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Error and Rationality in Individual Decisionmaking: An Essay on the Relationship Between Cognitive Illusion and the Management of Choice

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ERROR AND RATIONALITY IN INDIVIDUAL DECISIONMAKING: AN ESSAY ON THE RELATIONSHIP BETWEEN COGNITIVE ILLUSIONS AND THE MANAGEMENT OF CHOICES

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How do individuals make choices? In recent years, economists, psychologists and legal academics have searched for answers to various aspects of this question. One topic of recent interest, for example, concerns a lingering problem in information theory: Does consumer inability to process "too much" information cause market failure?[1] The normative implications of this question raise significant policy issues. If consumers' cognitive circuits can become overloaded, then information disclosure is less appealing than direct regulation as a solution to problems of market failure.

In their recent paper, *The Irrelevance of Information Overload*,[2] Professors Grether, Schwartz, and Wilde have made an important contribution to this debate. Their analysis exposes the theoretical defects in the claim that overdisclosure is dysfunctional. The authors propose an

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1. *See, e.g.*, Malhotra, *Information Load and Consumer Decision Making*, 8 J. CONSUMER RESEARCH 419 (1982); Malhotra, *Reflections on the Information Overload Paradigm in Consumer Decision Making*, 10 J. CONSUMER RESEARCH 436, 437 (1984).

2. Grether, Schwartz & Wilde, *The Irrelevance of Information Overload: An Analysis of Search and Disclosure*, 59 S. CAL. L. REV. 277 (1986) [hereinafter cited as *Information Overload*].

alternative model in which consumers ignore excess information by satisficing and provide some experimental confirmation of the model. By undermining the theoretical and empirical foundations of the information overload hypothesis, Grether, Schwartz, and Wilde offer a strong defense of disclosure as a valuable tool for correcting the market failures caused by imperfect information. But given the tentative state of the research, they invite further analysis of the literature on information processing and cognitive error. Should this analysis expose difficulties with disclosure solutions, they imply that alternative methods of market intervention may be preferred.

Given the basic assumptions of information theory,[3] Grether, Schwartz, and Wilde's analysis is internally consistent, and their normative assertions wholly plausible. This essay, therefore, is more of an aside than a critical review. My concern is not with the authors' principal argument, but with their uncritical assumption that the psychological literature on human error or "cognitive illusion" is relevant to legal policy. My thesis can be stated simply: The vast literature on human error and cognitive illusion has been and most likely will continue to be misunderstood by legal analysts.[4] The "error" in human judgment and decisionmaking that the psychological literature posits is the deviation between empirically observed behavior and some theoretical conception of ideal rationality.[5] What this research exposes is a deviation between

3. Information theory purports to predict how consumers acquire and use information about product attributes in selecting among goods with different attributes. The equilibrium search literature began with Rothschild's seminal discussion of market models under imperfect information. *See* Rothschild, *Models of Market Organization with Imperfect Information: A Survey*, 81 J. POL. ECON. 1283 (1973). The early equilibrium search models made several strong assumptions: (1) firms maximize profits, but use only passive strategies of selling and altering prices based on consumer demand; (2) firms sell a homogenous good with identical attributes observable before purchase; (3) consumers act to minimize the net expected cost of purchase; and (4) consumers become informed only by visiting firms, using a sequential search strategy. In subsequent work, many of these strong assumptions have been relaxed. *See, e.g.*, Schwartz & Wilde, *Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests*, 69 VA. L. REV. 1387 (1983) (relaxing the assumption that all consumers have the same limit price) [hereinafter cited as *Imperfect Information*]; Schwartz & Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630 (1979) (relaxing the assumptions that consumers search sequentially and that consumers are ignorant of the price distribution before searching).

4. *See, e.g.*, Davis, *Protecting Consumers from Overdisclosure and Gobbledygook: An Empirical Look at the Simplification of Consumer Credit Contracts*, 63 VA. L. REV. 841, 847-50 (1977); Davis, *Revamping Consumer-Credit Contract Law*, 68 VA. L. REV. 1333 (1982); Rakoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173 (1983).

5. Conceptions of ideal rationality are based on two hypotheses: the expected utility hypothesis of behavior under uncertainty and the Bayesian hypothesis of adjustment to new information by consistent use of conditional probabilities. Both are normative postulates of rational behavior over time under conditions of uncertainty. The expected utility hypothesis (also known as the utility

the real and the ideal. To be sure, knowing how human behavior deviates from an idealized norm contributes valuable insights to our understanding of legal institutions. But the legal analyst must guard against the problematic assumption that inherently fallible behavior is correctable through legal regulation.

I develop this thesis in Part I of this Article by sketching an external critique of current research in cognitive illusion and decision theory. This critique suggests that both social scientists and legal analysts have failed to integrate theories of judgment and decisionmaking with theories of how individuals regulate or manage their choices. The relevance of this comparison is illustrated in Part II. I trace two theories of choice management that depart from the traditional hypothesis that individuals prefer more choice to less. Using an analytical framework that focuses on outputs (the making of choices) rather than on the inputs (the acquisition and processing of information), I examine some commonly observed self-imposed constraints on free choice. This analysis illustrates that identical behavior can be characterized either as the product of an erroneous judgment (i.e., a cognitive error) if measured against the theoretical ideal of the rational utility-maximizer, or as a wholly rational response if the individual is following a pre-established strategy of self-control.

Because of this uncertain relationship between choice and judgment, I argue that the traditional model of rational choice remains a useful norm for evaluating consumer behavior in market settings. Indeed, I conclude that the cognitive illusion literature may be a defective product if used uncritically to support interventions in market settings.

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maximizing hypothesis) is a central assumption of economic theory: an individual makes choices—or orders preferences—so as to maximize his or her net expected utility at any point in time. Implicit in this hypothesis are several key assumptions: (1) an individual always prefers more choice to less, (2) the individual suffers no temptation to select alternatives that do not maximize his or her welfare, and (3) preferences are constant over time. *See generally* J. HENDERSON & R. QUANDT, MICROECONOMIC THEORY 5-63 (3d ed. 1980); J. HIRSHLEIFER, PRICE THEORY AND APPLICATIONS 56-171 (3d ed. 1984) (discussing basic utility-preference analysis and consumption and demand analysis). Bayesian theory holds that a probability is a description of an individual's uncertainty about the truth or falsity of a proposition about events. The key to the Bayesian theory is that individuals will predictably revise their opinions about propositions in light of subsequent evidence. Thus, the Bayesian conception of probabilities provides a convenient optimum against which individuals' inferences about events can be measured in experimental research. *See generally* Edwards, Lindman & Savage, *Bayesian Statistical Inference for Psychological Research*, 70 PSYCHOLOGICAL REV. 193 (1963) (exploring Bayesian statistics, which defines probability as a particular measure of the opinions of ideally consistent people, and its implication on psychological research).

This is not to say that the insights of modern decision theory have no relevance to legal analysis. In Part III I explore some of the implications of a more robust theory of individual choice. A theory of choice management, which recognizes that individuals deliberately regulate their choices and adopt strategies to accomplish their goals, yields richer explanations of the function of many legal rules. This choice management perspective offers new insights on the legal enforcement of promises in addition to illuminating the hidden analytics in many other features of private law.

I. COGNITIVE ILLUSIONS AND LEGAL POLICY

Grether, Schwartz, and Wilde make three separate assertions that collectively illustrate the dangers of directly applying the research on human judgment and decision-making to legal policy. Their article begins with the statement that imperfect information as a cause of market failure is "a small part of a large subject."[6] In fact, as the paper implicitly recognizes, the subject is far more global than even the authors concede. It embraces at least three distinct fields of current social science research: (1) the study of search strategies, or how individuals acquire information,[7] (2) the psychophysics of judgment by which preferences are generated based on that information,[8] and (3) the economics of

6. *Information Overload, supra* note 2, at 277.

7. The information search literature purports to describe how consumers search for and choose between product attributes. This scholarship is related to and is generally consistent with the equilibrium search models described in note 3 *supra*. Consumer search theories do not, however, use equilibrium techniques to predict *market* outcomes. Rather, consumer search theories seek to explain and predict the behavior of individual consumers within markets using basic optimization techniques. These theories are then subject to refutation through use of experimental subjects. Johnson, *Consumer Choice Strategies for Comparing Noncomparable Alternatives*, 15 J. CONSUMER RESEARCH 741 (1984) (discussing search strategies for selecting products in different classes); Johnson & Russo, *Product Familiarity and Learning New Information*, 11 J. CONSUMER RESEARCH 542 (1984) (discussing the effects of product familiarity on decision strategies); Lussier & Olshavsky, *Task Complexity and Contingent Processing in Brand Choice*, 6 J. CONSUMER RESEARCH 154 (1979) (discussing search strategies within specific product classes).

8. The study of the psychophysics of human judgment has evolved from three parallel literatures: (1) the study of how individuals' subjective probability assessments vary from the Bayesian paradigm, *see generally* Edwards, *Dynamic Decision Theory and Probabilistic Information Processing*, 4 HUM. FACTORS 59 (1962) (discussing the impact of Bayesian information processing on the development of dynamic decision theory); Edwards, Lindman & Savage, *supra* note 5, at 193 (discussing Bayesian statistics as a measure of ideally consistent persons); (2) the comparison of statistical prediction with clinical performance, *see generally* P. MEEHL, CLINICAL VERSUS STATISTICAL PREDICTION: A THEORETICAL ANALYSIS AND A REVIEW OF THE EVIDENCE (1954); and (3) the investigation of human strategies of reasoning and the use of heuristics or rules of thumb to resolve complex judgment tasks, *see generally* H. SIMON, MODELS OF MAN: SOCIAL AND RATIONAL (1957). These three strands have led to an emerging literature in cognitive psychology concerned

choice by which these judgments are implemented over time.[9]

The diversity of this research and its reach into disparate disciplines of psychology, economics, and applied decision theory illustrate the difficulty a legal analyst encounters when trying to understand a "small part" of a complex, interrelated question: how do consumers make choices? Furthermore, the legal analyst who undertakes to read all of this literature soon realizes that it has a Tower of Babel quality. The various disciplines often do not speak to each other, and, even when they do, each constituent part seems self-contained in its assumptions and axioms.[10]

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with theories of human judgment under uncertainty. Rather than simply comparing human performance in making inductive inferences against the ideal of statistical probability, current research has led to descriptive theories that purport to explain judgmental errors, biases, and heuristics. Perhaps the most interesting development of this new work is the "prospect theory" developed by Kahneman and Tversky. Kahneman & Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263 (1979). For a further review of these descriptive theories, see DECISION-MAKING UNDER UNCERTAINTY (Scholz ed. 1983); K. HAMMOND, G. MCCLELLAND & J. MUMPOWER, HUMAN JUDGMENT AND DECISION MAKING (1980); JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (D. Kahneman, P. Slovic & A. Tversky eds. 1982); R. NESBETT & L. ROSS, HUMAN INFERENCES: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT (1980); Abelson & Levi, *Decision-Making and Decision Theory* in THE HANDBOOK OF SOCIAL PSYCHOLOGY 231 (Lindzey & Aronson 3d ed. 1985).

9. Choice theory is the branch of economics which studies how an individual decisionmaker chooses between competing alternatives. Traditional choice theory usually assumes that an individual's preferences are consistent over time, and even those traditional models that incorporate changing preferences do not account for strategic manipulation of one's future alternatives. Economists and other scholars have recently developed a theoretical structure to analyze individuals' attempts to control or modify their choices. This theory, known by the roughly interchangeable terms of *precommitment, self-control,* or *self-command,* describes how individuals limit or manage their future behavior to ensure that they not compromise their commitment to a present decision. For a representative sampling of the literature, see Schelling, *Ethics, Law and the Exercise of Self-Command,* in CHOICE AND CONSEQUENCES 83 (1984) [hereinafter cited as Schelling, *Ethics*]; Schelling, *Self-Command in Practice, in Policy, and in a Theory of Rational Choice,* 74 AM. ECON. REV.: PAPERS & PROC. 1 (1984) [hereinafter cited as Schelling, *Self-Command*]; Shefrin & Statman, *Explaining Investor Preference for Cash Dividends,* 13 J. FIN. ECON. 253 (1984); Thaler, *Toward a Positive Theory of Consumer Choice,* 1 J. ECON. BEHAV. & ORG. 39 (1980); Thaler & Shefrin, *An Economic Theory of Self-Control,* 89 J. POL. ECON. 392 (1981); Shefrin & Thaler, Rules and Discretion in a Two-Self Model of Intertemporaral Choice (1980) (Cornell University Graduate School of Business and Public Administration Working Paper No. 80-07).

10. The intersection of psychology and economics can be particularly confusing for the uninitiated. A standard premise of microeconomic theory is its methodological individualism. The basic unit of analysis is the individual. The behavior of groups is assumed to be the outcome of decisions taken by the individuals who compose them. Often overlooked, however, is the fact that while the individual is the measuring rod, *individual behavior is not studied.* The rational economic actor in economic theory is a weighted average of groups of individuals. Groups of individuals behave as if their members are rational. Thus, the rationality hypothesis must be understood in this context. *See* C. VELJANOVSKI, THE NEW LAW-AND-ECONOMICS: A RESEARCH REVIEW 27 (1982). Unlike psychology, economics is neither concerned with the process of decisionmaking nor with a conscious calculation of costs and benefits. Cognitive psychology, on the other hand, is a discipline which specifically examines internal processes, mental limitations, and the way in which the process of

The sheer volume and unmanageability of the social science research on consumer choice[11] generates a second proposition by Grether, Schwartz, and Wilde: "The literatures . . . are flawed by the absence of a tenable . . . theory relating task complexity to task performance."[12] To translate this observation into my terms, we do not understand the relationship between judgment and choice. How do individuals translate their inductive inferences about uncertain future events into active decisions? Indeed, a legal theorist is struck by the atheoretical quality of this scholarship taken as a whole. No general theories have been advanced linking the separate processes of searching for information, forming judgments and making choices. From the social science perspective, this merely reflects good habits of scientific research. The scientific method mandates an initial period in which alternative hypotheses are formulated and tested. General theories do not emerge until much further along the research agenda. There is nothing objectionable about the slow evolution of theory following the careful and rigorous testing of hypotheses. However, the relative infancy of this research suggests we must be cautious about drawing any normative implications for legal policy.

This does not seem a terribly difficult injunction to obey. But consider the authors' third assertion: "Decisionmakers . . . must act."[13] Indeed, as this statement implicitly acknowledges, decisionmakers have a voracious appetite for any criteria that can be used in making difficult choices. The legal analyst is not given the luxury of time; he or she must organize and order choices based on the world as we know it, not as we would like it or hope it to be. Grether, Schwartz, and Wilde feed this insatiable appetite for decision rules by offering an agenda for further research. Attention should shift, they suggest, to the mounting evidence that consumer judgment is critically flawed by cognitive errors. An examination of the errors and inferential biases that infect human reasoning may reveal new and as of yet unanalyzed difficulties with current legal solutions to market failure problems.

individual judgment is shaped by these limitations. The rationality norm for the psychologist is, therefore, a postulate of *individual judgment* against which experimental results can be measured.

11. Professors Abelson and Levi estimate that there are over 250 publications per year on decision theory. *See* Abelson & Levi, *supra* note 8, at 231.

12. *Information Overload, supra* note 2, at 280.

13. *Id.*

This proposition seems unobjectionable. There is mounting social science evidence that individuals make systematic errors in their cognitive judgments and decisions.[14] These errors are often attributable to heuristic principles, which are useful tools for simplifying complex judgments but can also lead to severe biases. Experimental evidence indicates, for example, that individuals systematically ignore sample size and base rates in making probability assessments, are too strongly influenced in their inferences by the ease with which prior instances can be brought to mind, and make estimates biased toward initial starting points that are suggested merely by the formulation of the problem.[15] It is only appropriate, therefore, that Grether, Schwartz, and Wilde acknowledge that these errors might cause unanticipated defects either in the functioning of consumer markets or in the legal mechanisms used to correct those markets.

These three propositions illustrate the vexing problem of using emerging social science research as a basis for legal policy. The literature on judgment and decisionmaking uses the concept of error or judgmental bias in a very narrow sense. A cognitive error is the variance between a hyphothesis of rational inference based on statistical probabilities and an empirical observation that reveals systematic departures from the ideal in individuals' probability assessments, inferences, and decision-making.[16]

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14. *See* Kahneman & Tversky, *supra* note 8; Keown, Slovic & Lichenstein, *Influence of Information About Side Effects on Perceived Risk of Perscription Drugs*, 1 HEALTH MARKETING Q. 111 (1983); Thaler, *supra* note 9; Tversky & Kahneman, *The Framing of Decisions and the Rationality of Choice*, 211 SCIENCE 453 (1981); *see also* Fischoff, *Hindsight Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty*, 1 J. EXPERIMENTAL PSYCHOLOGY: HUM. PERCEPTION AND PERFORMANCE, 288 (1975); Kahneman & Tversky, *On the Psychology of Prediction*, 80 PSYCHOLOGY REV. 237 (1973); Kahneman & Tversky, *Subjective Probability: A Judgment of Representativeness*, 3 COGNITIVE PSYCHOLOGY 430 (1972); Phillips & Edwards, *Conservatism in a Simple Probability Inference Task*, 72 J. EXPERIMENTAL PSYCHOLOGY: HUM. PERCEPTION AND PERFORMANCE 346 (1966). For a comprehensive review of the literature see D. KAHNEMAN, P. SLOVIC & A. TVERSKY, JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (1982); Edwards & von Winterfeldt, *Cognitive Illusions and Their Implications for the Law*, 59 S. CAL. L. REV. 225 (1986).

15. For a review of the experimental research that established these and related errors, see Tversky & Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124 (1974). The insensitivity to prior probabilities and sample size illustrates the representativeness heuristic, in which the probability that object *A* belongs to class *B* is determined by the degree to which *A* resembles *B*. Bias eaused by an individual's tendency to assess probabilities based on how readily he or she recalls prior instances or occurrences is known as the "availability heuristic." Biases caused by inadequate adjustment away from starting points is known as "anchoring." *See id.* at 1128-29.

16. Edwards and von Winterfeldt, for example, describe the key elements of every cognitive illusion as including:

1. A formal rule that specifies how to determine a correct . . . answer to an intellectual question;

Perhaps because this research yields such intriguing insights into human behavior, it has not been widely recognized that these departures are errors only if individuals implement their preferences as the formal rules of statistical probability and expected utility predict. To the contrary, there is significant evidence to support the claim that individuals do not always make choices in accordance with the traditional axioms of rational choice. Rather, they may voluntarily reglate or limit their choices in a variety of different ways.[17] Until plausible theories are devised to link the evidence of judgmental bias with the equally compelling evidence that individuals approach decisionmaking strategically, the analyst framing policy recommendations risks committing the Pigouvian fallacy of comparing the real with the ideal.[18] As Arthur Leff reminded us, you cannot tell whether someone is doing something well (or poorly) unless you know what is being done.[19]

In sum, there is an inherent tension between the innate caution of social scientists and the needs or demands of policy-makers. To accommodate this tension, the legal analyst must assume responsibility for developing plausible theories of hnman behavior that link disparate fields of social science research. In this endeavor, the legal analyst should not knowingly accept incomplete hypotheses. Selective legal intervention can be counter-productive if based on an inadequate evaluation of all the possible effects on the disparate forces being reglated. It may well be socially desirable to attempt further or different legal interventions based on the mounting evidence of cognitive illusions and errors. But before

2. A judgment . . . that answers the question; and

3. A systematic discrepancy between the correct answer and the judged answer.

Edwards & von Winterfeldt, *supra* note 14, at 227 (footnote omitted).

17. *See supra* note 9.

18. Ronald Coase was the first scholar to expose the Pigouvian fallacy (also known as the Nirvana fallacy). *See* Coase, *The Problem of Social Cost,* 3 J. L. & ECON. 1, 22-39 (1960). Although the article is cited for many propositions, Coase's primary purpose was to expose what he saw as a fundamental error in welfare economics. The traditional prescription for market failure, linked with the work of Pigou, had been government intervention either through taxes or bounties (hence the Pigouvian tax). The fallacy of the claim that market failure prima facie justified governmental intervention was the assumption that regulation was a costless and perfect corrective. The comparison was then made between an imperfect market (the real) and market intervention by a perfect motivated government (the ideal). This produced a biased aualysis favoring intervention. Coase argued that correcting market failure through intervention was efficient only if the cost of correction were less than the gain from the remedial measure. In other words, Coase argued that the real must be compared with the real. Intervention was justified, therefore, only after a comparison of the total costs and benefits of actual and proposed policy choices. *See* C. VELJANOVSKI, *supra* note 10, at 8-10.

19. Leff, *Economic Analysis of Law: Some Realism about Nominalism,* 60 VA. L. REV. 451, 466 (1974).

this decision is reached, alternative and perhaps equally plausible explanations for behavioral irregularities should be identified and presented to the policy-maker. In the following section, therefore, I will examine emerging theories of choice management and explore their relevance to the concept of judgmental bias.

II. STRATEGIES, RULES, AND THE MANAGEMENT OF CHOICES

Traditional choice theory predicts that, all things being equal, individuals prefer more of what they desire to less, and that at some price they will substitute one good for another.[20] These behavioral axioms are derived from the assumption that individuals seek to maximize their aggregate expected utility at any point in time.[21] Recent scholarship on human judgment and decisionmaking demonstrates that observed behavior varies from the expected utility norm in important and systematic ways. What is not yet fully understood is how these deviations relate to the processes by which choices are actually made. For example, assume that a consumer regards commodity *X* as at least as good as commodity *Y* in every respect, and better than *Y* in one respect. The dominance principle predicts that the rational utility-maximizer would always choose commodity *X*. Surprisingly, this consumer chooses *Y* instead.

The choice of a less preferred alternative might be characterized either as a judgmental error or as the correct response to a pre-commitment strategy. While both characterizations of this behavior are deviations from the traditional axioms of rational choice, they yield different policy implications. This suggests that experimental data that provides evidence for various cognitive illusions may also be explained in terms of individuals' conscious decisions, unaffected by any illusions, to limit or regulate their choices.

A. Choosing Not to Choose: Regret and Satisfaction

The expected utility norm assumes that rational decisionmakers order their preferences so as to maximize their aggregate expected welfare

20. Choice theory is the branch of economics that studies how an individual decisionmaker chooses between competing alternatives. The word "traditional" denotes the theoretical concepts that are most widely used, although many variations on the basic framework exist. *See generally* P. Samuelson, Economics 405-25 (11th ed. 1980); J. Hirshleifer, *supra* note 5, at 56-171.

21. A simple example of the utility-maximization analysis is the decision of a consumer who has a limited income to allocate among two commodities. Consumers will purchase the combination of those commodities that maximizes the value of their ntility function, subject to the constraint of their limited income. *See, e.g.*, P. Samuelson, *supra* note 20, at 416-23.

or utility. Recent work by Daniel Kahneman and Amos Tversky suggests that consumer preferences are more accurately conceived in terms of marginal rather than aggregate utility.[22] Under their "prospect theory," individuals evaluate choices in terms of incremental gains or losses from a posited starting point, or anchor. Based on a standard assumption of risk aversion, Kahneman and Tversky propose a theory of judgment with three key features: (1) individuals are risk averse in protecting gains, (2) individuals are risk seekers in avoiding losses,[23] and (3) losses loom larger than gains in human judgment when the prospects of either are equally probable.[24] Prospect theory plays a pivotal role in current research on judgmental errors because it helps explain empirically observed behavior[25] that violates the basic axioms of rational choice.[26] According to the axioms of consistency and invariance, the preference order among options should not depend on the manner in which they are described. In tests with experimental subjects, Kahneman and Tversky explain the consistent failure of these axioms in terms of the dominance of the anchoring point—or how the question is framed—in individuals' assessments of the gains or losses from any particular choice.[27]

The effects of variations in framing, as well as the effects of risk aversion on the evaluation of prospective gains and losses, are illustrated by experimental results reported by Kahneman and Tversky.[28] Respondents were asked to choose between alternative programs to combat an epidemic that could potentially kill 600 people. In the first version of their problem, respondents were asked to choose between Program *A*, which is sure to save 200 people and Program *B*, which carries a 1/3

22. *See* Kahneman & Tversky, *Choices, Values and Frames*, 39 AM. PSYCHOLOGIST 341 (1984) [hereinafter cited as *Choices*]; Kahneman Tversky, *supra* note 8; Tversky & Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453 (1981).

23. This second axiom may seem counterintuitive, but it follows from the first premise of risk aversion. A sure loss is "felt" more heavily and, therefore, is more distressing than a gamble between losing nothing or losing an even greater sum. This is true even if the gamble carries a higher expected probability of loss.

24. Kahneman and Tversky describe this final assumption as "loss aversion." It expresses the intuition that a loss of $100 is more unpleasant than a gain of $100 is attractive. This explains the observed reluctance of individuals to wager on a 50/50 chance, such as a coin flip. *See Choices*, *supra* note 22, at 342.

25. These experimental results are based on laboratory observations only. Thus, the general implications of the findings remain uncertain.

26. A final axiom of prospect theory, not relevant to this discussion, is based on the demonstrated biases toward very low probability contingencies. Very low probabilities are either overweighted or neglected altogether, making such contingencies highly unstable in the decision-making calculus. This means that individuals may often be risk seeking in pursuing improbable gains but risk averse in avoiding unlikely losses. *See Choices*, *supra* note 22, at 344-46.

27. *See id.* at 342-46.

28. *Id.* at 343.

probability that 600 will be saved and a 2/3 probability that everybody will be killed. Even though the expected values of the two programs were the same (200 lives saved), a large majority of the respondents were risk averse. Seventy-two percent preferred the sure gains of Program *A* to the gamble of greater gains with Program *B*.[29] In the second version, the same problem was posed with the anchoring point reversed: Program *C* causes 400 people to die, while Program *D* carries a 1/3 probability that nobody will die and a 2/3 probability that 600 people will die. This time a large majority of respondents (78%) chose Program *D*. The subjects were risk preferring in the second version because the certain loss under Program *C* seemed less acceptable than the 2/3 chance under Program *D* that all may die (even though again the expected values are the same). This experiment illustrates the dramatic effect of framing the choice in terms of losses rather than gains. Merely focusing the choice on death rather than life caused a dramatic change in preferences from risk aversion to risk taking.

Together with other research on cognitive bias, these dramatic illustrations of the influence of framing have contributed to the growing belief by many legal analysts that the traditional rational choice model should be abandoned as a prescriptive norm for legal policy.[30] However, by shifting the focus from the judgment process (the inputs) to the choices actually made (the outputs), prospect theory yields some quite different implications.

Since prospect theory is essentially a marginal analysis, the anchoring point becomes the key feature in influencing the individual decision-maker's choices. Implicit in the theory is a key anchoring norm—the status quo. The tendency of individuals to anchor their decisions in terms of their endowments at any point in time produces the "endowment effect."[31] In brief, the endowment effect holds that as a logical corollary of prospect theory, consumers will weight out-of-pocket losses more heavily than foregone gains of equal expected value. All things being equal, goods that are included in the individual's current endowment will be more highly valued than those that have not yet been acquired. This systematic undervaluation of opportunity costs causes bias in consumer choice.

29. *Id.*

30. I evaluate this claim in some detail in Section III (A) *infra*.

31. This term is attributable to Richard Thaler. *See* Thaler, *Illusions and Mirages in Public Policy*, 73 PUB. INTEREST 60, 64 (1973); Thaler, *supra* note 9.

Consider, for instance, a consumer who refuses to sell a bottle of wine that is valued at $100, but would not purchase such a bottle himself for half that sum.[32] Under standard economic theory, such behavior is irrational: individuals should treat opportunity costs as equivalent to out-of-pocket costs. The endowment effect provides an alternative explanation—other than high transaction costs or wealth effects—for this popular illustration of the inadequacy of standard economic theory to explain human behavior.[33]

Suppose that the status quo—an individual's present endowments—is, in fact, the reference point individuals use to evaluate future choices in terms of relative gains or losses. Under this assumption, the impending choice itself then looms as a decisionmaking cost. Taking responsibility for a choice has secondary consequences. Individuals feel regret if a loss occurs as a result of their decision and pride if their choice results in gain. But when the prospects of either gain or loss are equally probable, individuals weight the anticipated cost of regret more heavily than the corresponding benefit of pride. This imbalance implies that a person will *choose not to choose* whenever the prospective gains and losses are equally probable. All other things being equal, individuals are thus reluctant to make choices in which they feel responsible for the outcomes. As a consequence, individuals are often motivated not to choose.[34]

This phenomenon of "regret aversion" has been thoughtfully applied by H.M. Shefrin and Meir Statman to investor preferences for cash

32. *See* Kelman, *Consumption Theory, Production Theory, and Ideology in the Coase Theorem*, 52 S. CAL. L. REV. 669, 678-79 (1979).

33. The offer/asking prices problem or the effect of differences in wealth on rational choice is one of the acknowledged difficulties with the application of economic theory to human behavior. Thus, contrary to the implications of the Coase Theorem, a change in legal entitlements will have direct allocative effects when wealth effects are present. This problem arises in distinguishing between productive and consumptive rights. A consumptive right arises in typical consumer transactions. Assume, for example, that smoke from a neighboring factory pollutes a homeowner's property. The homeowner's willingness to pay to abate the nuisance is governed by the effect of the smoke on his or her *utility* and not on the *profitability* of any enterprise. Thus, in our example, the maximum that the homeowner is willing to pay to bribe the factory not to pollute is limited by his or her wealth (consumption value). But, if the homeowner is given a legal right to be free from pollution the amount he or she will accept to allow the factory to pollute (economic value) has no wealth limitation. Therefore, consumption value does not equal economic value.

The offer/asking price problem is a central argument made by critical legal theorists against the economic analysis of law. *See, e.g., id.* at 695; Kennedy, *Cost Benefit Analysis of Entitlement Problems: A Critique*, 33 STAN. L. REV. 387, 401-21 (1981). For an insightful effort to take wealth effects into account in an economic analysis of legal rules, see Levmore, *Explaining Restitution*, 71 VA. L. REV. 65, 74-79 (1985).

34. *See* Thaler, *supra* note 9, at 51-54.

dividends.[35] Investors express strong, often vehement, preference for cash dividends over retained earnings in spite of the resulting increase in their tax liability.[36] This preference is inconsistent with the norm of utility maximization. Shefrin and Statman explain the preference for dividends as a desire to avoid the responsibility (and potential regret) of cashing out stock because the stock price may subsequently increase.[37]

The implications of this form of choice management for judgmental error analysis can be illustrated with an example. Suppose individuals are asked to assess their preferences for the following choices:

(1) You win $600, and can either save the money or use it to buy a stereo that you have wanted for some time;
(2) You can purchase the stereo that you have wanted for some time, but to do so you must sell 100 shares of stock that you have been given in order to obtain the necessary $600 purchase price.

Assume a significant majority of the respondents would choose to purchase the stereo in option 1, but only a handfnl would be willing to purchase the stereo under option 2. What might explain this deviation from what traditional economic theory regards as wholly equivalent choices?

One possible explanation for the discrepancy could be the biasing effect of framing. The options are constructed in such a way as to suggest a different anchor for each choice. If individuals use a marginal analysis of gains and losses starting from initial anchoring points, then many respondents might choose to purchase the stereo in option 1 because the $600 is perceived as the cost of obtaining a desired gain—the stereo. On the other hand, in option 2 the question anchors the purchase of the stereo to the loss of a valued endowment—the stock. If such simple framing techniques can manipnlate consumer decisions, then this would justify an enhanced presumption of market failure due to such deliberately induced cognitive errors.

However, there is another possible explanation for the hypothetical experimental result. The responding consumers simply might have been

35. Shefrin & Statman, *supra* note 9, at 268-71.

36. Shefrin and Statman offer the example of the president of General Public Utilities (GPU), who proposed to offer shareholders stock dividends in lieu of equivalent cash payments. The proposal would have resulted in direct tax savings of $20 million annually to GPU and $4 million annually to the shareholders. The shareholder's reaction was vituperative and the company's stock dropped sharply. *Id.* at 254.

37. *Id.* at 268-71.

following a self-imposed rule of behavior. Such a rule need not be an externally created obligation but may be merely a norm or standard procedure. For instance, many consumers adopt a simple rule to govern their consumption decisions: allow spending from income but prohibit consumption of capital. Adhering to this rule removes from the individual the responsibility for any particular choice and thus reduces regret and decisionmaking cost. This standard procedure will be adhered to so long as regret looms larger than pride in the individual's value function.

This explanation of the "behavioral irregularity" in our hypothetical has markedly different normative implications than those suggested by the framing explanation. An internal rule is a perfectly rational strategy for managing complex choices. Indeed, it is possible that such rules are more prevalent than framing effects in individuals' decisionmaking. Such a possibility yields the counter-conclusion that it is more difficult to exploit consumers in market settings than the simple human error explanation suggests. After all, if consumers are capable of organizing complex choices by establishing internal rules of behavior, they are not as easily manipulated as might otherwise be assumed. Furthermore, the use of norms and standard procedures in choice management provides additional evidence of the benefits of standardization in market settings.[38] Intervention to alter contract terms or to require individually tailored contracts compels individuals to assume greater responsibility over particular choices. This increases regret costs and, all other things being equal, reduces consumer satisfaction.

B. SELF-COMMAND AND PRE-COMMITMENT STRATEGIES

The puzzle of how (or whether) individuals make consistent choices over time has vexed economists and other social scientists. In a pioneering paper, R.H. Strotz demonstrated that, given plausible assumptions

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38. *See Imperfect Information*, *supra* note 3, at 1414. For a discussion of the benefits of standardized contract terms (both express and implied), see Goetz & Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms*, 73 CALIF. L. REV. 261 (1985).

Several benefits derive from standardization: (1) standardization provides a uniform and therefore more intelligible method of comparing alternatives. A party who invests resources to understand the attributes of any particular choice can apply that knowledge to understand subsequent choices cast in the same form; (2) standardization also contributes to the evolutionary enrichment of available opportunities by identifying, selecting, and announcing specific attributes that can be generalized to particular classes of transactions. *Id.* at 286-88. Standardization is not, however, without its disadvantages. Of particular concern is the state's recognition of standardized contractual formulations (either through legislative codification or judicial interpretation of disputed contract terms). Such official standardization further restrains already weakened market forces, thereby impeding experimentation with innovative and potentially more creative contract terms. *Id.* at 289-93.

about the way future preferences are discounted, individuals whose preference ordering is constant nonetheless may make inconsistent choices over time.[39] For example, an individual will choose smaller, earlier rewards despite an initial preference for larger, later ones.[40] George Ainslie later replicated this finding in behavioral experiments with pigeons.[41] The paradox of rational decisionmakers acting on inconsistent preferences has been widely discussed in both the legal and social science literature.[42] If preferences are endogenous, they are necessarily affected by the choices one makes. This problem of endogenous preferences or changing tastes reinforces concern over judgment errors, in particular because of the "ordering effect." If earlier choices necessarily affect later ones, then it follows that people's choices can be manipulated by skillfully framing the order in which they are presented.[43]

The limitations of the standard axioms of economic theory are important subjects for further study and analysis. In the case of inconsistent preferences, however, there is an extensive and provocative literature on self-command and pre-commitment strategies that moderates some of the troubling implications of choice manipulation.[44] Thomas Schelling

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39. Strotz, *Myopia and Inconsistency in Dynamic Utility Maximization*, 23 REV. ECON. STUD. 165 (1956). Strotz' paper deals with inconsistent preferences, which may give rise to self-control behavior.

40. *Id.* at 173-75.

41. Ainslie, *Behavioural Economics II: Motivated, Involuntary Behavior*, 23 SOC. SCI. INFORMATION 47 (1984); Ainslie, *Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control*, 82 PSYCHOLOGICAL BULL. 463, 476 (1975). Like Strotz, Ainslie's research focuses on inconsistent preferences caused by discounting, but Ainslie's work then investigates the behavioral mechanics of self-control.

42. In addition to the work of Strotz and Ainslie, see also Hammond, *Changing Tastes and Coherent Dynamic Choice*, 43 REV. ECON. STUD. 159 (1976); Pellok, *Consistent Planning*, 35 REV. ECON. STUD. 201 (1968). Traditional choice theorists have not ignored the phenomenon of inconsistent time preferences. *See, e.g.*, Stigler & Becker, *De Gustibus Non Est Disputandum*, 67 AM. ECON. REV. 76 (1977). The legal literature on the endogenecity of choices has focused on the phenomenon not as a puzzle to be solved but as evidence that economic analysis is indeterminate and thus an inappropriate basis for legal policy. *See, e.g.*, Kelman, *Choice and Utility*, 1979 WIS. L. REV. 769.

43. *See generally* Levine & Plott, *Agenda Influence and its Implications*, 63 VA. L. REV. 561 (1977).

44. The theory of self-command or pre-commitment describes how the individual limits or modifies future behavior in order to ensure that a commitment to a present decision is not subsequently compromised. In essence, pre-commitment theory explores the motivations and devices by which a decisionmaker reinforces a choice made today by taking steps to prevent a contrary decision being made tomorrow. In addition to the work of economists, *see supra* note 10, psychologists have done considerable research on the techniques people deliberately use to modify their own behavior. *See, e.g.*, BEHAVIOR CHANGE THROUGH SELF-CONTROL (M. Goldfried & M. Merbaum eds. 1973); K.D. O'LEARY & G.O. WILSON, BEHAVIOR THERAPY 470-73 (1975). For an interesting experimental study of individuals using explicit formalized contracts to modify their future behavior, see D. O'BANION & D. WHALEY, BEHAVIOR CONTRACTING (1981).

has vividly illustrated the variety of methods that individuals use to exercise self-command, such as smoking clinics, Christmas Savings Clubs, credit counselors, and diet clubs.[45] Recently, Richard Thaler and H.M. Shefrin have addressed the problem of inconsistent choices using a more sophisticated analytic framework.[46] Departing from the intertemporal model used by Strotz and Ainslie,[47] Thaler and Shefrin suggest a new paradigm that borrows from agency theory.[48] Consider, for example, an individual who wishes to forego a present indulgence but at the same time gives in to the temptation. Rather than modeling this as a problem of intertemporal preferences or changing tastes, Thaler and Shefrin analyze it as an internal conflict of interest. They borrow the principal-agent paradigm in order to analyze how individual decisionmakers resolve clashes between conflicting internal desires.

Thaler and Shefrin model the individual as a collection of many decisionmakers, where responsibility for making choices rotates among the members of the group. The model consists of one "planner" (or principal) and a series of "doers" (or agents). Each doer exercises direct control over the individual's decisions for one time period only. The planner, on the other hand, exercises indirect control throughout the individual's lifetime by influencing each doer's decisions. The planner derives utility from each doer's utility, but because the planner has a longer time horizon, a conflict of interests inevitably develops.[49] The planner

45. Schelling, *Egonomics, or the Act of Self-Management*, 68 AM. ECON. REV.: PAPERS & PROC. 290 (1978); Schelling, *Ethics, supra* note 9; Schelling, *Self-Command, supra* note 9.

46. Thaler & Shefrin, *supra* note 9.

47. *See supra* notes 39-41 and accompanying text.

48. Agency theory addresses the problem of monitoring conflicts of interest between individuals who are engaged in a collective endeavor. The theory is the work of Jensen and Meckling's seminal paper, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976). Jensen and Meckling's work was anticipated to some extent by Alchian & Demsetz, *Production, Information Costs and Economic Organization*, 62 AM. ECON. REV. 778 (1962); and, as in all things, by A. SMITH, THE WEALTH OF NATIONS 700 (E. Cannon ed. 1937).

There have been a number of applications of agency cost theory in the legal literature. *See, e.g.*, Anderson, *Conflicts of Interest: Efficiency, Fairness and Corporate Structure*, 25 UCLA L. REV. 738 (1978); Dooley, *Enforcement of Insider Trading Restrictions*, 66 VA. L. REV. 1 (1980); Fischel & Easterbrook, *Corporate Control Transactions*, 91 YALE L.J. 698 (1982); Goetz & Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089 (1981); Jackson & Kronman, *Secured Financing and Priorities Among Creditors*, 88 YALE L.J. 1143 (1979); Levmore, *Monitors and Freeriders in Commercial and Corporate Settings*, 92 YALE L.J. 49 (1982).

49. The link between the planner's utility and the doer's utility is a key feature of the model since it creates an alignment of interests for the two "cells" of the individual. Improving the doer's relative position also enhances the planner's welfare. On the other hand, the alignment is incomplete because the planner has a longer time horizon than the doer. As a result, the planner monitors the doer's activity to prevent the doer's shortsightedness from diminishing the individual's total welfare.

favors an optimal plan of consumption spread over the individual's lifetime. Each doer, however, is myopic and favors present consumption over long-range objectives. In order to achieve the desired plan of consumption, the planner must moniter each doer to ensure that the doer's decisions accord with the individual's long-range objectives.

There are two kinds of pre-commitment techniques or strategies that the planner can use to control internal conflicts over preferences. One strategy is to manipulate the doer's incentives. Thus, the planner might attempt to increase the costs to the doer of the disfavored consumption behavior or to increase the benefits of adhering to long-range preferences. For instance, the planner can promise to buy a stereo if he or she refrains from smoking for six months. Unfortunately, this technique requires the exercise of will by the doer and thus carries a cost in reducing the individual's overall utility. In essence, it requires consumption behavior that would otherwise be regarded as suboptimal.

As an alternative technique, the planner can manipulate the doer's range of choices. Throwing away the carton of cigarettes is a direct attempt to reduce the doer's opportnnities. Unfortunately, direct strategies for limiting choices are often impracticable. The planner instead may elect to adopt a *rule* to control the doer's detrimental behavior, such as "do not buy cigarettes" or "never inhale the smoke." Such rules may be enforced externally (Christmas Clubs are a favorite illustration) or they may be enforced internally by developing a standard procedure or habit. The power of internal rules of self-command is buttressed by the previous discussion of regret. Once the rule becomes the reference or anchoring point, departures from the rule require an independent choice. But choice implies responsibility and responsibility, as previously demonstrated, more frequently leads to regret than to satisfaction.[50] Thus, the rule becomes entrenched as a standardized response to the particular choice.[51]

Working backward from self-command to the judgment process yields some interesting implications. Shefrin and Statman suggest that investors' preferences for cash dividends over stock dividends or retained earnings may be explained by a pre-commitment rule never to consume

In essence, the planner attempts to redirect the doer's myopic decisions. The planner cannot, however, exercise perfect control over the doer's decisions without incurring some costs. These costs create an internal welfare tradeoff for the planner. The planner can improve control over the doer only by incurring additional monitoring costs, which reduce overall welfare. *See* Thaler & Shefrin, *supra* note 9, at 393-96.

50. *See supra* notes 34-37 and accompanying text.

51. *See* Goetz & Scott, *supra* note 38, at 286-90.

capital.[52] Such a rule also explains why observed consumer behavior so often seems to violate the standard arbitrage assumption of economic theory. Thus, for example, although I pride myself on some sophistication in financial matters, I continue to pay considerably more in credit card interest charges than I save in the corresponding interest income earned. Prior to the passage of the Truth in Lending Act,[53] my behavior might have been described as a cognitive error induced by the practice of anchoring the value of retail goods to the credit rather than the cash price.[54] Interestingly, consumer behavior with respect to savings and interest charges has not changed measurably even though federal regulations now require disclosure of interest charges.[55]

The intuitively compelling explanation for this "irrational" behavior is that consumers (myself included) are simply following a rule: never withdraw from savings. By prohibiting withdrawals from savings, consumers avoid the possibility of not replenishing the fund because of weak will. In other words, the doer is prevented from gaining access to the capital. Allowing the use of current savings to finance current costs may cause consumers' investments to be depleted more quickly than is consistent with their long-term goals.

This brief analysis of pre-commitment techniques merely confirms the possibility that ex post management of individual choice may have far-reaching feedback effects on the ex ante process of making judgments. If the research on choice management has a unifying theme, it is that individuals use self-generated rules to organize and simplify complex phenomena. These behavioral rules sometimes lead to judgmental biases precisely because they are so useful in ameliorating the stresses of decisionmaking. But if we assume that every decisionmaker has a network of internal rules, the problems of selecting an optimal complement of legal rules become more vexing. Exogenous rules of law are necessarily generalized since they apply to classes of persons. Conversely, endogenous rules of behavior emerge from individual experience and thus are highly

52. Shefrin & Statman, *supra* note 9, at 254-55.

53. Consumer Credit Protection Act, 15 U.S.C. §§ 1601-1667e (1982).

54. Credit sellers typically described interest charges as the "time price differential," thus anchoring the price of retail goods to the credit price. This permitted the seller to describe cash alternatives as a "cash discount." Presumably, the consumer viewed the interest charges as a foregone gain, not an out-of-pocket loss. For a discussion of the pricing confusion that led to the Consumer Credit Protection Act, see J. McCALL, CONSUMER PROTECTION 368-78 (1977); S. OPPENHEIM & G. WESTON, UNFAIR TRADE PRACTICES AND CONSUMER PROTECTION 739-43 (3d ed. 1974); D. RICE, CONSUMER TRANSACTIONS 332-34 (2d ed. 1975).

55. *See* Landers & Rohner, *A Functional Analysis of Truth in Lending*, 26 UCLA L. REV. 711 (1979).

particularized. Whatever may be the precise relationship between these two "jurisdictions," the interactions between private and public rules are likely to be highly unpredictable and varied.

It may be, of course, that the internal rules and strategies people use to facilitate their decisionmaking do not have a dominating effect. Until the relationship between judgment and choice is more fully understood, however, the legal policy-maker must remain appropriately cautious about predicting the effects of legal interventions owing to cognitive errors. What those effects are is not the point. The point is that only by comparing real inputs with real outputs can "deviations" that are appropriate bases for legal policy be identified.

III. THE LEGAL IMPLICATIONS OF CHOICE MANAGEMENT

A. Human Error as the Basis for Intervention in Markets

Legal intervention in consumer markets can take a variety of forms. Information search literature, for example, supports mandatory disclosure of product attributes (including contract terms) to remedy problems of imperfect information.[56] The powerful effects of framing on individual judgment, as well as the systematic errors people commit in their inferences and probability assessments, raise legitimate concerns that even informed consumers can be exploited in certain contractual settings.[57] The evidence that consumers make systematic errors in their judgments has led, quite naturally, to calls for stricter regulation of suspect transactions.[58] By banning the use of particularly worrisome contract terms

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56. *See Imperfect Information*, *supra* note 3, at 1459-61.

57. The confusion caused by the manipulative framing of credit terms has been extensively documented. *See, e.g.*, S. OPPENHEIM & G. WESTON, *supra* note 54, at 743-44. Framing bias has led one commentator to call for increased regulation in home mortgage transactions. *See* Eskridge, *One Hundred Years of Ineptitude: The Need for Mortgage Rules Consonant with the Economic and Psychological Dynamics of the Home Sale and Loan Transaction*, 70 VA. L. REV. 1083, 1162-83 (1984).

58. *See, e.g.*, Eskridge, *supra* note 57, at 1112-23; Rakoff, *supra* note 4. The literature on unconscionability is one example of efforts to accomodate the incompatible notions of ex ante bargaining and ex post regret. The best modern work in this area is Eisenberg, *The Bargain Principle and its Limits*, 95 HARV. L. REV. 741 (1982); *see also* Schwartz, *Reexamination of Nonsubstantive Unconscionability*, 63 VA. L. REV. 1053 (1977); Schwartz, *Seller Unequal Bargaining Power and the Judicial Process*, 49 IND. L.J. 367 (1974).

such as warranty disclaimers,[59] remedy limitations,[60] and security interests in consumer goods,[61] the state may be able to ameliorate the more pernicious effects of cognitive error.

Claims for regulation are not so compelling, however, once evidence of cognitive error is integrated with a theory of choice management. The risk of systematic manipulation by simple framing illusions seems less acute if consumers can routinely develop behavioral rules to facilitate their decisionmaking. In addition, if individuals are equipped with an array of particularized behavioral rules, legal regnlation may have unintended secondary effects. Regulation may, for example, undermine the internal rule structure that individuals use to manage choices. The choice management theme thus argues for alternative regulatory devices, such as the three to five day cooling-off period used for door-to-door sales,[62] rather than absolute restraints on particular terms or types of transactions. To be sure, providing consumers an unqualified right of recission during a cooling-off period will necessarily increase product costs. But such interventions are less intrusive than absolute restraints on bargaining. By banning a particular contract term or by declaring a transaction unconscionable, the state completely removes the arrangement from the range of choices available to similarly situated consumers. If expanded choice is a desired norm, the policy-maker should remove a transaction type from the market only if there is confidence that consumers will invariably regret the transaction. While a simple human error analysis might provide such confidence, the lessons of choice management argue against an uncritical reliance on such analysis. Since "irrational" choices may often be as plausibly explained by adherence to internal rules as by preference manipulation, it is unlikely that policy-

59. *See, e.g.*, Magnuson-Moss Warranty—Federal Trade Commission Improvements Act, 15 U.S.C. § 2308 (1982); RESTATEMENT (SECOND) OF TORTS § 402A.

60. Magnuson-Moss Warranty—Federal Trade Commission Improvements Act, 15 U.S.C. § 2308 (1982); U.C.C. § 2-719(3) (1978).

61. FTC Credit Practices Rule, 16 C.F.R. § 444.2(a)(4) (1985); Uniform Consumer Credit Code §§ 3.301, 5.103, 5.116 (1974); CAL. COM. CODE §§ 9301, 9312 (West 1985); WASH. REV. CODE ANN. §§ 62(A), 9-501(l) (1974). *See generally* Schwartz, *The Enforceability of Security Interests in Consumer Goods*, 26 J. LAW & ECON. 117 (1983).

62. *See, e.g.*, FTC Cooling-Off Period for Door-to-Door Sales Rule, 16 C.F.R. § 429.1 (1985); *see also* State v. Direct Sellers Ass'n, 108 Ariz. 165, 494 P.2d 361 (1972) (upholding state cooling-off statute challenged as arbitrary, unreasonable, and violative of both due process and equal protection in singling out door-to-door sellers for special regulatory treatment); Sher, *The "Cooling-Off" Period in Door-to-Door Sales*, 15 UCLA L. REV. 717 (1968). Thomas Jackson makes a similar argument for the cooling-off period in the context of bankruptcy discharge. *See generally*, Jackson, *The Fresh-Start Policy in Bankruptcy Law*, 98 HARV. L. REV. 1393, 1408-18 (1985).

makers can accurately predict the cases of inevitable regret. Furthermore, there is a Pigouvian fallacy[63] underlying the belief that state regulation can significantly ameliorate the effects of cognitive errors. If consumers are susceptible to judgmental bias, then regulators are similarly imperiled.[64]

In sum, the integration of judgment or decision theory with choice theory yields two tentative conclusions concerning the appropriate legal responses to market failure. First, the ingenuity and common sense that seems to mark internal behavioral rules provide fresh evidence of the utility of the traditional assumption of rationality. On the other hand, a choice management perspective also clouds our ability to predict those forms of intervention that are most likely to ameliorate the problems caused by imperfect markets.

This does not mean, however, that decision theory has no clarifying value for the legal analyst. While this literature does not provide clear justification for particular regulatory systems, it does provide additional clues to understanding the nature and function of some basic legal institutions. In the concluding sections, therefore, I examine the value of choice management as an explanatory tool.

B. The Logic of the Law

Recent claims that the analytics of the common law could be explained in terms of economic efficiency,[65] and the failure of such claims to withstand critical analysis,[66] have undercut analyses of the underlying logic of the law. But one does not have to assert the efficiency of common law rules to advance several fundamental propositions. Legal rules

63. *See supra* note 18.

64. Much of decision theory literature is directed towards minimizing the judgmental biases of social science investigators and other neutral decisionmakers. *See* Abelson & Levi, *supra* note 8, at 293-97. Public utility rate regulation offers a further illustration of regulator errors. Regulated utilities hold excess capital since it is relatively costless given the average cost method of pricing used by regulatory agencies. As with most judgmental heuristics, average cost pricing is a good rule of thumb. However, it can lead to significant errors in some cases. *See* F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 483 (2d ed. 1971).

65. *See, e.g.*, R. POSNER, ECONOMIC ANALYSIS OF LAW 404-05, 439-41 (2d ed. 1977); Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65 (1977); Rubin, *Why is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977).

66. Professor Priest has been the most significant defector from the efficiency of the common law hypothesis. He has convincingly renounced his earlier orthodoxy. *See* Priest, *Selective Characteristics of Litigation*, 9 J. LEGAL STUD. 399 (1980); Priest & Klien, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984). There have, of course, been other critics of the efficiency hypothesis. *See, e.g.*, Michelman, *A Comment on Some Uses and Abuses of Economics in Law*, 46 U. CHI. L. REV. 307 (1979).

are purposive. But the social purposes they advance are often unstated. The structure and purpose of rules are often complex and mysterious primarily because of the masking effects of legal doctrine.[67] Legal doctrine serves a social function in maintaining the illusion of consistency as legal institutions change over time. However, it also serves to obscure the analytics in any system of legal rules. Thus, in order to evaluate the effects of particular rules or systems of rules, legal theorists must become sophisticated in analyzing the behavior of complex factors such as markets, firms, and individuals. The more knowledge legal decisionmakers have about the behavior of these entities, the better they can evaluate the fundamental justifications for the legal rules affecting these entities.

In labor law, for instance, a frequently observed phenomenon occurs when a judicial decision reallocates a statutory entitlement from management to labor.[68] Prior to the decision, management may have fought to retain the right, or labor may have been apathetic about acquiring it. However, no attempt is made by labor thereafter to sell the right back to management in subsequent collective bargaining.[69] This would appear to be a paradigmatic opportunity for post-decision bargaining. The rights are clearly assigned, transaction costs are apparently low, and wealth effects should be negligible.[70] Thus, economic theory predicts that post-decision bargaining will reassign the right to the more valued use.

What explains this apparent contradiction of the Coase theorem? One possibility is that conflicts between the interests of rank and file workers and those of union negotiators motivate the union managers not

67. The divergence between legal doctrine and the fundamental purposes of legal rules can be explained either in benign or malignant terms depending on one's view of the social structure that the law supports. My purpose here is not to enter that debate but merely to assert that such barriers to understanding the legal system exist.

68. *See* D. LESLIE, CASES AND MATERIALS ON LABOR LAW: PROCESS AND POLICY 369-73 (2d ed. 1984).

69. *Id.* at 371-72.

70. The conditions cited in the text—low transactions costs, informed parties and legal rights that are well-defined and marketable—are the key assumptions of the Coase Theorem. Under these conditions, the Coase Theorem predicts that parties will negotiate to reach an efficient outcome—i.e., a result which exhausts all possibilities for further mutual gain—regardless of the result the law directs. A good summary of the theorem can be found in J. HIRSCHLEIFER, *supra* note 5, at 88-91.

to "sell" the entitlement even though it is highly valued by the membership.[71] Alternatively, this behavior may be symptomatic of high transactions costs or other strategic behavior.[72] On the other hand, the failure of subsequent bargains to reassign the entitlement may simply be an illustration of the endowment effect. If individuals subjectively weigh the prospect of loss more heavily than the prospect of gain, then the endowment effect creates a bias in consumer choice. The interesting question, then, is whether group behavior is similarly affected by this judgmental bias. If so, labor may value the entitlement more once it becomes part of labor's endowment. After the judicial decision, the loss of the legal right is seen as an out-of-pocket loss, whereas previously the entitlement was seen as a less heavily weighted foregone opportunity. This divergence between bidding and asking prices would explain the "no buy/no sell" paradox, and might also enhance one understanding of how unions function.

The puzzle of secured credit is perhaps the most vexing issue in commercial transactions, and one for which a choice management perspective also may provide some illumination. An economic justification for secured credit has continued to elude legal scholars.[73] Viewed from a supply side perspective, secured credit is a zero-sum transaction for the debtor. Any reduction in the debtor's credit bill caused by offering security to one creditor is offset by a corresponding increase in the cost of unsecured credit. The transfer of property rights in the debtor's assets to a secured creditor reduces, *pro tanto*, the pool of assets available to unsecured creditors upon insolvency.

Several scholars have advanced monitoring cost explanations for

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71. Henry Manne suggests that the decisionmaking structure of a union may be such that union managers are not able to claim any part of the benefits from exchanging the entitlements for themselves. On the other hand, the union managers may get some modest benefits from the status quo. Such an extreme agency cost problem would explain the "no buy/no sell" paradox. *See* Letter from Professor Henry G. Manne to Robert E. Scott (Oct. 11, 1985) (on file with author).

72. Douglas Leslie suggests several possible theories to explain why no bargaining ensued in these instances. One obvious explanation is that transaction costs exceed the value of the entitlement. Other explanations center on strategic considerations: either labor may be unable to justify the trade to its members or the offer to sell the entitlement may reveal too much of the union's "hand" in collective barganing negotiations. *See* D. LESLIE, *supra* note 68, at 371-72.

73. For a discussion of the problem and a review of possible theories for explaning and justifying secured credit, see A. SCHWARTZ & R. SCOTT, COMMERCIAL TRANSACTIONS, PRINCIPLES AND POLICIES 556-68 (1982). *See also* Jackson & Kronman, *supra* note 48; Levmore, *supra* note 48; Schwartz, *The Continuing Puzzle of Secured Debt*, 37 VAND. L. REV. 1051 (1984); Schwartz, *Security Interests and Bankrupt Priorities: A Review of Current Theories*, 10 J. LEGAL STUD. 1 (1981); White, *Efficiency Justifications for Personal Property Security*, 37 VAND. L. REV. 473 (1984).

why debtors give security to some creditors and not to others.[74] These theories, however, do not explain how security actually aids in monitoring against debtor misbehavior other than in limited cases of asset substitutions.[75] A richer explanation may be that security is a form of bonding against subsequent conflicts of interest.[76] But what makes this form of bonding more effective than the standard loan covenants used in unsecured credit transactions? Perhaps security has additional benefits as a pre-commitment technique. Debtors may offer security to reduce their subsequent opportunity to "misbehave" when events generate unanticipated stresses. By granting a security interest that gives a creditor the right to foreclose on an asset, the debtor invites quick and decisive sanctions against violations of the terms of the initial credit transaction. While standard economic theory predicts that debtors would prefer to retain all their choices, including the choice subsequently to misbehave, pre-commitment analysis suggests that some security may simply be the debtors' method of protecting a present decision against future temptations.[77]

74. *See, e.g.*, Jackson & Kronman, *supra* note 48, at 1152-58; Levmore, *supra* note 48, at 55-58.

75. *See* Schwartz, *The Continuing Puzzle of Secured Debt, supra* note 73, at 1055-59. "Put simply, the stable, pervasive existence of personal property security is quite unlikely to be a response to the disequilibrium phenomenon of duplicate monitoring." *Id.* at 1057. All current explanations of secured financing implicitly assume that the secured transaction only involves credit. If this were so, then the price of credit could be determined on a per transaction basis and Professor Schwartz' skepticism regarding the various efficiency justifications for security would be justified. A better approach is to conceive of the secured credit transaction as encompassing the exchange of both credit and services. In the case of the general financing lender, for example, these services are business advice and financial counseling provided to the small firm whose size effectively prevents it from entering the public financial markets. For these firms, security may be the means of ordering a relational contract whose terms cannot be fully negotiated at the time of contracting. Thus, the financial institution invests in the firm in much the same way as any shareholder. Unfortunately, however, the interests of the parties are not identical and inevitably agency costs generate conflicts of interest. Specifically, when business failure looms, the debtor has more incentive to engage in risky ventures than the bank, since the debtor has nothing more to lose.

76. A bonding explanation views security as a mechanism used by debtors to reassure creditors rather than as a device by which creditors guard against misbehavior by monitoring the debtor's affairs. By offering assets as a hostage, the debtor reassures the secured creditor that it will take both parties' interests into account when making business decisions in critical situations. The debtor's use of secuity as a pre-commitment device also may serve a bonding function for the unsecured creditors. In other words, it offers assurance to all creditors of the debtor's resolve not to misbehave thereby enhancing the debtor's credibility and credit worthiness. Whether such a theory proves a richer method of analyzing secured debt is the subject of another paper. *See* Scott, A Relational Theory of Secured Financing (forthcoming).

77. I do not mean to overstate the value of pre-commitment analysis in resolving the security interest puzzle. Such strategies are clearly more illuminating when applied to individual rather than institutional behavior. Thus, for example, economists generally assume that a firm maximizes a linear utility function. This assumption is based on the premise that firms seek to maximize profits.

The preceding discussion is obviously incomplete and anecdotal. The use of the choice management theme in illuminating these and other areas of the legal landscape requires much more careful analysis.[78] My point has merely been to suggest that this perspective offers the promise of advancing our understanding of many legal rules. In order to illustrate more clearly the utility of the choice management perspective, in the concluding section I examine in greater detail the specific example of promise-making as a self-command strategy.

C. A SPECIFIC EXAMPLE: PROMISE-MAKING AS A SELF-COMMAND STRATEGY

Self-command and promise-making share certain common elements. Individuals use self-control to influence and direct their future decisions. Similarly, individuals use promise-making to link their intentions with their future acts; a promise expresses a present intent to perform a future task. If promise-making has any influence over future alternatives or behavioral incentives, one could even use a promise as a self-command strategy. This section investigates the relationship between promise-making and self-control in three contexts: the bilateral exchange, the donative promise, and the promise supported by a moral obligation or past consideration. The analysis reveals that a promise's effectiveness as a self-control strategy depends on the anticipated consequences (legal and extralegal) of breaching the promise. The analysis also demonstrates that self-control motivations generally are not significant for promise-making in a bilateral exchange, but that they are important for "one-sided" or nonreciprocal transfers, such as the donative promise or the promise based on a moral obligation. In fact, self-control plays a large role in the promisor's motivations to make the initial moral obligation promise.

1. *Promises in a Bilateral Exchange*

It is helpful to analyze separately two distinct motivations when studying any type of promissory behavior.[79] First is the promisor's motivation at the time of making the promise for deciding to perform the promised future act. Second is the promisor's motivation for making the

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But the utility maximizing assumption may not be the correct model for predicting the behavior of small, closely held firms confronting the prospect of business failure.

78. Thomas Jackson's paper on the fresh-start policy in bankruptcy illustrates how the decision theory literature can enrich understanding of legal rules. *See* Jackson, *supra* note 62, at 1408-18.

79. Posner, *Gratuitous Promises in Economics and Law*, 6 J. LEGAL STUD. 411, 412 (1977).

promise itself. The two motivations are quite distinct and should not be confused.

To illustrate with a hypothetical, suppose that *A* enters into a contract to pay *B* $500 to build new cabinets in *A*'s kitchen. The first question is, what is *A*'s motivation or incentive for deciding to do the promised future act? That is to say, what is *A*'s motivation for offering to pay *B* $500?[80] The simple answer is that *A* wishes to induce *B* to participate in an exchange to supply carpentry services. *A* values *B*'s services more than the alternative uses of the $500, so *A*'s motivation for exchanging with *B* is to capture a share of the welfare gains from trade.

In contrast, *A*'s incentive for giving the *promise* is quite different. *A* makes a legally enforceable promise to *B* to reinforce *B*'s confidence that *A* will make payment when the job is complete. Without such confidence, *B* would be reluctant to make preparations for the job (e.g., draw plans, purchase materials, etc.) or to invest the time in completing the job. In this sense, *A*'s promise is a bonding device to reassure *B* of *A*'s future performance. Of course, the bonding measure's effectiveness depends on the promisee's credibility, which is the major reason why promises in the bilateral exchange context are legally enforced.[81] Nonenforcement of such promises would compel promissors to devise alternative bonding schemes. Absent alternative bonding schemes, nonenforcement would "bias exchanges toward those that take place instantaneously, as distinct from those that are completed only over a period of time,"[82] or would bias exchanges toward persons who have developed a reputation for keeping their promises.[83]

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80. *A* is likely to have changing motivations or incentives as the exchange proceeds. The concern here is with *A*'s motivation at the time of signing the contract, rather than at the time of performance.

81. Posner, *supra* note 79, at 413-14.

82. *Id.*

83. In essence, legal enforcement of the bilateral exchange promise allows anyone to develop an instant reputation for trustworthiness, simply by giving a promise. This reputation is limited, of course, to the extent that legal remedies are perceived to be effective against a particular individual.

As a thought experiment, it is interesting to imagine how commerce would operate in a world without state-enforced contracts. Besides encouraging more instantaneous exchanges, merchants would endeavor to cultivate their reputations for trustworthiness and fair dealing, and therefore would rely more on continuous relationships with repeat transactions. In addition, some firms would merge in order to police obligations internally. To facilitate noninstantaneous market transactions between strangers, financial intermediaries might develop. These intermediaries would provide the service of holding liquidated damage payments in escrow until the transaction was completed to the parties' satisfaction. Presumably, the intermediaries' investment in reputation would be quite high, too. When a serious dispute did develop, the parties and the intermediary might resort to a preselected arbitration mechanism for guidance on how the intermediary should distribute the damage payments. In summary, commerce would still go forward in such a world, Certain bilateral exchanges, such as diet clinics and Christmas Clubs, have significant self-control features. Similarly, an author with fickle working habits might include a deliberately short deadline for completion of a book in the contract with the publisher. But these examples are exceptional cases. Self-control is not a dominant feature of promise-making and legal enforcement in these settings. The relatively low cost of legal enforcement as compared to substitute forms of bonding (such as liquidated damages held in escrow) provides the more persuasive explanation of bilateral promissory behavior and legal enforcement.

2. *Donative Promises*

A donative promise is a promise, not supported by consideration, to confer a benefit on the promisee. The term does not include promises that induce a legally recognized reliance[84] or that are based on a moral obligation.[85] Two illustrative cases of the donative promise are *Dougherty v. Salt*[86] and *Schnell v. Nell.*[87] The plaintiff in *Dougherty* was a young boy who sought a judgment against his deceased aunt's estate for a $3,000 promissory note that she had given him. The standard form note contained the words "value received" and was payable on the aunt's death or before. Despite the note's authenticity, the court held that it was a "voluntary and unenforceable promise of an executory gift,"[88] basing its conclusion on the lack of consideration. The court reached a similar conclusion in *Schnell* when it refused to enforce Zacharias Schnell's

albeit with higher transaction costs. Nevertheless, situations exist today that resemble this imaginary world. In the international relations arena, private contracting and state enforcement are either unavailable or inadequate. Recall the Iranian hostage crisis, where frozen Iranian assets were exchanged more or less instantaneously for American hostages, and the Iranians established an escrow account with the Algerians to settle American claims against Iran through arbitration.

84. For cases involving reliance where the doctrine of promissory estoppel is applied, see, e.g., Devecmon v. Shaw, 69 Md. 199, 14 A. 464 (1888); Feinberg v. Pfeiffer Co. 322 S.W.2d 163 (Mo. Ct. App. 1959); Ricketts v. Scothorn, 57 Neb. 51, 77 N.W. 365 (1898). The Restatement suggests the following standard for enforcing promises on the basis of reliance:

> A promise which the promisor should reasonably expect to induce action or forbearance on the part of the promisee or a third person and which does induce such action or forbearance is binding if injustice can be avoided only by enforcement of the promise. The remedy granted for breach may be limited as justice requires.

RESTATEMENT (SECOND) OF CONTRACTS § 90(1) (1979). In an economic sense, every promise to which the promisee attaches a positive probability of performance will result in some reliance, however small or hard to measure. *See* Goetz & Scott, *Enforcing Promises: An Examination of the Basis of Contract*, 89 YALE L.J. 1261, 1304 (1980). The detrimental reliance required for promissory estoppel, however, is a subset of such cases.

85. *See infra* notes 101-09 and accompanying text.

86. 227 N.Y. 200, 125 N.E. 94 (1919).

87. 17 Ind. 29 (1861).

88. *Dougherty*, 227 N.Y. at 202, 125 N.E. at 95.

promise. Schnell had signed an elaborately drafted and sealed document that expressed his promise to pay $200 to each of three friends. Despite several purported considerations recited in the document,[89] the court did not enforce the promise.

As in the exchange context, it is helpful to examine separately the promisor's motivation for undertaking the promised act and the motivation for giving the promise. In an economic framework, interdependent or shared utility explains a promisor's incentive to make a gift.[90] More important for our purposes, however, is the donor's motivation for making the promise. The donor could, after all, convey the gift immediately, thereby instantly obtaining any benefits from shared utility and eliminating the promise altogether.[91] Special circumstances such as a temporary cash shortage might explain why the promisor would wait before giving a gift, but this does not explain the motivation behind giving the promise itself. Furthermore, the promisor's motive in the bilateral exchange case does not explain the donative promise; one who promises to give a gift is not attempting to induce the promisee to enter into an exchange by creating confidence in the promisor's own performance.

Two motivations underlie the promisor's donative promise: self-control and reliance by the promisee. Melvin Eisenberg recognized both of these factors in his discussion of why donative promises are made:

> For example, a promisor may want to ensure performance by his estate if he dies without having completed performance; to derive the satisfaction of having made an effective disposition; *to protect his present aspirations against defeat by a less worthy future self; or to permit the promisee to make reliable plans on the basis of the promise.* Accordingly, a legal system might plausibly choose to enlarge a donative promisor's choice-set by providing . . . a promissory form . . . through which a promisor can deliberately bind himself in a legally enforceable manner.[92]

89. In particular, the document recited as consideration: (1) Zacharias' deceased wife's desire for each of the promisees to receive $200 from her estate, (2) the wife's love and affection for Zacharias, (3) Zacharias' love and affection for his wife, and (4) the promisee's promise to pay Zacharias one cent and to release "any real or supposed claims upon him or his estate" arising from his deceased wife's will. *Schnell*, 17 Ind. at 29-30.

90. *See* Posner, *supra* note 79, at 412. Interdependence of utility functions implies that the donor's preferences, and hence welfare, are partially dependent on the donee's welfare. Such utility functions are most plausible in familial or similar settings where the individuals are in frequent and close contact or where they are likely to be especially concerned with the well-being of another.

91. *Id.*

92. Eisenberg, *Donative Promises*, 47 U. CHI. L. REV. 1, 8 (1979)(emphasis added and footnote omitted).

The effectiveness of self-control through promise-making depends upon the consequences that attach to making a promise. In Thaler and Shefrin's terms, the effectiveness of the promise depends on the rules and incentives that the planner can establish to influence the doer's decisions.[93] Most people feel a self-imposed obligation to carry out their promises, especially firm and unambiguous ones. Indeed, many believe that this obligation is a moral duty.[94] In terms of the choice management model, the individual's self-imposed moral or ethical obligation to keep a promise means that the planner has established a behavioral *rule* that the doer must act consistently with the individual's previous representations.

Although internal rules occasionally may be broken, it is safe to say that most people attempt to observe this norm and break it only in extraordinary circumstances. This rule against lying, like the rule against consumption from one's capital, has a significant self-control effect and can be quite useful, especially in the absence of other self-control devices. The planner invokes the rule by announcing a promise, and thereby improves the chance of obtaining cooperation from the doer. Thus, for example, a simple donative promise can frequently overcome an individual's own behavioral inertia, as when one would not undertake a particular action but for the promise to do so.

Legal enforcement of the promise enhances its effectiveness as a self-command mechanism. By announcing a legally enforceable promise, the planners can substantially alter the doer's incentives. The legal remedy creates a powerful disincentive for the doer to breach the contract. An enforceable donative promise is thus an effective and low-cost device, much like the common law seal, that permits individuals to manage or control their subsequent choices.

Nevertheless, donative promises generally are not legally enforceable. One explanation for nonenforcement is the assumption that the presence of effective extralegal sanctions for breach are adequate to control subsequent decisionmaking.[95] Donative promises are most likely made in family or other situations of close personal relations where the

93. *See supra* notes 46-51 and accompanying text.

94. *See, e.g.*, Pound, *Promise or Bargain?*, 33 TUL. L. REV. 455, 455 (1959) ("From antiquity the moral obligation to keep a promise [has] been a cardinal tenet of ethical philosophers, publicists, and philosophical jurists.").

95. *See* Goetz & Scott, *supra* note 84, at 1304 (discussing the extralegal sanctions for breaking a promise in a nonexchange context).

promisor bears in part the consequences of any loss the promisee suffers.[96] Moreover, the promisor who breaches without excuse may suffer a further loss by alienating the promisee and others, or otherwise damaging his or her general reputation and credibility.

One type of donative promise that courts typically enforce is the charitable subscription.[97] At least one court has clearly held that the donor has the option of making the promise either binding or nonbinding, depending on the language used to express the promise.[98] The ability to choose between enforcement and nonenforcement gives the planner considerable flexibility in manipulating the doer's conduct, allowing the planner to invoke a rather coercive change of the doer's incentives if necessary, or permitting a more equivocal position if the future is uncertain or the planner's resolution is not firm. In Eisenberg's words, the ability to select between binding and nonbinding promissory forms "enlarge[s] a donative promisor's choice-set."[99]

Self-control obviously is not the only explanation for the promise to give a gift. The hypothesis of shared utility implies that the promisor benefits from the reliance value of the promise to the promisee. A promisee will rely to some degree on every promise to which he or she attaches a positive probability of performance. If the promise is carried out, then the reliance inures to the benefit of both the promisee and the promisor.[100]

One can view the reliance analysis as either a competing or a complementary explanation to the choice management theme. It is complementary to the extent that the self-control effect of a promise increases the probability of the promisor's eventual performance and thereby increases the reliance value of the promise to the promisee. Alternatively, one can interpret it as a competing explanation to the extent that the promise's reliance value supplants the self-control motivation for giving

96. Every promise to which the promisee attaches a positive probability of performance will engender some reliance by the promisee. If the promisor breaches, the promisee's reliance causes a welfare loss. Therefore, interdependence of utility implies that the promisor also suffers some of the reliance loss. *Id.*

97. *See, e.g.*, Salsbury v. Northwestern Bell Tel. Co., 221 N.W.2d 609 (Iowa 1974); Hirsch v. Hirsch, 32 Ohio App. 2d 200, 289 N.E.2d 386 (1972); RESTATEMENT (SECOND) OF CONTRACTS § 90(2) (1979) ("A charitable subscription or a marriage settlement is binding under Subsection (1) without proof that the promise induced action or forbearance."). *But see* Maryland Nat'l Bank v. United Jewish Appeal, 286 Md. 274, 407 A.2d 1130 (1979) (refusing to enforce a charitable promise in the absence of detrimental reliance or consideration).

98. *Salsbury*, 221 N.W.2d at 612-13.

99. Eisenberg, *supra* note 92, at 8.

100. Goetz & Scott, *supra* note 84, at 1267-70.

the promise. Unfortunately, this analysis does not offer a basis for distinguishing between these two arguments. The analysis of moral obligation promises presented below, however, reinforces the intuitive appeal of the complementary interpretation.

3. *Promises Based on a Moral Obligation or Past Consideration*

Courts usually do not enforce promises based solely on a moral obligation. Most courts, however, will enforce a promise to compensate one's rescuer for injury[101] or to repay a debt that is either time-barred,[102] discharged in bankruptcy,[103] or uncollectable because the debtor was a minor at the time of contracting.[104] The classic rescue case is *Webb v. McGowin*.[105] The plaintiff in *Webb* saved McGowin from serious injury by diverting the falling path of a large block of wood. Unfortunately, the block fell on the plaintiff and permanently disabled him. Out of gratitude for the plaintiff's heroic effort, one month after the accident, McGowin promised to pay the plaintiff fifteen dollars every two weeks for the remainder of the plaintiff's life. The court enforced the promise against McGowin's estate although Webb had given no consideration for the promise.[106]

An illustrative past consideration case is *Edson v. Poppe*.[107] The court in *Edson* applied the "material benefit rule"[108] to a landlord's promise to compensate his tenant for digging a well on the landlord's premises. The tenant dug the well at the landlord's request, and the landlord subsequently promised to reimburse the tenant. Although the landlord's promise lacked consideration and the tenant could not recover under a quasi-contract theory, the court enforced the promise.

101. *See, e.g.*, Webb v. McGowin, 27 Ala. App. 82, 168 So. 196 (1935), *cert. denied*, 232 Ala. 374, 168 So. 199 (1936); Boothe v. Fitzpatrick, 36 Vt. 681 (1864).

102. *See, e.g.*, Jones v. Jones, 242 F. Supp. 979 (S.D.N.Y. 1965); RESTATEMENT (SECOND) OF CONTRACTS § 82 (1979).

103. *See, e.g.*, Stanek v. White, 172 Minn. 390, 215 N.W. 784 (1927); RESTATEMENT (SECOND) OF CONTRACTS § 83 (1979). The Bankruptcy Reform Act of 1978 limits the practical significance of this rule because it imposes substantial limitations on debtors' ability to revive discharged debts. 11 U.S.C. § 524(c) (1982); *see also* Jackson, *supra* note 62.

104. *See, e.g.*, Henry v. Root, 33 N.Y. 526 (1865); RESTATEMENT (SECOND) OF CONTRACTS, § 85 (1979).

105. 27 Ala. App. 82, 168 So. 196 (1935), *cert. denied*, 232 Ala. 374, 168 So. 199 (1936).

106. 27 Ala. App. at 84-86, 168 So. at 196-99.

107. 24 S.D. 466, 124 N.W. 441 (1910).

108. The material benefit rule holds enforceable a promise made in recognition of a material, nondonative benefit conferred by the promisee. See 1 S. WILLISTON, CONTRACTS §§ 144-147 (3d ed. 1957); *see also* Manwill v. Oyler, 11 Utah 2d 433, 361 P.2d 177 (1961).

Moral obligation and past consideration issues lack the element of interdependent utility found in donative promises. Nor is the promisor attempting to induce an exchange, as in the reciprocal context. The promisor's incentive for making the *transfer* in these cases is the response to a sense of ethical duty or obligation; the promisor essentially acts from an altruistic motivation.[109] Furthermore, neither the reciprocal exchange nor the interdependent utility explanations explain the promisor's motivation for giving a *promise*. A pre-commitment or self-control motivation offers a convincing explanation. The promise to make the transfer is an open expression of current intent that binds the promisor's future self to the desired behavior.

Of course, the efficacy of self-control depends on the consequences that attach to the promise. The propensity of courts to enforce certain moral obligation and past consideration promises is especially significant in light of the ineffectiveness of extralegal self-control rules and incentives in those contexts. Presumably, most individuals observe an internal rule that one should remain true to one's word. That rule may not always be followed, however, especially when the temptation to break it is strong because the contemplated transfer is large. In the moral obligation and past consideration contexts, the promisor and promisee typically have an arm's-length relationship. This makes the assumption of interdependent utility implausible. The promisor is therefore unlikely to feel a loss from the promisee's detrimental reliance on a broken promise. Moreover, the promisor is unlikely to experience a significant loss if the

109. Posner offers interdependent utility as a complementary explanation to the altruistic motivation in the rescue cases. Posner, *supra* note 79, at 418. Interdependent utility, however, is an unpersuasive explanation in these cases. The promisor achieves a gain by satisfying a duty or internally-created obligation to the promisee, but the promisor is unlikely to experience vicariously *every* change in the promisee's welfare, as the assumption of interdependent utility would imply. The promisor and promisee were complete strangers until the accident brought them together. Posner also argues that a promisor is motivated to make a debt revival promise by the desire to encourage third parties to extend credit. *Id.* This reasoning cuts both ways. Renewing a debt increases the total amount of enforceable claims against the promisor and thereby increases the credit risk. Nevertheless, to the extent that Posner is correct, his argument provides an alternative (competing or complementary) explanation to the self-control motivation described in the text. In some sense, charitable subscriptions resemble moral obligations more than donative promises. An altruistic motivation better explains the promisor's incentive to make the transfer than does an assumption of interdependent utility. Interdependent utilities are most plausible where the individuals have frequent, close contact and long-standing relations. Therefore, to the extent that charitable subscriptions are not motivated by the reliance gain through interdependent utility, and to the extent that other extralegal sanctions do not exist, legal enforcement significantly aids the self-control effects of charitable subscription promises. The same may be said of the moral obligation promise. Because extralegal sanctions are ineffective or nonexistent in this context, the law enforces such promises to give the planner a self-control device. In contrast, legal enforcement is less necessary in donative contexts, because of the availability of extralegal sanctions.

breach alienates the promisee or is noticed by third parties in whose eyes the promisor wishes to maintain a good reputation. As a result, legal enforcement is sensible in such circumstances, because it allows the individual to invoke a useful pre-commitment mechanism to fill the void created by the lack of extralegal incentives. To the extent that society values such transfers and wishes to promote their performance, legal enforcement enables individuals to undertake and successfully complete these transfers.

The preceding discussion demonstrates that legal institutions can either facilitate or discourage choice management in the variety of settings where individuals may make promises. Choice management seems to be a particularly significant motivation for making nonreciprocal promises. The common law has developed a pattern of legal enforcement that interacts with the strengths and weaknesses of extralegal factors to form a rather complete array of promissory self-control devices. Where the extralegal sanctions and incentives exert a strong influence, the courts tend not to intervene. Where the extralegal elements are weak, legal enforcement provides an incentive-manipulation device that promisors can invoke at little cost. To the extent that society wishes to facilitate certain nonexchange transfers, providing self-control mechanisms is entirely appropriate and will result in a higher percentage of successful transfers.

CONCLUSION

Social scientists are reluctant to advance general theories before their hypotheses have been tested. Consequently, policy-makers often must embrace tentative explanations of behavior regardless of the state of knowledge. The legal analyst, whose responsibility is to organize and order the social choices facing policy-makers, must decide when and how the legal system should intervene in markets. The global perspective which I have advocated confirms the wisdom of restraint. The strategies or heuristics used by individuals to make judgments about uncertain events are subject to bias and often deviate from the ideals of inference and probability assessment. Nonetheless, they are ingrained in individual behavior precisely because they are so useful. Whether the consumer is satisficing or, as I have suggested, optimizing a more limited range of opportunities, there is strong evidence that the process of judgment and choice is directly related to individual experience. Individuals develop internal rules and strategies to process information, to make appropriate judgments, and to engineer realistic choices. Changes in the environment are exogenous shocks that disrupt the internal structure of rules and norms that transform inputs to outputs. Thus, intervention to correct a market failure may have far more powerful secondary effects on consumer satisfaction than has been commonly acknowledged. In short, while the status quo may sometimes need to be changed, the social engineer must be sensitive to the damage that is likely to be caused to the mechanics by which individuals regulate their choices. In terms of the problem of information overload, for instance, while more disclosure may not be dysfunctional, changes in the methods or forms of disclosure may well have unintended effects that reduce the benefits of intervention.

Thus, I remain skeptical about the value of the cognitive illusion literature in guiding attempts at piecemeal optimization in market settings. Nonetheless, I do believe that by exploring the dynamics of human judgment and choice we can significantly advance our understanding of some basic legal institutions. Traditional choice theory overlooks many specific aspects of individual behavior. The social science research on individual decisionmaking and choice management is beginning to fill many of the gaps in our understanding. Armed with this new understanding, the legal analyst may be able to construct new and richer explanations of the nature and function of legal rules. I have suggested, for instance that a choice management analysis helps resolve some of the more vexing puzzles in labor law and secured financing, and also enriches our understanding of the existing patterns of promissory liability. In turn, these speculations may stimulate further analysis of the relevance of more complex theories of individual choice to legal policy.