Social Security, before being recruited to chair the advisory council, he had "not a clue about the benefits I, or my family, would get in the event of my retirement, disability, or early death." White, a political scientist with a command of public finance, is a professor of public policy and director of the Center for Policy Studies at Case Western Reserve University, and was co-author with the late Aaron Wildavsky of *The Deficit and the Public Interest*.

One comes away from these two books doubtful that Congress will be able to act any time soon on the coming shortfall—I do not insist on "crisis"—in Social Security funding. An agreement among the elite, including policy analysts, on the urgency of a problem is normally a precondition for action, and to juxtapose these two analyses is to perceive that elite consensus, on both the urgency and the nature of a response, is lacking. White's book also comes as a reminder, following on the Clinton-Gore positions of 1999–2000, that the central liberal response to the coming shortfall is to construct a rationale for drawing on general revenues when the crunch comes. Organized labor and its allies have long wanted to introduce general revenues to make the program's financing more progressive. They at once doubt the claims of crisis and see it—whatever "it" turns out to be—as an opportunity to make a change in fiscal policy that they desire.

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Choices, Values, and Frames, edited by Daniel Kahneman and Amos Tversky, New York: Cambridge University Press, 2000, 840 pp., $40.00.

Choices, Values, and Frames, edited by Daniel Kahneman and the late Amos Tversky, is a major update and extension of the ground-breaking work presented in their earlier volume, *Judgment under Uncertainty.* The present book is a worthy successor to its celebrated predecessor.

The editors gather together material for 42 chapters, which, cumulatively, presents a convincing descriptive alternative to the standard normative model of rational choice. Most of the chapters have been published elsewhere, but they are so scattered across time, journals, and disciplines that merely bringing them together in one place constitutes a valuable contribution. Much more important, though, is the way the various chapters reinforce one another. Critics might be tempted to dismiss any given finding as anomalous, or theoretically unmotivated, or lacking in either external or internal validity. However, for each chapter that may be vulnerable to any one of these criticisms, there are several others in the book that can help diffuse them. They triangulate in such a way that, taken together, the chapters in *Choices, Values, and Frames* force any reasonable critic to acknowledge that for a rather large and consequential range of phenomena the standard account of rational choice is simply not as descriptively adequate as the authors' alternative—i.e., prospect theory.

Part 1 of the book consists of two seminal papers by the editors. For historical purposes, the eponymous "Prospect Theory" (chapter 2) is a great study in theoretical synthesis from scattered empirical findings. However, for purposes of navigating the rest of the book "Advances in Prospect Theory" (chapter 3) is more important and probably sufficient. Given the large number of entries in each subsequent section of the book and the limited space for this review, I cannot

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comment usefully on each chapter. Thus, I will only mention the ones that I found particularly helpful, and refer the reader to Kahneman's helpful introductory chapter for the many other worthy contributions that will address various readers' particular interests.

The papers in part 2, on the non-linearity of decision weights, are most welcome because they all contribute to developing theoretical underpinnings for a theory that many have criticized as overly inductive. Whereas classical theory requires a linear weighting function, a mountain of empirical studies reveal a two-by-two pattern of deviations from this model: people routinely overweight changes in small probabilities (e.g., from 0.00 to 0.01) so that they are especially risk-seeking toward gains (think of the lottery ad, "You can't win if you don't play") and risk-averse toward losses ("But what if…"), whereas the reverse is true for changes in larger probabilities. Drazen Prelec's axiomatic approach (chapter 4) does an especially good job of organizing and analyzing these phenomena theoretically, though some readers will find his claim to offer a "nontechnical exposition" somewhat misleading.

The next two sections cover the reference dependence of value functions (part 3), and framing effects and mental accounting (part 4). Though the editors and authors treat these subjects as qualitatively different, it seems to me that the general theory can be made more parsimonious in exposition by subsuming both reference dependence and mental accounting as species under the genus of framing effects. Matthew Rabin's splendidly succinct contribution (chapter 11) cleanly refutes the ubiquitous claim that what looks like reference dependence can typically be explained by changes in the marginal utility of wealth. Though much longer, Richard Thaler's "Mental Accounting Matters" (chapter 14) is a wonderfully written and thorough discussion of framing issues, synthesizing a large literature by moving between intuitive examples and theoretical generalization.

Part 5, "Application," is the longest section of the book, and with good reason—prospect theory applies in a wide variety of contexts. Some critics have argued that the theory is a sort of laboratory-created phenomenon in the sense that few of the experimentally identified anomalies are likely to stay sufficiently robust in real-world settings where higher stakes and competitive pressures will conduce toward canonically rational behavior. Colin Camerer's "Prospect Theory in the Wild" rebuts this charge by documenting the range of real-world phenomena for which the normative theory of choice fails. He argues persuasively that prospect theory offers sufficiently large gains in explanatory power in a sufficiently parsimonious package to warrant relaxing the classical assumptions. Section 5 consists mostly of applications to economic questions, which makes two excellent chapters extending the analysis to "Political Choice" (chapter 25) and "Conflict Resolution" (chapter 26) especially significant in demonstrating the generality and power of the broader theory.

The two papers in part 7, on choices over time, do a nice job of generalizing prospect theory beyond one-shot choice contexts into the realm of multi-stage choices. Chapter 32, "Preferences for Sequences of Outcomes," identifies framing and accounting issues linked to time, and chapter 33, "Anomalies in Intertemporal Choice," catalogues violations of the discounting extensions of expected utility theory.

Part 9, "Experienced Utility and Objective Happiness," contains many of the most intriguing papers in the collection. They all touch on the difference between utility as an actual hedonic state and utility as an imputed decision weight, which is often assumed to be driven by expected hedonic states. Though I reserve final judgment on Kahneman's conception of a "moment-based approach" to "objective happiness" (chapter 37), many of his ideas are very creative, and the rest of the chapters in this section suggest that they could lead to very fresh and fecund lines of research.

Finally, parts 6 and 8 are titled "The Multiplicity of Value" and "Alternate Conceptions of Value," respectively, though it is not entirely clear why and what distinguishes the two. Most of the papers in these two sections are extensions of the general context-contingency issues discussed in earlier sections, though at points they take on a somewhat more philosophical tone as suggested, for example, by Baruch Fischhoff's title "Value Elicitation: Is There Anything in There?" (chapter 35). Though many of these papers are very valuable in testing discrete hypotheses, they tend to generate philosophical questions about how to understand the broader significance of prospect theory that never get adequately addressed.

For example, is "Reasoned-Based Choice" (chapter 34) merely a way to understand choice anomalies in terms of folk psychology, or a promising (normative and descriptive) rival to expected utility theory? Does "Fairness as a Constraint on Profit Seeking" (chapter 18) hinge on nothing but a failure to understand the distinction between real and nominal dollars, or does it point toward phenomena within practical rationality that expected utility might not capture? Should context dependent preferences be demoted to mere attitudes (chapter 36) or is there a useful conception of preferences such that they can be responsive to more than states-of-affairs narrowly construed? The authors might claim agnosticism on such matters. After all, they are scientists and not philosophers. However, descriptions hinge on interpretations, and doubly so when dealing with intentional human action. For each question above, simply bracketing the philosophical issues implicitly privileges the former interpretation, when the bare experimental results are ambiguous. Doing so forecloses opportunities to develop both a broader descriptive account of choice, and a more critical engagement with expected utility as the unquestioned normative theory of choice.

Thus, despite prospect theory's richly documented results, what it means is still not always clear, since every detail is defined in reference to the classical theory, many of whose mechanisms and phenomenology prospect theory discredits. This puts prospect theory in the unstable position of fundamentally challenging a theory on which it is abjectly dependent for making sense of itself. In loosely Kuhnian terms, prospect theorists have accumulated so many "anomalies" in and "deviations" from the reigning theory that it seems imperative for them to develop a genuinely freestanding alternative paradigm, or explain why it should nonetheless be regarded as more than useful filigree on expected utility. Modern chemistry does not continue to define its theoretical concepts and report its results as yet another deviation from the Greek theory of the four elements. While I am optimistic about the viability of such an alternative paradigm, none seems to be forthcoming. Though it is unfair to fault any given paper too much on this point, my only major criticism of the book (and the theory) is that it would profit from sustained reflection on such matters.

Nonetheless, *Choices, Values, and Frames* is a remarkable success at what it sets out to do, and can be recommended with genuine enthusiasm.

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