gains and risk loving for losses. And where behavior seems to reflect an overemphasis on low probability

4. See *infra* Part II.C (discussing the response by law and economics to these challenges).

5. See *infra* Part III.A (discussing these new models in the context of behavioral economics).

events, behavioral accounts posit belief structures that overweight low probabilities. The result of this straightforward approach is a set of data-driven modifications for standard economic models. To the extent that the empirical evidence allows, behavioral economics adopts standard economics as it is.

Behavioral economists usually appeal to only one or two modifications to account for a given behavioral regularity. For example, in order to explain the unexpected failure of parties to bargain around court orders, behavioral economists point to both the endowment effect and to the role of fairness norms.⁶ This raises a number of problems. The appeal to different sets of modifications gives individually plausible but jointly inconsistent (and irreconcilable) explanations for a particular bit of behavior. Moreover, where only a single modification of an orthodox model suffices to capture the data, are the other psychological features absent, and, if so, why?

The lack of a unified theory also makes it harder to figure out how behavioral and standard economics fit together. There are many instances where standard accounts seem to get things right. Are people rational, self-interested maximizers only some of the time, and, if so, when? These issues show how difficult it is to translate the teachings of behavioral economics into positive law, if for no other reason than it is difficult to convince policymakers to rely upon relatively isolated, apparently intermittent, features of human behavior.⁷

This issue has not gone unnoticed by those in behavioral law and economics. In his introduction to the leading book in the field, Cass Sunstein notes:

Behavioral law and economics is in its very early stages, and an enormous amount remains to be done. Some of the outstanding questions are foundational and involve the nature of economics itself: Can behavioral economics generate a unitary theory of behavior, or is it an unruly collection of effects? Is it too ad hoc and unruly to generate predictions in the legal context? As compared with approaches based

6. See *infra* notes 87–89 and accompanying text (discussing the incorporation of various functions to appeal to fairness norms).

7. See generally 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) (arguing that law and economics' assumptions of perfect rationality and behavioral law and economics' assumptions of perfect irrationality are both flawed—neither accurately reflect the state of the empirical research nor form an adequate basis for legal prescriptions).

on ordinary rationality assumptions, does behavioral economics neglect the value of parsimony?⁸

Despite the wealth of empirical work, there has been surprisingly little done in the way of answering these fundamental questions. Behavioral economists resolutely focus on the trees with very little attention to the forest, and, as a result, they have failed to develop a single, consistent account of economic behavior, one that allows them to fit the various behavioral heuristics and biases together and to integrate them with successful standard economic models. Until this failure is rectified, it is unlikely that behavioral economics will capture the full attention of legal academics, and, more importantly, legal policymakers.

A primary reason for the failure of behavioral economics to confront important questions is its continued unreflective reliance on the basic economic paradigm. Indeed, the usual behavioral methods for accommodating the empirical evidence take the basic economic account as canonical. Accept, reject, or tinker with the functional forms, most standard and behavioral economists confine themselves to thinking about the particular elements of common sense that originally inspired economic models.

There is, however, another approach. Economic theory (and its successors) might be *too* distilled—after all, there is much more to our common-sense theory of behavior than the claim that people act to get what they want. There may be more to the story of human motivation than just desires and beliefs. Recognizing this possibility allows us to step back and look to common sense for additional resources to enhance economic models in an idea-driven, “top down” fashion, as opposed to a data-driven, “bottom up” way.

This Article will discuss one such approach, presenting an additional element to the basic desire-belief apparatus that underlies economic theory. The idea, in a nutshell, is that people normally consider their circumstances from a particular (more or less narrow) perspective. As a result, they act on proper subsets of their beliefs and desires that reflect their take on their situations.⁹ In other words, people do not have all of their desires and beliefs “online” at all times, motivating their behavior. This approach has the advantage of being readily integrated into standard

8. Cass R. Sunstein, *Introduction* to BEHAVIORAL LAW AND ECONOMICS 1, 9 (Cass R. Sunstein ed., 2000).

9. As we will see, the subset of a person’s mental states that she uses to think about a situation constitutes her understanding of that situation.

economic theory and is capable of shedding crucial light on many of the situations that give standard accounts trouble (and give rise to behavioral alternatives). As such, it is a step in the direction of a more unified theory of human behavior.

This Article proceeds in three parts. Part II critically examines the current state of the law and economics movement. Despite some early successes, the movement—or, more precisely, the standard economic theory upon which it's based—is under attack for oversimplifying certain aspects of human nature and, more importantly, for a growing list of empirical shortcomings. And while a sympathetic reading of economic theory shows that it can overcome some of these criticisms, there are significant empirical results that are beyond its explanatory power. Part III of the Article considers whether behavioral law and economics is up to the task. Behavioral economics takes standard economics as its departure point, but then proposes its own models expressly designed around the anomalous empirical data. Unfortunately, this bottom-up approach leaves behavioral economics without the unifying conceptual framework necessary to sort out various behavioral effects, reconcile them with successful standard accounts, or form a firm basis for legal policymaking. Finally, Part IV of the Article proposes an addition to the basic desire-belief framework that underlies all economic models, both standard and behavioral, in order to develop the unified framework necessary for successful lawmaking.

II. LAW AND ECONOMICS

A. *Economic Theory and the Rise of Law and Economics*

Standard economic theory has its roots in our normal, everyday theory about how people act (what philosophers often call “folk psychology”). The basic elements of the theory are desires and beliefs, and the central relationship between the two is that people act to fulfill their desires given what they believe about their situation.¹⁰ While this is primarily a normative account—we think that such actions *make sense* in an important way, so people *should* so act¹¹—we usually assume that

10. This is, for example, Richard Posner's basic line on rationality. POSNER, *supra* note 2, at 17; Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1551 (1998).

11. To act on this norm is to act *rationally* in a particular sense. “Rational” is a term of approval, commendation, or endorsement. To say that something is rational is to say that it makes sense in some way. *E.g.*, ALLAN GIBBARD, WISE CHOICES, APT FEELINGS 6–7 (1990). Instrumental rationality, the sort of rationality involved in economics, is primarily concerned with the fitness of

people approximate the norm. The idea that people act to get what they want, given what they believe, plays an important role in how we navigate the world.¹² Economic theories are really just ways of formalizing (or better, *regimenting*) this core principle. The rational choice account of behavior that underwrites modern economics is, as David Lewis masterfully puts it, “a systematic exposition of the consequences of certain well-chosen platitudes about belief, desire, preference, and choice. It is the very core of our common-sense theory of persons, dissected out and elegantly systematized.”¹³ The desires, attractions, and aversions of common sense are all aggregated into the *preference rankings* of rational choice economics (and these preference rankings are numerically represented by *utility functions*).¹⁴ Beliefs about available actions, surrounding circumstances, and other people are all modeled with *subjective probability functions*. Choice of action is treated as the result of *subjective expected utility maximization* (that is, the action chosen is one with the highest probability-weighted average utility). In standard economic accounts, all of a person’s wants (interests, values, etc.) are reflected in her utility function. Likewise, all of her beliefs (judgments, hunches, etc.) are reflected in her subjective probabilities. Actions, then, are understood as the result of a person’s whole mind.

The common sense at the core of economics helps to explain its influence. While most people can’t be bothered with the mathematical

actions to wants. A person’s desires are treated as the baseline for evaluating her behavior, and actions are commended when they advance the objects of those wants. This is a *conditional* commendation—if the actor has appropriate desires *then* the action makes sense. Saying that something is instrumentally rational is, however, a *strong* commendation. An instrumentally rational action is a *good* way to achieve an agent’s ends, whatever they are. Instrumental rationality applies derivatively to actors and choices. An instrumentally rational *agent* is one who takes instrumentally rational actions. Someone might be instrumentally rational in general or on a particular occasion. An instrumentally rational *choice* is one made on the grounds that it is a best (good) way to achieve an end. It picks actions for each set of ends in each circumstance—the actions that best satisfy those ends—and so defines a correspondence between situations (as represented by beliefs) and actions. Once the correspondence is defined, we can ask if people actually act in accordance with it.

12. We use the desire-belief framework to help predict the behavior of others, even of complete strangers. For example, we think that another driver doesn’t want to be seriously hurt, that she knows there is a truck near, and that pulling out in front of the truck runs the risk of death or serious injury; so we conclude that she won’t pull out. Such predictions are usually pretty close to the mark. We also use the principle to form judgments about the characters of others. We think of our neighbor, for instance, that he saw that his wife was uncomfortable with his story; that he went ahead and told it anyway; we conclude, therefore, that he must not care much about her feelings (jerk!).

13. 1 DAVID LEWIS, PHILOSOPHICAL PAPERS 114 (1983).

14. The way in which different attractions fit together to guide actions in various circumstances is not well-understood. See Stephen Ellis, *Multiple Objectives: A Neglected Problem in the Theory of Human Action*, 153 SYNTHESIS 313, 315–16 (2006).

models themselves, they retain their intuitive appeal because they are a “scientized” version of normal psychology.¹⁵ Thus, it should not have been surprising when it was “discovered” that the common law appeared to be driven by an underlying economic logic. Nonetheless, the law and economics movement expended much of its early energy examining the many instances in which the common law appears to maximize allocative efficiency.¹⁶ Sometimes, the common law did so quite explicitly, as with the Learned Hand formula for negligence liability.¹⁷ More often, however, judges appeared to come to decisions that implicitly comported with the dictates of economics. For example, the defense of impossibility in contract law, which excuses nonperformance under a contract when intervening events render performance physically or legally impossible, tends to promote efficiency by assigning liability to the party who could avoid or spread the risk of the intervening events at the least cost.¹⁸ Similar claims of efficiency were made with respect to a rather wide range of doctrines from salvage awards in admiralty¹⁹ to the degrees of homicide in criminal law²⁰ to the limited scope of the right to privacy.²¹ “It is,” notes Richard Posner, “as if the judges *wanted* to adopt the rules, procedures, and case outcomes that would maximize society’s wealth.”²²

Law and economics scholars spent a good bit of time attempting to come up with an explanation for this “efficiency hypothesis.”²³ Perhaps, it was argued, inefficient legal rules were subject to more numerous and

15. In emphasizing the common-sense roots of economic theory, we don’t mean to deny that it can be used to explain puzzles or make novel predictions. It isn’t obvious, for example, that rap stars (or lawyers) will make more money than middle school teachers (or philosophers). Still, appeal to economic principles can help explain this fact.

16. POSNER, *supra* note 2, at 25; *id.* at 249–56; Nicholas Mercurio & Steven G. Medema, *Schools of Thought in Law and Economics: A Kuhnian Competition*, in *LAW AND ECONOMICS: NEW AND CRITICAL PERSPECTIVES* 65, 71–75 (Robin Paul Malloy & Christopher K. Braun eds., 1995); Richard A. Posner, *Some Uses and Abuses of Economics in Law*, 46 U. CHI. L. REV. 281, 287–91 (1979).

17. Judge Hand explained tort liability on the basis of a mathematical cost benefit analysis: “[I]f the probability [of the accident] be called P; the injury, L; and the burden [of adequate precautions], B; liability depends upon whether B is less than L multiplied by P: i.e., whether $B < PL$.” *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947).

18. Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83, 89–92 (1977).

19. William M. Landes & Richard A. Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism*, 7 J. LEGAL STUD. 83, 100–05 (1978).

20. POSNER, *supra* note 2, at 233–35.

21. See generally Richard A. Posner, *The Right of Privacy*, 12 GA. L. REV. 393 (1978) (examining the economic theory behind the withholding or concealment of information).

22. RICHARD A. POSNER, *THE PROBLEMS OF JURISPRUDENCE* 356 (1990).

23. For a brief discussion of the various theories, see Mercurio & Medema, *supra* note 16, at 72–73.

intense legal challenges because parties had greater incentives to replace them with efficient rules (and the inefficient rules were thus driven out of the common law).²⁴ Or maybe parties sought alternative forums for resolving disputes, such as arbitration, in situations where legal rules consistently led to inefficient allocations (and the common law thus competes with other systems of dispute resolution).²⁵ Or perhaps judges are just naturally drawn to rules that promote efficiency.²⁶ To this day, there is no generally accepted theory as to why the common law promotes economic efficiency. But given that the nature of the law is to provide generalized rules to govern human behavior, it is no surprise that law and economics was such a fruitful match; the only real question is why it took so long for the two to find each other.

B. Challenges to Law and Economics

Despite its intuitive appeal and breadth of support in the law and elsewhere, economic theory is controversial. A number of social scientists—psychologists, sociologists, and even other economists—argue that standard economic accounts fail to adequately explain or predict human action. The criticisms fall into two broad areas. The first holds that economic theory is too stripped-down. It doesn't even pass the "sniff test" because it ignores certain important behavioral inputs—things like mistakes, compulsions, social norms, and roles—and instead appeals to such alien notions as *utility* and *efficiency*. Economist David Kreps captures the *people-aren't-like-that* feel of this objection when he notes:

These models of consumer and firm behavior typically strike people as fairly obnoxious. We don't find consumers strolling down the aisles of supermarkets consulting a utility function to maximize when making their choices, nor do we typically think of business executives being guided completely and solely (or even mainly) by the effect of their decisions on business profits.²⁷

24. ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 492–96 (1988); POSNER, *supra* note 22, at 360.

25. Mercurio & Medema, *supra* note 16, at 72.

26. *See id.* at 74 (“Posner even goes so far as to suggest that these efficient doctrines simply reflect common sense, and that while the articulation of these doctrines in formal economic terminology lies beyond the capacity of most judges, the common sensical intuition does not.” (citing POSNER, *supra* note 2, at 254–55)).

27. DAVID M. KREPS, *A COURSE IN MICROECONOMIC THEORY* 4 (1990).

Despite its common-sense roots, standard economic theory is just too sterile, the claim goes, to capture the full range of motivations behind human behavior. Real people aren't much like *Homo economicus*, so the latter makes a poor model for the former.

The second area of criticism points to the empirical shortcomings of orthodox economic theory: its predictions often fail to come true. There are a host of situations where people behave in ways that seem to be inconsistent with subjective expected utility maximization.²⁸ There is evidence, for example, that people switch their preferences over outcomes when those outcomes are described in different ways. The following case from Kahneman and Tversky is representative:

Problem 1 . . . : Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

If Program A is adopted, 200 people will be saved. . . .

If Program B is adopted, there is a one-third probability that 600 people will be saved and a two-thirds probability that no people will be saved.

. . .

Which of the two programs would you favor?

. . . Now consider another problem in which the same cover story is followed by a different description of the prospects associated with the two programs:

28. Take, for example, the famous Allais paradox, which was the first well-known case to cast doubts on rational choice accounts.

- Problem 1. Choose between options A and B: A pays \$2500 with probability 0.33, \$2400 with probability 0.66, and \$0 with probability 0.01; B pays \$2400 with probability 1.
- Problem 2. Choose between options C and D: C pays \$2500 with probability 0.33 and \$0 with probability 0.67; D pays \$2400 with probability 0.34 and \$0 with probability 0.66.

In Problem 1, A is preferred to B if and only if $0.33u(\$2500) + 0.66u(\$2400) + 0.01u(\$0) > u(\$2400)$, i.e., $u(\$0) > 34u(\$2400) - 33u(\$2500)$. Likewise, in Problem 2, C is preferred to D if and only if $0.33u(\$2500) + 0.67u(\$0) > 0.34u(\$2400) + 0.66u(\$0)$, i.e., $u(\$0) > 34u(\$2400) - 33u(\$2500)$. A person who chooses A and D together, or B and C together, therefore behaves in a way that is inconsistent with utility theory. In experiments involving these sorts of problems, however, most subjects choose B and C together. See Robert Sudgen, *How People Choose*, in THE THEORY OF CHOICE 36, 37–38 (Shaun Hargreaves Heap et al. eds., 1992) (displaying and discussing part of an experiment from which this example is taken). The case originally comes from Par M. Allais, LE COMPORTEMENT DE L'HOMME RATIONNEL DEVANT LE RISQUE: CRITIQUE DES POSTULATS ET AXIOMES DE L'ÉCOLE AMÉRICAINNE, 21 ECONOMETRICA 503, 527 (1953).

Problem 2 . . . : If program C is adopted, 400 people will die. . . .

If program D is adopted, there is a one-third probability that nobody will die and a two-thirds probability that 600 people will die. . . .

Which of the two programs would you favor?²⁹

Program A in Problem 1 and program C in Problem 2 are indistinguishable in real terms, as are program B in Problem 1 and program D in Problem 2.³⁰ By measuring the outcomes of the programs in terms of the number of lives saved, Problem 1 adopts as an implicit reference point a situation where the disease has already taken its toll of 600 lives.³¹ In Problem 2, however, the program outcomes are measured by the number of lives lost, which implies a reference state where no one has yet died of the disease.³² When given these “two” problems (with a few other problems in between to cleanse their palates), a clear majority of respondents preferred option A in the first problem (72%) and option D in the second (78%).³³ In this case, people are risk averse when the problem is described in terms of gains and risk seeking when it is described in terms of losses. But according to subjective expected utility theory, when counting lives (as with anything else), $((x-600)+200) = (x-400)$, so $u((x-600)+200) = u(x-400)$ also holds. Likewise, $(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = (\frac{1}{3}x+\frac{2}{3}(x-600))$, so $u(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = u(\frac{1}{3}x+\frac{2}{3}(x-600))$ should also follow. These equalities, combined with the experimental data, lead to the absurd conclusion that $u((x-600)+200) > u(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = u(\frac{1}{3}x+\frac{2}{3}(x-600)) > u(x-400) = u((x-600)+200)$. Something is clearly amiss!³⁴

There is evidence of exactly these sorts of description-dependent preferences in the stock market. Standard economic theory holds that you should sell a stock if you think it will fall in price and keep it if you think it will rise, regardless of the purchase price (a sunk cost). There is evidence, however, of a disposition effect—people will hold on to losing stocks longer than they hold on to winning stocks, even when the rate of

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

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.*

34. See *id.* at 343 (“Respondents confronted with their conflicting answers are typically puzzled. Even after rereading the problems, they still wish to be risk averse in the ‘lives saved’ version; they wish to be risk seeking in the ‘lives lost’ version; and they also wish to obey invariance and give consistent answers in the two versions.”).

return on the unsold losers was smaller than the rate of return on the winners after sale.³⁵ On an aggregate scale, the trading volume of winning stocks is higher than that for losing stocks.³⁶ It appears that people are more willing to gamble on their losers turning around than on their winners staying on track.

Preference changes resulting from what are merely different descriptions or sunk costs are obviously a serious issue—common sense or not, utility theory is in trouble if it doesn't explain behavior. None of this evidence, by the way, surprises the “sniff test” critics: if utility theory misses determinants of behavior, empirical inadequacy is to be expected.

Partisans of behavioral economics in the field of law incorporate elements of both sorts of criticisms. Standard economic models, they argue, naïvely focus on *Homo economicus* rather than real people. Real people are not utility-maximizing automatons, but instead “can be said to display bounded rationality, bounded willpower, and bounded self-interest.”³⁷ Cass Sunstein goes a step further, and explicitly appeals to norms and roles in order to replace preferences in explaining certain behaviors in a legal context.³⁸ The argument here is that standard economics involves fundamental misdescriptions of people and their motivations.

The primary criticism, however, focuses on empirical difficulties. For example, legal scholars appeal to evidence of description-dependent evaluation in order to explain why bargaining doesn't replace court judgments to a greater extent than it does.³⁹ People seem risk averse when they see a situation as a potential significant gain and risk loving when they see it as a potential significant loss. Since defendants are likely to see themselves as potential losers (and plaintiffs often see themselves as potential losers from the standpoint of their pre-injury status), litigants (sometimes on both sides) are often willing to “roll the

35. Terrance Odean, *Are Investors Reluctant to Realize Their Losses?*, 53 J. FIN. 1775, 1775–79 (1998).

36. Colin F. Camerer, *Prospect Theory in the Wild: Evidence from the Field*, in CHOICES, VALUES, AND FRAMES 288, 290–91 (Daniel Kahneman & Amos Tversky eds., 2000); Odean, *supra* note 35, at 1775–79.

37. Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1476 (1998).

38. Cass R. Sunstein, *Social Norms and Social Roles*, in CHICAGO LECTURES IN LAW AND ECONOMICS 135, 138–39 (Eric A. Posner ed., 2000).

39. Jolls et al., *supra* note 37, at 1497–504; Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051, 1103–13 (2000).

dice” on a trial.⁴⁰ Traditional law and economics also holds that people should ignore sunk costs and that resources should be used for their most profitable purposes. The upshot is supposed to be that entitlements in the law will have little effect on the ultimate allocation of resources, at least where transaction costs are low. The empirical evidence shows, however, that past expenditures do influence behavior and that people aren’t willing to part with resources, even at a price they wouldn’t be willing to pay to obtain the resource in the first place.⁴¹ The *successes* of the standard theory turn out to be the special cases—it is only in contexts where professionals engage in repeated trades, and arbitrage is possible, that incentive structures minimize the influence of human boundedness.⁴²

C. *Law and Economics Responds to the Challenges*

Some of the challenges to the law and economics movement can be successfully rebutted. For example, as a formalization of common sense, standard economic theory has resources for rebutting “sniff test” charges. It doesn’t, for example, ignore compulsions or social norms and roles. Rather, it adopts the common-sense view that such factors influence what an agent wants, and so her preferences. While notions like utility are admittedly foreign to common sense, it doesn’t follow that they are inconsistent with it. Utility is just a mathematical representation of preferences, and so it ultimately reflects a person’s desires. People can want all sorts of things, including states of affairs that appeal to their conceptions of fairness or justice.⁴³ So, as Richard Posner notes, economic theory has no trouble accommodating “bounded self-interest” of the sort that describes people’s propensity to look beyond their own narrowly defined interests and act in ways that appear to promote fairness.⁴⁴ In fact, it is pretty absurd to think of the human capacity to have interests that aren’t self-centered as a *bound* in the first place. Only

40. The Framing Theory of litigation holds that litigants treat their current asset positions as their reference points for evaluating gains and losses. Plaintiffs, as potential gainers are modeled as risk averse; defendants, as potential losers, are modeled as risk loving. Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113 (1996). See generally Chris Guthrie, *Framing Frivolous Litigation: A Psychological Theory*, 67 U. CHI. L. REV. 163 (2000) (arguing that the Framing Theory of litigation may lead to plaintiff-friendly settlements). This account might underestimate the barriers to settlement since a plaintiff may frame her decision from the standpoint prior to (perceived) injury.

41. Jolls et al., *supra* note 37, at 1482–85, 1497.

42. *Id.* at 1485–86.

43. Ethical rules that serve as “side-constraints” on behavior (e.g., Kant’s Categorical Imperative) are not *ipso facto* irrational.

44. Posner, *supra* note 10, at 1553–55, 1557–58.

someone trapped in the mindset of ethical hedonism could count the existence of plural values as a limit.

With respect to the formal apparatus of rational choice accounts, it is clear that people (even most economists) don't *consciously* maximize subjective expected utility. It does not follow, however, that standard economic theory is a failure, for introspective access is not a necessary component of a behavioral theory.⁴⁵ Most of us, for example, can make pretty fine discriminations among smells, but we don't have even the faintest idea how we do it. A hypothesis naturally suggested by this sort of reflection is that economic models are like perceptual models in that both are abstract (even partial) characterizations of mental processes.⁴⁶ This sort of account treats subjective preferences and probabilities as important inputs to action, even when they aren't the sole motivating forces.

Economists, though, generally avoid this sort of account. They prefer, instead, to take an *instrumentalist* line: what matters is predictive success rather than accurately describing behavioral mechanisms. Instrumentalism about economic theory is a response, in part, to "sniff test" objections. "People aren't like that" isn't a relevant complaint against a predictive tool. It is also motivated, however, by a desire to steer clear of psychological claims.⁴⁷ In fact, given that much of the problematic data stems from relatively small-scale psychological studies, they would rather steer clear of individual-level claims about behavior altogether. The instrumentalist position holds that economic models get human behavior right in the aggregate, regardless of what actually motivates the behavior.⁴⁸ Even if *most* individuals fail to maximize subjective expected utility, instrumental economics should correctly predict aggregate behavior where deviations from maximization are random. The standard line in economics is that it can tell you about the net effect of incentives on groups of people.⁴⁹

45. If it were, behavioral economics would also fail—most people don't introspect their bounded rationality or bounded willpower.

46. E.g., POSNER, *supra* note 22, at 356; Stephen Ellis, *What Economists (and Everyone Else) Should Think About Utility Theory*, 18 S.W. PHIL. REV. 93, 99–100 (2002).

47. This desire is motivated, in part, by theoretical scruples about unobservable entities. ALEXANDER ROSENBERG, *PHILOSOPHY OF SOCIAL SCIENCE* 79–81 (Norman Daniels & Keith Lehrer eds., 1995).

48. KREPS, *supra* note 27, at 4.

49. See POSNER, *supra* note 2, at 18 (discussing the successes of economics' "predictive power"); Posner, *supra* note 10, at 1556–57 (stating that economists ask questions relating to aggregate choices and not individual choices). The *locus classicus* of this view is supposed to be Milton Friedman's 1953 paper, *The Methodology of Positive Economics*, reprinted in *THE PHILOSOPHY OF ECONOMICS* 210 (Daniel M. Hausman ed., 1990). Friedman does appear to endorse

An instrumentalist theory is a tool that takes information about certain accessible variables as an input and outputs a prediction, usually about the future state of those same variables. Taken straight, economic models involve the mental states of particular individuals. In order to use them as predictive tools, one must first specify the relevant accessible inputs. Instrumentalism rides on the coattails of the normative economic theory here. Economists usually treat the objective probabilities of a situation—what beliefs are directed at—as the subjective probabilities of relevant agents, and actual choices—what desires are supposed to order—as “revealed” preferences.⁵⁰

Interpreting economic models instrumentally also puts a lot of pressure on their predictive adequacy. A noninstrumental model might plausibly claim to represent certain features of a situation even if those features are being overwhelmed in that circumstance. Feathers and bowling balls don't fall at the same rate in most actual circumstances, but it doesn't follow that simple models of gravitational attraction are false. Likewise, perhaps, the actions of very tired or very hurried agents may not conform to the predictions of consumer theory. An instrumental model of aggregate behavior that has empirical problems has no such intuitive plausibility to fall back on. And, on balance, the empirical

a purely instrumentalist account: “The ultimate goal . . . is the development of a ‘theory’ or ‘hypothesis’ that yields valid and meaningful (i.e., not truistic) predictions about phenomena not yet observed.” *Id.* at 213. A closer reading, however, suggests a more nuanced view. His basic point is that a good economic theory “abstracts the common and crucial elements from the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone.” *Id.* at 218. Thus, Friedman's main point is that the empirical evidence (as opposed to intuitive judgment) determines which abstractions from the actual mechanisms are appropriate, not that any attention to mechanisms is irrelevant. “Complete ‘realism’ is clearly unattainable, and the question whether a theory is realistic ‘enough’ can be settled only by seeing whether it yields predictions that are good enough for the purpose in hand . . .” *Id.* at 237; *id.* at 221.

50. Interpreting economic theory instrumentally insulates it, to some extent, from counter-evidence. The failure of particular individuals to maximize subjective expected utility is not important if the theory doesn't say anything about the behavior of individuals, much less their psychological mechanisms. Even systematic failures can be chalked up to adverse selection of the sample studied from the larger population. If behavior in a certain population is distributed around a mean of rational action, it will be possible to select more and less rational subsets of agents. *See* Posner, *supra* note 10, at 1561, 1570–71 (stating selection of individuals for an experiment can change how results relate to a real-world environment).

Despite the fact that it is rarely mentioned, the insulation from counter-evidence provided by standard economic instrumentalism clearly comes at a price. Where there is adverse selection, economic models are likely to make bad predictions because a (sub)set of irrational agents won't act in the way they suggest. Posner, to his credit, admits that this is a problem for rational-choice accounts of criminal behavior: “If the [criminal justice] system is designed to deter, then criminals—the part of the population that is not deterred—will not be a random draw from the population, just as lunatics are not a random draw. We can expect the undeterrable to have peculiar traits, including, in a system in which punishment takes the form of imprisonment, an abnormal indifference to future consequences.” *Id.* at 1568.

evidence suggests that economic theory is not up to the predictive task it is assigned. It doesn't, at least so far, account for much of the phenomena of interest to economists, orthodox or behavioral. Regardless of whether some standard model *could* account for the behavioral evidence, currently available models *don't*. As a tool, then, standard economic theory fails to predict as much of the relevant phenomena as we would like.

The problems encountered by standard economic theory should come as no surprise. It is, after all, based on common-sense intuitions, and common sense can lead us astray. "Folk" accounts are often flawed—"folk physics," for example, has heavier objects falling faster than lighter objects. Even if the core "folk" account is on track, there is usually much more to be said (e.g., a good physical theory still must account for the difference between feathers and bowling balls). Everyone who thinks seriously about economic issues recognizes the need to adapt economic models to handle anomalous behavior.

Orthodox economics tries to preserve the basic structure of subjective expected utility maximization and account for recalcitrant behavior by either finding new inputs into the old models that account for the empirical results (e.g., new motives, more complex beliefs about circumstances) or applying the old models in novel ways (e.g., "multiple person" models, evolutionary psychology). The first strategy does successfully fend off certain challenges. Some apparent difficulties are resolved by paying more attention to the objects of preference. It isn't anomalous for someone to drink Folgers most of the time, even when she claims to prefer Starbucks. We recognize that Folgers-flavor vs. Starbucks-flavor isn't the only relevant dimension to her choice: a cup of Folgers costs \$0.75, while Starbucks runs \$2 per cup. Likewise, there is no anomaly if someone who usually buys a cheap candy bar on the way to the movies pays the inflated theater price when she is on a date. Paying full price can send a signal about her attitude toward money that she wants to send.⁵¹ In each of the foregoing cases, the inaccurate

51. The candy bar case is due to an example by David Friedman:

[C]onsider someone who has a choice between two identical products at different prices. It seems that for almost any objective we can think of, he would prefer to buy the less expensive item. . . . But suppose you are taking a date to a movie. You know you are going to want a candy bar, which costs \$1.00 in the theater and \$0.50 in the Seven-Eleven grocery [store] you pass on your way there. Do you stop at the store and buy a candy bar?

DAVID FRIEDMAN, PRICE THEORY: AN INTERMEDIATE TEXT 3 (1990). Friedman thinks that the only conclusion licensed by economic theory is *yes*. He recognizes, of course, that you might not: "Do you want your date to think you are a tightwad? You buy the candy bar at the theater, impressing your date (you hope) with the fact that you are the sort of person who does not have to worry about

prediction is the result of an insensitive modeler missing some feature of the situation to which the agent is responding. Most attempts to safeguard economic theory from empirical counter-evidence follow this strategy. They point to some extra structure in the difficult cases—such as sophisticated preferences or beliefs, information asymmetry, signaling, or strategic behavior—that changes the application of standard economic tools.⁵²

Still, the “new inputs” strategy has some important limits. Initially, the extra attention to (beliefs about) circumstances, motives, and the like doesn’t make much sense unless they are thought of as real features of situations. A plausible instrumentalist model must appeal to accessible inputs. Appeal to beliefs or motives that aren’t apparent in the circumstances would be completely ad hoc.⁵³ Further, it (usually) takes an agent who is actually rational to signal or otherwise engage in strategic behavior. This sort of realism stands in direct opposition to the instrumentalist interpretation of models adopted by most economists. The standard focus on aggregate behavior in economics is also an uncomfortable fit with the “new inputs” strategy. Only individually rational agents can perform most strategic behavior. A set of agents who are merely rational *on average* probably can’t support sophisticated strategic applications of standard economic theory.

Finally, the “new inputs” approach just doesn’t handle some of the important cases. The empirical evidence does provide some decisive objections to economic theory. There are some fairly simple cases where economic models fail despite the lack of any complicating environmental structures. Appeal to hidden complexity in the world is no help with the Asian Disease case, for example. The outcomes of programs A and C are literally identical, as are the outcomes of programs B and D—only

money.” *Id.* Standard economic theory, he thinks, just fails in this instance. Does this case really tell against economic theory? Obviously not, for the reasons outlined above. Ellis, *supra* note 46, at 97–98.

There is a plausible response to the Allais paradox that runs along these lines. The most popular choices are supposed to be inconsistent because an agent chooses B in Problem 1 if and only if $u(\$0) < 34u(\$2400) - 33u(\$2500)$ and C in Problem 2 if and only if $u(\$0) > 34u(\$2400) - 33u(\$2500)$. *Id.* at 98. For many, however, the \$0 outcome in Problem 1 is accompanied by regret—“Oh God, I just blew a sure \$2400”—in a way that the \$0 outcome in Problem 2 is not. *Id.* There is nothing inconsistent about choosing B and C if $u(\$0 \& \text{regret}) < 34u(\$2400) - 33u(\$2500)$ and if $u(\$0 \& \text{no regret}) > 34u(\$2400) - 33u(\$2500)$. *Id.*

52. Again, there are costs to this approach. Complicating the application of economic theory means that one must abandon some of its straight-forward recommendations. For example, the Coase theorem depends on the existence of a certain sort of simple market, one without strategic behavior. *E.g.*, Deirdre McCloskey, *Other Things Equal: The So-Called Coase Theorem*, 24 E. ECON. J. 367, 367 (1998).

53. This fact accounts for David Friedman’s reluctance to distinguish between a candy bar on a date and a candy bar alone.

the terms used to describe them differ. There are no asymmetries in the case for a modeler to miss. Rather, agents seem to irrationally distinguish cases that aren't actually different. There isn't any room for this in standard economic theory.⁵⁴ This sort of failure also lends credence to the view that (yet-to-be-discovered) situational complexity might not be the best explanation for the more complicated apparent failures of economic theory. If there is clear evidence that people systematically treat gains and losses differently in this case, then appeal to this sort of differential treatment is plausible in the disposition-effect cases and the lack-of-bargaining-around-judgments cases.

The second strategy—applying the old models in novel ways—is woefully underdeveloped. “Multiple selves” accounts haven't been studied in any serious way.⁵⁵ Even a cursory examination, however, raises some serious issues about the basic account of preferences at the heart of economic theory. The main problem is understanding the relations among the different “selves.” If we take the metaphor seriously, *intrapersonal* dynamics are at least as complicated as *interpersonal* dynamics. It has been argued, for example, that there are intrapersonal versions of the prisoner's dilemma and Arrow's theorem.⁵⁶ Shifting to a “multiple selves” view would require seriously rethinking a host of issues.⁵⁷ At any rate, the standard prescriptions of law and economics presuppose univocal agents. The claim that legal rules maximize allocative efficiency, for example, takes for granted that the agents before the bar are the same agents whose behavior led to the court case in the first place.

Appeal to evolutionary psychology amounts to a surrender to behavioral economics. While evolutionary theory does use mathematical models that are quite similar to economic models, the “agent” in those models is *nature*, not the creatures that evolve.⁵⁸ Nature “chooses” creatures that maximize *her* goal of inclusive fitness. It doesn't follow that those creatures are maximizers at all (think of insects), much less maximizers that share nature's goal of inclusive fitness. Evolutionary psychology suggests, rather, that people will be well adapted to their ancestral environments, not universal problem solvers. In fact, relatively

54. For more cases where economic theory clearly fails, see Part III, below.

55. Such accounts have, however, been put forth as a method of explaining such phenomena as hyperbolic discounting. *E.g.*, POSNER, *supra* note 2, at 19.

56. Gregory S. Kavka, *Is Individual Choice Less Problematic than Collective Choice?*, 7 *ECON. & PHIL.* 143, 148–53, 157–60 (1991).

57. For an overview of these issues, see generally Ellis, *supra* note 14.

58. Creatures are nature's *strategies* on these accounts.

narrow behavioral rules are likely to provide lower-cost solutions to ecological challenges, at least where there is some environmental stability. Prominent advocates of evolutionary psychology tell us that human behavior is driven by a grab-bag of ecologically rational heuristics rather than an all-purpose process of utility maximization.⁵⁹ At a minimum, we should expect evolved beings to care about a variety of things other than inclusive fitness.⁶⁰ All of this assumes that evolutionary psychology, as it is currently understood, is an accurate account, which is far from established. There is little doubt that mental activity is underwritten in crucial ways by brains, and further, that brains, as bodily organs, are subject to evolutionary pressures. It isn't at all clear, however, exactly how brains underwrite minds. Likewise, we don't know very much about the crucial details of human ancestral environments. As a result, we just don't have any good idea about how selection pressures have influenced human thought. Most of the accounts offered by evolutionary psychologists have some plausibility, but none has really established itself as likely.⁶¹

The upshot is that things don't look good for standard economic approaches. While they have their virtues, they also confront a number of cases that they can't explain, and they don't seem to have the resources needed to expand their explanatory reach. But all may not be lost: perhaps solutions to the difficult cases can be found in behavioral economics.

III. BEHAVIORAL LAW AND ECONOMICS

A. *The Rise of Behavioral Law and Economics*

Behavioral economics is explicitly an attempt to overcome the deficiencies of standard economics. This approach accepts the normative appeal of economic theory—people should maximize their subjective expected utility. It recognizes, however, that there are empirical

59. Gerd Gigerenzer & Peter M. Todd, *Fast and Frugal Heuristics: The Adaptive Toolbox*, in *SIMPLE HEURISTICS THAT MAKE US SMART* 3, 5 (1999).

60. E.g., ROBERT FRANK, *PASSIONS WITHIN REASON* 2–3 (1988); Leda Cosmides & John Toobey, *Cognitive Adaptations for Social Exchange*, in *THE ADAPTED MIND* 163, 167 (Gerome H. Barkow et al. eds., 1992).

61. See, e.g., Jerry Fodor, *The Trouble with Psychological Darwinism*, 20 *LONDON REV. OF BOOKS*, Jan. 22, 1998, at 11, 13 (“[T]he direct evidence for psychological Darwinism is very slim indeed.”); Jerry Fodor, *The Selfish Gene Pool: Mother Nature, Easter Bunnies and Other Common Mistakes*, *TIMES LITERARY SUPP.*, July 29, 2005, at 3, 5 (book review) (“The track record of such theories has not been good; in retrospect they often look foolish or vulgar or both.”).

difficulties with economic models, and posits that those problems are not the result of random noise, but follow from behavioral regularities. Behavioral economics modifies the structure of economic theory in order to capture those regularities and come up with adequate descriptive models.⁶² While the data about anomalous behavior receives most of the attention in the behavioral law and economics literature,⁶³ behavioral economists themselves develop structural models that are meant to capture this data. These models retain the basic structure of economic theory while replacing simple accounts of subjective probabilities and utilities with more psychologically plausible (but still mathematically tractable) alternatives.

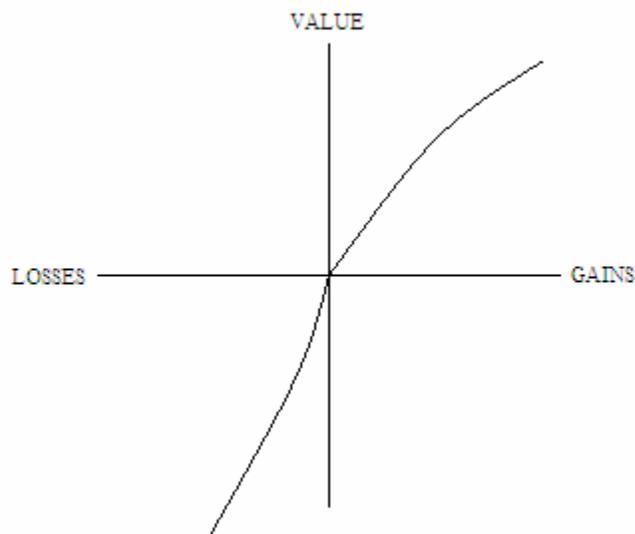
In its current state, behavioral economics appears scattered. A glance at one of the basic articles or defining collections of essays reveals a grab bag of empirical findings that have little relationship with each other (though they all stand in opposition to some tenet of traditional economics). Each new empirical falsification of an economic assumption gives rise to a new behavioral model, or at least a new modification of standard economic models. There are some efforts to impose order on these investigations. For example, Prospect Theory unites, in one model, changes that attempt to account for the disparate phenomena of endowment effects and overemphasis on low probability

62. That behavioral economics is after better descriptive adequacy is clear in virtually every article on the topic. It is equally clear that behavioral economists accept the normative appeal of standard accounts. By treating anomalous actions as errors, they are buying into the norm of standard economics. Behavioral economics began when “cognitive psychologists . . . took maximization of utilities and logical rules of probability judgment as benchmarks and used conformity or deviation from these benchmarks as a way to theorize about cognitive mechanisms (much as optical illusions are used to understand perception).” Colin Camerer, *Behavioral Economics: Reunifying Psychology and Economics*, 96 PROC. NAT’L ACAD. SCI. U.S.A. 10,575, 10,575 (1999); see also Jolls et al., *supra* note 37, at 1473–74, 1487, 1523–45 (discussing the history and objective of behavioral law and economics, along with factors that could improve the conventional law and economics theory); Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 263–65 (1979) (discussing the inadequacy of utility theory and proposing Prospect Theory as an alternative); A. Peter McGraw et al., *The Limits of Fungibility: Relational Schemata and the Value of Things*, 30 J. CONSUMER RES. 219, 219–21 (2003) (introducing a social-relational model to the endowment and mental accounting effects seen in consumer behavior); Philip E. Tetlock & Barbara A. Mellers, *The Great Rationality Debate*, 13 PSYCHOL. SCI. 94, 94 (2002) (discussing the “breakpoints” illustrated by the experiments of Kahneman and Tversky); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 458 (1981) (applying psychological principles to the Asian Disease case). Behavioral economists sometimes claim that “dysfunctional effects within one framework will often look functional in another.” Tetlock & Mellers, *supra*, at 98. This, however, hardly amounts to throwing off the norms of standard economic theory (which after all are a subset of the norms of common sense). Given their views about human capacities, it isn’t surprising that behavioral economists offer different *prescriptions* than orthodox economists. Both sets of prescriptions, however, are aimed at the same *ideal*—actions that optimally satisfy desires.

63. Posner, *supra* note 10, at 1558–61.

events. And, somewhat less persuasively, the behavioral phenomena to be explained are grouped together in categories such as bounded rationality, bounded willpower, and bounded self-interest.⁶⁴ But on balance, behavioral economics comes across as a collection of insights into what appear to be almost wholly distinct psychological phenomena.

Prospect Theory merits close attention since it is the most well-developed behavioral model. Amos Kahneman and Daniel Tversky explicitly formulated it as an empirically superior alternative to Subjective Expected Utility Maximization.⁶⁵ They were impressed, in particular, by the evidence of endowment effects and description-dependent preferences. In order to account for this evidence, Prospect Theory replaces the utility assignments of standard theory (to total asset positions, or, more generally, total states of affairs) with a value function that assesses *changes* (in total assets, or, more generally, situations) from a reference point.⁶⁶ People, on this account, evaluate changes in their circumstances rather than the circumstances themselves. In order to capture the empirical data, Prospect Theory directly models people as risk averse for gains and risk loving for losses.⁶⁷ The following figure represents the sort of value function that results.⁶⁸



64. Jolls et al., *supra* note 37, at 1476–79.

65. Kahneman & Tversky, *supra* note 62, at 263.

66. *Id.* at 277.

67. *Id.* at 279.

68. *Id.*

Note that a material (and so value) gain can reset the reference point. From the new reference point, an equivalent material loss will result in an even greater value loss. In order to model reference-point-based values, Prospect Theory must account for how reference points are set. To do this, it adds a framing step to the decision process.⁶⁹ A person's reference point is usually her current asset position, but framing allows that her reference point can differ depending on her expectations and how her circumstances are presented to her.⁷⁰ In the Asian Disease case, for example, the *problems* are phrased in a way that permits multiple reference points ("the outbreak . . . is expected to kill 600 people").⁷¹ The *programs*, however, imply specific reference points: programs A and B *save lives*, suggesting that we should think of the 600 as already gone; programs C and D *limit loss of life*, suggesting that we should think of the 600 as still with us.⁷²

Kahneman and Tversky also see evidence that people overweight low probability events in their decisions,⁷³ so they replace the subjective probabilities of standard theory with decision weights that capture this effect.⁷⁴

69. *Id.* at 286–88.

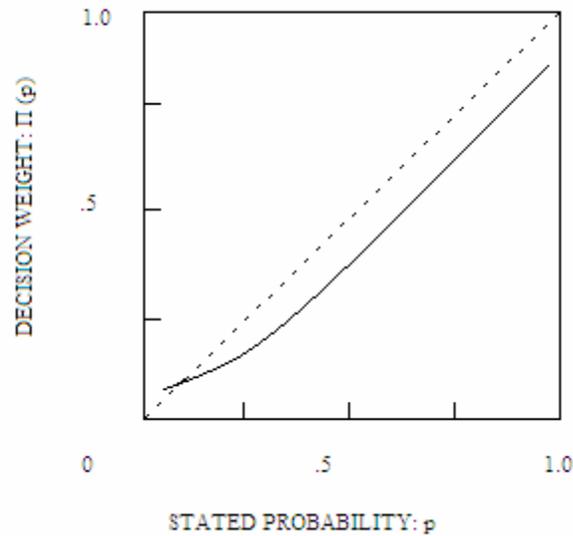
70. *Id.* at 286.

71. For a discussion of the Asian Disease case, see *supra* notes 29–34 and accompanying text.

72. See *supra* notes 31–32 and accompanying text.

73. Kahneman & Tversky, *supra* note 62, at 281.

74. *Id.* at 282–83.



For any probability $p < 0.3$ (or so), the decision weight $\pi(p) > p$; for probability $p > 0.3$ (or so), the decision weight $\pi(p) < p$.⁷⁵

While Prospect Theory is the most developed behavioral account, it isn't the whole story. It does, however, serve as a jumping-off point for most advances in behavioral economics.⁷⁶ Mental accounting, an

75. Camerer, *supra* note 36, at 288; Drazen Prelec, *The Probability Weighting Function*, 66 *ECONOMETRICA* 497, 497 (1998).

76. Cumulative Prospect Theory, for example, proposes an alternative account of (still nonlinear) decision weights. In the original Prospect Theory, the decision weights are transformed simple probabilities. If, for example, $P(x) = 0.5$, then the decision weight for x is $\pi(0.5)$. The cumulative probability of x will be $P(\text{outcome} \leq x)$; the relevant decision weight for x will be $w(P(\text{outcome} \leq x))$. Amos Tversky & Daniel Kahneman, *Advances in Prospect Theory: Cumulative Representation of Uncertainty*, 5 *J. RISK & UNCERTAINTY* 297, 299–301 (1992). This change in focus is supposed to have some advantages, but it doesn't make much difference in the predictions of models once the relevant weighting functions have been calibrated with the empirical data. William Neilson & Jill Stowe, *A Further Examination of Cumulative Prospect Theory Parameterizations*, 24 *J. RISK & UNCERTAINTY* 31, 44 (2002). The shift from Prospect Theory to Cumulative Prospect Theory was motivated, oddly enough, by theoretical considerations rather than empirical evidence. Prospect Theory allows for violations of first order stochastic dominance; Cumulative Prospect Theory doesn't. The shift was motivated primarily by this difference, on the grounds that violations of stochastic dominance are just too outrageous. *E.g.*, Alain Chateauneuf & Peter Wakker, *An Axiomatization of Cumulative Prospect Theory for Decision Under Risk*, 18 *J. RISK & UNCERTAINTY* 137, 137 (1999); Ulrich Schmidt, *Reference Dependence in Cumulative Prospect Theory*, 47 *J. MATHEMATICAL PSYCHOL.* 122, 122 (2003); Tversky & Kahneman, *supra*, at 298, 299–300, 302. There is evidence, however, that people often choose gambles that are stochastically dominated. *E.g.*, Michael Birnbaum & Juan Navarrete, *Testing Descriptive Utility Theories: Violations of Stochastic Dominance and Cumulative Independence*, 17 *J. RISK & UNCERTAINTY* 49, 49 (1998). A drawback of cumulative decision weights is that they are only well

approach pioneered by Richard Thaler, is probably the most important extension. Starting from the insight that people evaluate gains and losses asymmetrically, Thaler notes that the prospects being evaluated are not always well defined. Suppose, for example, that someone goes shopping and gets one item at a deep discount (a gain relative to her reference point) but ends up paying more than expected for another item (a loss relative to her reference point). Does she evaluate each item-transaction separately and then aggregate those values or does she aggregate the item-transactions and then evaluate? In Prospect Theory, the sum of the values of two objects is not generally the same as the value of those two objects together (i.e., $v(x) + v(y) \neq v(x\&y)$) so whether someone thinks of the objects as distinct prospects or parts of the same prospect will matter in how she evaluates them.⁷⁷

The details of Mental Accounting are not crucial for our purposes. Suffice it to say that people organize “expenditures” and “credits” by type (e.g., money vs. time), topic (e.g., entertainment vs. cash reserves), and time-frame (e.g., gambling proceeds for the day vs. those for the trip). Where the categorization isn’t fixed, people seem to organize prospects for evaluation in such a way as to maximize the aggregate amount of value experienced. According to Mental Accounting, then, the framing step of a decision process slices up the space of outcomes to be evaluated as well as sets up reference points for gains and losses.⁷⁸

Prospect Theory and its elaborations must be understood as nonaggregative, noninstrumentalist accounts. The relatively small-scale experiments (at least compared with markets) that provide the data for Prospect Theory are meant to isolate behavior at an individual level. Kahneman and Tversky see this behavior as evidence of real psychological structure.⁷⁹ Indeed, it would be difficult to even develop a

defined where it makes sense to order outcomes as greater than, less than, or equal to one another. This requirement may turn out to be problematic, e.g., cumulative decision weights won’t be defined over partial preference orderings.

77. Richard H. Thaler, *Mental Accounting Matters*, 12 J. BEHAV. DECISION MAKING 183, 183–86 (1999) [hereinafter Thaler, *Mental Accounting Matters*]; Richard H. Thaler, *Mental Accounting and Consumer Choice*, 4 MARKETING SCI. 199, 199–201 (1985) [hereinafter Thaler, *Consumer Choice*].

78. Thaler, *Mental Accounting Matters*, *supra* note 77, at 186–203; Thaler, *Consumer Choice*, *supra* note 77, at 201–14. See generally Nicolao Bonini & Rino Rumiati, *Acceptance of a Price Discount: The Role of Semantic Relatedness Between Purchases and the Comparative Price Format*, 15 J. BEHAV. DECISION MAKING 203 (2002) (discussing price reductions and mental accounting in consumer decisions); Todd L. Cherry, *Mental Accounting and Other-Regarding Behavior: Evidence from the Lab*, 22 J. ECON. PSYCHOL. 605 (2001) (examining the role of unearned money in other-regarding behavior in the dictator game); McGraw et al., *supra* note 62, at 219 (discussing consumer decisions and mental accounting).

79. Camerer, *supra* note 62, at 10,575, 10,577; Tversky & Kahneman, *supra* note 62, at 457;.

convincing instrumentalist interpretation of Prospect Theory. Orthodox economics can plausibly be an instrumentalist account because it can treat environmental frequencies as subjective probabilities and actual choices as “revealed” preferences. According to Prospect Theory, however, there is a gap between normative concepts like preferences and beliefs on the one hand and descriptive concepts like value functions and decision weights on the other. Given this distance, there don’t seem to be any intuitive features of cases themselves that can effectively serve as proxies for the apparatus of Prospect Theory. This seems to generalize to any account that significantly diverges from orthodox economics. Something at the individual level must actually correspond to value functions, decision weights, etc. in order for behavioral accounts to make sense.

Behavioral economics is a fundamentally conservative approach in that it retains the basic approaches and structures of economic theory. Its basic project is that of standard economics, with extra concern for empirical adequacy. Like orthodox accounts, behavioral models attempt to formalize the common-sense notions of desire and belief. The value functions of Prospect Theory, for example, attempt to capture the role normally assigned to desire just as utility functions of standard theory try to. Likewise, the decision weights of Prospect Theory try to regiment the role of beliefs in much the way that the subjective probabilities of standard theory attempt to. The only serious difference is that the functional forms of Prospect Theory formalizations are explicitly developed with an eye toward the empirical data.

Some of these modifications proposed by behavioral theories, however, require additions to the basic structure provided by common sense. Since it requires a reference point in order to categorize the gains and losses that are assessed by the value function, Prospect Theory supplies a framing account of how reference points are set. Mental accounting requires a framing step to account for how the space of outcomes is partitioned. While framing is not part of the core principle of folk psychology formalized by standard economics, it isn’t foreign to common sense. People sometimes see the glass as half empty, sometimes as half full.⁸⁰ Still, Kahneman, Tversky, Thaler, and the others don’t import *much* that is new. Once the reference points are in place and the objects of evaluation are discriminated, they tend to focus on exactly the determinants of behavior that standard economists do—what people value and believe.

80. More on this below.

Because most behavioral models attempt to formalize what is worth preserving from the common-sense notions of desire and belief, we find evidence of behavioral economic effects already built into legal doctrine (just as we did with standard economic theory). Take, for example, the endowment effect, one of the more robust empirical findings that influences behavioral economics.⁸¹ This effect describes the fact that people value items they already own more than they would pay to acquire the same items. Such a discovery would appear to be a novel aspect of human behavior that should quickly suggest a variety of improvements in legal doctrine. But while there have been some suggestions along these lines,⁸² there have not been nearly as many as one would have thought. Part of the reason for this, as Sam Issacharoff noted, “is that in this area behavioral models have already been best integrated into the understanding of legal claims.”⁸³ The same may be said of some of the other models of behavioral economics. Indeed, the concept of “bounded self-interest”—the fact that people tend to care more about fairness than predicted by traditional economic models—may help explain those “anomalies” of law and economics where judges appear to be concerned with distributional concerns as well as allocative ones.

B. Challenges to Behavioral Law and Economics

Behavioral economics is better with respect to empirical adequacy than the orthodox theory, but even there it is something of a mixed bag. In the first place, it is unclear that behavioral accounts can cope with the successes of standard economic theory. In the laboratory, experimental economists have shown that exchange markets set up with agents who know only their own circumstances converge to the prices and allocations predicted by standard general equilibrium analysis.⁸⁴ These sorts of successes occur in the real world as well, as even advocates of behavioral economics admit.⁸⁵ As we saw before, these advocates argue

81. The endowment effect is a corollary of Prospect Theory’s loss aversion. For a summary of the studies supporting the existence of the effect, see Daniel Kahneman et al., *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325, 1327 tbl.1 (1990).

82. E.g., Russell Korobkin, *Behavioral Economics, Contract Formation, and Contract Law*, in BEHAVIORAL LAW AND ECONOMICS 116, 116 (Cass R. Sunstein ed., 2000).

83. Samuel Issacharoff, *Can There Be a Behavioral Law and Economics?*, 51 VAND. L. REV. 1729, 1736 (1998).

84. E.g., KREPS, *supra* note 27, at 198; Vernon L. Smith, *Rational Choice: The Contrast Between Economics and Psychology*, 99 J. POL. ECON. 877, 880 (1991).

85. See Jolls et al., *supra* note 37, at 1486 (stating that “markets can sometimes lead to behavior consistent with conventional economic assumptions”).

that these successes of economic theory occur only in special circumstances. This caveat, even if accurate, is no help, however, for behavioral models that just build the usual regularities into their core equations. Even the discipline provided by high stakes and arbitrage opportunities is no help for an agent if her beliefs work like the decision weights of Prospect Theory. Interaction among behavioral agents is unlikely to result in the same outcome as interaction among standard economic agents.

Obviously, Prospect Theory and its kin capture the cases they are designed to capture. There are, however, a number of ways to account for the empirical evidence in question. Given this fact, one might question why behavioral economists make the exact modifications to the functional forms of standard theory that they do. There is clearly an idea that as much of orthodox economics as possible is to be preserved, and that changes should be made only as new behavioral anomalies appear in the data.⁸⁶ This approach seems to be a hangover from standard economic instrumentalism—if all that matters is predictive success then it makes sense to accommodate the evidence in a direct way, without worrying too much about the underlying psychology. Note, however, that this sort of latent instrumentalism is quite implausible for behavioral accounts such as Prospect Theory. Further, such a piecemeal, data-driven approach is troubling because of the way changes in models can interact. A modification to account for one sort of evidence might change the way in which other evidence can be accommodated.

This sort of interference can be seen in the behavioral economic literature. Appeal to reference-point-dependent value, for example, competes with appeal to fairness norms as the explanation for unexpected failures to bargain around court orders.⁸⁷ No model could incorporate *both* Prospect-Theory-style value functions *and* a Sunstein-style appeal to fairness norms: Sunstein holds that fairness norms have influence apart from mediation by preferences.⁸⁸ A model with both value functions and norms mediated by preferences would have too much—one or the other is sufficient to account for the data. Projectability is also a concern: do behavioral accounts handle the new evidence as it comes in? The empirical work seems mixed. James Druckman, for example, finds that while reference-point framing effects

86. See Christine Jolls et al., *Theories and Tropes: A Reply to Posner and Kelman*, 50 STAN. L. REV. 1593, 1593 (1998) (providing Posner's criticisms of behavioral economics).

87. Jolls et al., *supra* note 37, at 1497–98.

88. Sunstein, *supra* note 38, at 139.

seem to occur in certain political contexts, they don't occur in others.⁸⁹ The upshot is that behavioral anomalies like the framing effect are not constant, but, rather, are intermittent and dependent on circumstances. Without some underlying theory telling us when the various anomalies are likely to occur, it is difficult to piece behavioral economics into a coherent picture, much less one that can be readily integrated with the successes of standard economics.

While those who work in law and behavioral economics readily admit the lack of a unifying theory, they do not view this as an insurmountable problem.⁹⁰ The contrast drawn here, as always, is with traditional economics, which they see as well-theorized but empirically false (at least on many occasions).⁹¹ In choosing between a complete theory that leads to incorrect predictions and an incomplete group of psychological phenomena that, when applied in the right context, lead to accurate predictions, it's easy to see the appeal of behavioral economics. Indeed, it is sometimes viewed as a version of legal pragmatism.⁹² And those in law and behavioral economics rightly caution that the discipline is still in its infancy, and express hope that someday it will come together into a more coherent theory.⁹³ (That said, relatively little work is done to further this goal; instead, most of the work tends to involve the application of existing behavioral models to particular legal doctrines.)

But the lack of a unified theory is a serious shortcoming, especially in the context of developing prescriptions for legal doctrine. Initially, the lack of such a theory makes it difficult to sort out the relationships among the great (and growing) number of heuristics, biases, and other behavioral "anomalies." There may be multiple behavioral explanations for many types of behavior; indeed, as noted above, this sort of problem is already springing up in the literature. Without some theory that explains the relationships among competing models, it seems less likely

89. James N. Druckman, *Political Preference Formation: Competition, Deliberation, and the (Ir)relevance of Framing Effects*, 98 AM. POL. SCI. REV. 671, 673–81 (2004) [hereinafter Druckman, *Political Preference Formation*]; see also James N. Druckman, *Using Credible Advice to Overcome Framing Effects*, 17 J.L. ECON. & ORG. 62, 63 (2001); Jerwen Jou et al., *An Information Processing View of Framing Effects: The Role of Causal Schemas in Decision Making*, 24 MEMORY & COGNITION 1, 8 (1996).

90. Jolls et al., *supra* note 37, at 1487–89; Korobkin & Ulen, *supra* note 39, at 1057–58, 1071–73; Thomas S. Ulen, *The Growing Pains of Behavioral Law and Economics*, 51 VAND. L. REV. 1747, 1747 (1998).

91. Jolls et al., *supra* note 37, at 1487–89; Korobkin & Ulen, *supra* note 39, at 1057–58.

92. Korobkin & Ulen, *supra* note 39, at 1057.

93. Jolls et al., *supra* note 37, at 1487; Korobkin & Ulen, *supra* note 39, at 1057; Ulen, *supra* note 90, at 1747.

that a particular behavioral approach will gain much traction among lawmakers.

There is also a related problem: without a unified theory of behavior, it is difficult to figure out when lawmakers should apply traditional economics and when they should apply behavioral economics (or, if behavioral models are viewed as fine-tuning standard models, when you fine-tune and when you leave well enough alone). Take, for example, the fact that people value items they already own more than they would pay to acquire the same items (i.e., the endowment effect). Is it, as posited by behavioral economists, best modeled by Prospect Theory's reference-point-dependent value functions? Or is it, according to standard accounts, best explained by some combination of wealth effects, rational adaptation, and the absence of close substitutes? Without a unified theory, we are not even sure that the two accounts compete at all—perhaps the behavior is best captured by some combination of the two.

Integrating the findings of behavioral economics into a more unified theory of behavior would go a long way toward persuading both legal academics and, ultimately, policymakers of their importance. A large part of Richard Posner's critique of behavioral economics is that it is "undertheorized."⁹⁴ Other legal academics, though less wedded to traditional law and economics methods, make a similar point.⁹⁵ Policymakers, too, will be reluctant to jump on board without some principled way of mediating among behavioral models. The law, after all, is a collection of fairly general rules of widespread applicability. While some tailoring is obviously possible, there are limits. And, given

94. Posner, *supra* note 10, at 1559.

95. See Issacharoff, *supra* note 83, at 1734. Issacharoff, for example, believes that at least four conditions must be met in order for a successful behavioral law and economics to emerge:

1. The effects identified must be generalizable and not limited to idiosyncratic situation-specific departures from rational model expectations;
2. The effects identified must be robust;
3. The effects identified must be of sufficient magnitude as to systematically undermine predictions of behavior derived from models that assume rational choice;
4. The insights derived from the behavioral and psychological studies must be capable of being operationalized to condition the behavior of all persons subject to specific regulation.

Id. at 1734. It should come as no surprise that the legal academy would be much more eager to embrace the empirical results if they came as part of a broader theory of behavior—the academy has always been drawn to more scientific theories of the law (one needs only to think of Langdell's formalism, the Progressive's belief in the power of science, and Law and Economics; even the Legal Realists looked to the new work in psychology to buttress their claims).

the current state of behavioral economics, it may well be that most policymakers choose to stay with the status quo (the status quo bias at work!).

C. *The Root of the Problem*

The root of the problem may not be that behavioral economics is undertheorized. It is, after all, as capable of forming models to handle cases as standard economics. The problem, rather, is that behavioral models are *undermotivated*. The fact that standard models don't handle the empirical evidence is good reason to alter those models, but the alterations themselves are pretty simple-minded. Behavioral economists often fail to draw a distinction between empirical evidence and what it is evidence *for*. If, for example, the data suggest an endowment effect, the behavioral approach treats that effect as a brute fact, building it into the core apparatus of the model without any further ado. This sort of "curve fitting" approach accepts without question that standard economic models are both normatively attractive and in the right neighborhood of the causal mechanisms of behavior. This, in turn, suggests a certain diagnosis of the problems with standard economic theory: we know what people are supposed to do, but there are flaws in the design that implements the plan.⁹⁶

Behavioral economics, then, lets standard economic theory set the agenda: it discusses exactly the elements of common sense that standard theory discusses; it (mostly) leaves out what standard theory leaves out. Both the source and the failures of economic theory suggest, however, that this approach should at least be questioned. Economic theory is abstracted from folk psychology. If it has problems, it is at least a live possibility that the abstraction was deficient. This point is more urgent when it becomes clear that behavioral economics is prey to similar failures.

Like orthodox accounts, behavioral models hold that behavior reflects *all* of an agent's wants, interests, values, etc. The gains and losses that value functions in Prospect Theory assess are, for example, *overall* gains and losses concerning the prospect at hand. There is, however, evidence of human "tunnel vision" that suggests people often act on a proper subset of the values they hold. Some behavioral

96. It is an interesting feature of this approach that although it accepts orthodox economics as a normative benchmark, it characterizes agents as incapable of making direct progress in approximating that norm. An agent accurately characterized by Prospect Theory, for example, *couldn't* evaluate overall circumstances, as opposed to changes in those circumstances.

phenomena are, therefore, beyond the reach of even behavioral economics.

Consider, for example, an experience of George Orwell in the Spanish Civil War.⁹⁷ Orwell had gone out to snipe at Fascists.⁹⁸ He saw an easy target—a fleeing enemy soldier holding up his trousers as he ran—but he couldn’t shoot because “a man who is holding up his trousers isn’t a ‘Fascist’, he is visibly a fellow creature, similar to yourself, and you don’t feel like shooting at him.”⁹⁹ Orwell knew, of course, that the man was still a Fascist, but he didn’t *see* him that way. He also realized that others he had fired at (both before and after the incident) were fellow creatures, but he did see *them* as Fascists, and he shot with resolve if not relish.¹⁰⁰

Something recognizable as framing seems to be going on here—before Orwell decided whether to shoot, he focused in on certain aspects of his situation rather than others. But this clearly isn’t framing as Prospect Theory understands it—there aren’t any reference point issues here. Orwell seemed to hold two relevant principles: *it is generally wrong to kill others* and *it is generally right to stop the spread of Fascism*. We expect someone who volunteers to serve in an armed conflict to come to an understanding about how such principles fit together. Orwell, for example, (usually) seemed to think that stopping the spread of Fascism was crucial enough to allow some compromise on his principle against killing. Standard economics presupposes these sorts of overall evaluations—an act of killing has a utility assignment, all (factual and motivational) things considered. Behavioral economics follows the same line. Whether some action counts as a net gain or loss is determined by the whole person’s motivational structure. Mental accounting does nothing to change this since it only addresses what the basic objects of evaluation are, not how they get evaluated. In the case at hand, however, Orwell seems to have lost contact with his usual overall evaluation. He wasn’t able to understand (frame) his situation as one where he was shooting a Fascist; he had “tunnel-vision” on the humanity of his intended victim.

Economists of all stripes are likely to write off Orwell’s case as a psychological anomaly, but this is a mistake. Attention is at least as

97. FREDERIC SCHICK, UNDERSTANDING ACTION 1–2 (1991).

98. George Orwell, *Looking Back on the Spanish War*, in 2 THE COLLECTED ESSAYS, JOURNALISM AND LETTERS OF GEORGE ORWELL: MY COUNTRY RIGHT OR LEFT 1940–1943, at 249, 253 (Sonia Orwell & Ian Angus eds., 1968).

99. *Id.* at 254.

100. Ellis, *supra* note 46, at 100.

bounded as rationality or willpower. On reflection, it should be obvious that people rarely reflect on all of their values or beliefs when they act. Steve, for example, doesn't consider all of the implicated values when he goes to the snack machine at work (although he probably should). Rather, he feels a twinge of hunger that distracts him from the task at hand and he acts to satisfy that hunger with no real thought to the costs.

There is a similar story of "tunnel-vision" at the very foundation of economics. One of the stylized facts about markets is that they lead people to act on bottom line considerations, i.e., to get money, products, services, etc. In the marketplace, people act for personal gain; other values are reflected only in what they do with those gains. Both critics and advocates of markets generally agree that they lead people to focus on bottom-line issues, at least in certain contexts. They disagree only about whether this is a good thing.¹⁰¹ Markets are thought to have this effect because of the way economic incentives work: acting on nonmarket values is costly; market competition drives out high-cost competitors.

This story can't be right, however, at least in many cases. As we saw before, people care about a variety of issues, including many that aren't self-focused. According to economic theory, orthodox or behavioral, markets should reflect this fact. If consumers really care about, say, labor rights or avoiding racial "inferiors," they should be willing to pay to further those goals. Entrepreneurs, then, should compete to satisfy the demand for products that advance these goals (e.g., labor-friendly shoes, Caucasian-produced bread). Niche marketing of this sort exists, of course, but it is relatively rare. While markets certainly haven't eradicated racism, or any other nonpecuniary value, people *do* tend to focus on narrowly "economic" considerations when they do things like make purchases or hire workers. The standard economic picture, one shared by both orthodox and behavioral accounts, has it that people act from their whole minds. The common evidence of human tunnel vision strongly suggests that this picture is inadequate.

101. This claim is an element in many criticisms of market-oriented societies. Elizabeth Anderson claims, for example, that the freedom of the market is really freedom *from* (most) values. Elizabeth Anderson, *The Ethical Limitations of the Market*, 6 *ECON. & PHIL.* 197, 204 (1990). It is more surprising, perhaps, that proponents of market systems make similar points. The classic argument that free enterprise undermines racial discrimination holds, for instance, that markets lead employers to put profit before prejudice. *E.g.*, GARY BECKER, *THE ECONOMICS OF DISCRIMINATION* 31 (1957); MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* 108–09 (1982); Kenneth Arrow, *The Theory of Discrimination*, in *DISCRIMINATION IN LABOR MARKETS* 3 (Orley Ashenfelter & Albert Rees eds., 1973).

The upshot is that things don't look much better for behavioral economic approaches than they do for standard approaches. While they have their virtues, behavioral models also confront a number of cases that they can't explain and they don't seem to have the resources needed to expand their explanatory reach. While both standard and behavioral economics formalize certain central aspects of common sense, there are other aspects that they leave out. There are resources in those other aspects that can be exploited to handle some data. Sometimes, for example, we explain behavior by holding that people are overwhelmed by emotion. Likewise, we explain some behavior by holding that people are distracted from important information. The difficulties encountered by both orthodox and behavioral economics suggest, at least, that it would pay to look again at the original regimentation of common sense to see if there is anything worthwhile that was left out. Such a reexamination can provide insights for both normative and descriptive models of behavior.

IV. TOWARD A UNIFIED THEORY OF BEHAVIOR FOR LAW

When attempting to develop a more unified theory of behavior, it makes sense to begin by asking whether there are any features that are common to the great variety of behavioral anomalies. One candidate is the importance of context.¹⁰² The phenomena catalogued by behavioral economists often turn on a change in the context of the action or decision at issue (or, to be more precise, they turn on a change in the subject's apprehension of the situation). The subjects of Prospect-Theory experiments, for example, respond differently to situations involving perceived gains and those involving perceived losses. Indeed, the highly contextual nature of many of the behavioral effects is one of the things that makes them so difficult to pin down and, ultimately, operationalize into law. Thus we are told by scholars of law and behavioral economics that, without an overarching theory, the key to developing useful legal commands in any given circumstance involves "due regard for the

102. At first glance, looking to something as broad as the context of action appears to be too abstract to be of much use. But here it is good to remember that we are attempting to unify what appear to be a rather wide-ranging group of behavioral phenomena. It is unlikely that the unifying principle is going to take the form of some hidden trick of the mind that we're completely unacquainted with; more likely, it will be something right under our noses. Whether systematic attention to context ultimately gives rise to a theory that is too ad hoc or underdetermined, however, is a fair question, and one that is taken up later in this Part.

relevant decision-making capabilities of the actors *in that specific setting*.”¹⁰³

But it is not merely a change in context that gives rise to the cases that cause so much trouble for standard economic theory. A new situation often presents a person with new information, and clearly that information can change the person’s underlying beliefs or ultimately even her desires. Standard economics, however, can easily handle such changes. What standard economics cannot do is accommodate changes in context that are unaccompanied by changes in underlying beliefs and desires and nonetheless prompt different actions. Thus, our reexamination of common-sense psychology should be with an eye to finding a way to build the context of human action back into our motivational theory as an independent factor.

A. *The Understandings Approach*

The observation that actions take place in specific contexts is not new. It has long been recognized that a person is disposed to act in a situation that poses a particular problem (challenge, opportunity, etc.), and that she responds to the problem by trying to solve it.¹⁰⁴ Aristotle provides a simple example: “‘I have to drink,’ says appetite. ‘Here’s drink,’ says sense-perception or *phantasia* or thought. ‘At once he drinks.’”¹⁰⁵ In this case, some situation prompts the agent’s thirst, such as heat or exercise. A person can be thirsty, of course, without paying much attention to that fact. Here, however, she does pay attention. The agent’s view of her situation activates her desire for a drink. Her perception of her circumstance brings thirst to the fore, making it seem like a problem. The agent operates in the context of her problem. She sees that she can do something about her thirst—take a drink—and so she does. Note that Aristotle’s agent still has many other reasons—she wants to give a sacrifice, finish a tragedy, etc.—but in *this* situation she acts on her thirst. Common sense tells us, then, that only a part of a person’s preference structure might be “on line” at any given time.

103. Korobkin & Ulen, *supra* note 39, at 1058 (emphasis added).

104. FREDERIC SCHICK, MAKING CHOICES: A RECASTING OF DECISION THEORY 17–18 (1997); SCHICK, *supra* note 97, at 55–60; GEORGE HENRIK VON WRIGHT, PRACTICAL REASON 50–51 (1983); Rex Martin, *Intelligability*, 74 MONIST 129, 129–30 (1991); Rex Martin, *G.H. von Wright on Explanation and Understanding: An Appraisal*, 29 HISTORY AND THEORY 205, 206–08 (1990).

105. ARISTOTLE, *DE MOTU ANIMALIUM* 701a32–34 (Martha Craven Nussbaum trans., Princeton Univ. Press 1978).

People have a limited capacity for comprehending their environments. As a result, their attention is selective.¹⁰⁶

Frederic Schick, in a series of articles and books over the last two decades, has developed an addition to the standard folk psychological account of action that captures the role of perceived circumstances in causing actions.¹⁰⁷ He calls desire-belief pairs *grounds*.¹⁰⁸ Grounds are *potential* reasons for actions. Each of us has grounds for a number of incompatible actions. A particular ground is activated, and so leads to action, in virtue of the person's *understanding* of her situation.¹⁰⁹ In Aristotle's case, the agent's ground for drinking (and not her other grounds) is activated by her understanding that thirst is her problem now, not her religious duties or her play deadline. She acts to satisfy only that desire. A person has one understanding at a time—the one implicit in the mental states she is actually using. This understanding cannot always be simply characterized, of course. It might involve more than one dominant theme, e.g., someone might understand a situation in terms of both loyalty and justice. Compound understandings of this sort involve as elements considerations that might constitute separate understandings on their own. A complex understanding activates a particular ground only when the agent sees as her objective the object of the desire component of the ground.¹¹⁰

Thinking about understandings helps us see that reasons aren't necessarily *overall* evaluations of the sort that utility or value functions are supposed to provide in standard economic or Prospect Theory, respectively. There are often interests (contained in unactivated grounds) that aren't considered. How is partial evaluation sufficient to support an action? An activated ground shows that a course of action is desirable insofar as it advances toward the objective the agent actually considers. Given her understanding, she doesn't see anything to give her pause before acting. This insight leads Schick to develop a three-part theory of reasons. If a person has grounds for an action and she understands her circumstances in a way that activates exactly the mental states that make

106. Different people can understand the same circumstances in different ways. Particular people are not necessarily tied to particular perspectives, however.

107. FREDERIC SCHICK, *AMBIGUITY AND LOGIC* 60–61 (2003); SCHICK, *supra* note 97; SCHICK, *supra* note 104, at 18; Frederic Schick, *Status Quo Basing and the Logic of Value*, 15 *ECON. & PHIL.* 23 (1999); Frederic Schick, *Allowing for Understandings*, 89 *J. PHIL.* 30 (1992); Frederic Schick, *Coping With Conflict*, 85 *J. PHIL.* 362 (1988); Frederic Schick, *Rationality: A Third Dimension*, 3 *ECON. & PHIL.* 49 (1987).

108. SCHICK, *supra* note 104, at 14–15, 22.

109. *Id.* at 15–23.

110. *Id.* at 23–27, 67–71; SCHICK, *supra* note 97, at 61–65.

up those grounds, then she does the action. Schematically, if a person (1) wants *A*; (2) believes both that *A only if B* and *B is available*; and (3) understands her situation as one where (a) the realization of *A* is her objective, i.e., the desire for *A* is the only one activated; (b) making *B* true is a means to or way of making *A* true, i.e., the belief that *A only if B* is activated; and (c) some option realizes *B*, i.e., the belief that *B is available* is activated, then she does *B*. If someone has a ground for an action and she uses exactly the mental states that make up that ground to think about her situation, then the action suggested by that ground will (in the absence of external restraint or infirmity) ensue—no other considerations that could derail the transition from desire to action are active.¹¹¹

It is hard to say what makes some features salient and others not in a given situation. Of course, we don't need to know the full story for the purposes of this paper—we're suggesting a line of inquiry, not a finished account. Folk psychology tells us enough, however, to convince us that this line is worth pursuing. The understandings account is essentially an associationist story. To have a certain understanding is to represent a situation with certain propositions involving certain properties. Attitudes toward those propositions are thereby activated and so employed in reasoning. Other propositions involving those properties are likely to spring to mind as well, activating desires and beliefs that involve them. We might believe of someone, for example, that he sees her action as a threat to his masculinity. The person in question sees the circumstances surrounding her action and his response through the lens of his masculinity: that consideration looms large in his thinking. His beliefs about manliness, his desire to protect his own manliness, considerations involving the relationship between masculinity and other aspects of his self-image, etc., come to mind when he thinks about his situation and so they will guide his actions. These are the sorts of "principles of connexion among ideas" to which David Hume refers.¹¹²

111. SCHICK, *supra* note 97, at 84–88. Note that on this view, *instrumental* rationality can be subjectivist about understandings as well as beliefs and desires. Still, there are normative issues about what constitutes appropriate understandings, just as there are normative issues about appropriate desires and appropriate beliefs. Schick takes a pluralist, subjectivist line. SCHICK, *supra* note 107, at 117–32; SCHICK, *supra* note 97, at 151–64. We are more inclined to a kind of objectivist view: an appropriate understanding of a certain situation is one that would lead to the same decision/action as if the agent had all of her mental states activated. In other words, we accept the normative force of utility maximization.

112. DAVID HUME, AN ENQUIRY CONCERNING HUMAN UNDERSTANDING 23 (1966). Aristotle's theory of perception and imagination provides a crude but not implausible account of understanding. According to Aristotle, people have a capacity for directly representing situations they encounter: *perception*. ARISTOTLE, ARISTOTLE'S *DE ANIMA* BOOKS II AND III, at 418a3–6, 424a17–27 (J.L.

Appeal to understandings is part, albeit a neglected part, of our common-sense psychology. Reflection on our everyday thoughts reveals the role that understandings play. When someone sees a child in trouble, for example, she doesn't usually think about her own monetary gain, despite the fact that she might be able to make some money in that circumstance. Likewise, most of us rarely think about the harm we might do others when we drive. We think rather about where we are going and what we'll do when we get there. We already know, in some sense, that we can affect the actions of others by framing their options in certain ways, i.e., by bringing to mind certain propositions rather than others. Understandings play a familiar, if unheralded, role in our everyday thinking about behavior.

It is fairly easy to adapt economic theory to accommodate Schick's insights about understandings.¹¹³ Standard consumer theory starts with preferences. It doesn't say anything, however, about how these preferences result from an agent's various interests. Let us suppose that each of a person's basic goals induces an interval ranking of actions. People act on subsets of their mental states, so they attend to only some of their basic interest rankings and some of their beliefs. In a particular circumstance, the behavior-relevant probability weights will be those that are conditioned on salient beliefs and the action-guiding expected utilities are importance-weighted sums of the (numerical representations of the) rankings of salient desires.¹¹⁴

Akrill ed., D.W. Hamlyn trans., Oxford Univ. Press 1968). On his account, when someone perceives an object she registers certain of its properties. The faculty of perception is closely related to the faculty of *imagination*. Images are appearances as of this or that sort of thing. *Id.* at 428a5–15, 428a24–b9. They are like perceptions in that they are representations of certain properties. *Id.* at 429b18–21, 431b2–11, 432a3–14. Images are unlike perceptions, however, in that they are not closely tied to particular objects. Imagination allows a person to represent more than she has already encountered. *Id.* at 428a5–15, 429b10–18, 431b12–16. When we represent the object of a mental state we have an image of the properties it involves, combined in the way it suggests. Imagination, then, is how we entertain propositions. When we entertain a proposition any attitudes toward it are likely to be activated. Beliefs and desires that involve some of the same attributes are likely to become activated as well since the mind forms new images by recombination. This account of how imagination works does suggest actual patterns of activation. Aristotle's theory of imagination provides an associationist account of understanding. Mental states become activated because they are related in certain ways to mental states that are currently activated: their objects resemble one another, often occur together, are related as cause and effect, etc.

113. See *supra* notes 107–10 and accompanying text for a discussion of Schick's insights.

114. The formal account is simple but a bit tedious. Let $A = \{a_i \mid a_i \text{ is an action that the agent thinks she can perform}\}$; $D = \{d \mid d \text{ is a basic desire}\}$; and R_d be the binary preference relation over A provided by desire $d \in D$. $a_i R_d a_j$ means that a_i is at least as good as a_j with respect to desire d . Each R_d is *complete* and *transitive*. A function $u_d: A \rightarrow \Re$ (the real numbers) gives an expected utility assignment that numerically represents R_d such that $u_d(a_i) \geq u_d(a_j)$ iff $a_i R_d a_j$. Each $u_d(\cdot)$ is unique only up to positive linear transformation. Schick's idea, in brief, is that people can be motivated by different proper subsets of their desires in different situations. Let $N = \{N \mid N \text{ is a situation}\}$; $C = \{R_d \mid R_d \text{ for } d \in D\}$ is the set of preference rankings provided by someone's basic

Appeal to understandings can account for the cases that create trouble for orthodox economics. Schick's understandings are similar to Kahneman-Tversky-Thaler-style framing in that both posit a preprocessing step where the inputs that influence behavior are specified. Both also handle the description-dependent preference cases in exactly the way Prospect Theory does—framing in terms of gains or losses from reference points is a kind of understanding.¹¹⁵ Traditional framing, however, misses a lot of what is useful in understandings because it still assumes that people consult all of their wants, interests, values, etc. when calculating gains or losses. The understandings account goes beyond what either standard or behavioral economics is even willing to look at by allowing that people can act on a proper subset of their desires and beliefs. It matters that the price I can sell my stock for is not merely \$X, but \$10 *less* than I was expecting, because this expectation brings certain values to mind. Likewise, reflecting on people who are recently dead brings to mind a different set of beliefs and interests than thinking about people who are about to die. This sort of appeal to different sets of mental states provides a potential *explanation* for the risk attitudes that are just built into Prospect Theory: losses make powerful fears salient; gains make fantasies salient but they are less powerful. We know how to live with our status quo situation, at least in most cases. It is easy, however, to imagine, and so fear, losses—we can think about what might happen when we lose the familiar. It is less easy to imagine gains—the new is unfamiliar and we might not know how it would affect our lives. Likewise, it isn't difficult to see how focusing on some considerations and not others would lead someone to divide up the space of outcomes being considered in a particular way.

Appeal to understandings also promises to help solve a number of philosophical problems regarding human action, including puzzles about inner conflict and weakness of will.¹¹⁶ It provides, in particular, an

desires; $\text{Pow}(C) = \{C_i \mid C_i \subseteq C\}$ is the set of subsets of C , i.e., the various combinations of rankings provided by basic desires. $S: N \rightarrow \text{Pow}(C)$ is a function that specifies the set of preference relations activated in situation N . Where multiple rankings are activated, the final evaluation is a weighted sum of the rankings provided by particular desires. (This is a controversial claim, but it makes sense under certain conditions.) See John C. Harsanyi, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility*, 63 J. POL. ECON. 309, 312–14 (1955). In situation N a person will have the set of activated rankings $S(N) = C_N$. Her ranking of states will be given by $u_{C_N}(\cdot) = \sum_{i \in C_N} w_i u_i(\cdot)$ where w_i is the weight of the i th desire. She will choose an $a_j \in A$ such that $u_{C_N}(a_j) \geq u_{C_N}(a_k)$ for all $a_k \in A$. Expected utilities depend on probability functions in the standard way. Let $B: N \rightarrow \text{sets of propositions}$ be the function that specifies a set of salient propositions for each situation. The probabilities that a person assigns given that she takes action a_i , $P(\cdot \mid a_i)$, in situation N are $P(\cdot \mid a_i \& B(N))$.

115. SCHICK, *supra* note 97, at 121–45; Jou et al., *supra* note 89, at 1–3, 9–11.

116. SCHICK, *supra* note 97, at 102–15.

attractive alternative to building “bounded willpower” directly into behavioral models. After all, seeing willpower as a strictly limited commodity makes the opposite of weak will—stubbornness—something of a mystery. And stubbornness in certain areas of life but not others is particularly perplexing. If willpower is a general-purpose capacity that is limited or a feature of hyperbolic discounting of overall utility (or value), how can Steve be so resolute about avoiding Wal-Mart and so irresolute about his food intake? A model that invokes understandings can account for both stubbornness and weak will. Someone who sees a decision as a matter of principle will have access to all of the motivational reinforcement that principle has to offer. Someone who is trying to lay off the doughnuts, on the other hand, would like to focus on the health risks of junk food. He is used to focusing on the pleasure they bring, however, so he often sees them as pleasurable and proceeds to eat.¹¹⁷

Paradoxically, perhaps, the understandings approach also has the potential to salvage more of orthodox economic theory than behavioral approaches. Consider, for example, the “tunnel vision” or “bottom line” considerations induced by market contexts. Within those contexts, standard economic theory fares pretty well. It is only when further considerations (e.g., fairness, security) get involved that things begin to fall apart. The approach of behavioral economics—building various behavioral effects straight into the standard models—both fails to capture the successes of orthodox accounts and, to some extent, sacrifices the intuitive connections between preferences and beliefs and the parts of models that represent them. The successes and intuitive plausibility of standard models are better preserved by looking at which beliefs and interests are operating in a particular case. And this is exactly what an understandings approach allows for: where a circumstance makes the sorts of things that economists look at salient, people act in the way economists predict; where a situation brings other issues to the

117. This account, unlike behavioral approaches, handles even the most difficult cases, ones where a person performs an action that she acknowledges, even at the time she acts, is not the best overall. The key is to realize that there is a distinction between *access* to a desire and *activation* of that desire. Clearly, a person can have *beliefs about* her own desires. People are able to make theoretical judgments about optimal actions, all things considered, using a process that *models* desires but doesn't *employ* them. This is how much deliberation about the future actually works. Beliefs about desires can be activated even when the desires they concern are not. (Such cases are rare because having a belief about a desire would normally activate that desire.) Having access to a desire *via* belief will not influence a person's behavior in the way that activation of that desire would—an agent can conclude that a proposed action is suboptimal considering a certain desire, but not care because that desire is not activated, and so not part of her reason. This seems to be precisely what happens. When a person acts against what she acknowledges is a more important consideration than the one she is acting on, she will often report that she just isn't feeling the pull of that consideration.

foreground, agents act in light of those issues. An account that includes this sort of framing is able to account for both the cases that confound orthodox economics and the cases that confound behavioral economics.

Behavioral and understandings approaches can provide competitive explanations for particular phenomena.¹¹⁸ In order to decide between approaches in such cases, research will need to be done. That being said, it is important to see that adding understandings is not incompatible with the various behavioral moves. We have good reason to expect that some combination of approaches will be required to account for the full range of behavioral complexity. It is unlikely, for example, that beliefs are always adequately modeled by subjective probabilities, even when appropriately conditionalized.¹¹⁹ In order to handle the empirical evidence, economics will probably need to take a two-track approach: look for more common-sense resources (“top down”) and fit the descriptive models to the data (“bottom up”).¹²⁰

The concept of understandings helps in this regard by providing a top-down approach. It can be formalized in a way consistent with standard economic theory and can therefore capture the successes of standard accounts. At the same time, an understandings approach can also explain many of the empirical findings that drive the development of behavioral models including (but perhaps not limited to) Prospect Theory, Mental Accounting, and claims of bounded willpower. Because it does so by providing an account of the underlying mechanism that motivates seemingly anomalous behavior, the approach may allow us to mediate among the various behavioral accounts, as well as help integrate them into standard models. And, finally, an understandings approach may also explain cases that escape both standard and behavioral accounts (think of Orwell’s sniping or our tunnel vision in market contexts). The result of all this—a more unified theory of behavior—would allow us to better predict and regulate human behavior.

B. Possible Objections

Social scientists are appropriately suspicious about views that claim too many advantages, especially when those advantages include the

118. This is the case in much the way that different behavioral approaches can compete, as noted before. See *supra* Part III.A. (describing the current state of behavioral economic theory as “scattered,” but recognizing two competing doctrines—Prospect Theory and Mental Accounting).

119. Prelec, *supra* note 75, at 497–99.

120. Russell B. Korobkin, *A Multi-Disciplinary Approach to Legal Scholarship: Economics, Behavioral Economics, and Evolutionary Psychology*, 41 *JURIMETRICS J.* 319, 320 (2001).

unification of contending accounts. The worry is that the attribution of understandings is unconstrained: people can understand situations in any which way; since understandings aren't directly observable, it isn't possible to tell how someone understood her situation until you see what she actually did. If this were correct, then adding understandings to economic theory wouldn't generate any testable hypotheses about behavior. It would, in fact, undermine the scientific credibility of economic approaches by adding a "fudge factor" to behavioral explanations. Such unconstrained, post hoc attributions of understandings could rationalize any action, however off the wall, leaving no behavior that is inconsistent with the account. Such an unfalsifiable theory would have no place in social science (some views really are too good to be true, or at least too good to be scientific truths).

We see the charge of unfalsifiability as a pitfall to be avoided, and so a reason to be cautious in developing our account, but not a reason to abandon understandings. It is important to see that all accounts of human behavior (or at least all of the remotely plausible ones) face the same sort of attack because they all appeal to mental states that aren't directly observable.¹²¹ Any theory of human behavior would be unfalsifiable if it always avoided empirical evidence by changing its interpretation of these unobservable initial conditions. Standard accounts avoid this mistake by constraining the attribution of unobservables. An understandings-based approach does exactly the same thing. But before we show how this works, it is useful to isolate the primary issue by clearing away some criticisms that often accompany the main charge.

First, it is important to note that the unfalsifiability criticism can't be an argument against appeal to unobservables, per se. There is only a problem if unobservables are a "free variable" that would immunize a theory from empirical testing. Some thinkers seem to suspect that attributions of not-directly-observable mental states are necessarily unconstrained. Surely, however, an argument is needed here. Such a view would rule out much of modern science since subatomic particles, astronomic structures, and the like aren't directly observable. It doesn't follow that physicists are free to postulate quarks or black holes simply because they might come in handy. Those entities are indirectly detected by appeal to the observations predicted by their home theories. Theories as a whole imply a pattern of observations and so are subject to empirical

121. Behaviorism avoids this issue, for example, but it is a poor account precisely because it doesn't appeal to the internal states of agents. External environment just isn't the only determinant of behavior.

disconfirmation—the evidence may or may not be consistent with this pattern.¹²²

The need to constrain the attribution of mental states has tempted some social scientists to *inter-define* mental initial conditions and behavioral outputs (e.g., to hold that when an agent does *y*, it follows that she wanted to do *y*). It is a mistake, however, to automatically fit unobservable inputs to observable outputs.¹²³ Such attempts aren't immune to falsification because attempts to accommodate different actions can lead to inconsistent attributions of unobservable states. The problem here, rather, is the attempt to define causes in terms of their effects. No action can be the sole determinant of its own (purported) causal antecedents.¹²⁴

After the fall of Behaviorism, no social scientist worth her salt has fixed the identity conditions of mental states in purely behavioral terms. A person's behavior, of course, provides crucial evidence for the attribution of mental states to her, but it is overall patterns of behavior that serve this role. The unobservability of particular mental states or processes ensures that no single bit of evidence will serve as a critical test for an account. Still, it is possible for a *pattern* of evidence to be incompatible with the pattern predicted by a behavioral theory.¹²⁵

Second, it must be admitted that adding extra inputs to behavioral models does make it harder to test those models. As we make more distinctions among circumstances, there are fewer relevantly similar situations to serve as test cases.¹²⁶ Adding understandings to a behavioral theory does increase the difficulty in testing it because doing so increases the number of inputs to monitor. Still, it is possible to

122. As Quine puts it in his classic essay *Two Dogmas of Empiricism*, “our statements about the external world face the tribunal of sense experience not individually but only as a corporate body.” Willard Van Ormand Quine, *Two Dogmas of Empiricism*, in WILLARD VAN ORMAND QUINE, *FROM A LOGICAL POINT OF VIEW* 20, 41 (1980).

123. This was a problem for Behaviorism—what counted as a stimulus was just whatever resulted in the relevant response. Certain ways of understanding “revealed preferences” in economic models make this mistake too. E.g., Daniel Hausman, *Revealed Preference, Belief, and Game Theory*, 16 *ECON. & PHIL.* 99, 101 (2000).

124. E.g., Donald Davidson, *Actions, Reasons, and Causes*, in DONALD DAVIDSON *ESSAYS ON ACTIONS AND EVENTS* 3–19 (1980).

125. The behavioral criticism of orthodox economics is a paradigmatic example of how this sort of test works.

126. See FRIEDMAN, *supra* note 51 (explaining that circumstances might change the relative value of two otherwise identical candy bars). Distinguishing between contexts where someone is alone and where she has a date means that we can't just observe things like convenience store behavior. Of course, there is something different about each candy bar purchase, so there might be a “tendency [for] each option to become a unique alternative.” AMARTYA SEN, *RATIONALITY AND FREEDOM* 170 (2002).

present agents with similar circumstances framed in similar ways, so it doesn't make testing impossible. In fact, the tendency to distinguish among situations is self-limiting where the theory in question constrains what counts as a relevant distinction. As David Hausman notes with respect to standard economic theory, "[a]lternatives cannot be individuated non-arbitrarily without reference to subjective beliefs and wants."¹²⁷

Finally, it is crucial to see that even a testable account can have adherents who are willing to make ad hoc assumptions about initial conditions just to fend off difficult data.¹²⁸ An overeager physicist faced with some difficult data might, for example, postulate a quantum event without sufficient license. Such a case would merely establish that this physicist refused to test her pet theory, not that physics itself is untestable. This sort of "faith-based" adherence to an account speaks less to the legitimacy of the theory at issue than to the character of certain theorists, and it would be as unattractive with an understandings-based account as it is with any other behavioral theory. While there is certainly a pitfall here to avoid, adherence to an account need not be faith based. The trick to avoiding this temptation is to have a proper respect for empirical evidence and to take challenges seriously.¹²⁹

We now return to the central issue with respect to unfalsifiability. Initially, it is important to remember that all of the standard accounts of human behavior face this criticism. Common-sense appeal to desires and beliefs is sometimes derided because we could always come up with mental states that would rationalize any bit of behavior.¹³⁰ Standard economic accounts, being founded on folk psychology, are subject to exactly the same criticism.¹³¹ Behavioral accounts come in for similar criticism, often from economists and their allies.¹³² These views escape the charges leveled at them because their attributions of beliefs, desires, preferences, reference points, etc., *are* constrained by empirical evidence. Standard accounts of behavior appeal, in particular, to

127. Hausman, *supra* note 123, at 111.

128. There are also critics who charge ad hoc-ery any time someone appeals to an unobservable state, whether there is a case to be made for doing so or not.

129. Critics have a role here as well—they need to *make* challenges seriously. The fact that another account draws different distinctions than yours doesn't, by itself, warrant a charge of unfalsifiability.

130. *E.g.*, ALEXANDER ROSENBERG, PHILOSOPHY OF SOCIAL SCIENCE 36–43 (2d ed. 1995).

131. *E.g.*, Jolls et al., *supra* note 86, at 1597–99.

132. Posner, for example, claims that "it is profoundly unclear what 'behavioral man' would do in any given situation. He is a compound of rational and nonrational capacities and impulses. He might do anything." Posner, *supra* note 10, at 1559.

unformalized common sense in order to constrain the inputs of more formal accounts.

Common-sense desire and belief attributions are constrained by claims about human perceptions, attitudes, languages, etc. and folk-psychological principles related to those facts. People, for example, generally see things that occur before their eyes, and seeing is believing, *ceteris paribus*. Likewise, people generally find the same sorts of things pleasant (e.g., sweets, gentle massages) and, *ceteris paribus*, they prefer pleasant things to unpleasant things. People also tend to form new beliefs and desires in a way that conserves past beliefs and desires. All of these principles combine (in complicated ways, at times) to constrain the beliefs and desires people form when exposed to new situations. Mental state attribution is not a “fudge factor” in folk psychology precisely because these principles rule out many attributions.

Standard economic theory, as a (partly) formalized version of common sense, appeals to many of the same folk-psychological principles to constrain the attribution of preferences and subjective probabilities. The tendency, in fact, is to adopt these sorts of constraints in their most abstract form. Most economists assume both that belief-forming processes are aimed at accurately representing the world and that they succeed. As a result, they attribute to agents true beliefs about their situations, up to the limits of their perceptual capacities. Likewise, most economists assume that people share a (mostly self-interested) set of desires, and that any idiosyncratic preferences can be discovered from past behavior. All of this, of course, is just an abstract generalization (albeit a tendentious one) from folk psychology.

Behavioral accounts also rely on common-sense notions in their attributions of behavioral effects. The influence of the presentation of options on Prospect Theory reference points, for example, reflects a general principle about the role of testimony in belief formation. Mental accounting, likewise, appeals to a very common-sense taxonomy of expenditure and credit categories.

With regard to the account we are urging, understandings are like desires (beliefs, preferences, value functions, subjective probabilities, decision weights, etc.) in that they are implicitly characterized by the role they play in their home theory.¹³³ This theory provides what is basically an associationist account of limited attention. Understandings certainly aren't free variables on this account—they are constrained by the character of the motivating cases. One couldn't, for example, understand

133. E.g., SCHICK, *supra* note 97, at 70–71, 148–50.

a problem in a way she had never entertained before. An agent is likely to understand a circumstance in terms of concepts and attitudes that she has strongly internalized or those to which she has recently been exposed. Appeal to these sorts of common-sense principles about how people process information provides a set of (defeasible) constraints on the attributions of understandings. James Druckman's work on how "framing effects depend in critical ways on context" provides a good start at actually testing an understandings-based account.¹³⁴ His emphasis on persuasion, counter-framing, and heterogeneous discussion suggests that environmental factors can broaden an agent's understanding even to such an extent that she will approximate orthodox economic outcomes.¹³⁵

C. *Some Examples*

A more unified approach would go a long way toward convincing legal policymakers to act upon the recommendations of economists, standard and behavioral. The approach described here—which adds understandings to the basic desire-belief elements of standard economics—captures the successes of standard law and economics and addresses many of the concerns of the behavioral law and economists. That alone seems worth the price of admission. But in addition, an understandings approach may also provide some insight into legal issues where current economic approaches, both standard and behavioral, leave us unsatisfied.

Take, for example, voting, which has long been seen as a puzzle for standard economics.¹³⁶ The puzzle isn't the more familiar one of trying to explain low voter turnout, but its opposite—trying to explain why people bother to vote at all. The problem is that the decision to cast a ballot appears irrational: the costs of voting (in time and effort) almost always exceed the benefits likely to flow from casting a single ballot (in large part because the chance of casting the tie-breaking vote—even in relatively small, closely-contested municipal elections—is mathematically miniscule). Nevertheless, millions of people routinely make the economically pointless decision to vote.

134. Druckman, *Political Preference Formation*, *supra* note 89, at 683.

135. *Id.* at 680–83.

136. The paradox was first noted almost a half century ago by Anthony Downs. ANTHONY DOWNS, *AN ECONOMIC THEORY OF DEMOCRACY* 260–62 (1957). It continues to dog the literature. Eric A. Posner, *Symbols, Signals, and Social Norms in Politics and the Law*, 27 *J. LEGAL STUD.* 765, 783 (1998). Richard Hasen sets out a nice survey of the problem, and some of the proposed solutions, in Richard L. Hasen, *Voting Without Law?*, 144 *U. PA. L. REV.* 2135 (1996).

Voting is thus seized upon as an example of the failure of standard economic theory.¹³⁷ It must be that people are not just narrowly self-interested maximizers of their own utility; instead, their self-interest is “bounded.”¹³⁸ Voting, like charitable giving and other selfless acts, demonstrates one of the flaws of the rational-actor basis of standard economics. Beyond this insight, however, behavioral economics offers little guidance on resultant questions, such as why people choose to vote rather than engage in other types of selfless (or selfish) behavior.

Standard economics, though, has a perfectly plausible comeback on this question: people vote because they like to vote.¹³⁹ As discussed above, standard economic theory can accommodate other-regarding values and behavior; the “bounded self-interest” claim is no more convincing here than it is elsewhere. Practitioners of law and economics then move onto subsidiary (although perhaps more useful) questions about changes in voting behavior, such as why voter turnout increases in closely contested elections or why voting increases with the wealth and education of the voter.¹⁴⁰ Here, too, they have answers—people, for example, are more likely to vote in closely contested elections because information costs are lower.¹⁴¹ It is much easier to come by information about candidates and issues in highly competitive elections because there’s much more extensive campaigning and media coverage. And perhaps the wealthy and well-educated vote in order to signal that they are cooperators in order to obtain cooperative returns from others in society: the signal only works if it is costly to vote, and the opportunity costs of voting rise with wealth and education.¹⁴²

An understandings approach should help us out a bit when trying to develop a framework that explains voting behavior. On the issue of why

137. E.g., DONALD P. GREEN & IAN SHAPIRO, *PATHOLOGIES OF RATIONAL CHOICE THEORY* 68 (1994); Jolls et al., *supra* note 37, at 1489.

138. E.g., Alec C. Ewald, “Civil Death”: *The Ideological Paradox of Criminal Disenfranchisement Law in the United States*, 2002 WIS. L. REV. 1045, 1099 n.219 (2002).

139. Posner, *supra* note 10, at 1554; see also William H. Riker & Peter C. Ordeshook, *A Theory of the Calculus of Voting*, 62 AM. POL. SCI. REV. 25, 28 (1968) (describing five different forms of satisfaction a voter might derive from voting). This may appear to be a trivial explanation, but it is no more trivial than explaining a strong demand for donuts by reference to people’s desire for them (despite their unhealthy side effects). While useful work with respect to voting and donuts requires more nuanced assessments of people’s preferences (to explain changes in demand, for example), the fact that there is some level of demand for either should not, by itself, be taken as evidence that economic theory is flawed.

140. These types of issues also drive most of the critique of standard economic theory with respect to voting. Jolls et al., *supra* note 37, at 1489.

141. John G. Matsusaka, *Explaining Voter Turnout Patterns: An Information Theory*, 84 PUB. CHOICE 91, 95–105 (1995); Posner, *supra* note 10, at 1554–55.

142. Posner, *supra* note 136, at 784.

people vote, it may be, as standard economics holds, that voting is a rational thing to do: all things considered, some people value voting more than its demands on their time. But it may also be that when people decide to vote, they aren't considering all things; instead, they're merely consulting a particular subset of their desires and beliefs, given their understanding of the current situation. Election day may bring all sorts of beliefs and desires relating to civic virtue online, focusing people's attention on voting. An understandings approach is consistent with the standard answer. At the same time, it is more plausible than the standard approach here because it isn't necessary to assume that people decide to vote after considering all of their beliefs and desires (and all possible courses of action associated with them).

An understandings approach also helps us on the subsidiary issues as well. For example, on the question of why turnout increases in closely contested elections, it may be, as standard theory has it, that people are more likely to vote because information is cheap. But it seems just as plausible that the extra campaigning and media coverage serve more as an attention-getting device than as a means to lower information costs. People vote because they've been reading, listening, watching, and talking about the election—they are focused on the election. To be sure, they also come to the polls armed with some extra, relatively low-cost information about the candidates and the issues. But there's nothing inconsistent about adopting both a standard account and an understandings approach when trying to fully understand behavior. Indeed, under our approach, one would expect that the fundamental question to be answered when analyzing any kind of unexpected behavior is whether it was motivated by a new belief, a new desire, or a new understanding of the situation.

V. CONCLUSION

Standard economic theory has provided a great deal of insight into existing law and guidance for legal policymaking. And the law and economics movement had a number of successes, especially in areas involving the regulation of market behavior like antitrust and environmental law. But most of its significant work, involving relatively straightforward applications of economic theory, has now been completed. At this point, law and economics scholars are left to filling in doctrinal interstices and, significantly, attempting to explain empirical results that appear to contradict some of law and economics' most fundamental precepts. As Russell Korobkin and Thomas Ulen aptly put it, it is as though "[t]he law-and-economics movement has suffered from

the truthfulness of one of its most important postulates: the law of diminishing marginal returns.¹⁴³

At this stage of its development, the value of behavioral law and economics lies in its potential. The empirical findings of behavioral economics are sufficiently robust for us to conclude that some of the assumptions of standard economic theory are mistaken. Now the problem is figuring out how the ever-expanding list of heuristics, biases, and norms interact with each other (and with standard accounts). In other words, there is a distinct need to develop a unitary theory of behavior in order to move forward.

We believe that adding the concept of understandings to the basic desire-belief machinery of economics is the kind of top-down approach that could help lead to the development of a more complete theory of human behavior. This is, in part, because it can be formalized in a way that is consistent with standard economic theory. At the same time, it is capable of capturing some of the empirical results that drive some of the more prominent behavioral models. In any case, it represents a step in the right direction, toward a more unified (and empirically sound) economic theory. And, as part of such a theory, it also stands a better chance of being operationalized into law.

143. Korobkin & Ulen, *supra* note 39, at 1053.