Regret Theory - Explanation, Evaluation and Implications for the Law

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Recommended Citation

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This Note discusses regret theory, which offers an alternative explanation of rational behavior in risky or uncertain situations. Unlike traditional law and economics, which is based on expected utility theory, regret theory posits that individuals either rejoice or experience regret after making a decision, and that the anticipation of these feelings influences choices ex ante. In recent years, studies have shown the robustness of regret theory, particularly when individuals compare action to inaction, in disparate feedback environments, and when decisional agency is altered. These, and other factors, influence regret theory's impact on litigant behavior, as well as on the law of contracts, insurance, and torts.

We are all familiar with the would've, could've, and should've beens of life. Whether manifested in the pang of a poor decision or the feeling of an opportunity lost, regret is perhaps one of the most profound human emotions. The power of regret has attracted researchers who have studied its impact on decision making under risk or uncertainty.[1] These studies have spawned regret theory, which provides an alternative to the rational choice model of law and economics as a means of describing and predicting behavior.[2] Regret theory asserts two simple assumptions. First, once a decision is made people evaluate the outcome and feel regret if an alternative outcome would have led to a better result. Alternatively, a person rejoices if a different outcome would have made him worse off.[3] Second, regret theory states that people will

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1.   *E.g.*, David Bell, *Regret in Decision Making Under Uncertainty*, 30 OPERATIONS RES. 961, 961 (1982); Thomas Gilovich & Victoria Husted Medvec, *The Experience of Regret: What, When, and Why*, 102 PSYCHOL. REV. 379, 379 (1995); Graham Loomes & Robert Sugden, *Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty*, 92 ECON. J. 805, 805 (1982); Marcel Zeelenberg et al., *Consequences of Regret Aversion: Effects of Expected Feedback on Risky Decision Making*, 65 ORG. BEHAV. & HUM. PROCESSES 148, 150 (1996) [hereinafter Zeelenberg et al., *Consequences*];. The terms "risk" and "uncertainty" are often used interchangeably, but classical economics defines each in a slightly different manner. Under risk, the probability of an outcome is not certain but is knowable, while uncertainty describes the circumstance where the probabilities are not only indeterminate but also unknown to the actor. Carol A. Heimer, *Social Structure, Psychology, and the Estimation of Risk*, 14 ANN. REV. SOC. 491, 493 (1998).

2.   Bell, *supra* note 1, at 979; Loomes & Sugden, *supra* note 1, at 820.

3.   Loomes & Sugden, *supra* note 1, at 808.

anticipate these *ex post* feelings and shift their preferences *ex ante*. Regret theory enriches traditional law and economics and offers important lessons for lawyers, judges and policy makers.

Any first year law student can attest to the dominance of law and economics in legal education and scholarship.[4] From property to torts, law and economics has changed not only the course of study for law students, but has altered the way we analyze and view the American legal system. As a result, it surprises many people to learn that the central tenets of law and economics have been under attack since the 1950s.[5] First economists, and later cognitive psychologists, offered convincing critiques of rational choice theory.[6] These scholars attempted to explain the systematic failure of rational choice theory to accurately describe or predict human decision making under risk or uncertainty.[7] In the early 1980s, regret theory entered this debate. Two British economists,[8] Graham Loomes and Robert Sugden, developed the theory independently from David Bell, a Harvard-based economics scholar.[9] While the two studies contained some minor differences, both proposed regret theory as an alternative to expected utility for evaluating rational behavior.[10]

Today, many legal scholars continue to search for lessons from economics and the social sciences to further our understanding of how the law reflects, and influences, human behavior. This Note draws on the discipline of regret theory and analyzes the role the theory plays in legal thought. Part I introduces traditional law and economics and describes how cognitive psychology, in the form of the behavioral law and economics movement, has critiqued the standard law and economics model in a manner similar, as well as different, from regret theory. Part II introduces regret theory and

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    4.   Indeed many leading first year case books employ economics as an analytical tool to aid in the study of the respective subject. *See, e.g.,* JESSE DUKEMINIER & JAMES KRIER, PROPERTY 47 (4th ed. 1998).
    5.   Colin Camerer, *Individual Decision Making, in* HANDBOOK OF EXPERIMENTAL ECONOMICS 587, 617–621 (John Kagel & Alvin Roth eds., Princeton University Press 1995).
    6.   *Id.* Expected utility theory states that when facing an uncertain choice, a rational actor weighs the costs and benefits of each choice and selects the one that best furthers her preferences. Expected utility is a critical element of economists' formulation of a rational choice. Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051, 1063 (2000); *see also* Christine Jolls, Cass R. Sunstein & Richard H. Thaler, *A Behavioral Approach to Law and Economics, in* BEHAVIORAL LAW & ECONOMICS 13, 13–14 (Cass R. Sunstein ed., 2000).
    7.   Korobkin & Ulen, *supra* note 6, at 1063.
    8.   Loomes & Sugden, *supra* note 1, at 805.
    9.   Bell, *supra* note 1, at 961.
    10.   *Id.*; Loomes & Sugden, *supra* note 1, at 822.

discusses subsequent refinements to the theory. Part III examines regret theory's legal implications and emphasizes regret theory's relationship to contract formation, litigation behavior, tort and insurance law. Part IV concludes by underscoring potential legal reforms implicated by an enhanced understanding of regret theory.

PART I—LAYING THE FOUNDATIONS:
THEORETICAL CRITIQUE OF TRADITIONAL
LAW AND ECONOMICS

Economic analysis assumes that people are rational actors.[11] From this simple yet important premise, legal economists attempt to describe human interactions and prescribe rules to influence behavior. Supporters of law and economics assert that many legal rules at the heart of the common law system have economic underpinnings that promote rational behavior and efficiency.[12] Thus, in its prescriptive form, law and economics seeks to provide incentives for people to behave in a manner that promotes efficiency. For example, the economics of tort law forces tortfeasors to bear the cost of their risky behavior, thereby deterring others from committing similar tortious acts in the future.[13] Law and economics counsels against *over*-deterring drivers, for example, which would result in a decline in the activity, and encourages the crafting of laws that reduce net costs to society.[14]

The importance of rationality to economic analysis inevitably leads one to ask, what does it mean to be a rational actor? Law and economics defines rationality via the axioms drawn from the writings of the Swiss economists von Neumann and Morgenstern[15]— commensurability, transitivity, invariance, cancellation and dominance.[16] A rational actor must comply with all five axioms, but

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    11.   RICHARD A. POSNER, ECONOMIC ANALYSIS OF THE LAW 4–5 (4th ed. 1992).
    12.   POSNER, *supra* note 11, at 23.
    13.   *Id.* at 24.
    14.   *See* Guido Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 YALE L.J. 499, 517–19 (1961).
    15.   Camerer, *supra* note 5, at 619.
    16.   Korobkin & Ulen, *supra* note 6, at 1064. Initially, scholars extrapolated three axioms from von Neumann and Morgenstern's work. For the purposes of this Note I list the five detailed in the Korobkin and Ulen article, with a special emphasis on transitivity and invariance. Transitivity and invariance are defined in the above text. The commensurability axiom states that actors should be able to compare the utility of one choice with that of another. Cancellation requires that an individual's choices not rest on identical features of

transitivity and invariance are the most critical to define for the purposes of this Note.[17] The transitivity axiom states that if a person prefers choice A to choice B, and choice B to choice C, she will prefer choice A to choice C.[18] Economic analysis also assumes that preferences are invariant. Thus, if I prefer choice A to choice B, this preference should remain constant, no matter how the choice is presented or framed in the future.[19] These assumptions of rationality are critical to the theory of law and economics because legal economists craft incentive structures based on the belief that people are rational actors, i.e., they do not violate the axioms of expected utility.[20] In contrast, regret theory maintains that while people systematically violate the transitivity axiom, this behavior is entirely rational because they are responding to the anticipation of *ex post* regret.[21]

As early as the mid-1950s the French economist, Maurice Allais, published a critique of von Neumann and Morgenstern's axioms.[22] His famous "paradoxes" identified situations where actors systematically violated the assumptions of rationality and did not act as expected utility maximizers.[23] Throughout the ensuing decades, scholars and researchers expanded Monsieur Allias' paradoxes

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different options. Dominance states that an actor should never choose an option whose features are as good as another option and where at least one feature is less good. The Korobkin and Ulen paper also provides an excellent overview of the theoretical underpinnings of law and economics, as well as a thoughtful evaluation of the relationship between cognitive biases and economic theory.

17.   The axioms that describe a rational actor in effect also illustrate a person who, based on his preferences, is seeking to maximize utility. *See id.*

18.   *Id.*

19.   *Id.*

20.   However, scholars still debate the precise definition of a rational actor. "A person might be deemed rational if her behavior (1) conforms to the axioms of expected utility theory; (2) is responsive to incentives, that is, if the actor changes her behavior when the costs and benefits are altered; (3) is internally consistent; (4) promotes her own welfare; or (5) is effective in achieving her goals, whatever the relationship between these goals and her actual welfare." Jolls et al., *supra* note 6, at 20. The authors note research that has demonstrated individuals violate each of these definitions.

21.   Classical regret theory retained the invariance axiom from expected utility theory, but subsequent studies have demonstrated that the presentation of a choice can impact the level of anticipated regret and thus alter the predictions of the theory. Loomes & Sugden, *supra* note 1, at 808. The findings of the studies on invariance and regret are discussed in Part II of this Note.

22.   Maurice Allais, *Le Comportment de l'Homme Rationnel devant le Risque: Critique des Postulates et Axiomes de l'Ecole Americaine*, 21 ECONOMETRICA 503, 546 (1953); *see* Camerer, *supra* note 5, at 622.

23.   Camerer, *supra* note 5, at 623.

into a generalized critique of rational choice theory, while simulta-
neously developing competing theories of human behavior.[24]

In the late 1970s, cognitive psychologists began to challenge the
assumptions of expected utility theory. These studies indicated that
preferences are often intransitive and variant—that, for example,
simply phrasing the choice in a different manner may alter an in-
dividual's selection and that sometimes an individual's preference
may be: A > B > C, but A < C.[25] Most prominently, two Israeli psy-
chologists, Daniel Kahneman and Amos Tversky, developed
prospect theory as an alternative to expected utility theory.[26] Rely-
ing on empirical data, prospect theory boldly countered expected
utility theory's central assumptions. First, it stated that people
evaluate choices as either losses or gains from a fixed point. Sec-
ond, it stated that while actors are risk averse to gains they are risk
seeking to losses.[27] Kahneman and Tversky's work lays the founda-
tion and provides support for one of the principal corollaries of
regret theory—that the fear of regret (a loss) looms larger than the
anticipation of the gains associated with rejoicing.

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24.   *See, e.g.*, Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q.J. ECON. 99
(1955).

25.   Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under
Risk*, 47 ECONOMETRICA 263, 269 (1979). In 2002, Daniel Kahneman won one-half of the
Nobel Prize in Economics "for having integrated insights from psychological research into
economic science, especially concerning human judgment and decision-making under un-
certainty." Nobel Foundation, The Bank of Sweden Prize in Economic Sciences in Memory
of Alfred Nobel 2002 *at* http://www.nobel.se/economics/laureates/2002/index.html (last
modified Oct. 9, 2002). Daniel Kahneman's long time research partner, Amos Tversky, died
of cancer in 1996 at the age of 59. The Nobel committee does not award Prizes posthu-
mously. For a brief biography of Amos Tversky, *see* Senate of the Academic Council, Stanford
University, Memorial Resolution: Amos Tversky (1937–1996), http://www.stanford.edu/
dept/facultysenate/archive/1997_1998/reports/105949/106013.html (last visited Nov. 23,
2003) (on file with the *Michigan Journal of Law Reform*).

26.   *Id.* at 268. Prospect theory maintains that people are risk averse to gains. As a re-
sult, people will choose a sure gain of $90 over the chance to flip a coin for $200 (or $0).
The sure $90 is chosen even though flipping the coin has an expected utility of $100. Con-
versely, people are risk seeking to losses. They prefer the riskier choice to the sure loss.
Prospect theory predicts that a person choosing between a sure loss of $90 and the chance
to flip for a loss of $200 (or $0) will choose to flip. This risk preference demonstrates that
losses loom larger than gains. *See* Daniel Kahneman & Amos Tversky, *Choices, Values, and
Frames*, 39 AM. PSYCHOLOGIST 341, 343 (1984)[hereinafter Kahneman & Tversky, *Choices*].
Kahneman and Tversky's study also shows that the presentation of a choice affects decisions.
Choices merely framed as a loss induced risk-seeking behavior, while decisions couched as
gains promoted risk aversion. While not initially predicted for regret theory, scholars have
identified powerful framing effects that can manipulate the anticipation of *ex post* regret.
Understanding how regret theory builds on the foundations laid by both economics and
cognitive psychology increases its descriptive power as well as its relevance to the law.

27.   Kahneman & Tversky, *Choices, supra* note 26, at 343.

Inspired by the observations of cognitive psychology, a number of legal scholars—now dubbed the behavioral law and economics movement—have applied elements of prospect theory to the law in an effort to refine the traditional law and economics model of decision making.[28] In addition to the risk preferences identified by prospect theory, behavioral law and economics has focused its attention on a series of cognitive biases and decision-making heuristics. These heuristics, or rules of thumb, are mental shortcuts that people use to process information and make decisions under uncertainty.[29] Heuristics often help us make decisions quickly and efficiently, but on other occasions they may lead to systematic errors in decision making.[30] For example, certain biases cause individuals to systematically overestimate small probabilities, and underestimate high probability events, while others predict a strong preference for the status quo.[31] These biases, in conjunction with prospect theory, form the foundation for the behavioral critique of traditional law and economics. As described in the following sections, regret theory shares some characteristics with the behavioral school while offering its own powerful critique of law and economics.

PART II—INTRODUCING THE THEORY

Like behavioral law and economics, regret theory offers an alternative to the traditional expected utility model of decision making.[32] Regret theory, however, offers a different critique from an analysis of cognitive biases. Regret theory is an alternative means of describing *rational* behavior. As described above, regret theory rests on two simple assertions. First, once a decision is made people evaluate the outcome and feel regret if an alternative outcome would have led to a better result. Alternatively, a person

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28.   Jolls et al., *supra* note 6, at 13–14; *see, e.g.,* Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation,* 70 S. CAL. L. REV. 113, 117 (1996).

29.   Jolls et al., *supra* note 6, at 15.

30.   Cass R. Sunstein, *Introduction* to BEHAVIORAL LAW & ECONOMICS 4, 5 (Cass R. Sunstein ed., 2000). For example, the availability heuristic tends to cause individuals "to think that risks are more serious when an incident is readily called to mind or 'available.'" *Id.* Often this mental short cut will help people avoid dangerous activities, but it may also lead to inaccurate assessment of risk. In his article, Professor Sunstein offers a comprehensive list of cognitive biases and heuristics while also explaining their application to the law.

31.   *Id.* While this Note is related to behavioralism, regret theory is not a cognitive bias. For that reason I will only discuss those biases that directly impact regret theory.

32.   *See* Bell, *supra* note 1, at 962.

rejoices if a different outcome would have made him worse off.[33] Second, regret theory states that people will anticipate these *ex post* feelings and shift their preferences *ex ante*.[34] Additional studies have indicated that *regret aversion* exists because, like losses versus gains, regret looms larger than rejoicing.[35]

Regret theory thus differs from expected utility in an important respect. Expected utility assumes that the value of separate outcomes will be calculated independently. Regret theory posits "that the value of a given option is a function not only of its own outcomes but also of how its outcomes compare to the outcomes of possible alternatives."[36] Choices examined under regret theory are not independent at all, but rather are determined in relationship to one another. Given uncertainty, this results in a calculation of "modified utility" by the decision maker. Modified utility represents expected utility, plus or minus the anticipation of regret or rejoicing.[37] Regret represents a premium that must be overcome to reach a decision consistent with expected utility theory.[38]

A. Action v. Inaction

Based on the initial findings of regret theory researchers sought to investigate regret's relationship to action and inaction. Interestingly, the majority of studies have found that action is regretted more often than inaction.[39] Kahneman and Tversky demonstrated this hypothesis with their famous investor problem. In the problem, experimental subjects were told about two investors, Mr. Paul and Mr. George. Mr. Paul owned stock in Company A. The subjects were informed that he considered switching to Company B, but

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33.   Loomes & Sugden, *supra* note 1, at 808.

34.   *See* Marcel Zeelenberg & Jane Beattie, *Consequences of Regret Aversion 2: Additional Evidence for Effects of Feedback on Decision Making*, 72 ORG. BEHAV. & HUM. DECISION PROCESSES 63, 71 (1997).

35.   Richard P. Larrick & Terry L. Boles, *Avoiding Regret in Decisions with Feedback: A Negotiation Example*, 63 ORG. BEHAV. & HUM. DECISION PROCESSES 87, 91 (1995).

36.   *Id.* at 87 n.1.

37.   *See* Loomes & Sugden, *supra* note 1, at 808. *But see* Lisa D. Ordonez & Terry Connolly, *Regret and Responsibility: A Reply to Zeelenberg et al.*, 81 ORG. BEHAV. & HUM. DECISION PROCESSES 132, 140 (2000).

38.   *See* Bell, *supra* note 1, at 961.

39.   Daniel Kahneman & Amos Tversky, *The Simulation Heuristic*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 201 (Kahnman & Tversky eds., 1982)[hereinafter Kahneman & Tversky, *Simulation*]; Marcel Zeelenberg et al., *Reconsidering the Relation Between Regret and Responsibility*, 74 ORG. BEHAV. & HUM. DECISION PROCESSES 254, 267 (1998).

elected not to do so. He later learned that he would have gained $1200 had he made the switch. Mr. George owned stock in Company B and he did switch to Company A. As a result he lost $1200 because he sold B and bought A. Over 90% of the subjects responded that Mr. George would feel more regret.[40]

The distinction between action and inaction highlights the importance of the status quo to regret theory.[41] People may be reluctant to depart from the status quo due to regret aversion associated with actions. Combined with the knowledge that regret looms larger than rejoicing, regret associated with action may give rise to a substantial premium.[42] An individual must overcome this premium in order to deviate from the status quo. As discussed in Part III, an awareness of regret's relationship to the status quo can aid policy makers in a variety of legal disciplines, particularly in establishing the appropriate level of care in tort and insurance law.

B. Relevance of Decision Agency

Research indicates that the amount of regret people anticipate varies depending on *who* makes the decision. Several recent studies have demonstrated that subjects feel more regret when they make a decision for themselves than when the choice is made by another or occurs randomly.[43] A simple experiment with three scenarios illustrates this result.[44] In the first, a college student switches lectures and subsequently received a poor grade. A second student also switches lectures and received a poor mark, but his exchange is mandated by the university computer and was entirely random. The third student does not change lectures and also receives a low score. Ordonez and Connolly found that the subjects produced responses indicating that the student who made the decision her-

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40.   Russell Korobkin, *Inertia and Preference in Contract Negotiation: The Psychological Power of Default Rules and Form Terms*, 51 VAND. L. REV. 1583, 1613 (1998) (citing Kahneman & Tversky, *Simulation, supra* note 39).

41.   Russell Korobkin, *Behavioral Economics, Contract Formation, and Contract Law, in* BEHAVIORAL LAW & ECONOMICS 116, 133 (Cass R. Sunstein ed., 2000)[hereinafter Korobkin, *Behavioral Economics*].

42.   Larrick & Boles, *supra* note 35, at 95. In the context of a negotiation problem, subjects demonstrated a regret premium of 10%. This figure represents the amount of money the subjects were willing to forego to avoid learning the result of an alternative choice, thereby shielding them from the possibility of regret.

43.   Zeelenberg et al., *Consequences, supra* note 1, at 268; Ordonez & Connolly, *supra* note 37, at 140.

44.   Ordonez & Connolly, *supra* note 37, at 136.

self felt more regret than the random assignee or the student who did not change classes.[45]

This finding illustrates the relevance of decision agency to regret theory. The greater one's decisional responsibility, the more regret one may anticipate. The relationship between action and decisional agency can also have important implications for policy makers trying to encourage certain behavior. As discussed in Part III, insurance may act as a means of delegating responsibility for a choice by shifting responsibility for the choice to others, thus allowing people to move off the status quo. An individual still anticipates regret via delegation, but to a lesser degree as compared to making the decision for herself.[46]

Other studies reveal that the level of anticipated regret may vary amongst individuals.[47] People with lower self-esteem may experience heightened levels of anticipated regret.[48] This leads to greater regret aversion, which translates into an increased status quo bias. If correct, this finding appears to impact the prescriptive value of regret theory. If people do not view regret in the same manner, it is difficult to make accurate and society-wide predictions about behavior.[49]

However, this is true of all the biases identified by cognitive psychology. People are systematically overconfident, but the amount of over-optimism varies with the individual.[50] This does not mean we cannot make predictions about behavior. Cognitive biases, as well as the rational actor model, present a generalized view of human decision making that may or may not be true on the individual level. The same is true of regret theory. Additionally, it is helpful to identify portions of the populace who perceive greater or lesser regret and to design rules that reflect these differences. For example, it appears logical that NASCAR drivers perceive regret (and thus risk) in an entirely different manner from patients

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45.   *Id.* at 139.

46.   *Id.*

47.   Robert A. Josephs et al., *Protecting the Self From the Negative Consequences of Risky Decisions*, 62 J. PERSONALITY & SOC. PSYCHOL. 26, 33 (1992).

48.   *Id.* at 33.

49.   *See* David W. Harless, *Actions versus Prospects: The Effect of Problem Representation on Regret*, 82 AM. ECON. REV. 634, 646 (1992).

50.   Korobkin & Ulen, *supra* note 6, at 1087; Donald C. Langevoort, *Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Overview*, 51 VAND. L. REV. 1499, 1520 (1998).

suffering from clinical depression. Awareness of these differences can lead to more nuanced and effective policy making.[51]

C. The Role of Feedback

Perhaps the most significant advance in our understanding of regret theory has come from examining the role of feedback in the decision-making process.[52] Simply put, the anticipation of feedback can manipulate the level of regret *and* risk aversion in individuals. Larrick and Boles demonstrated this effect by describing choices associated with a coin toss.[53] Two choices were presented. Choice A represented a guaranteed $90 with no flip of the coin. Choice B offered the chance to flip a coin for $200 (or $0). Choice A offered a certain payoff of $90 (for just showing up) while choice B required guessing correctly on the coin flip, but offered a higher expected reward of $100.[54] More people selected A than predicted by expected utility when they were told that the coin would be flipped *only* if they selected option B.[55] Picking the sure thing shielded the subject from receiving the possible negative feedback from the flip. In this instance, the road to less regret ran by way of risk aversion.[56] Additionally, because regret looms larger than rejoicing, regret aversion trumps any rejoicing the subject might feel from discovering he would have lost had the coin been tossed.[57]

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51.   Zeelenberg et al., *Consequences, supra* note 1, at 156; Zeelenberg & Beattie, *supra* note 34, at 71. Zeelenberg's study found increased regret avoidance amongst individuals who recently experienced regret. This heightened regret premium manifested itself in both increased risk aversion and risk seeking, depending on feedback, for decisions associated with the ultimatum game. *See also* Kenneth Savitsky et al., *Remembering and Regretting: The Zeigarnik Effect and the Cognitive Availability of Regrettable Actions and Inactions,* 23 PERSONALITY & SOC. PSYCHOL. BULL. 248, 248 (1997).

52.   Savitsky et al., *supra* note 51.

53.   Larrick & Boles, *supra* note 35, at 88.

54.   Calculating the expected value of choice A is a straightforward multiplication of $90 and 1, which is the probability that the event will occur. B's expected value is calculated by multiplying the possible payoff ($200) by the probability the correct side of the coin is chosen (.5).

55.   Larrick & Boles, *supra* note 35, at 88.

56.   *Id.* The results demonstrate risk aversion because the majority of participants chose the certain $90 benefit over the opportunity to flip for $200 with its accompanying higher expected value of $100. In an experiment involving feedback and negotiation subjects demonstrated a similar regret premium of 10%, which reflected the amount of wealth the people were willing to forego to avoid the possibility of regret.

57.   *Id.*

In a second scenario, people were told that the coin *would* be flipped even if they chose the sure $90 of choice A. As a result, 50% of the time subjects would learn they were worse off than if they had selected B. Under this scenario, risk aversion may lead to *ex post* regret. As a result, the subjects demonstrated increased risk neutrality and exhibited a lower preference for the sure thing.[58] Larrick and Boles understood the difference in the "degree of risk aversion in these two feedback environments as a measure of regret aversion."[59]

Larrick and Boles demonstrated that manipulating the level of expected *ex post* feedback changes the *ex ante* anticipation of regret, which in turn impacts the risk calculus. This finding represents a potentially significant refinement of regret theory and indicates several uses for policy makers and legal scholars. By controlling the flow of information in a manner to highlight certain outcomes over others, courts and bureaucracies can alter the risk assessment of individuals.[60] This point is more fully understood when regret theory is evaluated in conjunction with some of the biases and heuristics discussed in the literature of cognitive psychology.[61]

D. Regret Theory and Cognitive Biases

The supporters of regret theory offer it as an alternative to expected utility and the rational actor model. This assertion begs the

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58.   *Id.*

59.   *Id.* Larrick and Boles' study is related to business negotiations. They found that when coming to an agreement shielding parties from feedback the parties were much more willing to agree than when feedback was equally likely from agreeing or disagreeing on a particular element of a business deal. The coin flip is an extrapolation of this negotiation model. Larrick and Boles determined that the subjects in the negotiation study required a regret premium of 10% to reach a decision consistent with expected utility. How generalized this figure is in other circumstances is unclear. It is conceivable that the regret premium may fluctuate in varying degrees between individuals, circumstances and probabilities.

60.   The Larrick and Boles study demonstrated how regret aversion might lead to risk-averse selections. Zeelenberg and Beattie have shown that manipulating the level of expected feedback tends to make subjects regret minimizers rather than risk minimizers. Subjects select relatively higher risk gambles when the amount of expected feedback indicates that choice would lead to less regret. The authors indicated that risk aversion and regret aversion converge when one of the choices offered is a certain payoff. However, in life few decisions represent a choice between a sure thing and a gamble, but rather between two gambles with different probabilities. Under these conditions, a majority of subjects would select the relatively riskier choice if they believed they would later learn the outcome. These studies demonstrate this result for both gains and losses. Zeelenberg & Beattie, *supra* note 34, at 76.

61.   *See supra* note 28 and accompanying text.

question: do the biases identified by cognitive psychology also im-
pact regret theory? The simple answer is a fairly emphatic "yes."
Which biases, and to what degree, present the more interesting
questions for legal scholars and policy makers.

"Classical" regret theory explains violations of transitivity, but re-
tains the invariance axiom from expected utility.[62] Preferences
modified by regret theory should not depend on how the choice is
presented or structured, i.e., regret theory should not be vulner-
able to the framing effect described by Kahneman and Tversky.[63]
Recent studies appear to refute this assertion. Several experiments
indicate that regret theory is actually highly context dependent.[64]
The ability of subjects to compare alternative outcomes plays a par-
ticularly significant role in shaping the influence of regret in
decision making.[65]

By altering the presentation of information, David Harless
successfully manipulated regret effects involving lotteries. He found
regret increased the more the problem's framing encouraged
subjects to juxtapose both choices and outcomes.[66] Regret effects
significantly declined when the context made it difficult for subjects
to make such comparisons. Harless stated that these results
"suggest[ ] a more severe limitation on the scope of regret
theory."[67]

The results of his study appear to bolster Harless' assessment of
the probable scope of regret theory. If framing dramatically alters
the effects predicted by the theory, regret may also be vulnerable to
a host of other cognitive biases.[68] There has been little research in
this area, but anecdotal observations appear to support the notion
that biases, such as anchoring and availability, may impact the pre-
dictions of regret theory.

The anchoring bias suggests that people make judgments based
on an initial value, or anchor level. The arbitrariness of this value

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62.   Loomes & Sugden, *supra* note 1, at 810.
63.   Kahneman & Tversky, *Simulation, supra* note 39, at 289.
64.   Harless, *supra* note 49, at 646; Chris Starmer & Robert Sugden, *Probability and Jux-
taposition Effects: An Experimental Investigation of the Common Ratio Effect,* 2 J. RISK &
UNCERTAINTY 159, 175 (1989).
65.   Starmer & Sugden, *supra* note 64, at 171.
66.   Harless, *supra* note 49, at 647.
67.   *Id.* at 646. I have some reservations about Harless' study. After completing his
problems myself I found the presentation a bit confusing. The enhanced regret effects he
found with greater ease of juxtaposition may have resulted from clearer descriptions. While
this is an example of a problem's presentation affecting subsequent choices it is not the
framing effect identified by Kahneman and Tversky. Framing occurs because actors perceive
losses and gains differently, not out of confusion over a choice's actual meaning.
68.   *Id.* at 643.

leads to malassessments of probabilities.[69] The importance of the status quo in regret theory indicates that anchoring might play a critical role in determining the fixture of the initial value. Because action is regretted more than inaction, people must overcome a regret premium to move off the status quo. If anchoring establishes the status quo in an arbitrary manner, it can distort a person's perception of the outcomes and probabilities she faces.

In addition, the availability bias may alter the level of anticipated regret.[70] The recent terrorist attacks offer an anecdotal example. A family friend wanted her brother to come home from college over the 2001 Thanksgiving holiday. She initially offered to pay for his plane ticket, but because of her fears about the safety of flying after September 11, 2001, she instead instructed him to rent a car in order to make the drive from Palo Alto to Los Angeles. When asked why she changed her mind, she explained that she would not have been able to live with herself had anything happened to her brother's flight. While not dispositive by any means, this example illustrates that the woman's level of anticipated regret associated with flying was altered by the events of September 11, 2001. Comparing two choices, she opted for her brother to take the more dangerous option.[71] Even after the terrorist attacks, it is statistically safer to fly rather than drive on America's highways.

It is possible that prospect theory explains this choice as well. Kahneman and Tversky observed that people systematically overestimate small probabilities while underestimating high probabilities.[72] A person overestimating the risk of flying while discounting the chance of dying in a car accident illustrates this bias. However, regret theory may better explain the outcome. It is possible that her regret premium associated with flying, amplified by the availability bias, altered her risk assessment and her ultimate decision.

The interaction between regret theory and the cognitive biases described above does call into question the theory's viability as a

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69.   Sunstein, *supra* note 30, at 5.

70.   *Id.* Also called salience, the availability bias describes how "people tend to think that risks are more serious when an incident is readily called to mind or available." Availability is heightened by news reports or events from an individual's own life. This skews risk assessments and causes people to believe that the risk of dying in a plane crash (a relatively lower risk) is greater than dying in a car accident.

71.   The chances of dying in a car accident are about 1 in 18,752, while the risk of perishing in a plane crash is roughly 1 in 381,566. National Safety Council, *What Are the Odds of Dying?* (October 3, 2002), *at* http://www.nsc.org/lrs/statinfo/odds.htm (last visited Nov. 23, 2002) (on file with the *Michigan Journal of Law Reform*).

72.   Sunstein, *supra* note 30, at 4. The overestimation of smaller risks and the underestimation of greater risks is a central tenet of prospect theory.

replacement for expected utility. However, regret theory was not modeled as a replacement for expected utility, but as an *alternative* expression of rational choice.[73] Indeed, regret is a theory of modified utility—the expected utility of a choice, plus or minus anticipated regret or rejoicing. Additional research is required to achieve a better understanding of the interplay between cognitive biases and regret theory. Yet, acknowledging that context matters—that regret effects can be altered based on the ease of juxtaposition, the availability of the risk, and the presence of an anchoring value—has varied and powerful implications for the legal world.

PART III—IMPLICATIONS FOR THE LAW

While some scholars have questioned the reach of regret theory, this Note has shown that several studies have enhanced its value as a theory of decision making under risk and uncertainty, by considering the function of the status quo, agency and feedback.[74] However, subsequent studies have added to "classical" regret theory and enhanced its value as a theory of decision making under risk and uncertainty by considering the function of the status quo, agency and feedback. A wide variety of disciplines have utilized these findings and employed them to advocate changes in social policy. From improving driving behavior, to promoting safe sex amongst teenagers, students of regret theory have demonstrated a high level of achievement in using the theory to describe and influence decisions.[75] This same success may be replicated in the legal world. In the last several years, various scholars have begun to explore regret's relationship to contract formation[76] and the settlement behavior of litigants.[77] The following section also explores the relationship between regret theory and insurance and considers the problem of AIDs to highlight the manner in which regret theory applies to risks associated with bilateral interactions.

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73.   Loomes & Sugden, *supra* note 1, at 822.
74.   *See, e.g.*, Harless, *supra* note 49, at 647.
75.   Chris Guthrie, *Better Settle Than Sorry: The Regret Aversion Theory of Litigation Behavior*, 1999 U. ILL. L. REV. 43, 71; Joop van der Pligt & Rene Richard, *Changing Adolescents' Sexual Behavior: Perceived Risk, Self-Efficacy and Anticipated Regret*, 23 PATIENT EDUC. & COUNSELING 187, 192 (1993).
76.   Korobkin, *Behavioral Economics, supra* note 41, at 116.
77.   Guthrie, *supra* note 75, at 72.

A. Contracts

The role of regret in contracts is similar to its involvement in the coin flip problem discussed in Part II. In that study, participants were more likely to choose the sure $90 when they were told they would not learn the outcome of the coin flip, thus avoiding the prospect of learning that the toss would have netted them $100. When parties negotiate a contract they often face the choice of applying standard language or bargaining for specific terms. Employing standard language is analogous to the less risky choice of not flipping the coin because the outcomes produced by the use of boilerplate contract language are far more certain than when the parties insert bargained for provisions. Regret theory predicts that for the parties to select the bargained-for terms they must overcome the premium associated with the dickered clauses.[78] Standard terms, while not a sure thing, are far more certain than the possibilities related to applying shaped language. As a result, if the negotiator agrees to contract around the default language she may demand a premium to overcome her anticipated regret.[79] This premium is enhanced because bargaining for terms is an action that departs from the status quo. Thus, parties that seek to replace standard terms with bargained-for provisions must provide additional compensation to overcome the adverse party's regret premium, which increases with negotiation.[80]

Divergent feedback environments also explain the preference for standard terms.[81] If a party agrees to the standard language it is unlikely that he will ever discover how he would have faired under the negotiated terms, but he will have a good sense of the legal and business implications of applying boilerplate language.[82] In this feedback environment, where one choice is far more certain than the other, regret theory predicts that an actor will choose the certain choice if that selection better shields him from the prospect of facing *ex post* regret.[83] Research on the subject supports

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78.   Korobkin, *Behavioral Economics, supra* note 41, at 130.

79.   *Id.*

80.   *See id.* at 134–35.

81.   Zeelenberg et al., *Consequences, supra* note 1, at 156.

82.   Due to the number of variables at play in even the most routine contracts, it is difficult for an actor to state with any certainty how the final content of the bargained-for terms influenced the outcome as well as how the *ex-post* circumstances were altered by the boilerplate clauses.

83.   Zeelenberg et al., *Consequences, supra* note 1, at 150. Some choices in life do not come with the possibility of shielding one's self from *ex post* regret. Whether betting on a

this contention.[84] Thus, the feedback environment created in the context of bilateral contract negotiations provides parties with an incentive to choose the certainty of the status quo. By selecting default rules the actor limits the possibility he will learn the outcome of the forgone alternative *ex post,* thus anticipating the lower regret associated with the status quo.

These assertions provide important lessons for policy makers. First, they underscore the importance of default rules. The unwillingness of parties to contract out of default rules because of regret aversion places a premium on crafting efficient baseline regulations.[85] Second, regret theory asserts a contrary position to traditional law and economics in the area of contract formation.[86] Assuming low transaction costs and symmetric information, law and economics maintains that parties achieve the most efficient outcome by selecting a standard term in lieu of bargaining.[87] Regret theory suggests that the most efficient outcome may not be achieved because a portion of the surplus was consumed by anticipated regret, which made acting more costly than standing pat. Further, if parties do bargain for a specific term, it may have a greater value than predicted by law and economics because expected utility fails to calculate the regret premium the parties pay to depart from the standard language.[88]

B. Litigation Behavior

Regret theory also provides a unique lens for investigating the settlement behavior of litigants. Again, the coin flip is a useful analogy. Regret theory asserts that plaintiffs may be more likely to accept the certainty of a settlement over the uncertainty of trial, even where the expected outcome of a judgment is higher than the settlement offer.[89] The role of feedback is critical. Settlement offers

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sports team or choosing between two stocks, it will be possible for the individual to learn the outcome of the foregone alternative. In these environments, feedback does not play a major role in altering an actor's level of anticipated regret.

    84.   *See* Korobkin, *Behavioral Economics, supra* note 41, at 131.

    85.   *See id.* at 137.

    86.   *Id.*

    87.   *Id.* Accordingly, law and economics argues that courts should respect these standard terms because enforcing the parties' choice promotes efficiency.

    88.   *Id.* at 139.

    89.   *See* Guthrie, *supra* note 75, at 77–78. The difference between the plaintiff's settlement offer and a higher verdict thus falls within the litigant's regret premium. In order to go to trial a plaintiff must believe the expected value of a jury verdict is greater than the

the prospect of avoiding the feedback of a trial, just as selecting the certain outcome ensures no flip of the coin.[90] This prediction stands in stark contrast to the dominant models of litigation: the economic model of suit and settlement and the framing theory of litigation.[91]

Expected utility theory states that litigants weigh the costs and benefits of settling versus litigating and select the option that offers the highest anticipated return.[92] Settlement fails to occur only when either party overestimates his chances for success at trial. The framing theory is distinct from the law and economics model. Modeled on prospect theory, the framing model predicts that plaintiffs are risk averse and are more apt to settle because they view litigation as a gain, whereas defendants perceive suits as a loss and are more likely to pursue the riskier choice of going to trial.[93]

Compare these hypotheses with the outcome of a study that tested the predictions of regret theory by placing hypothetical

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defendant's final settlement offer plus the regret premium associated with the failure to settle.

90.   See Larrick & Boles, *supra* note 35, at 88, and accompanying text.

91.   See Guthrie, *supra* note 75, at 54. The law and economics theory of suit and settlement posits that, "litigants compare the value of settlement to the expected value of trial and select whichever of the options promises more value." *Id.* at 47. Because pursuing a civil suit to trial often costs more than settling, the economic model predicts that most suits will settle out of court. *See also* Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LITERATURE 1067 (1989); Samuel R. Gross & Kent D. Syverud, *Getting to No: A Study of Settlement Negotiations and the Selection of Cases for Trial*, 90 MICH. L. REV. 319, 324 (1991). The framing theory, modeled on prospect theory, asserts that litigants evaluate their position from a fixed point. From this position, litigants are risk averse to choices framed as gains and risk seeking to prospects presented as losses. The theory maintains that plaintiffs view suits as a gain and are generally risk averse, whereas defendants perceive litigation as a loss and exhibit risk-seeking behavior when deciding whether to settle or proceed to trial.

92.   Guthrie, *supra* note 75, at 54; *see also* Rachlinski, *supra* note 28, at 120. This theory of suit and settlement is intended to address all costs and benefits, including attorney's fees and punitive damages.

93.   See Rachlinski, *supra* note 28, at 128. Jeffrey Rachlinski principally developed this model in his work on litigation behavior. While incorporating some experimental evidence, the paper is most noted for its review of the decisions made by actual litigants. In his article, Rachlinski evaluated 722 civil cases in the California counties of San Francisco, San Mateo and Santa Clara between 1981 and 1988. Rachlinski contends that results of this survey indicate that plaintiffs view the proceeds of litigation as a gain. As a result, plaintiffs were more likely to settle. Defendants, framing litigation as a loss, demonstrated risk-seeking behavior and thus offered lower settlement figures because they were content to go to trial. This Note argues that Rachlinski's data is also consistent with the predictions of regret theory. *See also* Edward J. McCaffery, Daniel J. Kahneman,& Matthew L. Spitzer, *Framing the Jury: Cognitive Perspectives on Pain and Suffering Awards*, 81 VA. L. REV. 1341, 1348 (1995); Frank B. Cross, *In Praise of Irrational Plaintiffs*, 86 CORNELL L. REV. 1, 16 (2000).

litigants into two mythical jurisdictions.[94] In the traditional jurisdiction subjects would not discover the outcome of the case if they settled. In contrast, in the "regret jurisdiction," judges (acting in the stead of juries) pronounced a judgment even if the parties settled. The great majority of moot plaintiffs in the traditional jurisdiction selected the sure payoff of a settlement because that choice shielded them from learning of the result at trial—and the prospect of experiencing *ex post* regret associated with a lesser judgment by proceeding to a jury verdict. In the regret jurisdiction, the certainty of settlement no longer protected the litigants from the negative feedback of a trial and, as expected, a much greater number proceeded to trial.[95] Subjects were much more likely to settle in the traditional jurisdiction, thus avoiding the possible regret associated with receiving a lesser judgment at trial. The outcome of the study contravened the prediction of both the economic and framing models.[96] Because the settlement offers equaled the expected value of an award at trial, the subjects should not have pronounced a preference for settling or litigating to trial.[97] Yet, the study's participants expressed a strong desire to settle when doing so shielded them from the possibility of learning the judge's award at trial.[98] These hypothetical litigants were regret averse and acted to minimize post-decisional regret.[99]

The results of this study are also consistent with the behavior of actual litigants.[100] Rachlinski's data indicates that 56% of the time plaintiffs are worse off for going to trial.[101] In 78% of these cases

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94.   Guthrie, *supra* note 75, at 73–77. The study used two different tests: one designed for plaintiffs and the other for defendants. In the plaintiffs' scenario, 81.5% of the subjects in the traditional jurisdiction responded that the plaintiff would settle, while only 18.5% settled in the regret jurisdiction where the litigants learned the damages the judge would have awarded in the event of a trial. The scenario designed to test defendants' behavior yielded similar results. In the traditional jurisdiction, where the feedback and potential regret associated with trial can be avoided by settling, 79.2% of the subjects chose settlement, while in the regret regime 20.8% opted to settle.

95.   *Id.* at 75.

96.   *Id.* at 75, 78. In the plaintiff model, the subjects chose between a settlement offer of $2500 and an expected award at trial of $2500. In the defendant test, the subjects had a choice between paying the plaintiff $2500 and an expected loss of $2500 if the case went to trial.

97.   *Id.* at 75.

98.   *Id.*

99.   *Id.* at 80.

100.   Rachlinski, *supra* note 28, at 149. This Note focuses primarily on the data collected between suits involving non-corporate entities as parties. However, its findings are consistent with the numbers involving corporate plaintiffs and defendants whom Rachlinski argues are risk neutral.

101.   *Id.* at 154.

the plaintiffs received nothing at all and in the remainder the plaintiff obtains less than the defendant's final settlement offer.[102] Plaintiffs improve on the defendant's final settlement offer only 23% of the time, yet in those few occasions they recover relatively large jury awards.[103] Rachlinski argued that this data supports the framing model because overall plaintiffs exhibit risk aversion while defendants, on average, produce risk-seeking behavior.[104] He maintains that because the vast majority of plaintiffs settle, they are risk averse because they forego the possibility of potentially large jury verdicts.[105]

However, regret theory better explains the litigation behavior evaluated in this study. While plaintiffs as a class were $66,106 richer for litigating, the majority of those plaintiffs who brought their suits to trial recovered nothing. Plaintiffs who choose to settle are not necessarily risk averse because recovery at trial is predicated, at least to some degree, on the relative strength of their cases. Rather, litigants (in consultation with their attorneys) with weak facts or problematic law realize that their chances of recovering a large jury award are small. In contrast, plaintiffs with a strong case will reject a defendant's low settlement offer because of the higher expected return of a trial. The plaintiffs who settle cannot overcome the regret premium associated with the failure to reach an agreement prior to trial. Probabilistically, those plaintiffs who seek a trial believe so strongly in their case that the prospect of a large judgment trumps the anticipated regret involved with the inability to settle—and juries reward them for this belief. The statistics indicate that plaintiffs are not necessarily risk averse, but they are regret averse, unless the specific circumstances of the case outweigh the regret the litigants experience when they refuse the certainty of a settlement offer and elect to proceed to trial.

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102. *Id.*

103. *Id.* The plaintiffs averaged a recovery of $9422 in cases where the judgment fell below the defendant's final offer. In such cases, the plaintiffs could have settled for an average of $37,109, a difference of $27,687. However, in suits where the recovery exceeded the defendant's final settlement demand, plaintiff's average award was of $553,518. The plaintiff's mean offer in such suits was $198,569, a difference of $354,949.

104. *Id.* at 159. Rachlinski maintains that the plaintiffs as a class were risk averse because those that advanced their position by going to trial achieved a much better result than offered by the defendant during settlement talks. On average plaintiffs who litigated earned $66,106 (minus attorneys fees) for their efforts. Defendants as a class paid $81,638 per case because of the high awards given to plaintiffs who recovered a greater amount than offered in settlement negotiations.

105. *Id.*

C. Insurance

Research concerning regret theory and the law has yet to examine the related areas of torts and insurance. These subjects are particularly interesting because of their role in shaping early law and economics.[106] They are a fertile ground for analysis under regret theory because of the importance of acts versus omissions, feedback and decisional agency.

As an example, consider a young parent contemplating the purchase of life insurance. She must weigh the costs and benefits of paying the monthly premiums, not against the probability that she will die (we're fairly certain p=1), but against the chance she will die at a time when her family will require compensation to pay off the mortgage, college tuition and other expenses. Buying insurance helps shelter her from *ex post* regret—but only up to a point. The prospect of lying on one's deathbed, uninsured, with small children needing care, could stir strong feelings of anticipated regret.[107] However, once she buys the insurance and pays the premium every month, and her kids grow up and no longer need an insurance payment upon her death, she may very well feel regret for purchasing insurance year after year. Yet, her behavior is perfectly consistent with the predictions of regret theory. The expected utility of purchasing insurance, plus the anticipated regret associated with the outcome of dying uninsured in the *near* future provides sufficient "modified utility" to move from the status quo. This is a completely rational choice even if she lives long enough to "regret" it.

Insurance also acts as a delegation tool that lowers the level of anticipated regret and facilitates action and a departure from the status quo. If individuals favor the status quo due to fears of regret, then people need an incentive to overcome the increased regret premium associated with actions. Insurance facilitates this transaction over and above the predictions of expected utility. Economic analysis suggests an appropriate amount of insurance. Too little will not cover an actor's expected level of care and too much is an

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106.   *See* Calabresi, *supra* note 14, at 518.

107.   One does not actually have to experience regret for it to impact decision making. If the mother dies suddenly in a car accident she will not have the opportunity for *ex post* regret (we are sorely lacking in empirical data from heaven). What matters is that she factors regret into her decision *ex ante*—when she thinks about lying on her deathbed uninsured.

inefficient allocation of resources.[108] Regret theory alters this analysis. What expected utility deems "over insurance" may actually reflect the amount required to overcome the regret premium attributed to action.[109]

Regret theory also helps to explain the person who simultaneously gambles and buys insurance as protection against the relatively small chance of a large loss.[110] Take as an example the prospective Michigan homeowner who wants to purchase earthquake insurance.[111] For whatever the reason, he will not build his house without it. At first glance this behavior appears idiosyncratic and irrational. Even if this individual is grossly overestimating a low probability risk, regret theory indicates that policy makers should permit the market to provide the insurance.[112] Buying the insurance will allow an action that would not have occurred otherwise. Thus, this "extra" insurance is far from inefficient; it promotes a transaction that would not have been completed in its absence.

This example illustrates that regret theory is not a call for paternalism on the part of policy makers. On the contrary, the theory suggests that the state should not intervene. Allowing the purchase of a facially idiosyncratic "safety blanket" helps consummate transactions and allows goods or services to flow to the highest valued user. Policy makers should exercise caution when enacting consumer protection laws, particularly in the realm of insurance. Rather than prohibiting the sale out of the fear the insurance company will swindle the consumer, the purchase should

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108. *See, e.g.,* Jeffrey A. Greenblatt, Comment, *Insurance and Subrogation: When the Pie Isn't Big Enough, Who Eats Last?,* 64 U. CHI. L. REV. 1337, 1339 (1997).

109. Steven Shavell, *On Liability and Insurance,* 13 BELL J. ECON. 120, 121 (1982). In the realm of liability or property insurance if one buys more coverage than required the prospect of a "moral hazard" is created. This type of insurance is meant to indemnify against a loss. If the amount of insurance is greater than the possible loss the individual has an incentive to bring about the event against which he is insured. For example, if a home is valued at $100,000, but a homeowner buys a fire insurance policy in the amount of $150,000, he has an incentive to burn the house down to obtain the additional $50,000. However, if the cost of anticipated regret is factored into the problem the amount of the regret premium that must be overcome to participate in the activity should also be counted as part of the indemnification.

110. Loomes & Sugden, *supra* note 1, at 814.

111. The risk of an earthquake in Michigan is not precisely known, although the event is extremely rare. The last substantial quake occurred near Kalamazoo in 1947. There were reports of broken windows and cracked plaster. Earthquake Hazards Program, U.S. Geological Survey, Largest Earthquake in Michigan (citing CARL W. STOVER & JERRY L. COFFMAN, SEISMICITY OF THE UNITED STATES, 1568–1989 (REVISED) (U.S. Geological Survey Professional Paper 1527, 1993), *available at* http://neic.usgs.gov/neis/eqlists/USA/1947_08_10.html (last modified Apr. 5, 2001).

112. If the risk is truly low the homeowner's premiums will reflect the low probability that the insurance company will ever have to make a payment on the policy.

be permitted as a means of overcoming anticipated regret and spurring action.

D. Tort Law: Rules and the Modification of Behavior

Law and economics seeks to influence behavior by providing incentives to individuals to select efficient choices.[113] Forcing individuals to internalize the costs their actions impose on society is an important means that law and economics employs to accomplish its prescriptive ends. Regret theory does not reject this basis for influencing decision making, but seeks to refine it further.

Many legal economists have studied the risks surrounding the contraction of AIDS under the rubric of expected utility.[114] Expected utility predicts that a person calculates the costs and benefits of unsafe sex. If the expected utility of safe sex is greater than unsafe sex the person will use protection.[115] As a result, legal economists point to AIDS policy as a weak case for legal intervention because the risks are known and borne by the parties.[116] Compare the predictions of prospect theory. An individual is likely to be overoptimistic and discount his chances of acquiring the disease. This attitude toward risk does not indicate a careful weighing of probabilities and thus strengthens a case for legal or policy-oriented interventions.[117]

Unlike expected utility or prospect theory, regret theory does not focus on the choices before the act (whether or not to wear a condom) but on the outcomes of the choice—the contraction of AIDS or remaining disease free. With the appropriate information about the risks of the disease, regret theory predicts a higher level of safe sex then expected utility or prospect theory. First, these two outcomes are easily juxtaposed, thereby providing a good basis for applying regret theory. Additionally, feedback is inevitable. At some point down the road the individual will learn whether or not he has AIDS. Encouraging HIV testing can speed up this process. If

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113. POSNER, *supra* note 12, at 27.

114. Thomas S. Ulen, *Firmly Grounded: Economics in the Future of the Law,* 1997 WISC. L. REV 433, 443. This Note does not advocate or suggest that the transmission of HIV should be considered a tort. However, the scenario described above is illustrative of many bilateral interactions and serves as an example of how the teachings of regret theory may be utilized to modify individual conduct.

115. *Id.*

116. *Id.*

117. *Id.*

people feel compelled to take a test after unsafe sex then the best way to shield themselves from this feedback is to wear a condom, thus lessening the need for testing.

Decisional agency also alters the analysis in the AIDS problem. If the individual takes responsibility for his own protection, then failing to do so comes with heightened levels of anticipated regret. This may be avoided by delegating the decision to one's partner, who may or may not have a different risk calculus (especially if he suspects he is already HIV+). This is not necessarily a desirable outcome and it suggests that the state should focus sex education programs on having people assume decisional control (almost like a norm) over their own safe sex practices. Psychologists in England have experimented with this teaching technique with a great deal of success.[118] These predictions are further strengthened if unsafe sex is viewed as an act that is regretted more than the failure to use a condom. Yet, this approach only works if safe sex is established as the status quo for the individual. Failure to use a condom is thus viewed as an action that induces higher levels of anticipated regret.

This type of analysis may be applied to simple cases of bilateral precautions in negligence. In auto accidents, where *ex ante* it is unclear who will be the victim or the injurer, expected utility states that negligence is the most effective way to induce both parties to take care.[119] As a rational actor, a person will view himself in both possible roles of injurer or victim. If he is the injurer, he will be liable under a negligence scheme if he fails to take all cost justified precautions. As a result, because he seeks to maximize his expected utility he takes all such precautions.[120] In the role of the victim, he assumes that the prospective injurer is rational and has thus taken all cost justified precautions.[121] Knowing this, he must also take all cost justified precautions to prevent himself from becoming the victim and bearing the costs of the accident. Such behavior results in the economically efficient level of accidents and provides incentives to take the appropriate level of care.

The behavioral law and economics critique of such analysis is clear. Due to over optimism, people underestimate their chances of getting in an accident and thus do not exercise the appropriate

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118.   Guthrie, *supra* note 75, at 71–72; Rene Richard et al., *Anticipated Regret and Time Perspective: Changing Sexual Risk-Taking Behavior*, 9 J. OF BEHAV. DECISION MAKING 185, 196 (1996); van der Pligt & Richard, *supra* note 75, at 192.

119.   Ulen, *supra* note 114, at 445.

120.   *Id.*

121.   *Id.*

level of care.[122] Additionally, prospect theory predicts that if people view an accident as a loss they may actually be risk seeking and purchase less insurance or drive more recklessly.[123]

Regret theory does not necessarily predict what level of care people will take, but rather that the anticipation of regret will alter the expected utility risk calculus. By choosing to exercise care a driver helps to shield himself from the prospect of a regret-inducing accident. Additionally, these bilateral scenarios provide easily comparable "states of the world"—the status quo versus the accident-occurring outcome. Feedback is strongest in the world where the accident occurs. Thus, the person can better avoid this dissonant information with a higher level of care. The decision on how much care to take rests squarely with the driver, and he feels more regret than if he could delegate the choice. Thus, regret theory predicts a greater level of care than anticipated by the purely monetary incentives of expected utility.[124]

As discussed above, framing outcomes alters the level of anticipated regret, which in turn, changes an actor's risk calculus.[125] For example, if a driver is presented with information in a context so it appears that people in his position have a lower risk of accidents, then his regret premium is more easily overcome, resulting in less than due care on the roads.

Conversely, enhancing the level of anticipated regret can increase one's affinity for the status quo and promote inaction when it is socially desirable to do so. While expected utility operates by raising or lowering costs to the individual, regret theory suggests monetary incentives can be supplemented by emotions to influence behavior.[126] Since regret theory is centered on two or more outcomes rather than prospects, framing the outcomes alters behavior. The crystallization of outcomes thus raises the regret premium *ex ante* and discourages action.

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122.   Sunstein, *supra* note 30, at 4.

123.   *See supra* note 25, and accompanying text.

124.   How much more care is unclear. Alternatively, a driver may not compare outcomes because he is overoptimistic about his chances of avoiding an accident. This would lower his anticipated regret and he would take less care than predicted by expected utility. More research is needed in this area to determine how individuals view driving and other bilateral scenarios.

125.   Harless, *supra* note 64, at 647.

126.   Peter Huang, *Reasons within Passions: Emotions and Intentions in Property Rights Bargaining*, 79 OR. L. REV. 435, 448 (2000).

PART IV—CONCLUSION

This Note introduces regret theory as an alternative explanation of rationality. Regret theory assumes people either rejoice or experience regret after making a decision and that they anticipate these feelings *ex ante*. Studies have shown that regret looms larger than rejoicing and serves to lower the expected utility of a decision, thus creating a modified utility. Action is regretted more than inaction and the prospect of feedback increases the level of anticipated regret. People also tend to regret decisions more when they make a choice themselves. The ease of comparison and cognitive biases, such as framing, play a significant role in shaping the level of anticipated regret as well. All of these factors influence regret theory's relationship to the law.[127]

In contracts, regret predicts an actor's desire to defer to standard terms and it forecasts certain litigants' preferences of settlement over trial. In torts, regret predicts a different standard of care than observed under expected utility. In this respect, regret theory highlights various weaknesses of expected utility. The theory postulates that insurance may act as a catalyst, allowing individuals to delegate a decision, thus lowering the level of anticipated regret and facilitating action. It helps to explain why people purchase insurance and advocates for the presentation of information in a manner that, whether to encourage safe sex or careful driving, establishes the desired outcome as the status quo. The individual must overcome the regret associated with departing from this baseline. This tactic can encourage caution in high-risk situations and provide incentives for alternative behavior. While not a replacement for economic analysis, the theory promises to add depth and subtlety to our current understanding of the role of expected utility theory in the law.

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127.   Regret theory is relevant to significant areas of the law not discussed in this Note. *See* Richard O. Lempert, *Modeling Relevance*, 75 MICH. L. REV. 1021 (1977). In his article, Professor Lempert discusses the relationship between evidentiary rules and the hypothetical regret matrix constructed by a criminal jury. He argues that each piece of evidence alters the regret a juror anticipates with either convicting or acquitting the defendant. In particular, he describes how prejudicial evidence, such as past convictions or character evidence alters *ex ante* juror regret and, depending on the nature of the evidence, sways the jury towards or away from conviction. Lempert asserts that many of the federal rules of evidence are designed to limit evidence that substantially alters a juror's anticipated regret without logically relating to the legal questions the jury must answer.

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