

# GAINS, LOSSES, AND JUDGES: FRAMING AND THE JUDICIARY

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*Losses hurt more than foregone gains—an asymmetry that psychologists call “loss aversion.” Losses cause more regret than foregone gains, and people struggle harder to avoid losses than to obtain equivalent gains. Loss aversion produces a variety of anomalous behaviors: people’s preferences depend upon the initial reference point (reference-dependent choice); people are overly focused on maintaining the status quo (status quo bias); people attach more value to goods they own than to identical goods that they do not (endowment effect); and people take excessive risks to avoid sure losses (risk seeking in the face of losses). These phenomena are so pervasive that legal scholars have assumed that they influence the development of law. Although numerous studies reveal that framing influences how ordinary people think about their rights, a clear demonstration that judges decide cases differently when the underlying facts present gains as opposed to losses does not exist. This Article fills that gap. We present eight studies with over one thousand judges as research participants that demonstrate that all four of these anomalous features of framing influence how sitting judges evaluate legal cases.*

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## INTRODUCTION

Imagine that you bet a friend from Philadelphia \$50 that the New England Patriots would win Super Bowl LII. Philadelphia won. How would you best express the financial implications of the game for you? Perhaps the most natural way is that you “lost \$50.” That is true enough, but is incomplete. You are really \$100 worse off. You had to pay your friend \$50, and you did not win the \$50 that your friend would have paid you had New England won. The salient out-of-pocket loss overshadows the \$50 that you did not

win.<sup>1</sup> Losing is not identical to failing to win.<sup>2</sup> Losses hurt much more than equivalent gains feel good, and we thus focus our attention on losses.<sup>3</sup>

Aversion to losses is one of the most robust phenomena in the pantheon of decision theory and behavioral economics.<sup>4</sup> It even has a neurological basis.<sup>5</sup> Loss aversion clearly influences decisions about financial gambles but extends well beyond that.<sup>6</sup> Doctors favor riskier medical procedures described as involving the potential loss of life than described as potentially lifesaving;<sup>7</sup> or, as a popular television show put it: “She can actually make a side effect like 10% chance of liver failure sound like a 90% chance of liver

1 See Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 *ECONOMETRICA* 263, 279 (1979) [hereinafter Kahneman & Tversky, *Prospect Theory*] (“The aggravation that one experiences in losing a sum of money appears to be greater than the pleasure associated with gaining the same amount.”).

2 See *id.* at 274 (“[P]eople normally perceive outcomes as gains and losses, rather than as final states of wealth or welfare.”); see also Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 *AM. PSYCHOLOGIST* 341, 342 (1984) [hereinafter Kahneman & Tversky, *Choices, Values, and Frames*] (“[T]he psychophysical analysis of outcomes should be applied to gains and losses rather than to total assets.”); Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, 59 *J. BUS.* S251, S259 (1986) [hereinafter Tversky & Kahneman, *Rational Choice*] (“[T]he effective carriers of values are gains and losses . . .”).

3 See Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 279 (“[L]osses loom larger than gains.”); Amos Tversky & Daniel Kahneman, *Loss Aversion in Riskless Choice: A Reference-Dependent Model*, 106 *Q.J. ECON.* 1039, 1040 (1991) [hereinafter Tversky & Kahneman, *Loss Aversion*] (“[T]he impact of a difference on a dimension is generally greater when that difference is evaluated as a loss than when the same difference is evaluated as a gain.”); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 *SCIENCE* 453, 454 (1981) [hereinafter Tversky & Kahneman, *Framing of Decisions*] (“[T]he response to losses is more extreme than the response to gains.”).

4 See Irwin P. Levin et al., *All Frames Are Not Created Equal: A Typology and Critical Analysis of Framing Effects*, 76 *ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES* 149, 150 (1998) (“[S]tudies of ‘framing effects’ in the area of human judgment and decision-making have proliferated . . .”); see also Adelson Piñon & Hilda Gambara, *A Meta-Analytic Review of Framing Effect: Risky, Attribute and Goal Framing*, 17 *PSICOTHEMA* 325 (2005) (reviewing the large literature on framing).

5 See Benedetto De Martino et al., *Frames, Biases, and Rational Decision-Making in the Human Brain*, 313 *SCIENCE* 684 (2006) (reporting that fMRI scans showed that the framing effect was associated with amygdala activity, while orbital and prefrontal cortex activity was associated with reduced susceptibility to the framing effect); Patrick Ring, *The Framing Effect and Skin Conductance Responses*, 9 *FRONTIER BEHAV. NEUROSCIENCE* 188 (2015) (“Under negative frames, participants show significantly higher ISCRS [a measure of emotional arousal] while waiting for an electric shock to be delivered than under positive frames.”).

6 See Nathan Novemsky & Daniel Kahneman, *The Boundaries of Loss Aversion*, 42 *J. MARKETING RES.* 119, 119 (2005) (“Although loss aversion was originally studied with respect to choices between two-outcome monetary gambles, researchers soon identified loss aversion in many contexts . . .”); Tversky & Kahneman, *Rational Choice*, *supra* note 2, at S268 (asserting that the phenomena they attribute to loss aversion “are not restricted to monetary outcomes”).

7 See Barbara J. McNeil et al., *On the Elicitation of Preferences for Alternative Therapies*, 306 *NEW ENG. J. MED.* 1259 (1982).

success!”<sup>8</sup> Professional golfers take more chances to avoid a bogey than to obtain a par.<sup>9</sup> People report that food tastes better when described as 75% lean than as having a 25% fat content.<sup>10</sup> Successful political candidates—including then-candidate Donald Trump—take care to use the rhetoric of loss to instill a desire for change.<sup>11</sup> People have different physiological reactions to gains than to losses.<sup>12</sup> Nonhuman primate species such as chimpanzees<sup>13</sup> and capuchin monkeys share the same asymmetric response to gains and losses.<sup>14</sup>

Most choices can be described (or “framed”) as involving either a loss or a gain. The malleability of choices then creates anomalies of judgment, including reference-dependent choices, the endowment effect, the status quo bias, and risk-seeking choices when confronting losses.<sup>15</sup> Loss aversion (or framing), as psychologists dubbed this phenomenon,<sup>16</sup> makes the frame of reference relevant to choice in that preferences seem to depend upon the position people currently occupy (reference-dependent choice).<sup>17</sup> It also leads to a preference for the status quo (status quo bias).<sup>18</sup> Loss aversion induces people to value commodities more once they own them (the endowment effect).<sup>19</sup> Finally, when all of the potential options involve losses, an aversion to sure losses leads to risk-seeking conduct; people choose options

8 *The Big Bang Theory: The Cognition Regeneration* (CBS television broadcast Apr. 27, 2017).

9 See Devin G. Pope & Maurice E. Schweitzer, *Is Tiger Woods Loss Averse? Persistent Bias in the Face of Experience, Competition, and High Stakes*, 101 AM. ECON. REV. 129, 136 (2011).

10 See Irwin P. Levin & Gary J. Gaeth, *How Consumers Are Affected by the Framing of Attribute Information Before and After Consuming the Product*, 15 J. CONSUMER RES. 374 (1988).

11 See James Surowiecki, *Losers!*, NEW YORKER (June 6 & 13, 2016), <https://www.newyorker.com/magazine/2016/06/06/losers-for-trump> (describing candidate Trump’s emphasis on the rhetoric of “losing” during his campaign for President, quoting him as constantly asserting America was “losing our jobs” to illegal immigrants or as a result of trade deals and at one point saying, “[w]e’re losing everything”).

12 See Guy Hochman & Eldad Yechiam, *Loss Aversion in the Eye and in the Heart: The Autonomic Nervous System’s Responses to Losses*, 24 J. BEHAV. DECISION MAKING 140 (2011) (describing this research). The brain seems to process losses differently from gains as well. See Benedetto De Martino et al., *Amygdala Damage Eliminates Monetary Loss Aversion*, 107 PROC. NAT’L ACAD. SCI. 3788 (2010).

13 See Sarah F. Brosnan et al., *Endowment Effects in Chimpanzees*, 17 CURRENT BIOLOGY 1704 (2007).

14 See Venkat R. Lakshminarayanan et al., *The Evolution of Decision-Making Under Risk: Framing Effects in Monkey Risk Preferences*, 47 J. EXPERIMENTAL SOC. PSYCHOL. 689 (2011).

15 See Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1041–45 (connecting these phenomena to loss aversion).

16 *Id.* at 1039 (defining “loss aversion”).

17 See *id.* at 1046–48 (describing a formal model of reference-dependent choice that includes loss aversion).

18 See Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2, at 348 (“[L]oss aversion favors stability over change.”).

19 See Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1041 (“An immediate consequence of loss aversion is that the loss of utility associated with giving up a valued good is greater than the utility gain associated with receiving it.”).

that hold out hope of losing as little as possible, even when those options are economically less attractive than options that involve sure options (risk-seeking choices when confronting losses).<sup>20</sup>

Not surprisingly, a phenomenon as robust as loss aversion influences the development of law.<sup>21</sup> The distinction between gains and losses appears to be deeply embedded in the grammar of how people think, including about law.<sup>22</sup> For example, tort law concerns itself with the “loss of a chance” rather than a “foregone opportunity.”<sup>23</sup> The Constitution protects against “takings” but provides no discussion of “givings” or failures to give.<sup>24</sup> Professor Patrick Atiyah asserts the intuition clearly: “To deprive somebody of something which he merely expects to receive is a less serious wrong, deserving less protection, than to deprive somebody of the expectation of continuing to hold something which he already possesses.”<sup>25</sup> The effect of loss aversion on law and public policy is thus apt to be powerful. Just consider the following examples of the role framing plays in a variety of legal contexts:

1. Although the Supreme Court interprets constitutionally enshrined federalism as precluding the federal government from imposing penalties (losses) on states for failing to enact legislation,<sup>26</sup> federal statutes that withhold federal highway funds (foregone gains) for failing to enact legislation are constitutionally acceptable.<sup>27</sup>

2. A New York statute, recently challenged on First Amendment grounds before the United States Supreme Court, *Expressions Hair Design v. Schneider-*

20 See Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2, at 342 (“Risk seeking in the domain of losses has been confirmed by several investigators.”); Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 268–69 (describing a “risk seeking preference for a loss that is merely probable over a smaller loss that is certain”); *id.* at 269 (“[T]he overweighting of certainty . . . favors . . . risk seeking in the domain of losses.”); Tversky & Kahneman, *Framing of Decisions*, *supra* note 3, at 453 (documenting a shift from “risk aversion to risk taking” when confronting choices involving losses).

21 See David Cohen & Jack L. Knetsch, *Judicial Choice and Disparities Between Measures of Economic Values*, 30 OSGOODE HALL L.J. 737, 749 (1992) (“[A] phenomenon as pervasive as [loss aversion] would be expected to be implicated, either explicitly or implicitly, in the development of legal doctrine.”).

22 See *id.* at 741–42.

23 See David A. Fischer, *Tort Recovery for Loss of a Chance*, 36 WAKE FOREST L. REV. 605, 607–17 (2001) (describing the doctrine).

24 “The Fifth Amendment bars only uncompensated takings; there is no ‘Givings Clause.’” Abraham Bell & Gideon Parchomovsky, *Givings*, 111 YALE L.J. 547, 551 (2001) (footnote omitted).

25 P.S. ATIYAH, *THE RISE AND FALL OF FREEDOM OF CONTRACT* 428 (1979).

26 *New York v. United States*, 505 U.S. 144 (1992) (invalidating a federal statute that imposed a requirement that states either open a disposal facility for low-level radioactive waste or take title to all such waste in the state on the grounds that the statute “commandeer[ed]” state legislatures).

27 *South Dakota v. Dole*, 483 U.S. 203 (1987) (upholding a federal statute that withheld a portion of federal highway funds to any state that did not increase its legal drinking age to twenty-one).

*man*, forbids the use of surcharges (losses) on credit card transactions, but allows discounts for cash (gains).<sup>28</sup>

3. The Clean Air Act<sup>29</sup> regulates new sources of air pollution (which can reduce potential profits or gains of future facilities) far more aggressively than existing sources (which would impose losses on existing facilities).<sup>30</sup>

4. Defendants in lawsuits commonly reject economically favorable settlement offers (which would mean incurring a loss) in favor of litigating vigorously, while plaintiffs generally accept such settlement offers (which means accepting a smaller gain than an aggressive litigation strategy might bring).<sup>31</sup>

5. Tort law compensates victims for all manner of out-of-pocket losses, but fails to provide compensation for foregone profits in most settings.<sup>32</sup> Similarly, “when an interaction results in both an injury to one side and benefit

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28 *Expressions Hair Design v. Schneiderman*, 137 S. Ct. 1144 (2017) (referring to N.Y. GEN. BUS. LAW § 518 (McKinney 2018)). The Court remanded the case back to the New York courts for clarification on the meaning of the statute. *Id.* at 1151; *see also* *Italian Colors Rest. v. Becerra*, 878 F.3d 1165 (9th Cir. 2018) (holding that California Civil Code section 1748.1(a), which “prohibits retailers from imposing a surcharge on customers who make payments with credit cards, but permits discounts for payments by cash or other means,” violates the First Amendment rights of retailer plaintiffs; and stating that “[a]lthough mathematically equivalent, surcharges may be more effective than discounts because the frame within which information is presented can significantly alter one’s perception of that information, especially when one can perceive information as a gain or a loss” and “research has shown that economic actors are more likely to change their behavior if they are presented with a potential loss than with a potential gain” (citations and internal quotation marks omitted)).

29 Pub. L. No. 88-206, 77 Stat. 392 (1963) (codified as amended at scattered sections of 42 U.S.C.).

30 For reviews of grandfathering in the Clean Air Act, see Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1677, 1681–707 (2007); Heidi Gorovitz Robertson, *If Your Grandfather Could Pollute, So Can You: Environmental “Grandfather Clauses” and Their Role in Environmental Inequity*, 45 CATH. U. L. REV. 131, 152–58 (1995); *see also* CASS R. SUNSTEIN, *FREE MARKETS AND SOCIAL JUSTICE* 253 (1997) (“Government regulation of new risks will predictably be more stringent than government regulation of (equivalent) old risks. This is so precisely because the public demand for regulation will be a product of status quo bias.”); Jack L. Knetsch, *Environmental Policy Implications of Disparities Between Willingness to Pay and Compensation Demanded Measures of Values*, 18 J. ENVTL. ECON. & MGMT. 227, 235 (1990) (“Implementing new pollution controls that force current waste dischargers to reduce outflows may also widely be seen as imposing losses on polluters for the benefit of neighbors. This perception of losses being visited on particular individuals could give rise to a negative reaction . . .”).

31 *See* RANDALL KISER, *BEYOND RIGHT AND WRONG: THE POWER OF EFFECTIVE DECISION MAKING FOR ATTORNEYS AND CLIENTS* 29–86 (2010) (reviewing evidence of framing effects in settlement decisions); Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113, 149–60 (1996) (same).

32 *See* Cohen & Knetsch, *supra* note 21, at 753–56.

to the other, the remedial rights of the injured party are usually based on her losses, rather than on the other party's gains."<sup>33</sup>

6. Taxpayers who have underpaid during the year and face paying more taxes when they file their return are much more likely to file fraudulent returns than those who have overpaid during the year and are already getting a rebate.<sup>34</sup>

7. The Supreme Court interprets the Due Process Clause as requiring a hearing before a beneficiary of an entitlements program can be deprived of any benefits (a loss); fully qualified applicants for benefits (future gain) do not enjoy the same protection.<sup>35</sup>

8. Employees rarely attempt to bargain for more employment protection than "at will" employment offers (a potential gain), but employees who have "for cause" protection strongly resist giving it up (a potential loss).<sup>36</sup>

The list of legal issues in which foregone gains and losses are treated differently goes on at length.<sup>37</sup> Over a decade ago, two articles reviewing the literature on the implications of framing for the legal system identified hundreds of law review articles on the subject.<sup>38</sup> A recent book expands even further on this list.<sup>39</sup>

The influence of loss aversion on legislative and regulatory processes appears to be well established,<sup>40</sup> but judges obviously play a critical role in the development of law. As outside referees, however, judges might not fall

33 Eyal Zamir, *LAW, PSYCHOLOGY & MORALITY: THE ROLE OF LOSS AVERSION* 121 (2015).

34 See Henry S.J. Robben et al., *Decision Frame and Opportunity as Determinants of Tax Cheating: An International Experimental Study*, 11 J. ECON. PSYCHOL. 341, 344–46 (1990) (reviewing evidence of framing in tax compliance).

35 See William Van Alstyne, *Cracks in "The New Property": Adjudicative Due Process in the Administrative State*, 62 CORNELL L. REV. 445, 449–51 (1977) (identifying the failure of the courts to recognize the rights of applicants to due process protection). To be sure, this distinction might involve more than just framing. Someone who is already receiving entitlement program benefits has not just stumbled across them by chance. Rather he or she probably already has been found to be entitled to them. A mere applicant for the same benefits is not in the same position. That person's entitlement to the benefits has not been preliminarily or presumptively settled.

36 See Cass R. Sunstein, *Human Behavior and the Law of Work*, 87 VA. L. REV. 205, 221 (2001) ("[I]f for-cause protection is initially given to the employee, it is reasonable to predict that the employee will demand more to relinquish job security than he would be willing to pay to obtain the right in the first instance.").

37 See Chris Guthrie, *Prospect Theory, Risk Preference, and the Law*, 97 NW. U. L. REV. 1115, 1120 (2003) ("[P]rospect theory is applicable to every area of the law."). For an extensive review of loss aversion in law, see ZAMIR, *supra* note 33.

38 See Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227, 1229 (2003) ("As of January 2003, 373 law journal articles had mentioned either the endowment effect or the status quo bias . . . ."); see also Guthrie, *supra* note 37 (citing numerous other studies of framing).

39 ZAMIR, *supra* note 33.

40 See Korobkin, *supra* note 38, at 1266–69 (describing the influence of loss aversion on the regulatory and legislative processes).

prey to the cognitive illusions that influence lay citizens and litigants. The many articles assessing the role of framing in legal analysis still lack a systematic demonstration that framing influences judicial decisions. The research presented in this Article fills that gap.

In this Article, we present eight studies in which over one thousand judges evaluated hypothetical cases from the perspective of either gains or losses. In all eight studies, we used fact patterns presenting decisions that are factually and economically identical except for their frame as a gain or loss, illustrating the four phenomena described above (reference-dependent choice, status quo bias, endowment effect, and risk-seeking choices in the face of losses).<sup>41</sup> Across eight different areas of law, judges reacted differently to gains than to losses. In short, the results confirmed one of the basic insights of behavioral economics by demonstrating that gains and losses affect how judges decide cases.

This Article proceeds as follows. In Part I, we briefly review the literature on framing effects, with special attention to applications in legal contexts. In Part II we describe our research methods. In Part III, we describe the eight studies of framing we have conducted on judges and report our results. Part IV offers a discussion and conclusions.

## I. FRAMING, WITH APPLICATIONS TO LAW

As journalist Michael Lewis documented in his recent book, *The Undoing Project*, psychologists Amos Tversky and Daniel Kahneman first documented the disparity between people's reactions to gains and losses while studying economic paradoxes concerning how people make choices involving risk.<sup>42</sup> All of the decisions Tversky and Kahneman initially studied involved potential gains. For example, they asked their research subjects questions like: "Would you rather have \$500 for sure or a 50–50 shot at \$1,000?"<sup>43</sup> Tversky began to wonder what would happen if they began putting negative signs in front of the numbers.<sup>44</sup> For example: "Which . . . do you prefer . . . [a] lottery ticket that offers a 50 percent chance of losing \$1,000 [or a] certain loss of \$500[?]"<sup>45</sup> When their subjects chose among gains, they preferred

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41 We have eschewed alternative divisions of framing into the categories of attribute framing, risky choice framing, and goal framing. See, e.g., Levin et al., *supra* note 4 (dividing framing into attribute, risky choice, and goal). Nevertheless, our Article includes experiments falling into each of those categories.

42 MICHAEL LEWIS, *THE UNDOING PROJECT* 268–69 (2017).

43 *Id.* at 268 (emphasis omitted).

44 *Id.*; see also Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 268 (asking "[w]hat happens when the signs of the outcomes are reversed so that gains are replaced by losses?").

45 LEWIS, *supra* note 42, at 268 (emphasis omitted); see also Amos Tversky & Daniel Kahneman, *Advances in Prospect Theory: Cumulative Representation of Uncertainty*, 5 J. RISK & UNCERTAINTY 297, 307–08 (1992) [hereinafter Tversky & Kahneman, *Advances in Prospect Theory*] (reporting that people make risk-seeking choices across a wide range of different stakes when facing losses).

certainty, and when they chose among losses, they preferred risk.<sup>46</sup> This research led Tversky and Kahneman to conclude that the disparity between gains and losses “reflects a general property of the human organism as a pleasure machine. For most people, the happiness involved in receiving a desirable object is smaller than the unhappiness involved in losing the same object.”<sup>47</sup> A series of research papers by Tversky and Kahneman documented a wide disparity between how people think about gains and how people think about losses, which they ultimately termed “framing.”<sup>48</sup>

Much of the disparity between gains and losses can best be characterized as an aversion to losses.<sup>49</sup> “[L]osses (outcomes below the reference state) loom larger than corresponding gains (outcomes above the reference state).”<sup>50</sup> Loss aversion explains such oddities of human choice as the widespread unwillingness to bet on a coin flip—the potential loss outweighs the potential gain.<sup>51</sup> Put another way, “[t]he displeasure associated with losing a sum of money is generally greater than the pleasure associated with winning the same amount.”<sup>52</sup> In fact, the hedonic pain of a loss is twice as much as the hedonic pleasure from an economically identical gain.<sup>53</sup> Loss aversion and framing produce several phenomena of judgment and choice including reference-dependent choices, status quo bias, the endowment effect, and risk-seeking preferences in the face of losses.<sup>54</sup>

#### A. Reference-Dependent Choices

Loss aversion, almost by definition, implies a reference dependence in human choices.<sup>55</sup> “[P]eople normally perceive outcomes as gains and losses, rather than as final states of wealth or welfare.”<sup>56</sup> A gain can only be a gain

46 See Amos Tversky et al., *The Causes of Preference Reversal*, 80 AM. ECON. REV. 204, 215 (1990) (“[A]lternative framings of the same options (for example, in terms of gains vs. losses, or in terms of survival vs. mortality) produce inconsistent preferences . . .”).

47 LEWIS, *supra* note 42, at 269–70 (quoting Tversky and Kahneman).

48 Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2; Kahneman & Tversky, *Prospect Theory*, *supra* note 1; Tversky & Kahneman, *Framing of Decisions*, *supra* note 3; Tversky & Kahneman, *Loss Aversion*, *supra* note 3.

49 See Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1047.

50 *Id.*

51 Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2, at 342 (“[M]ost respondents in a sample of undergrads refused to stake \$10 on the toss of a coin if they stood to win less than \$30.”).

52 Tversky & Kahneman, *Framing of Decisions*, *supra* note 3, at 454.

53 See Chip Heath et al., *Goals as Reference Points*, 38 COGNITIVE PSYCHOL. 79, 87 (1999) (“Studies of risky choice and riskless choice have presented converging evidence that losses are weighted approximately two times more than equivalent gains.” (citations omitted)).

54 See Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 268–69 (connecting an effort to avoid certain losses to risk-seeking choices); Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1047 (describing reference-dependent choice, status quo bias, and the endowment effect as products of loss aversion).

55 Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1045.

56 Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 274.

relative to a reference point and the same for a loss. A change in a reference point can thus alter choice, even if the change in reference point is often arbitrary.<sup>57</sup>

The point is perhaps best illustrated with a pair of hypothetical questions developed by Tversky and Kahneman which they describe as illustrating psychological accounting.<sup>58</sup>

1. "Imagine that you have decided to see a play where admission is \$10 per ticket. As you enter the theater you discover that you have lost a \$10 bill. Would you still pay \$10 for a ticket for the play?"
2. "Imagine that you have decided to see a play and paid the admission price of \$10 per ticket. As you enter the theater you discover that you have lost the ticket. . . . Would you pay \$10 for another ticket?"<sup>59</sup>

Most people answer Question 1 in the affirmative, but most people answer Question 2 in the negative.<sup>60</sup> Both questions are, as matter of simple economics, identical. The loss of the \$10 bill is unconnected to the play, so it does not have much influence on choice, but the second question makes the play seem like it costs \$20 to attend.<sup>61</sup> Because that is \$10 more than the cost of a ticket, it feels like a loss relative to the expected price. In effect, the reference point for valuing the play differs between the two questions.

The influence of reference points on decisionmaking is not confined to abstract gambles in the laboratory—it affects real-world decisions as well. In one demonstration, a group of distinguished economists convinced a school district to experiment with loss aversion to incentivize teachers.<sup>62</sup> The district created an incentive system in which those teachers who produced specific, noticeable improvements in grade-school (kindergarten through eighth grade) students' math scores would receive an extra eight percent in salary. This incentive system had little effect on test scores.<sup>63</sup> The result, though puzzling for economists, was consistent with numerous previous studies on the impact of teacher incentives on student performance.<sup>64</sup> When the researchers offered an alternative program in which the teachers received the bonus at the beginning of the year, but had to refund it if they did not produce the same improvements in test scores, however, test scores improved

57 Tversky & Kahneman, *Framing of Decisions*, *supra* note 3, at 453 ("The frame that a decision-maker adopts is controlled partly by the formulation of the problem.").

58 *Id.* at 457.

59 *Id.*

60 *Id.*

61 *Id.*

62 Roland G. Fryer, Jr. et al., *Enhancing the Efficacy of Teacher Incentives Through Loss Aversion: A Field Experiment* (Nat'l Bureau of Econ. Research, Working Paper No. 18237, 2012).

63 *Id.* at 3 ("In line with previous studies in the United States, we do not find an impact of teacher incentives that are framed as gains.").

64 See Roland G. Fryer, *Teacher Incentives and Student Achievement: Evidence from New York City Public Schools*, 31 J. LAB. ECON. 373 (2013).

dramatically.<sup>65</sup> The potential loss of the bonus had a much bigger effect on performance than the potential gain of the same bonus. Other studies also show that workers are much more highly motivated by the prospect of compensation that falls below their expectations than by the potential for bonuses.<sup>66</sup> People are also more likely to cheat to avoid losses than to obtain gains.<sup>67</sup> Students also work harder to avoid a penalty for missing a deadline than to obtain a benefit by being timely.<sup>68</sup>

Reference points affect commonsense understanding of wages relative to inflation.<sup>69</sup> People seem to process improvements in wages in absolute terms, not relative to inflation. Consider the following exchange from the classic TV sitcom, *All in the Family*, in which the main character (Archie Bunker) and his friend (Jerome “Stretch” Cunningham) discuss a labor dispute at his workplace with his son-in-law (Michael, a.k.a. “Meathead”):

Archie: We had a perfectly good wage offer last week, but them young hot-heads down there, they want to hold out for that escalator cost of living clause.

Michael: Arch, the cost of living escalator clause is the most important thing.

Archie: Why?

Michael: What good is getting a raise if prices keep going up?

Stretch: Oh yeah, and what if prices go down, that means the escalator goes down with ‘em and that means we have to take a cut. Uh uh, not on your sweet patootie!<sup>70</sup>

In the story, pressure from members like Archie and Stretch leads the union to settle for a 15% pay increase in the face of a projected inflation rate of

65 Fryer et al., *supra* note 62, at 3 (“Students whose teachers were in the ‘Loss’ treatment show large and statistically significant gains . . . in math test scores.”).

66 Colin Camerer et al., *Labor Supply of New York City Cabdrivers: One Day at a Time*, 112 Q.J. ECON. 407 (1997) (demonstrating reference-dependent motivations in taxi drivers); Tom Chang & Tal Gross, *How Many Pears Would a Pear Packer Pack if a Pear Packer Could Pack Pears at Quasi-Exogenously Varying Piece Rates?*, 99 J. ECON. BEHAV. & ORG. 1 (2014) (same in pear packers); *see also* Alex Imas et al., *Do People Anticipate Loss Aversion?*, 63 MGMT. SCI. 1271 (2017) (finding that people work harder under loss contracts than under gain contracts).

67 *See* Gilles Grolleau et al., *Cheating and Loss Aversion: Do People Lie More to Avoid a Loss?*, 62 MGMT. SCI. 3428, 3429 (2016) (“The level of cheating is almost doubled under advance payments compared to ex post payments.”).

68 Simon Gächter et al., *Are Experimental Economists Prone to Framing Effects? A Natural Field Experiment*, 70 J. ECON. BEHAV. & ORG. 443, 445 (2009) (finding that 93% of economics graduate students registered within the deadline to avoid a penalty for missing the deadline, while only 67% did so to obtain a discount; but economics professors were not influenced by frame).

69 Tversky & Kahneman, *Rational Choice*, *supra* note 2, at S261.

70 *All in the Family: The Bunkers and Inflation: Part 4* (CBS television broadcast Oct. 5, 1974).

20%.<sup>71</sup> Despite the practical effect of a 5% pay cut, Archie treats his current wage as a reference point and celebrates a 15% increase as a fabulous victory. The prospect of a reduction in the face of deflation would have inflicted an unthinkable loss, so the escalator clause seemed like a bad bargain. As the intuition of the characters suggests, wages are sticky; they commonly fail to rise sufficiently with inflation and hardly ever fall with deflation.<sup>72</sup> In a systematic account of this response to inflation, Kahneman and his collaborators showed that people think that a 5% wage increase in a time of 12% inflation is fair, but a 7% wage decrease in a time of 0% inflation is grossly unfair.<sup>73</sup> They termed this phenomenon the “money illusion.”<sup>74</sup>

Marketers are also well aware of their ability to manipulate the frames in which people process prices.<sup>75</sup> Although “50% off” sales are common, marketing campaigns never emphasize a recent rise in prices (e.g., “50% more than it used to be”), or the potential for a steeper increase (“50% more, but it could have been twice that”).<sup>76</sup> Similarly, consumers find a discount for cash payments to be acceptable, but surcharge for credit card payments unacceptable.<sup>77</sup> Taxation schemes likewise tend to offer deductions and exemptions for eligible taxpayers, rather than surcharges or additions for taxpayers who are ineligible.<sup>78</sup> As noted in the introduction, some states actually prohibit the use of surcharges for credit cards, even though they allow discounts for cash.<sup>79</sup> The U.S. Supreme Court recently considered whether such a prohibition violates the First Amendment by regulating how vendors can discuss their efforts to pass the exchange fee that they must pay to credit card com-

71 *Id.*

72 See Tversky & Kahneman, *Rational Choice*, *supra* note 2, at S261 (“The notion of a money illusion is sometimes applied to workers’ willingness to accept, in periods of high inflation, increases in nominal wages that do not protect their real income—although they would strenuously resist equivalent wage cuts in the absence of inflation.”).

73 Daniel Kahneman et al., *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728, 731 (1986).

74 Tversky & Kahneman, *Rational Choice*, *supra* note 2, at S261.

75 See Novemsky & Kahneman, *supra* note 6, at 125 (“[L]oss aversion may be an important mechanism for the success of several practices that are already widespread in marketing . . .”).

76 See generally Christopher P. Puto, *The Framing of Buying Decisions*, 14 J. CONSUMER RES. 301 (1987).

77 See Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 45 (1980) (describing the different reactions to discounts and surcharges).

78 See Thomas C. Schelling, *Economic Reasoning and the Ethics of Policy*, 63 PUB. INT. 37, 54 (1981) (noting that Congress does not differentiate between taxpaying families with children and those without by adding a “childless premium,” but instead uses deductions for families with children); see also Karyl A. Kinsey et al., *Framing Justice: Taxpayer Evaluations of Personal Tax Burdens*, 25 LAW & SOC’Y REV. 845 (1991) (presenting empirical evidence supporting Schelling’s intuition).

79 N.Y. GEN. BUS. LAW § 518 (McKinney 2018).

panies on to consumers.<sup>80</sup> Laws like New York’s statute regulating marketing campaigns thus reflect the reality of reference dependence in consumer behavior.

Professors Tess Wilkinson-Ryan and David Hoffman have shown how deeply the frame of reference affects assessment behavior in a contract context.<sup>81</sup> In one of their studies, subjects expressed a much greater desire to punish a painter who had broken a contract in favor of a more lucrative job (thereby obtaining greater gains) than a painter who broke his promise to avoid unexpected costs (thereby avoiding unexpected losses).<sup>82</sup> The painter had broken his promise in favor of an identical superior economic outcome of equal magnitude in both cases. People were nevertheless unsympathetic to his effort to obtain extra profits by undertaking a more lucrative job that had suddenly become available, but were sympathetic to his effort to avoid the loss associated with unexpected increased costs.<sup>83</sup> The pattern is identical to that observed with discounts and surcharges.

### B. *The Status Quo Bias*

Because a frame of reference is often determined by a decisionmaker’s current state, people commonly express a status quo bias when choosing among options.<sup>84</sup> Any amenity (a job, an investment portfolio, a regulatory regime) consists of a collection of attributes. Trading one amenity for another with a different collection of attributes usually entails a decrement of one or more of the attributes, which a decisionmaker would perceive as a loss.<sup>85</sup> That loss would then produce a preference for keeping the collection of attributes associated with the amenity one already possesses. Loss aversion thus “favors stability over change.”<sup>86</sup>

As one example, Tversky and Kahneman asked research participants to choose between two jobs. They found that people who currently have good social interactions at work prefer a job that has a long commute and good social interactions to one that has a short commute and poor social interactions, while people who currently have a short commute prefer the opposite.<sup>87</sup> Their subjects were unwilling to sacrifice the feature of the job that they already possessed.

80 *Expressions Hair Design v. Schneiderman*, 137 S. Ct. 1144 (2017). The Court remanded the case for further determination as to the proper construction of the statute. *Id.* at 1152.

81 Tess Wilkinson-Ryan & David A. Hoffman, *Breach Is for Suckers*, 63 VAND. L. REV. 1003, 1028–30 (2010) (describing the study).

82 *Id.* at 1029 (“Subjects reported that they would be significantly angrier and more embarrassed in the Gain case than the Loss case.”).

83 *Id.*

84 Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1044 (“Loss aversion implies the status quo bias.”).

85 *See id.*

86 Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2, at 348.

87 *See* Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1045.

Research documents a widespread preference for the status quo. For example, Professors William Samuelson and Richard Zeckhauser asked research subjects to imagine that they had inherited an investment portfolio and had to choose among a set of four investment strategies.<sup>88</sup> The researchers found that subjects preferred to retain the initial arbitrarily assigned investment strategy. That is, subjects who inherited bonds tended to keep bonds and subjects who inherited stocks tended to keep stocks. Similarly, a group of business school students asked to imagine they were airline executives tasked with choosing among various lease options for airplanes tended to retain the status quo.<sup>89</sup> Extending their work to real decisions, Samuelson and Zeckhauser examined the investment strategies adopted by faculty at their universities and found a high degree of attachment to the status quo in health insurance plans and retirement investment funds—even when new and better options became available, and even when decisionmakers knew that their original choice was uninformed.<sup>90</sup> Several factors create the status quo bias, such as the cost of switch (cognitive or financial), procrastination, psychological commitment to a choice, and rational brand loyalty. But loss aversion plays a key role in the status quo bias as well.<sup>91</sup>

Because preferences about public policy also involve trade-offs and reference points, policy choices are also affected by the status quo.<sup>92</sup> As Professor Russell Korobkin put it, “[i]f the air is clean and gas expensive, you are more likely to prefer clean air and expensive gas to cheap gas and dirty air than you would if the air were dirty and gas cheap.”<sup>93</sup> Systematic experiments bear out Korobkin’s assessment. One study of utility customers, for example, found that customers with historically good service expressed an unwillingness to tolerate reductions in service quality (even at reduced cost) while those customers with historically poor services were eager to pay more for better service.<sup>94</sup> Similarly, a survey of Toronto residents showed that although a majority were unwilling to accept an increase in accident rates from 0.5% to 1.0% per year in exchange for a \$700 increase in income, a majority were also unwilling to accept a \$700 decrease in income in exchange for a reduction in accident risk from 1.0% to 0.5% per year.<sup>95</sup> Further, Samuelson and Zeckhauser found that subjects asked to reallocate water rights in

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88 William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 12–18 (1988) (describing this research).

89 *Id.* at 22–26.

90 *Id.* at 26–33.

91 *Id.* at 35–37.

92 See Cass R. Sunstein, *Public Choice, Endogenous Preferences*, 12 INT’L REV. L. & ECON. 289, 289–90 (1992) (attributing regulatory stasis to loss aversion); see also Cass R. Sunstein, *Legal Interference with Private Preferences*, 53 U. CHI. L. REV. 1129 (1986) (reviewing the implications of the endowment effect for public policy decisions).

93 Korobkin, *supra* note 38, at 1229.

94 Raymond S. Hartman et al., *Consumer Rationality and the Status Quo*, 106 Q.J. ECON. 141, 143–44 (1991).

95 Jack L. Knetsch, *The Endowment Effect and Evidence of Nonreversible Indifference Curves*, 79 AM. ECON. REV. 1277, 1281 (1998) (reporting results).

a time of drought tended to maintain water supplies that were as close to the original allocation as possible, even when alternatives would have spread the pain of the drought more evenly.<sup>96</sup> These studies suggest that “once established, altering the legislative or regulatory status quo will be difficult.”<sup>97</sup>

Legal entitlements can change the status quo and dramatically alter choices. For example, in the late 1980s, New Jersey and Pennsylvania adopted legislation that allowed motorists to choose between two automobile insurance programs: an inexpensive program which restricted their right to sue other motorists and a more expensive one in which the right to sue was unrestricted.<sup>98</sup> Each state set a different status quo, however. Pennsylvania set the default as insurance that included the unrestricted right to sue with an option to choose cheaper insurance with less expansive rights, while New Jersey set the opposite default. “[O]nly about 20% of New Jersey drivers chose to acquire the full right to sue, while approximately 75% of Pennsylvanians retained the full right to sue.”<sup>99</sup> The status quo that the respective legislatures arbitrarily created thus largely determined the choices of the motorists in each state.

### C. *The Endowment Effect*

Although several factors likely contributed to the power of the status quo in the insurance study, one potential implication of the results is that the default rule led Pennsylvania motorists to value their right to sue more than the New Jersey motorists. If so, this would be an example of what researchers label the endowment effect.<sup>100</sup> The endowment effect consists of attaching greater value to an owned commodity than an unowned commodity.<sup>101</sup> It is “[a]n immediate consequence of loss aversion” in that “the loss of utility associated with giving up a valued good is greater than the utility gain associated with receiving it.”<sup>102</sup> As Nobel Prize-winning economist Richard Thaler described it, “if out-of-pocket costs are viewed as losses and opportunity costs are viewed as foregone gains, the former will be more heavily weighted.”<sup>103</sup>

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96 Samuelson & Zeckhauser, *supra* note 88, at 19–21.

97 Korobkin, *supra* note 38, at 1266.

98 Eric J. Johnson et al., *Framing, Probability Distortions, and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35, 48 (1993).

99 *Id.*

100 Because reference-dependent choice, the status quo bias, and the endowment effect all arise directly from loss aversion (risk-seeking choices are a little different), the line between them is somewhat arbitrary. As Korobkin notes, the terms are used interchangeably at times. Korobkin, *supra* note 38, at 1228 (noting that status quo bias is “often used interchangeably with [the endowment effect]”).

101 See Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSP. 193, 194 (1991) (defining the endowment effect as the observation that “people often demand much more to give up an object than they would be willing to pay to acquire it”); Thaler, *supra* note 77, at 44 (defining the endowment effect as the “underweighting of opportunity costs”).

102 Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1041.

103 Thaler, *supra* note 77, at 44.

He went on to note that this tendency produces “a certain degree of inertia” in consumer choice because “goods that are included in the individual’s endowment will be more highly valued than those not held in the endowment.”<sup>104</sup>

In the classic demonstration of the endowment effect, researchers found that people demand much more to sell a good than they are willing to pay to buy the same good.<sup>105</sup> For example, the median maximum price that students were willing to pay for a coffee mug with a university logo was \$2.87, but when given the mug, the median minimum price at which students were willing to sell it was \$7.12.<sup>106</sup> Other groups in the same study also exhibited a status quo bias, in that when they were given either a mug or a fancy pen (choosing randomly for each student) as a reward for participating in a separate experiment, and then offered a chance to trade for the other commodity, most kept their original prize.<sup>107</sup> People also express endowment effects for chocolate bars, pen sets, binoculars, and lottery tickets.<sup>108</sup>

The endowment effect influences a wide variety of valuation decisions. People express a much greater interest in avoiding the loss of a public good than in obtaining the same good.<sup>109</sup> In particular, people demand far more in compensation to suffer the loss of an environmental amenity (such as clean air or preservation of an endangered species) than they are willing to pay to produce that amenity.<sup>110</sup> People display a similar endowment effect for risk to life and limb. In one study, people were asked to imagine that they had been exposed to a disease that gave them a 0.001% chance of death and asked how much they would be willing to pay for a cure that would remove that risk.<sup>111</sup> The amounts were vastly smaller than those stated by a different group who were asked what amount they would have to be compensated for their permission to be exposed to the same risk as part of a research study.<sup>112</sup>

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104 *Id.*

105 See Kahneman et al., *supra* note 101, at 195–96.

106 *Id.* at 196.

107 *Id.*

108 See Daniel Kahneman et al., *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325 (1990) (chocolate, pens, and binoculars); Jack L. Knetsch & J.A. Sinden, *Willingness to Pay and Compensation Demanded: Experimental Evidence of an Unexpected Disparity in Measures of Value*, 99 Q.J. ECON. 507 (1984) (lottery tickets); see also Matthew Rabin, *Psychology and Economics*, 36 J. ECON. LITERATURE 11, 14–15 (1998) (reviewing research on the endowment effect).

109 See Kahneman et al., *supra* note 108, at 1327 tbl.1 (reviewing studies).

110 See Jack L. Knetsch, *Values of Gains and Losses: Reference States and Choice of Measure*, 46 ENVTL. RESOURCE ECON. 179, 179 (2010) (“Pervasive wide disparities between valuations of gains and losses have been demonstrated in survey studies, in controlled laboratory and field experiments, and in everyday decisions of people in non-experimental settings . . . and with particular attention to environmental changes . . .”); see also John K. Horowitz & Kenneth E. McConnell, *A Review of WTA/WTP Studies*, 44 J. ENVTL. ECON. & MGMT. 426 (2002) (reviewing research on the disparity between willingness to pay and willingness to accept).

111 See Thaler, *supra* note 77, at 43–44.

112 *Id.*

Consumers asked about household chemicals expressed similarly anomalous preference structures—their willingness to pay for safer products was vastly smaller than their willingness to accept riskier pesticides at lower prices;<sup>113</sup> indeed, some of the consumers in the study refused to accept an increase in risk no matter what the cost savings, even though their willingness to pay to reduce a risk by a comparable amount was modest.<sup>114</sup>

People also endow legal interests such as contract rights and remedies covered by tort. In a series of experiments, Professor Russell Korobkin showed that people who are given a legal right are far less willing to sell it than to buy the same right when they do not already have it.<sup>115</sup> In his studies, half of his subjects evaluated how much they would pay to obtain the right to recover consequential damages for lost packages (against a default of no right to recover consequential damages), while the other half evaluated how much they would accept to waive their right to obtain consequential damages (against a default of a right to recover consequential damages).<sup>116</sup> The subjects demanded much more to forego their rights than to obtain the same rights.<sup>117</sup> In the tort context, Professors Edward McCaffery, Daniel Kahneman, and Matthew Spitzer found that mock jurors impose higher damage awards when they are asked how much they would have to be compensated for the loss of a limb than when they are asked to assign compensation to make whole a victim who has lost a limb.<sup>118</sup>

Like the status quo bias, the endowment effect can create resistance to legislative or regulatory changes. As Korobkin described this inertia, “parties who benefit from the status quo will fight harder to avoid a change in the status quo than they would have fought to establish their preferred position if the status quo had been the opposite.”<sup>119</sup> Consequently, “changing a law that reflects one balance of costs and benefits may be difficult even if a different balance would be preferred were the issue to be addressed today for the first time.”<sup>120</sup> The Republican Party discovered precisely this inertia with respect to healthcare reform. People grow attached to the healthcare pro-

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113 W. Kip Viscusi et al., *An Investigation of the Rationality of Consumer Valuations of Multiple Health Risks*, 18 RAND J. ECON. 465, 477 (1987) (“[W]hen individuals assess the implications of increases in risk from their current level, they act as if they possess a much higher rate of tradeoff of risk for money than for decisions involving risk decreases.”); see also Ilana Ritov et al., *Framing Effects in the Evaluation of Multiple Risk Reduction*, 6 J. RISK & UNCERTAINTY 145 (1993) (reporting similar results with a variety of environmental risks).

114 See Viscusi et al., *supra* note 113, at 477 (reporting that for products involving even modest risk increases “up to three-fourths of all consumers said that they would refuse to buy the product at any discount below its purchase price”).

115 Russell Korobkin, *The Status Quo Bias and Contract Default Rules*, 83 CORNELL L. REV. 608 (1998).

116 *Id.* at 633–47 (describing the experimental design).

117 *Id.* at 639.

118 Edward J. McCaffery et al., *Framing the Jury: Cognitive Perspectives on Pain and Suffering Awards*, 81 VA. L. REV. 1341 (1995).

119 Korobkin, *supra* note 38, at 1266.

120 *Id.*

grams they currently possess.<sup>121</sup> Surveys indicate that the Affordable Care Act gained in popularity once its repeal became a realistic option.<sup>122</sup> With many healthcare benefits firmly established under the Affordable Care Act, the value of the benefits seemed suddenly greater to many.<sup>123</sup> If the Republican Party had been constructing an approach to healthcare from the ground up, they might well have preferred never to have created any such program, but with a program in place, many Republicans lost their enthusiasm for dismantling it.

#### D. Risk-Seeking Choices Among Losses

The effort to avoid losses also produces a surprising embrace of risky decisions. As Tversky and Kahneman first noticed when studying gambles with negative values, people tend to make risk-averse decisions when choosing between options that appear to represent gains, but tend to make risk-seeking decisions when choosing between options that appear to represent losses.<sup>124</sup> In particular, this tendency seems to be driven by a desire to avoid sure losses.<sup>125</sup>

The different approaches people take for gains as opposed to losses produces striking arbitrariness in preferences. For example, people asked to imagine that they have just been given \$1,000 and then offered the choice between gambles *A* and *B* prefer *B*, the certainty of \$500.<sup>126</sup>

A: 50% chance of winning \$1,000 more (50% chance of winning nothing)

B: \$500 for sure

But people asked to imagine that they have just been given \$2,000 and then offered the choice between gambles *C* and *D* prefer *D*, the riskier choice.<sup>127</sup>

C: 50% chance of losing \$1,000 (50% chance of losing nothing)

D: \$500 loss for sure

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121 See Miriam Krieger & Stefan Felder, *Can Decision Biases Improve Insurance Outcomes? An Experiment on Status Quo Bias in Health Insurance Choice*, 10 INT'L J. ENVTL. RES. & PUB. HEALTH 2560 (2013).

122 Madeline Conway, *Poll: Obamacare at Its Most Popular on Eve of Repeal*, POLITICO (Jan. 17, 2017), <http://www.politico.com/story/2017/01/poll-how-popularity-is-obamacare-233700>.

123 See, e.g., Charles Krauthammer, *Commentary: Hard to Take Entitlements Away: GOP Lesson from Obamacare*, ORLANDO SENTINEL (Mar. 17, 2017) <https://www.orlandosentinel.com/opinion/os-ed-tough-to-take-away-entitlements-krauthammer-20170317-story.html> (“The Lord giveth and the Lord taketh away, but for governments it’s not that easy. Once something is given—say, health insurance coverage to 20 million Americans—you take it away at your peril.”).

124 See *supra* notes 42–48 and accompanying text.

125 Kahneman & Tversky, *Prospect Theory*, *supra* note 1, at 269 (“[C]ertainty increases the aversiveness of losses.”).

126 *Id.* at 273.

127 See *id.*

The initial endowment alters the frame of reference, such that the first set of gambles involves potential gains, while the second set of gambles involves potential losses. The two gambles, however, produce economically identical outcomes.

Even without the subterfuge of initial endowments, people adopt different approaches to issues involving losses than issues involving gains. Consider the well-known public-health decision Kahneman and Tversky constructed, involving an Asian disease. The problem asks research participants to:

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

If Program A is adopted, 200 people will be saved. (72%)

If Program B is adopted, there is a one-third probability that 600 people will be saved, and a two-thirds probability that no people will be saved. (28%)<sup>128</sup>

In a second version of the problem, Kahneman and Tversky provided the same introductory paragraph, but altered the description of the two options as follows:

If Program C is adopted, 400 people will die. (22%)

If Program D is adopted, there is a one-third probability that nobody will die, and a two-thirds probability that 600 people will die. (78%)<sup>129</sup>

When presented with the first version of the problem, 72% of the subjects made the risk-averse choice of saving 200 people for sure, whereas only 22% of the subjects presented with the second version made the same choice—the majority preferred the risk-seeking option instead.<sup>130</sup> Frame thus influences risk preferences.

Although the problem has received heavy criticism,<sup>131</sup> it stands as a compelling demonstration that people react differently to arbitrary distinctions between gains and losses. The same disparity seems to exist in more realistic choices in the medical context. In one such study, both doctors and patients expressed greater willingness to recommend or undergo a surgical procedure that had a 10% mortality risk but would otherwise extend the expected life of a terminally ill patient by two years when that risk was expressed as a 90% survival rate as opposed to a 10% fatality rate.<sup>132</sup> Anecdotally, in the 1960s, researchers at the National Cancer Institute received praise in many

128 Kahneman & Tversky, *Choices, Values, and Frames*, *supra* note 2, at 343.

129 *Id.*

130 *Id.*

131 See David R. Mandel, *Gain-Loss Framing and Choice: Separating Outcome Formulations from Descriptor Formulations*, 85 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 56, 66 (2001) (offering critiques of the Asian disease problem).

132 See McNeil et al., *supra* note 7, at 1261 (reporting results); see also Dawn K. Wilson et al., *Framing of Decisions and Selections of Alternatives in Health Care*, 2 SOC. BEHAV. 51 (1987) (reporting similar results).

quarters for their use of a drug cocktail that cured leukemia patients but was so toxic that two out of three patients did not survive the treatment; while in contrast many other doctors decried the treatment as barbaric because it seemed to sacrifice two children to save one.<sup>133</sup> Neither perspective (saving one in three children as opposed to killing two out of three) is wholly right or wrong, but characterizing treatment either way has profound effects on how people value it.

The divergence in risk preferences has also been shown to influence judgments in legal contexts.<sup>134</sup> Two notable instances include litigants' reactions to settlement offers and taxpayers' willingness to risk penalties for underreporting income. As to the former, research has demonstrated that litigation provides a natural frame, in which plaintiffs choose among gains while defendants choose among losses.<sup>135</sup> Plaintiffs are thus much more inclined to accept settlement offers than are defendants.<sup>136</sup> Defendants try to avoid the certain loss of a settlement by rejecting even economically favorable settlements, gambling that further litigation will bring a better outcome, even though it also carries great risk.<sup>137</sup> Criminal defendants also face a certain loss by accepting a plea bargain, and might thus be unwisely willing to gamble on trials.<sup>138</sup> For taxpayers, filing a tax return also creates a natural frame.<sup>139</sup> At the time they file their taxes, some taxpayers find that they have overpaid and will receive a refund while others find that they have underpaid and will have to pay more. Taxpayers facing payment at filing time are more inclined to risk further penalties by cheating on their taxes than are those

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133 See SIDDHARTHA MUKHERJEE, *THE EMPEROR OF ALL MALADIES: A BIOGRAPHY OF CANCER* 150 (2010).

134 See Guthrie, *supra* note 37, for a comprehensive summary of the literature on the implications of divergent risk preference between gains and losses for law.

135 See Rachlinski, *supra* note 31, at 129 ("Litigation appears to supply a natural frame."); see also KISER, *supra* note 31, at 29–86 (replicating these results with a much larger data sample).

136 Rachlinski, *supra* note 31, at 159 ("[P]laintiffs' behavior was, on balance, risk averse.").

137 *Id.* ("[D]efendants' decisions to litigate constituted risk-seeking choices."). This disparity between plaintiffs and defendants is reversed for lawsuits in which the plaintiff is unlikely to succeed. See Chris Guthrie, *Framing Frivolous Litigation: A Psychological Theory*, 67 U. CHI. L. REV. 163, 196 (2000) (explaining that in low-probability lawsuits, "plaintiffs make risk-seeking decisions because the decision frame in frivolous litigation induces them to overweight their low-probability chances of prevailing at trial").

138 See Guthrie, *supra* note 37. The vast majority of criminal defendants plead guilty, however, suggesting that other factors overwhelm the framing effect in this context.

139 See Robben et al., *supra* note 34, at 344–45 ("The taxpayer expecting a refund may see it as a gain. . . . By contrast, since the taxpayer expecting to owe money is more likely to see the additional payment as a loss, the probability is greater that he or she will risk filing a fraudulent return in order to reduce the anticipated loss.").

who are already receiving a refund.<sup>140</sup> Taxpayers largely take the risk of cheating to avoid losses, rather than to increase their refunds.

### E. Framing Effects in Judges

Framing effects thus have significant implications for the development of law. One of the most important implications of framing effects for law is that people cannot easily bargain around legal rules, which undermines a fundamental tenet of the Coase Theorem.<sup>141</sup> Coase argued that in the absence of transaction costs, judges could not undermine economic efficiency, because parties simply bargain around their decisions.<sup>142</sup> That is, if a court allocated an entitlement to one party who valued it less than another, the higher-value party would simply trade it. Loss aversion, the status quo bias, and the endowment effect, however, all suggest that rights will tend to remain with the winning party in a lawsuit. Studies of nuisance suits support this conclusion empirically.<sup>143</sup> The implications of loss aversion for law are thus thought to be as expansive as the Coase Theorem itself, making loss aversion a foundational influence on the evolution of legal doctrine.<sup>144</sup>

As discussed above, loss aversion can have a dramatic effect on the legislative process. Scholars have suggested that loss aversion influences the development of the common law as well.<sup>145</sup> Judges might face a similar kind

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140 See *id.* at 358 tbl.2 (reporting results); see also ERICH KIRCHLER, *THE ECONOMIC PSYCHOLOGY OF TAX BEHAVIOUR* 129–51 (2007) (reviewing evidence of framing effects in tax compliance).

141 See ZAMIR, *supra* note 33, at 21–22 (“The endowment effect similarly contradicts the Coase Theorem . . .”); Kahneman et al., *supra* note 108, at 1326 (“[T]here is wide acceptance of the Coase theorem assertion that, subject to income effects, the allocation of resources will be independent of the assignment of property rights when costless trades are possible.”); Cass R. Sunstein, *Switching the Default Rule*, 77 N.Y.U. L. REV. 106, 112 (2002) (“The Coase Theorem fails to account for the fact that the initial allocation seems to create an endowment effect. When the endowment effect is at work, those who initially receive a legal right value it more than they would if the initial allocation had given the right to someone else.” (footnote omitted)); Tversky & Kahneman, *Loss Aversion*, *supra* note 3, at 1039 (“[T]he Coase theorem asserts that, except for transaction costs, initial entitlements do not affect final allocations.”).

142 See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

143 See Ward Farnsworth, *Do Parties to Nuisance Cases Bargain After Judgment? A Glimpse Inside the Cathedral*, 66 U. CHI. L. REV. 373 (1999); Yun-chien Chang & Chang-Ching Lin, *Do Parties Negotiate After Trespass Litigation? An Empirical Study of Coasean Bargaining* (2017) (unpublished manuscript).

144 See Korobkin, *supra* note 38, at 1231–32 (explaining that loss aversion implies that “not only is the Coase Theorem incorrect, or at least incomplete, the broad range of legal prescriptions based on Coase’s insights requires reevaluation”); see also Samuel Issacharoff, *Can There Be a Behavioral Law and Economics?*, 51 VAND. L. REV. 1729, 1735 (1998) (“The endowment effect is the most significant empirical observation from behavioral economics.”).

145 See ZAMIR, *supra* note 33, at 171–74 (discussing how loss aversion can affect the development of law).

of path dependence in the cases they decide.<sup>146</sup> Deciding to eliminate a right of recovery, a property right, or a constitutional right would inflict a loss on litigants and potential litigants. Likewise recognizing a novel right of recovery likely inflicts a loss on another set of parties. Judges do not hold the entitlements that they adjudicate, of course, but they could experience loss aversion concerning legal entitlements. Judges have preferences about policy, just as everyone else does.<sup>147</sup> They might feel the loss of a policy position that they favor. The judges' positions are perhaps akin to those of the survey respondents, who appear to value the potential loss of public goods like environmental amenities more than the potential gain of the same goods. Judges might also empathize more with litigants who face the loss of a legal entitlement than with litigants arguing for the creation of a novel one.<sup>148</sup> Furthermore, litigants facing losses might litigate more frequently or more vigorously than those facing potential gains, thereby pushing the law in a particular direction.<sup>149</sup>

Law does seem sticky in the way that loss aversion implies. Few areas of law have witnessed the reduction of individual rights through the judicial process. Once established, constitutional rights, whether to an abortion or an individual right to gun ownership, seem to stick. Modification or even erosion of rights occurs, but the wholesale elimination of an established entitlement is almost unheard of. Exceptions exist, of course. For example, many states began adopting a "good faith" limitation on "at-will employment" only to eliminate this restriction in decades that followed.<sup>150</sup> With few exceptions, however, the judicial establishment of legal rights seems to stick.

Despite the extensive documentation of loss aversion in many contexts and despite hundreds of articles assuming that it influences the development of law, its influence on judges is uncertain. Even outside of the judicial context, loss aversion has attracted critics who claim it is an overstated experimental artifact that disappears when proper controls are in place.<sup>151</sup> Other

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146 See generally Oona A. Hathaway, *Path Dependence in the Law: The Course and Pattern of Legal Change in a Common Law System*, 86 IOWA L. REV. 601 (2001) (arguing that law follows a path-dependent course, adhering to existing doctrine); Andrew J. Wistrich, *The Evolving Temporality of Lawmaking*, 44 CONN. L. REV. 737 (2012) (discussing how existing law constrains doctrinal development).

147 See LEE EPSTEIN ET AL., *THE BEHAVIOR OF FEDERAL JUDGES* (2013) (asserting that judges implement policy preferences in their decisions).

148 Cohen & Knetsch, *supra* note 21, at 749 (arguing that "judges . . . respond to an intuitive, non-empirical interpretation of community mores and individual preferences" that would include loss aversion).

149 See ZAMIR, *supra* note 33, at 172 ("If, however, people perceive losses as much more painful than unobtained gains, potential plaintiffs can be expected to sue for unobtained gains much less than for losses.").

150 Rachel Arnow-Richman, *Modifying At-Will Employment Contracts*, 57 B.C. L. REV. 427, 469-75 (2016).

151 See Charles R. Plott & Kathryn Zeiler, *The Willingness to Pay—Willingness to Accept Gap, the "Endowment Effect," Subject Misconceptions, and Experimental Procedures for Eliciting Valuations*, 95 AM. ECON. REV. 530, 532 (2005) ("When an incentive-compatible mechanism is used to elicit valuations, and subjects are provided with (a) a detailed explanation of the

research suggests that experts suffer less from loss aversion.<sup>152</sup> Careful statistical reviews of the magnitude of loss aversion across many studies also suggest that the average effect of decision framing is small to moderate (although it can be large in some settings).<sup>153</sup> Variations on endowment effect research also involve some instances in which the right to a commodity (a token to be traded for a mug) did not actually produce an endowment effect—physical possession of the good seemed essential.<sup>154</sup> Furthermore, institutional settings in which actors behave as agents for others also do not seem to exhibit an endowment effect, in at least some experiments.<sup>155</sup> In sum, the setting in which judges function is sufficiently different from the research on the endowment effect that its influence on how law develops are uncertain.

Some research hints at the influence of loss aversion on judges, but the link is indirect. Many of the odd asymmetries between gains and losses in various legal rules we listed at the outset of this Article are judicial creations,<sup>156</sup> which suggests that loss aversion affects judges. Others assert that

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mechanism and how to arrive at valuations; (b) paid practice using the mechanism; and (c) anonymity, we observe no [endowment effect].”). *But see* Korobkin, *supra* note 38, at 1243 (“Although experimental conditions probably have some explanatory power in some cases, the weight of the evidence suggests that it is extremely unlikely that the effect is merely an artifact of the experimental methods that demonstrate it.”). For further replies and criticisms, see Gregory Klass & Kathryn Zeiler, *Against Endowment Theory: Experimental Economics and Legal Scholarship*, 61 UCLA L. REV. 2 (2013); Charles R. Plott & Kathryn Zeiler, *The Willingness to Pay—Willingness to Accept Gap, the “Endowment Effect,” Subject Misperceptions, and Experimental Procedures for Eliciting Valuations: Reply*, 101 AM. ECON. REV. 1012 (2011).

152 See John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q.J. ECON. 41, 67 (2003).

153 See Anton Kühberger et al., *The Effects of Framing, Reflection, Probability, and Payoff on Risk Preference in Choice Tasks*, 78 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 204, 210 tbl.2, 219 (1999). *But see* Jonathan de Quidt et al., *Bonus Versus Penalty: How Robust Are the Effects of Contract Framing?*, 3 J. ECON. SCI. ASS’N 174, 175, 180 (2017) (describing the conflicting results of experiments concerning whether “incentives are more effective when they are framed as penalties for poor performance rather than bonuses for good performance”); David Gal & Derek D. Rucker, *The Loss of Loss Aversion: Will It Loom Larger Than Its Gains?*, 28 J. CONSUMER PSYCHOL. 497 (2018) (arguing that researchers have overstated the magnitude of loss aversion).

154 See Kahneman et al., *supra* note 108, at 1329–31 (noting that tokens to be exchanged for commodities did not produce an endowment effect); Vernon L. Smith, *Experimental Economics: Induced Value Theory*, 66 AM. ECON. ASS’N 274, 277–78 (1976) (noting the same result).

155 See Jennifer Arlen et al., *Endowment Effects Within Corporate Agency Relationships*, 31 J. LEGAL STUD. 1, 5 (2002) (“Our central finding is that situating subjects in an agency context significantly dampens the magnitude (and perhaps even the existence) of the endowment effect.”); see also Jennifer Arlen & Stephan Tontrup, *Does the Endowment Effect Justify Legal Intervention? The Debiasing Effect of Institutions*, 44 J. LEGAL STUD. 143 (2015) (asserting that institutional contexts like agency can eliminate the endowment effect).

156 See *supra* notes 21–36 and accompanying text; see also ZAMIR, *supra* note 33, at 226–27 (reviewing evidence that loss aversion affects judges).

the allocations of burdens of proof and *stare decisis* are attributable to loss aversion among judges.<sup>157</sup> Although loss aversion provides a parsimonious account of these areas of law, most of these asymmetries can be explained in other ways. Some researchers have attributed anomalous findings in their empirical studies of judicial decisionmaking to loss aversion as well.<sup>158</sup>

In a previous study of sitting judges, we found some evidence that loss aversion influences how judges think about litigation.<sup>159</sup> In that study, we asked judges to evaluate a hypothetical copyright case in the context of a settlement conference on the eve of trial. We indicated that the amount in controversy was \$200,000, that the plaintiff had a 50% chance of winning at trial, and that the parties would also each likely pay \$50,000 in attorneys' fees if they failed to settle the case and proceeded to trial.<sup>160</sup> We told judges that one of the parties had asked them for advice regarding a settlement offer. For half of the judges, the party was the plaintiff, who was considering a \$60,000 settlement offer proposed by the defendant.<sup>161</sup> For the other half, the party was the defendant, who was considering a \$140,000 offer proposed by the plaintiff.<sup>162</sup> We asked the judges in each version whether they thought that the party should be willing to accept the settlement offer. Consistent with the pattern of risk preferences that framing creates, judges were more inclined to support settlement for the plaintiff (who faced gains) than for the defendant (who faced losses).<sup>163</sup> Although the effect of the frame was smaller for judges than for others who have reviewed similar problems, judges were still less inclined to support the certain loss for defendants than they were to support the certain gain for plaintiffs.<sup>164</sup>

Similarly, in a study of administrative law judges, we replicated a classic demonstration showing that framing influences fairness judgments.<sup>165</sup> We asked a group of thirty-eight New York City administrative law judges attend-

157 Robert A. Prentice & Jonathan J. Koehler, *A Normality Bias in Legal Decision Making*, 88 CORNELL L. REV. 583, 638–39 (2003) (discussing *stare decisis*); Eyal Zamir & Ilana Ritov, *Loss Aversion, Omission Bias, and the Burden of Proof in Civil Litigation*, 41 J. LEGAL STUD. 165 (2012) (discussing burden of proof).

158 See generally Mark Schweizer, *Loss Aversion, Omission Bias and the Civil Standard of Proof*, in EUROPEAN PERSPECTIVES ON BEHAVIOURAL LAW AND ECONOMICS 125 (Klaus Mathis ed., 2015); Keith Sharfman, *Judicial Valuation Behavior: Some Evidence from Bankruptcy*, 32 FLA. ST. U. L. REV. 387 (2005).

159 See Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 796–99 (2001).

160 *Id.* at 796.

161 *Id.* at 796–97. The offer was \$10,000 better than the expected outcome at trial, which was a 50% chance of winning a \$200,000 award minus the \$50,000 in attorneys' fees.

162 *Id.* at 797. The offer was \$10,000 better than the expected outcome at trial, which was a fifty percent chance of losing a \$200,000 award plus the \$50,000 in attorneys' fees. *Id.* at 795.

163 *Id.* at 797.

164 *Id.* at 817 tbl.4.

165 Chris Guthrie et al., *The "Hidden Judiciary": An Empirical Examination of Executive Branch Justice*, 58 DUKE L.J. 1477, 1506–09 (2009). For a discussion of discounts versus surcharges, see *supra* notes 75–80 and accompanying text.

ing an educational conference to assess the fairness of a rent-payment system. Half of the judges assessed whether a payment system that added a \$50 surcharge to the monthly rent for using a credit card to pay was fair, while the other half assessed whether a payment system that offered a \$50 discount for cash was fair.<sup>166</sup> Although 47% of the judges assessing the system that included a surcharge found it to be unfair, only 5% of the judges assessing the system that included a discount found it to be unfair.<sup>167</sup> The judges in our study thus treated surcharges as losses and discounts as potential gains, thereby expressing the same kind of reference dependence that Kahneman and his collaborators found in lay adults.<sup>168</sup>

Our previous studies, however, did not involve assessing legal arguments. Loss aversion can only affect the development of the common law if it influences how judges evaluate cases. To test whether judges experience loss aversion when analyzing cases, we conducted a series of eight experiments with judges as research participants. We gave judges attending educational conferences hypothetical cases in which they assessed either a gain or a loss. Across eight different cases, we tested the four main phenomena that arise from framing effects—reference dependence, the status quo bias, the endowment effect, and risk seeking among losses. We found that judges treat losses and gains very differently.

## II. METHODOLOGY

The data described in this Article were collected during presentations made by one or both of us at judicial education programs that included a total of 1,186 judges. The presentations and demographic data on the judges are summarized in Table 1.

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166 Guthrie et al., *supra* note 165, at 1508.

167 *Id.*

168 *See supra* note 73 and accompanying text.

TABLE 1: SUMMARY OF JUDGES IN THE STUDIES AND DEMOGRAPHICS  
(all are state trial judges except as noted)

Study # & Scenario	Effect	Judges (n)	% Female	Experience (Median Years)	% Dem.
1. Salary Dispute	Reference Dependence	Cal. (40)	33	13	33
2. Breach of Contract	Reference Dependence	Cal. (40)	33	13	33
		Ohio (89)	19	11	29
		Minn. (119)	43	10	87
		NY (12)	55	15	36
3. Mutual Mistake	Status Quo Bias	Utah (51)	16	9	42
4. Employm't	Status Quo Bias	Fl. (146)	18	14	47
5. Medical Malpractice	Endowment Effect	NY (new judges) (71)	43	0	52
		Minn. (fed.) (16)	n/a	n/a	n/a
		Am. Judges Ass'n (112)	38	11	77
6. Water Rights	Endowment Effect	New Mexico (144)	39	8	73
		Canada (trial) (36)	24	7	n/a
		Alaska (24)	33	n/a	n/a
7. Products Liability	Risk Seeking	7th Cir. (fed.) (74)	n/a	n/a	n/a
		Fed. Magistrate Judges (139)	38	8	80
8. Bankruptcy	Risk Seeking	Bankruptcy Judges (113)	27	8	77

To obtain the data, we used the opportunity to present our research at continuing education programs for judges, a method we have employed for numerous research projects.<sup>169</sup> At the outset of our programs, we ask the

169 See Guthrie et al., *supra* note 159, at 816–18 (2001) (describing our methodology). We have previously reported research on judicial decisionmaking utilizing this methodology in a series of papers. See Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1 (2007); Guthrie et al., *supra* note 159; Jeffrey J. Rachlinski et al., *Altering Attention in Adjudication*, 60 UCLA L. REV. 1586 (2013); Jeffrey J. Rachlinski et al., *Can Judges Make Reliable Numeric Judgments? Distorted Damages and Skewed Sentences*, 90 IND. L.J. 695 (2015); Jeffrey J. Rachlinski et al., *Contribution in the Courtroom: Do Apologies Affect Adjudication?*, 98 CORNELL L. REV. 1189 (2013); Jeffrey J. Rachlinski et al., *Does Unconscious Racial Bias Affect Trial Judges?*, 84 NOTRE DAME L. REV. 1195 (2009); Jeffrey J. Rachlinski et al., *Probable Cause, Probability, Hindsight*, 8 J. EMPIRICAL LEGAL STUD. 72 (2011); Andrew J. Wistrich et al., *Can Judges Ignore Inadmissible Information? The Difficulty of*

judges to respond to a written questionnaire containing three to five hypothetical cases or tests.<sup>170</sup> For the most part, judges are not attending our conference out of particular interest in psychology. Most of our presentations are during plenary programs rather than in parallel sessions and many of them are attended by most of the judges in a jurisdiction. Hence, the judges are attending an educational program on judging, rather than attending a session on psychological aspects of decisionmaking. Furthermore, we use presentation titles that are vague (such as “judicial decisionmaking”) so as not to reveal what our research involves before the judges respond to the questionnaire.

We used a between-subjects experimental design in all of our studies presented here.<sup>171</sup> Each of the studies included two versions of a hypothetical case, thereby creating two experimental conditions. One version described the case from the perspective of gains and the other from the perspective of losses. We randomly assign each judge to review only one of the two versions of each case. Differences between the aggregated decisions made by the individual judges comprising the two conditions can thus be attributed to the factor that we varied.

In most cases we also asked the judges to provide demographic information, such as gender, political affiliation, years of judicial experience, etc. Table 1 reports the demographic results.<sup>172</sup> We did not, however, ask participants to identify themselves. We also gave judges the opportunity to complete the survey for pedagogic purposes, but to opt out of allowing us to use their questionnaire in any further research. Nearly all of the judges who attended our presentations completed the voluntary survey and authorized us to use their results in the research described below.<sup>173</sup>

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*Deliberately Disregarding*, 153 U. PA. L. REV. 1251 (2005); Andrew J. Wistrich et al., *Heart Versus Head: Do Judges Follow the Law or Follow Their Feelings?*, 93 TEX. L. REV. 855 (2015) [hereinafter Wistrich et al., *Heart Versus Head*].

170 The stimulus materials can be found in the Appendix.

171 See ROBERT M. LAWLESS ET AL., *EMPIRICAL METHODS IN LAW* 104 (2d ed. 2010) (describing “between-subjects” experimental designs).

172 When “n/a” appears in Table 1, it is because we did not include demographic questions. Some judges are more sensitive about such questions and we avoided asking them in some cases. Some judges did not provide some or all of the demographic information. We requested political orientation with the following question: “Which of the two major political parties in the United States most closely matches your own political beliefs?” Some judges responded to this question by stating that they are independent or do not feel attachment to either party. We treat these responses as missing data.

173 Roughly one percent of the judges we have surveyed have indicated that they would prefer that we do not use their surveys in our analysis, and we always honor such requests. We report the number of judges who failed to respond to a particular hypothetical in our description of the results of each experiment.

### III. EXPERIMENTS AND RESULTS

#### A. Study 1: Salary Dispute (Reference Dependence #1)

During the oral arguments for *Expressions Hair Design v. Schneiderman*,<sup>174</sup> the Justices seemed to understand that reference dependence is an illusion of judgment. As noted above, the case challenged the constitutionality of a New York statute that prohibits surcharges for the use of credit cards, but allows discounts for the use of cash.<sup>175</sup> Chief Justice Roberts ridiculed the statute as patronizing for its implicit assumption that consumers do not understand how surcharges work.<sup>176</sup> Justice Breyer also easily understood the economic equivalence between using a surcharge and a discount, but expressed concern that “not everybody is an economist.”<sup>177</sup> He seemed also to understand that people react differently to surcharges than to discounts.

But do most judges understand the illusions of judgment that reference dependence creates? We suspect not. The study we conducted with administrative law judges, described above, revealed large disparities in how they reacted to discounts and surcharges.<sup>178</sup> In that study, however, we did not ask for a legal judgment, but for an assessment of fairness. Perhaps requiring judges to make a judgment with direct legal consequences would allow them to see and ignore the illusion that reference dependence creates.

#### 1. Methods and Materials

To test whether judges react to reference dependence in a legal setting, we tested for what psychologists call the “money illusion.”<sup>179</sup> The money illusion is a myopic effort to avoid an apparent loss from the status quo, while ignoring the effects of inflation. The scene from *All in the Family*, described above, characterizes it perfectly.<sup>180</sup> Employees worry about reductions in salary relative to their current salary, not relative to inflation. We tested whether judges would fall prey to the same illusion.

In our test for this form of reference dependence, we gave a hypothetical contract dispute to forty California trial judges attending a state-sponsored educational conference. The judges assessed one of two versions of a dispute involving an independent contractor. The facts were as follows:

Imagine you are presiding over a bench trial involving an alleged breach of a written contract. The plaintiff is an independent consultant working full time for a small tech company on a series of projects over the course of

174 137 S. Ct. 1144 (2017).

175 See *supra* note 28 and accompanying text.

176 While questioning the attorney representing the State of New York, Chief Justice Roberts asserted: “You’re saying that the—the American people are too dumb to understand that if you say \$10 plus a 20-cent surcharge, they can’t figure out that that’s \$10.20.” Transcript of Oral Argument at 35, *Expressions Hair Design*, 137 S. Ct. 1144 (No. 15-1391).

177 *Id.* at 10.

178 See *supra* notes 165–68 and accompanying text.

179 Tversky & Kahneman, *Rational Choice*, *supra* note 2, at S261.

180 See *supra* notes 70–71 and accompanying text.

several years. The parties agreed that the firm would pay the plaintiff a fixed salary that was consistent with the going rate in his profession for the first year, and then a “fair salary” thereafter. The company is making a small profit. At the time, the industry was experiencing a recession with substantial unemployment *but the area had no inflation*. There were many other consultants anxious to work at the firm. The company decided to *decrease* the salary paid to the plaintiff 7% for the second year of work. The plaintiff sued, contending that the salary in the second year was not a “fair salary.”

Half of the judges read the version described above but without the italics. For the other half, the first italicized clause was replaced by the following: “and inflation of 12%.” The materials then stated that the company increased the plaintiff’s salary by 5%. In both conditions, the plaintiff loses 7% of his effective purchasing power, but in the second one he experiences a pay raise, while in the first one he experiences a pay cut.

We asked both groups of judges the following: “Based solely on this information, how would you decide the case?” We then gave them the choice of defendant or plaintiff. Unlike our previous study of reference dependence, this version required judges to interpret a contract term, and hence make a legal judgment.

## 2. Results

The judges expressed reference-dependent choices. Among the judges who evaluated the 7% salary reduction, 45% (nine out of twenty) concluded that the reduction was unfair. In contrast, none of the twenty judges who evaluated the increase concluded that it was unfair. This difference was statistically significant.<sup>181</sup>

## 3. Discussion

Reference dependence influenced the judges’ assessments of the contract in our scenario. In both versions, the judges assessed whether a 7% loss in real income would constitute a “fair salary” within the terms of the agreement. When that 7% consisted of a reduction in pay, nearly half of the judges ruled that the defendant had failed to satisfy the contract terms. But all of the judges determined that merely failing to keep pace with inflation was consistent with the defendant’s contractual obligations. In the effect, the money illusion influenced the judges’ interpretations of the contract, which essentially duplicates the results obtained by Kahneman et al. with lay people in a nonlegal setting.<sup>182</sup> The legal setting did not allow the judges to avoid falling prey to a reference-dependent perspective.

To be sure, the materials were brief. A real case would naturally involve a great deal more information. The materials, however, provided the essential facts. The only issue was whether the salary offered was consistent with the contractual obligation to provide a “fair salary.” The most relevant infor-

181 Fisher’s Exact Test,  $p < .001$ .

182 See *supra* notes 73–74 and accompanying text.

mation was the change from the initial salary and the rate of inflation, which we provided. Judges might have felt that the local economic conditions were not relevant, perhaps thinking that the company could move. If so, then the judges might have assessed the salary against the current low national rate of inflation. Although we cannot rule that out, the materials suggest that the local conditions provide the standard against which the fairness of the salary is sensibly measured. Furthermore, the result is consistent with the previous study of administrative law judges. The salary reduction simply seemed worse to the judges than a failure to keep pace with inflation. To paraphrase Justice Breyer, not all judges are economists.

*B. Study 2: Breach of Contract (Reference Dependence #2)*

Would judges express a reference-dependent aversion to losses in a more complex setting? As noted above, Wilkinson-Ryan and Hoffman elicited a reference-dependent reaction to breach of contract in a commercial setting.<sup>183</sup> They showed that lay adults judged a contractor more harshly for breaking a contract to undertake a more lucrative job than when the contractor broke the contract to avoid incurring a loss.<sup>184</sup> Both are conceptually the same—the breaching party was able to perform but was economically better off by breaching—but the research participants reacted less negatively to the contractor trying to avoid incurring a loss than to the one trying to obtain greater profit. Whether the contractor sought to obtain a gain or to avert a loss influenced how the research subjects judged the contractor's behavior, even though the amount at stake was identical. Would judges do the same?

1. Methods and Materials

To test whether frame of reference influences judges evaluating breach of contract claims, we adapted the materials that Wilkinson-Ryan and Hoffman used with lay adults and presented them to judges.<sup>185</sup> The materials stated that the plaintiff had contracted to pay the defendant \$12,000 to install flooring in a house he was trying to sell. The materials indicated that the plaintiff (a real estate professional) would earn a \$20,000 bonus upon the sale of the residence if the floors were restored by the time of sale. They also indicated that the defendant expected to earn \$1,000 profit from the job. The defendant failed to perform the contract for one of two different reasons. For half of the judges, the defendant abandoned the job upon learning that the price of the flooring was higher than expected, and so the job would actually cost \$1,000, rather than net a \$1,000 profit. For the other half, the defendant abandoned the job upon getting an offer to perform a more lucrative job that would net \$1,000 more in profit than the job for the plaintiff. The defendant thus breached the contract either to avoid a \$1,000 loss or to obtain a \$1,000 gain. The plaintiff had to sell the residence without the new

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183 Wilkinson-Ryan & Hoffman, *supra* note 81, at 1028–30.

184 *Id.* at 1029–30.

185 *Id.*

flooring and the buyers posted negative commentary about the plaintiff on the internet. The plaintiff thus sought damages for the lost bonus and harm to his reputation. We asked the judges to determine an appropriate damage award.

We gave these materials to four groups of judges: forty state trial judges attending an educational conference sponsored by the California judicial institute in San Diego; 89 Ohio municipal and county judges attending their annual educational conference; 119 Minnesota state judges attending their annual judicial education conference; and 12 New York judges attending a regional educational conference.

## 2. Results

The judges reacted differently to the two versions. The judges who read that the defendant had breached the contract to avoid a loss (124 judges) awarded an average of \$8,000 as compared to an average of \$10,400 among the judges who read that the defendant had breached to obtain a gain (121 judges).<sup>186</sup> This difference was marginally significant.<sup>187</sup>

## 3. Discussion

The variation in the defendant's frame of reference influenced the judges. Judges were more sympathetic to a contractor trying to avoid a loss than to a contractor trying to obtain a greater gain. This result is perhaps not surprising—the contractor trying to obtain a better deal probably seemed greedy, whereas the contractor trying to avoid a loss seemed desperate. Nevertheless, both contractors in our two scenarios were making economically similar decisions. Both broke the contract to improve their economic condition by \$1,000. The psychology of framing, however, predicts that the potential loss will hurt more than the potential gain will please, and hence breaching to avoid a loss was more understandable to the judges.

Even considering the influence of framing, the result is somewhat surprising. Our scenario does not ask the judges to punish the defendant for the breach of contract, nor does contract law provide for punishment under these circumstances.<sup>188</sup> The judges should have identified a damage award that put the plaintiff in the same position he would have been had the defendant performed the contract. Had the defendant performed, the plaintiff would have earned an extra \$8,000 on the sale of the residence and avoided negative reviews. Neither anger nor empathy toward the defendant has any bearing on these values. In other contexts, we have found that judges' emo-

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186 Four of the judges in the gain condition and three of the judges in the loss condition did not respond.

187  $t(122) = 1.92$ ,  $p = .06$ . Many judges settled on a few common responses: \$0, \$8000, and \$20,000, and hence we also assessed the results with a nonparametric test, the Mann-Whitney U Test. The results were also marginally significant:  $z = 1.86$ ,  $p = .06$ .

188 Punitive damages are not typically available for breach of contract. RESTATEMENT (SECOND) OF CONTRACTS § 355 (AM. LAW INST. 1981).

tional reactions can leak into their judgments.<sup>189</sup> We suspect the same mechanism is at play here—antipathy for the defendant’s greed in breaching the contract to earn an extra profit inclined the judges to award more to the plaintiff (or sympathy for the defendant’s effort to avoid a loss inclined the judges to award less).

Although the judges in our study reacted to the frame, their reaction was less dramatic than that of the lay adults in the study Wilkinson-Ryan and Hoffman conducted.<sup>190</sup> That difference suggests that judges might be less sensitive to frame, but other factors may be at work. Their materials did not request a damage award, but used a first-person perspective.<sup>191</sup> That is, they asked their subjects to imagine that they had been the victims of the breach and to identify what they should obtain in compensation. Second, their subjects were not necessarily lawyers, and thus probably did not know that contract law limits recovery under these circumstances to compensation for economic loss.

As an alternative account of our results, judges might have been reacting to a difference in contract law that arises from contrast effects. Promisors need not fulfill their contractual obligations if their performance has become impracticable.<sup>192</sup> Breaking a contract to avoid an extreme, unexpected loss is thus acceptable. No similar doctrine exists to come to the aid of a party who breaches to earn extra profits.<sup>193</sup> Although the unexpected loss in the contract is not sufficient to sustain a defense of impracticability,<sup>194</sup> the judges might have reacted more favorably to the defendant facing a loss because the materials reminded them of impracticability, which treats losses differently from gains. Thus in this area, the law itself seems to reflect a reference dependence.

### C. Study 3: Mutual Mistake (*Status Quo Bias #1*)

Other aspects of contract law do not distinguish between gains and losses. For example, the doctrine of mutual mistake allows parties to rescind a transaction when the “mistake of both parties at the time a contract was made as to a basic assumption on which the contract was made has a material effect on the agreed exchange of performances.”<sup>195</sup> The standard is the same regardless of whether the supposed mistake has induced a seller to sell

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189 Wistrich et al., *Heart Versus Head*, *supra* note 169, at 911 (“[W]hen the law is unclear, the facts are disputed, or judges possess wide discretion their decisions can be influenced by their feelings about litigants.”).

190 Wilkinson-Ryan & Hoffman, *supra* note 81, at 1028–30.

191 *See id.* at 1029.

192 RESTATEMENT (SECOND) OF CONTRACTS § 261 (AM. LAW INST. 1981).

193 *See* Wilkinson-Ryan & Hoffman, *supra* note 81, at 1028–29.

194 *See* RESTATEMENT (SECOND) OF CONTRACTS § 261, cmt. b (AM. LAW INST. 1981) (“[M]ere market shifts or financial inability do not usually effect discharge under the rule stated in this Section.”).

195 *Id.* § 152(1).

an item below its true value or a buyer to purchase an item at well above its true value.

We suspect, however, that the law on the ground differs somewhat from the doctrine. Sellers who mistakenly believe they are selling a low-value item that has hidden value are in a different frame from buyers who mistakenly pay too much for a low-value item. By undervaluing an item, a seller foregoes a potential gain from a more lucrative sale. Restoring the status quo enables them to realize that gain. In contrast, a buyer who overvalues an item incurs a loss. Restoring them to the status quo allows them to avoid a loss. Inasmuch as people do not react as strongly to foregone gains as they do to losses in contracts,<sup>196</sup> courts probably feel greater sympathy toward someone who overpaid for an item than someone who sold it for less than it was worth. A seller who has foolishly sold a valuable painting for a pittance because she thought it was a worthless trinket is surely disappointed, but not as disappointed as a buyer who has paid a fortune for what turns out to be a forgery.

## 1. Methods and Materials

To test whether the frame of foregone gains versus losses affects judges evaluating a commercial dispute, we presented a contract dispute to fifty-one Utah state trial judges attending their annual educational conference. The judges each saw one version of a contract dispute between the seller and buyer of a vintage, collectable video game. One of the parties was suing to rescind the contract based on a mutual mistake. The basic facts were as follows:

The case actually involves two video games. One, called “Family Fitness Stadium Events,” was created in the early 1980s for the original Nintendo video game system. It was made by a long defunct company called Bandai and has been called the “Holy Grail of video game collectors.” Only 200 copies of this game were ever sold and its odd, amusing graphics have captivated the imagination of those who collect vintage video games. It is extremely rare and worth a great deal. “Family Fitness” is easily confused with the other video game at issue in this case, called “Nintendo Fitness,” which is extremely common and worth very little.

The plaintiff and the defendant both attended a large convention of collectors who buy and sell vintage video games, comic books, and related memorabilia in Salt Lake City. They both rented booths at the convention at which they offered videos from their collections for sale. They also bought items from other collectors at the convention.

For half of the judges, the materials then stated a case of foregone gains by the seller (who then sues to rescind):

The plaintiff had placed the game in question among a set of bargain games, and offered it for sale for \$1, as the plaintiff believed it was the common “Nintendo Fitness” game. The defendant spotted the game and bought it

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196 See Wilkinson-Ryan & Hoffman, *supra* note 81, at 1028–30.

on a whim. The next day, the defendant took the game to an expert and learned that it is the “Family Fitness” game and is worth \$38,000.

The other half of the judges read facts suggesting that the mistake had created a loss for the buyer (who then sues to rescind):

The defendant had placed the game in question among a set of high-end games, and offered it for sale for \$38,000, as the defendant believed it was the “Family Fitness” game. The plaintiff spotted the game and bought it on a whim. The next day, the plaintiff took the game to an expert and learned that it is the common “Nintendo Fitness” game and is worth only \$1.

The materials then stated that the only issue in the case is whether the parties have made a mutual mistake that would justify rescission. The materials identify the rule concerning rescission as stated in the *Restatement (Second) of Contracts* and then indicate that the parties have filed cross motions for summary judgment. The materials then asked the judges to decide in favor of one party or the other. Specifically, in the foregone gains condition, the materials requested the judges to check one of the following:

\_\_\_ I would grant the plaintiff’s motion and require the defendant to return the game.

\_\_\_ I would grant the defendant’s motion and allow him to keep the game.

In the loss condition, the materials ask the judges to check one of the following:

\_\_\_ I would grant the plaintiff’s motion and require the defendant to return the \$38,000.

\_\_\_ I would grant the defendant’s motion and allow him to keep the \$38,000.

## 2. Results

The frame had a large effect on the judges’ decisions. Among judges viewing the case as involving a foregone gain, only 41% (13 out of 32) indicated they would rescind the contract. Among judges viewing the case as involving losses, however, 82% (14 out of 17)<sup>197</sup> indicated they would rescind the contract. The difference was statistically significant.<sup>198</sup>

## 3. Discussion

The frame influenced how judges assessed the claim for rescission. The majority of judges assessing the disappointed seller concluded that “a deal is a deal,” and let the transaction stand. The vast majority of the judges came to the rescue of the disappointed buyer, however. In both cases, the facts supporting the claim for rescission were identical. The materials indicated that the parties were unaware of the game’s true identity at the time of sale. The

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197 Two of the judges in the loss condition did not respond. All of the judges in the foregone gain condition responded.

198 Fisher’s Exact Test,  $p = .007$ . The sample size was too small to run a demographic analysis: most of the judges were Republican and male.

nature of the transaction, a whimsical purchase at the video game equivalent of a flea market, suggested that the parties might be taking their chances. These factors are present in both the foregone gains and losses scenarios, however. The loss nevertheless presented a more compelling case for rescission for the judges.

We also tested this scenario with a group of arbitrators and found similar results.<sup>199</sup> Arbitrators, like judges, were more solicitous of the claims of the disappointed buyer than the disappointed seller.

To be sure, the judges might have read other facts into the scenarios. The judges might have suspected fraud on the part of the seller in the loss frame, in that the seller placed the video game among highly valuable collectables. By contrast, the placement of the game in the bargain bin in the foregone gains frame suggests a plaintiff who simply wants to unload his inventory and is willing to take his chances. Although that is possible, the materials make no such suggestion. Rather, the facts clearly stated that both parties were mistaken and that neither of them had any real understanding of the game's value. The loss just hurts more than the foregone gain and motivates the judges to make a different ruling.

#### D. Study 4: Hiring and Firing Decisions (*Status Quo Bias* #2)

Failing to land a job is often a disappointment, but it is not apt to be as dispiriting as losing a job. Reasons for this divergence exist, of course, just as reasons support protecting any status quo.<sup>200</sup> Employment means a steady stream of income that an employee might be counting on for rent or mortgage payments, whereas an applicant for a position is unlikely to begin adjusting her lifestyle for a position she has not yet secured. Failing to obtain a job and losing one have much in common, however. Both likely imply some measure of failure or inadequacy. Both mean that an applicant must look for work. The income stream one could have obtained from employment can be as valuable as the income stream lost due to a termination. Numerous studies, however, show that framing influences how people think about employment.

Some areas of law distinguish between the loss of employment and the failure to obtain employment. Notably, when the position is a government job, due process protections can apply to termination, but not to the failure to hire.<sup>201</sup> These cases reflect a corollary to the distinction between applicants for government benefits as opposed to those already receiving such

199 Rebecca K. Helm et al., *Are Arbitrators Human?* 13 J. EMPIRICAL LEGAL STUD. 666, 677–81 (2016).

200 Samuelson & Zeckhauser, *supra* note 88, at 33–35 (offering rational reasons for status quo bias).

201 Compare *Perry v. Sindermann*, 408 U.S. 593 (1972) (finding implied property entitlement to job tenure, protected by due process for state college teacher who had completed ten one-year contracts), with *Bd. of Regents v. Roth*, 408 U.S. 564 (1972) (rejecting property rights claim of college professor not renewed after single one-year contract). Cf. *Engquist v. Or. Dep't of Agric.*, 553 U.S. 591, 606 (2008) (“[R]ecognition of a class-of-one

benefits.<sup>202</sup> The Supreme Court has never held that an applicant for benefits triggers the existence of the due process protection.<sup>203</sup> Practicality might be the key motivation behind this distinction, but it echoes the distinction between gains and losses.

Employment discrimination law, however, does not distinguish between application for a position and termination (or promotion). Firms may not use membership in a protected class (race, sex, and, in some states, sexual orientation) as a basis for terminating an employee, nor may they use membership in a protected class as a basis for making hiring (or promotion) decisions.<sup>204</sup> The distinction between employment discrimination law and due process law here perhaps arises from the different purposes that these areas of law serve. Employment discrimination law is intended to benefit those individuals who are potential victims of invidious discrimination, just as due process protection protects individuals from arbitrary treatment by government officials. Antidiscrimination law, however, is also intended to rid the workplace of discrimination and provide equal opportunity to people of all races and sexes. It thus serves a broader social function that it could not fulfill if it were limited to providing remedies to those who are already employed.

Social policy underlying antidiscrimination law, however, might clash with the intuitions about employment that framing creates. Applicants who have failed to secure a position have a different status quo from employees who have been discharged. Losing a job might evoke more of a reaction from judges than being denied one. Even apart from framing, it might be more difficult for an applicant to obtain evidence sufficient to support their claim relative to a discharged employee. Applicants are not on the inside of companies and hence are not privy to the internal workings of how a firm operates in the way that existing employees are, and thus might not even recognize that they are the victims of discrimination. Employment discrimination suits overall have low success rates for plaintiffs,<sup>205</sup> and the extra difficulty of not even knowing where to look for evidence might be enough to

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theory of equal protection in the public employment context . . . is simply contrary to the concept of at-will employment.”).

202 See *supra* note 35 and accompanying text.

203 See *Kapps v. Wing*, 404 F.3d 105, 115 (2d Cir. 2005) (“The Supreme Court has repeatedly reserved decision on the question of whether *applicants* for benefits (in contradistinction to *current recipients* of benefits) possess a property interest protected by the Due Process Clause.”).

204 See 42 U.S.C. § 2000e-2(a)(1) (2012) (“It shall be an unlawful employment practice for an employer to *fail or refuse to hire or to discharge* any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex, or national origin . . . .” (emphasis added)).

205 See Kevin M. Clermont & Stewart J. Schwab, *How Employment Discrimination Plaintiffs Fare in Federal Court*, 1 J. EMPIRICAL LEGAL STUD. 429, 443 (2004) (“The most significant observation about the deciding of cases, then, is the long-run lack of success at trial for employment discrimination plaintiffs, relative to other plaintiffs.”).

deter applicants from pursuing claims. But we suspect that even if all else is equal, applicants who are the victims of discrimination face worse prospects for successfully pursuing discrimination claims than discharged employees.

## 1. Methods and Materials

To test our thesis, we presented a hypothetical case involving an employment discrimination issue to 146 Florida trial judges.<sup>206</sup> The materials asked the judges to “[i]magine that you are presiding in a bench trial of the following employment discrimination lawsuit.” It then described a potential lawsuit arising from age discrimination. The materials set up the lawsuit as follows:

Frank Porter, a 61-year-old man, filed a complaint with the Florida Commission on Human Relations under the Florida Civil Rights Act of 1992, asserting that he was the victim of age discrimination at the hands of Gatorville College, a small private college. The Commission, overburdened with other complaints, failed to investigate the allegations within 180 days of the complaint, so pursuant to section 760.11 of the Act, Porter retained counsel and filed suit against Gatorville College under section 760.10 of the Act, which makes it unlawful for an employer to discriminate on the basis of age (and other protected statuses).

For half of the judges, the materials indicated that the plaintiff was one of five applicants for a resident director position at a dormitory and was not hired. For the other half, the materials indicated that the plaintiff was one of five residential directors faced with a layoff due to an effort to reduce the number of staff—and he was let go. The materials went on as follows:

The facts presented at trial are as follows. [hire: Porter was one of five applicants for four “Resident Director” positions at four dormitories at Gatorville College / fire: Porter was one of five Resident Directors at Gatorville College, which sought to reduce its Resident Director staff from five to four.] All of the [hire: applicants / fire: Resident Directors] held similar educational and professional credentials. The College chose [hire: not to hire / fire: to discharge] Porter, contending that he did not have the interpersonal and staff management skills of the other applicants. Porter contends that the real reason he was [hire: not hired / fire: discharged] is because of his age. In support of this argument, he points out that the [hire: other four applicants, each of whom was hired / fire: other four resident directors, each of whom was retained], are all under 30, while he is 61. He also produced notes from the central administration supervisor with whom he met. Next to Porter’s name, the supervisor’s notes read, “Energy? Understanding of today’s college students?”

Finally, the materials for all judges asked for a determination on the merits:

To establish the Defendant’s liability for age discrimination, the Plaintiff must show that his age was a “substantial or motivating factor” that prompted the Defendant’s decision [hire: not to hire him / fire: to fire

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<sup>206</sup> This was roughly half of the judges in attendance at the conference. The other half received a hypothetical meant to test a different issue.

him]. Based solely on the facts reported above, would you find for the plaintiff or the defendant?

## 2. Results

Among those judges who reviewed the failure to hire, 14% (10 out of 69) found for the plaintiff, as compared to 30% (22 out of 74) among those judges who reviewed the firing version.<sup>207</sup> This difference was statistically significant.<sup>208</sup>

## 3. Discussion

Consistent with the variation in frame, judges treated hiring differently from firing. More judges found that age had a substantial or motivating effect on the decision to fire the plaintiff than for failing to hire him, even though the facts were identical. Although the law is identical, the judges treated the cases differently. The practical effect of this disparity is that the judges needed more evidence to support an age discrimination claim for a failure to hire than for a termination.

To be sure, judges could have interpreted the facts differently in the two scenarios. The notes indicating that the plaintiff might have lacked energy or understanding of today's students might have a different meaning when written about an applicant than an existing employee whose actual performance can be evaluated. That said, it is not clear why such a difference would have made the judges more solicitous of the claim by the existing employee. A statement that an older candidate might lack energy is apt to be based on impressions and stereotypes, whereas such a statement about an existing employee could be based on actual observations of him in the workplace. Therefore, the judges should have been more suspicious of such a statement in the hiring scenario than in the firing scenario. We suspect that judges are simply more protective of existing employees than of applicants.

### *E. Study 5: Medical Malpractice (Endowment Effect #1)*

The most extreme differences between gains and losses occur with bodily integrity.<sup>209</sup> Valuation studies of public safety suggest that people who are willing to pay only modest sums for increased safety or security also demand enormous compensation for a comparable reduction in safety or security.<sup>210</sup> The endowment effect tends to be larger for possessions that have a personal component.<sup>211</sup>

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207 Three judges in the "fire" condition did not respond; all judges in the "hire" condition responded.

208 Fisher's Exact Test,  $p = .04$ .

209 See Viscusi et al., *supra* note 113, at 477.

210 See Ritov et al., *supra* note 113, at 146–47.

211 See ZAMIR, *supra* note 33, at 26–27 ("When owning an object becomes part of one's self-definition, a self-serving bias . . . likely results in an increased valuation of the object . . .").

The variation between gains and losses appears to influence decisions in a legal context as well. McCaffery, Kahneman, and Spitzer showed that people asked how much compensation would be necessary to make them whole after an injury provide vastly smaller dollar amounts than those asked how much would be necessary for them to allow a defendant to injure them in the same way.<sup>212</sup> The former reflects the gain frame—a plaintiff who has suffered a loss is seeking to improve their status quo, while the latter question asks subjects to price a loss. The participants apparently felt that much more money was necessary to make them willing to incur the loss than was necessary to restore the status quo for a loss already incurred. We wondered whether judges would also react the same way.

## 1. Methods and Materials

To test whether judges similarly perceive a distinction between losses and gains in personal injury cases, we constructed a hypothetical case involving medical malpractice to present to trial judges. We presented the hypothetical to 199 judges: 71 newly elected trial judges in New York State; 16 federal judges in the U.S. District Court for the District of Minnesota; and 112 judges attending the 2015 American Judges Association Annual Conference. The judges were mostly trial court judges.<sup>213</sup>

Our materials described a case of medical malpractice involving eyesight in which the plaintiff, Cliff Roberts, had developed an infection in both of his eyes after ocular surgery. The materials stated that an “inquiry revealed that a nurse had mistakenly brought surgical equipment into the operating room that had just been used on a patient with a staph infection.” The defendant hospital admitted that it was liable for the infection and its consequences. It disputed only the amount of damages. The materials described the plaintiff as follows:

Roberts is 34 years old, married, and has two young children (ages 4 and 2). He continues to hold an office job in the company where he once worked as a welder. He has learned to read Braille and, with the aid of a special computer, has mastered basic accounting skills. He is thus able to support himself and his family. He has lost the ability to drive, of course, and has difficulty getting around by himself. He has also lost the ability to engage in his favorite sports and hobbies, which had included skiing, painting, and tennis. Roberts has begun psychotherapy for depression and has had little interest in replacing these activities with others that he can manage while blind. He claims that his marriage has also suffered since the surgery and that he cannot find meaningful ways to engage with his children.

The materials indicated that the parties had settled on an amount for “all economic damages” but could not agree on the amount for “lost enjoyment of life.” Roberts’s complaints were that he has lost his favorite hobbies,

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212 McCaffery et al., *supra* note 118, at 1355–59 (describing experiment and results).

213 Twenty of the judges at the American Judges Association and two of the Minnesota judges were appellate judges; the rest of the judges were trial court judges.

he [has become] depressed, and his home life has deteriorated since he lost his vision. For its part, the defendant asserted that “most blind people develop interests that do not depend on sight (including forms of skiing).” It also contended that “for most people, blindness is not an impediment to a successful marriage or family life.”

All of the judges received that information, but we created a variation that manipulated the frame of the plaintiff’s injury. For half of the judges, the materials described a “foregone gain.” They stated that “Roberts was a skilled welder who suffered severe damage to the retinas in both of his eyes during a freak explosion on a job site four years earlier.” Then they noted that a surgical treatment that would restore his eyesight completely had become available, but that due to the infection, the treatment would not work and his sight could never be restored. We asked these judges the following: “Based on these facts, how much would you award Roberts for the lost enjoyment of life attributable to the hospital negligently failing to restore his sight?”

For the other half of the judges, the case presented the injury as a loss. The materials stated that the plaintiff had been diagnosed as having “a rare disease that had begun to cause the retinas in both of his eyes to degenerate slowly” and had the potential to cause long term loss of his vision. The materials indicated that a surgical procedure was available to avoid the risk of losing his vision. He then contracted the same infection as described in the gain frame, causing him to lose his vision permanently. We asked these judges the following: “Based on these facts, how much would you award Roberts for the lost enjoyment of life attributable to the hospital negligently causing him to lose his sight?”

In effect, the plaintiff either failed to regain his sight due to the hospital’s negligence or lost it due to the hospital’s negligence.

## 2. Results

Table 2 presents the results. The judges expressed an endowment effect for eyesight. Among 92 judges imposing damages for a failure to recover the plaintiff’s vision, the average award was just over \$4 million (with a median of \$1.5 million), as compared to \$5 million (\$2.5 million median) among the 98 judges imposing damages for the loss of the plaintiff’s vision. This difference was statistically significant.<sup>214</sup>

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214 The data were highly positively skewed. Hence, we analyzed the data in two ways. First, we used a nonparametric comparison, the Mann-Whitney U Test, which was significant:  $z = 1.99$ ,  $p < .05$ . Second, we assessed various transformations of the data to obtain a normal distribution: the fourth root of the awards was the closest. A  $t$ -test (assuming identical variance among the two samples) on the fourth root approached statistical significance.  $t(188) = 1.68$ ,  $p < .10$ .

TABLE 2: AVERAGE AND QUANTILES OF THE AWARD BY CONDITION  
(foregone gain versus loss), in thousands of dollars

Condition (n)	Average	25th Percentile	Median	75th Percentile
Gain (92)	4,174	1,000	1,500	5,000
Loss (98)	5,000	1,000	2,500	5,000

All three groups of the judges expressed the same trend, as Table 2A shows.

TABLE 2A: AVERAGE AND QUANTILES OF THE AWARD BY CONDITION  
(foregone gain versus loss), in thousands of dollars, by judge  
group

Judge	Condition	Mean (n)	25th Percentile	Median	75th Percentile
New NY	Gain	6,294 (31)	350	1,200	5,000
	Loss	6,542 (40)	500	4,000	8,500
MN	Gain	1,781 (8)	625	1,000	2,750
	Loss	5,500 (8)	1,500	5,000	7,500
AJA	Gain	3,295 (53)	1,000	1,500	5,000
	Loss	3,686 (50)	1,000	2,500	5,000

None of the demographic characteristics we measured (gender, political orientation, experience) had any statistically significant effect on the results.<sup>215</sup>

### 3. Discussion

The frame affected how judges assessed the value of eyesight. The judges valued the loss of sight as a notably more important harm than the failure to restore sight. A lifetime of blindness is a difficult disability to price, of course. Judges have no clear metric and no fixed table to consult. It was not surprising that the damage awards were erratic. But the loss was identical in both versions and caused by the same negligent conduct. The judges assigned a greater price to the loss of sight than to the foregone opportunity to regain vision.

In many contexts, the loss of eyesight might well be more distressing than the failure to restore a person's vision. An individual living without eyesight is apt to have adapted to the loss, whereas a person facing the loss of vision will have to undergo that adaptation. We tried to address this in our fact pattern by describing the adaptations that the plaintiff had made to his blindness. Both conditions describe his having made a good occupational

<sup>215</sup> The analysis of each of these was conducted using ANOVA (ANCOVA for experience) of the fourth root, with condition, the demographic factor, and an interaction as independent variables. A statistically significant interaction term would have indicated that frame affected the judges with different backgrounds differently, but this term was not significant for gender ( $F(1, 166) = 0.57, p = .45$ ), political orientation ( $F(1, 143) = 0.06, p = .81$ ), and experience ( $F(1, 98) = 1.20, p = .27$ ).

adjustment by learning Braille and securing employment. These costs, however, were not part of the judges' calculus, as the materials indicated that the hospital and the plaintiff had settled upon an amount for the economic impact of the injury. Both also describe him as having continued social and psychological problems which is the primary component of the remaining injury. Thus, although it is possible that the judges reasonably saw the loss and gain differently, the fact pattern depicts an identical harm.

Like many cognitive processes that can lead to misjudgment, the framing effect we uncovered in this problem might be the product of a useful way of thinking that is simply overapplied. Malpractice cases likely include a great many more examples of the loss of an ability or the infliction of harm than the failure to restore some ability. Courts even struggle to conceptualize a coherent approach to the loss of a chance.<sup>216</sup> Our foregone gain scenario thus might have been too unfamiliar, even though the harm was clearly defined. Nevertheless, we view these results as a clear extension of the work done by McCaffery and his colleagues showing that juries experience markedly different reactions to gains and losses in personal injury cases.<sup>217</sup> So too do judges.

#### F. Study 6: Water Right (Endowment Effect #2)

From an economic perspective, an unconstrained option to take ownership of a commodity is economically equivalent to actual ownership. People do not usually treat the option to own as identical to actual ownership, however. Once people possess an item, its value seems instantly to grow—a phenomenon that has been dubbed the endowment effect. Because the option to own something does not entail its possession, the option does not trigger the endowment effect, and so people value possession more than options.

#### 1. Methods and Materials

To explore whether judges react differently to options and possession, we gave judges in New Mexico (144 judges), Canada (36 judges), and Alaska (24 judges) a hypothetical case involving water rights. The materials described a lawsuit by “a large real-estate developer” against a state (or provincial) agency that manages water rights. The suit involved the developer's water rights, which consisted of either an option to buy water rights or rights the developer already owned. In each case the agency exercised its statutory power to revoke the rights, resulting in a lawsuit by the developer to challenge the revocation.

The materials indicated that the agency commonly sold the water rights to private parties, “often at deep discounts to encourage agriculture and development.” The developer had obtained rights in an auction by the agency for water that would only become available “after the construction of

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<sup>216</sup> See Glen O. Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL STUD. 779 (1985).

<sup>217</sup> McCaffery et al., *supra* note 118, at 1403.

a new aqueduct next year.” The water was essential to the developer’s plans for “a new, 300-unit residential housing development with a golf course.”

The materials stated that the developer’s rights were “subject to reallocation and readjustment in times of scarcity.” Owing to recent drought conditions, the agency decided to cancel the developer’s rights. The materials provided the basis for the developer’s lawsuit challenging this decision as follows:

The [Agency’s] decisions are subject to judicial review, and [the developer] has filed suit. The [Agency’s] factual determinations are subject to enormous deference and [the developer] does not challenge them. Rather, he asserts that it was inappropriate for the [Agency] to privilege other uses of water over his proposed residential development. He notes that the [Agency] allowed several large ranches and farms to retain and even to expand their water consumption. He also argued that [the Agency] is undertaking a new project to divert water to in-stream flow to support trout fishing in a recreational area. He admits that his planned golf course would be a heavy user of water, but notes that domestic consumption accounts for only a tiny fraction of water used state-wide.

The [Agency’s] determinations must be based on “a reasonable and fair assessment” of the state’s water needs. [The developer] argues that the [Agency] should not have privileged other users and thus should not have refused to allow him to exercise his option to buy water rights.

The [Agency] contends that its governing regulations allow it broad discretion to determine appropriate water uses and that [decisions like this are common.]

For half of the judges, the materials described the developer’s rights as an option. In this version, the developer had “obtained an option to buy water rights that the [Agency] made available for potential use in [a suburban area].” The materials stated that the developer “has paid nothing yet for the option—he won the auction by committing to pay the most for the water once the option is exercised.” Cancelling his rights maintained a status quo in which the developer did not yet own water rights. When the agency cancelled his option, however, he lost the opportunity to purchase the rights and complete his development. The materials asked judges the following: “Based on these facts, is your initial impression that [the Agency’s] refusal to allow [the developer] to exercise his option to buy water rights ‘reasonable and fair?’”

For the other half of the judges, the materials described the developer’s rights as owned. They stated that the developer had “purchased water rights that the [Agency] made available for use in [a suburban area] in an auction” and that “[h]e won the auction by paying the most for the water.” Cancelling his rights altered the status quo by eliminating the developer’s rights. Because the agency refunded the money he paid for the rights, however, his economic position was identical to that of the version in which the option was at issue. The consequences of cancelling the developer’s ownership were also the loss of his ability to complete his development. The materials asked judges the following: “Based on these facts, is your initial impression that [the

Agency's] decision to cancel [the developer's] water rights is 'reasonable and fair?'"

## 2. Results

Judges treated the option differently than ownership. Among the 103 judges who evaluated the option, 87.4% (90 judges) affirmed the agency's decision, as opposed to 75.8% of the judges (75 out of 99) who evaluated ownership.<sup>218</sup> This difference was statistically significant.<sup>219</sup> None of the demographic variables influenced judgment significantly.<sup>220</sup>

## 3. Discussion

Judges were more solicitous of ownership claims than claims to the option to own. In our hypothetical, the real-estate developer in both versions was in an identical economic position. In the option version the agency rescinded his right to buy the water he needed for his development, and in the ownership version the agency essentially bought the rights back from him involuntarily. He ends up with his cash but with no rights in both cases. And yet, something about ownership itself made the judges more hesitant to support the agency.

To be sure, the variation we observed was not large—the difference was only an 11.4 percentage-point shift. These materials, however, created a stringent test for the effect of framing, as most of the judges deferred to the agency. The easy decision for judges would have been to defer to an expert agency that cited serious water shortages as a basis for its choice. Particularly because the materials are abbreviated—not to mention only hypothetical—deference was an attractive option. The loss entailed by the rescission of the

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218 One judge in each condition did not respond.

219 Fisher's Exact Test,  $p = .04$ .

220 Judges in all three jurisdictions expressed the same trend: In New Mexico, 85% versus 75% of the judges supported the agency, respectively, in the option and ownership conditions; in Alaska the difference was 91% versus 83%; in Canada the difference was 94% versus 74%. Among Democratic judges, 86% (44 out of 51) favored the agency when evaluating options and 76% (38 out of 50) when evaluating ownership; among Republican judges this difference was 85% (17 out of 20) versus 69% (11 out of 16). (The Canadian judges were not part of this analysis, of course.) The small disparity between the groups was not significant in a logistic regression:  $z = .27$ ,  $p = .79$ . More experienced judges did not react differently from their younger counterparts. (This analysis was conducted with logistic regression of the decision on the frame, years of experience, and an interaction term of frame and years of experience. The latter term was not significant:  $z = .02$ ,  $p = .99$ .) Female judges showed no difference between the two versions; 89% of the female judges in each condition (33 out of 37 in the option condition and 31 out of 35 in the ownership condition) upheld the agency's decision as compared to 86% (56 out of 65) versus 68% (43 out of 63) among the male judges. The disparity between male and female judges, however, was not statistically significant. (This analysis was conducted with logistic regression of the decision on the frame, gender, and an interaction term of frame and gender. The latter term was not significant:  $z = 1.14$ ,  $p = .25$ .)

property right nevertheless induced the judges to question the agency more than when just the rescission of an option was at stake.

Although we designed the two versions to be economically identical, judges might have factored the probability that the developer will actually carry out the project into their assessment. By its nature, the option entailed an extra step before the developer began using the water. Perhaps judges worried that the developer would not be able to raise the funds to buy the water rights—a concern that was not an issue in the ownership condition. The extra possibility that the developer might not have needed the water rights might have led the judges to feel that they needed to protect the developer with less vigor. The materials themselves, however, gave no hint of this possibility. The primary difference between the two conditions was whether the developer owned the entitlement or merely had the option to own it. It was a difference that mattered to the judges, even though it was economically irrelevant.

### *G. Study 7: Products Liability (Risk Seeking to Avoid Losses #1)*

Do judges also treat risk differently when it is framed as losses as opposed to gains? To test this, we presented three different scenarios in which judges had to evaluate risky choices. We found that judges' proclivity to accept risk varied with the frame. Would judges also react to the frame in a similar way? Would they be more sympathetic to a risky choice in a loss frame than a gain frame?

#### 1. Methods and Materials

To determine whether judges react to risk differently depending on a variation in frame, we presented a hypothetical case similar to the Asian disease problem to two groups of judges. One consisted of 139 federal magistrate judges attending an annual educational conference put on by the Federal Judicial Center. The other consisted of 74 judges attending the annual Judicial Conference of the United States Court of Appeals for the Seventh Circuit. The latter group (unlike all of our other judges) included appellate as well as trial judges, but we treated all judges as the same for the purposes of our analysis.

Our materials mimicked the setting of the Asian disease problem by asking judges to evaluate the decision of a large pharmaceutical manufacturer. We asked the judges to:

Imagine that you are a judge presiding over a bench trial of a products liability lawsuit. The plaintiffs are numerous foreign nationals who are suing the manufacturer of a vaccine designed to combat the outbreak of an unusual strain of Dengue Fever in equatorial countries in Africa. Assume that jurisdiction in U.S. Courts is appropriate and that the manufacturer is liable if the drug design was defective. Public health officials at the United Nations concluded that this illness would have killed 600 people before conventional public health programs brought it under control. Fortunately, a vaccine was developed quickly. A United Nations program administered the vaccine to

millions of people in just a few months, thereby quickly containing the outbreak.

Unfortunately, the vaccine did not save all 600 people from the illness. The drug company that manufactured the vaccine faced two alternative designs. At the time the drug company had to make a choice about the vaccine, the estimates of the effect of the vaccines were as follows:

To mimic the “gains” frame, we presented the choice as follows:

Vaccine A: 200 people would be saved from the illness.

Vaccine B: 1/3 probability that all 600 people would be saved and a 2/3 probability that no one would be saved.

To mimic the “loss” frame, we presented the choice in this way:

Vaccine A: 400 people would die from the illness.

Vaccine B: 1/3 probability that no one would die from the illness and a 2/3 probability that all 600 would die from the illness.

We then informed the judges that:

The drug company chose vaccine A without disclosing the alternative design to public health officials. This lawsuit arises from the death of several people who took the vaccine and nevertheless died from the illness. The plaintiffs alleged that the choice of design was unreasonable, rendering the drug defective. They contend that the drug company should have used vaccine B, arguing that the alternative design [gains: could have saved 400 more people. / losses: left 400 people to die from the illness.] Public health experts disagree on which vaccine was appropriate.

The materials then asked the judges: “Liability turns on the issue of whether the drug company made the reasonable choice when selecting vaccine A. What is your opinion?” The judges had the option to select:

\_\_\_ Vaccine A was the appropriate choice.

\_\_\_ Vaccine B was the appropriate choice.

## 2. Results

When evaluating the options from the gain perspective, 91% of the judges (96 out of 105) identified the certain choice (vaccine A) as the appropriate option. By contrast, when evaluating the options from the loss perspective, only 74% (71 out of 96) selected the certain option as more attractive.<sup>221</sup> This difference was statistically significant.<sup>222</sup>

## 3. Discussion

Describing the choice of a drug company as involving lives lost as opposed to lives gained influenced the judges’ assessments. Although the judges overwhelmingly regarded the drug company’s choice as appropriate

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<sup>221</sup> Six of the judges in the gains condition and six judges in the losses condition did not respond.

<sup>222</sup> Fisher’s Exact Test,  $p = .001$ .

regardless of the frame, more judges thought that the drug company's choice was inappropriate in the loss frame. The judges likely reacted to the variation in how the problem highlights lives saved as opposed to lives sacrificed. The gains version affirmatively states that it saves 200 people, thereby shadowing the fact that it sacrifices 400. The loss frame, however, highlights the certain deaths of 400 people, making it seem less compelling.

To be sure, we did not ask these judges to decide whether the drug company was liable. We were concerned that doing so would have required much more detail than we could provide. Nevertheless, we suggested to the judges that their assessment of appropriateness was related to the issue of liability, as it would be in a design-defect products liability suit. Hence, even though we did not ask them for an ultimate ruling, we asked the judges a legally relevant question.

#### *H. Study 8: Framing and Bankruptcy Reorganization (Risk Seeking to Avoid Losses #2)*

Bankruptcy judges constantly make decisions involving risk. One of the more common decisions they make is whether to liquidate a business or allow it to continue operating. For the creditors, this decision can be characterized as involving either gains or losses. The decision can appear to involve gains in that the creditors are certain to recover some of their money if the business is liquidated; if the business is not liquidated, there is some prospect that the creditors will recover more in the future. The decision can appear to involve losses in that the creditors lose some of the money they were owed if the business is liquidated; if the business is not liquidated, there is some prospect that they will lose less in the future. If framing influences bankruptcy judges the way framing influenced the state court judges in Utah (who also assessed a commercial context), then they might make different choices when a business risk is characterized as involving gains as opposed to losses.

#### 1. Methods and Materials

We tested for the framing effect among bankruptcy judges by presenting 113 bankruptcy judges attending an annual conference sponsored by the Federal Judicial Center with a problem called "Choice Among Reorganization Plans."<sup>223</sup> In it, we asked the judges to imagine that they were presiding over a "Chapter 11 reorganization of a small business":

You are presiding over a Chapter 11 reorganization of a small business, "Hammer Time, Inc." Hammer Time is a home supply and service business consisting of a hardware store, a carpet shop, and a contracting business. Hammer Time's contracting work is profitable, but the hardware store and carpet shop are failing. Several months ago, Hammer Time filed for protection and reorganization under Chapter 11. Hammer Time listed debts owed to suppliers, utilities, landlords, companies from whom it has rented con-

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<sup>223</sup> The data in this study were previously published in Jeffrey J. Rachlinski et al., *Inside the Bankruptcy Judge's Mind*, 86 B.U. L. REV. 1227, 1237-41 (2006).

struction equipment, and several subcontractors. Hammer Time listed assets such as inventory, office furniture, and construction equipment. It has several construction contracts underway that would earn it revenue if it continued as a going concern. An immediate liquidation would leave the unsecured creditors with \$600,000 less than they are owed.

You are conducting a confirmation hearing. Two competing plans for reorganization have been offered by the unsecured creditors: Plan A and Plan B. Each has received a comparable level of support from the unsecured creditors, but neither has attracted support from holders of two-thirds of the unsecured debt, as required by 11 U.S.C. § 1126(c). Both plans, however, satisfy the other requirements for confirmation. All of the secured creditors have agreed to accept either plan. Under these circumstances, pursuant to 11 U.S.C. § 1129(c), you must “consider the preferences of creditors” and confirm one of the two plans.

The materials then asked the judge, “Which plan would you choose?” To create the variation in the frame, we stated the choices in one of two ways. To create the gains frame, we described the options as follows:

If you select Plan A, \$200,000 of the unsecured debt will be paid for sure.

If you select Plan B, there is a 1/3 probability that all of the unsecured debt will be paid and a 2/3 chance that none of it will be paid.

To create the loss frame, we described the options as follows:

If you select Plan A, \$400,000 of the unsecured debt will remain unpaid for sure.

If you select Plan B, there is a 1/3 probability that none of the unsecured debt will remain unpaid and a 2/3 probability that all of the unsecured debt will remain unpaid.

Half of the judges reviewed the “gain” condition and others reviewed a “loss” condition.

Note that all of these plans have the same expected value of \$200,000. In each version, the only difference between the two options lies in the way they characterize the risks of each plan, thereby giving the judges little reason to choose one plan over the other. In both conditions, the judges chose between the certain outcome that the first plan presents and the risky option that the second plan presents. Hence, other than that they describe the plans as involving gains or losses, the judges had no reason to make different choices.

## 2. Results

Among judges evaluating the plans in the gain frame, 91.8% (45 out of 49) preferred Plan A, the certain outcome. Among judges evaluating the plans in the loss frame, 73.3% (44 out of 60) preferred Plan A. In both instances, the judges favored the certain plan, but we found an 18.5 percent-

age-point difference between judges in the gain frame versus judges in the loss frame. This difference was statistically significant.<sup>224</sup>

### 3. Discussion

The decision frame affected the judges. The judges preferred the certain option overall, but this preference was strongest when the options were framed as gains. The effect size we found here is similar to the effect size that we observed in our earlier study of generalist judges' assessments of settlements in civil lawsuits. In that study, the variation by frame from gains to losses shifted the judges' preferences by fifteen percentage points (40% favored the certain option in the gain frame and 25% favored the certain option in the loss frame). Here, the judges' preferences shifted by 18.5 percentage points. This result was also comparable to the 17 percentage-point shift we observed in Study 7.

The problem which we relied upon, much like the Asian disease problem on which it is based, might be explained without reliance on framing. The judges could have interpreted Plan A (the certain outcome) as identifying the minimum gain or loss. That is, in the gain frame, the judges might have interpreted the phrase "\$200,000 of the unsecured debt will be paid for sure" as meaning "at least \$200,000 will be paid." Likewise, judges in the loss frame might have interpreted "\$400,000 of the unsecured debt will remain unpaid for sure" as meaning "at least \$400,000 will remain unpaid." If so, Plan A would seem more valuable in the gain frame than in the loss frame. At least one researcher has offered a similar account of the Asian disease problem.<sup>225</sup> We cannot rule out this interpretation, but given that framing effects are widely documented and empirically substantiated in a wide variety of settings, we think that the framing effect provides the most plausible account of our results.

## IV. DISCUSSION AND CONCLUSION

These studies demonstrate that framing influences how judges think about law. We assessed four different manifestations of framing (reference dependence, status quo biases, endowment effect, and risk seeking in the face of losses) and found that all four influenced judges. Judges consistently treated choices framed as gains differently from choices framed as losses, even though the options in all eight studies were economically identical. Across a wide range of legal issues, judges (just like everyone else) fell prey to the illusions that framing creates.

The results are remarkable given that framing exerts less influence on decisions made for others than on decisions made for oneself.<sup>226</sup> Even vicari-

<sup>224</sup> Fisher's Exact Test,  $p = .01$ .

<sup>225</sup> See Mandel, *supra* note 131, at 56–76.

<sup>226</sup> See Fenja V. Ziegler & Richard J. Tunney, *Who's Been Framed? Framing Effects Are Reduced in Financial Gambles Made for Others*, 3 BMC PSYCHOL. 9, 15 (2015) (reporting that "the relative increase in risk seeking behavior for loss frames is reduced when the decisions

ous framing works: judges stand to lose or gain nothing personally, but they adopt the perspective of one litigant and so are affected by the frame all the same.

Arguments that gain and loss frames are not actually identical pervade the research on framing,<sup>227</sup> and similar arguments can be lodged against some of our scenarios. For example, in the mutual mistake scenario, the judges evaluating the loss frame might have felt that the seller's pricing the worthless game at \$38,000 constituted a misrepresentation. Even though we did not give the judges the option of deciding the case on that basis, they might have been more inclined to rescind the transaction than the judges in the gain frame, which presented no similar alternative theory. Alternative accounts of our results, however, are idiosyncratic. The common thread across all eight scenarios always was that one scenario involved a gain and the other involved a loss. The judges consistently treated losses as more significant than gains, whether that loss consisted of a financial loss, the loss of employment, or lost eyesight. The result is thus perfectly consistent with the predictions of research on framing. The parsimonious explanation for the data overall is that framing matters to judges.

The pervasive influence of frame in our studies supports assertions that the legal system itself produces arbitrary variations based on frame. As the examples at the outset of this paper illustrate,<sup>228</sup> from employment law to cases on federalism, the courts are more solicitous of claims involving losses than ones involving foregone gains. Existing rights carry more weight with judges than claims for novel ones, whether these rights arise from private contract disputes or public law constitutional claims. To be sure, courts should respect people's settled expectations. The results in our studies, however, suggest that the preference for the status quo goes well beyond a reasonable effort to avoid disrupting settled expectations. In all eight of our scenarios, the description of the claim as involving a gain as opposed to a loss is essentially arbitrary. In many contexts, the party identified as the stakeholder is also likely arbitrary, but our studies show that the stakeholder will have the psychological higher ground.

Although we confined our analysis of framing to civil cases, some have suggested that framing likely influences defendants (and perhaps defense counsel) in criminal cases.<sup>229</sup> It is possible that judges could be influenced by framing in criminal cases. For example, if—as is true in some jurisdictions

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are made on behalf of other people, relative to when people make the same decisions for themselves”).

227 See *supra* note 131 and accompanying text.

228 See *supra* notes 26–36 and accompanying text.

229 Stephanos Bibas, *Plea Bargaining Outside the Shadow of Trial*, 117 HARV. L. REV. 2464, 2514 (2004) (“Ordinarily, defendants view plea bargaining through a loss frame: they are used to being free and are being asked to accept months or years in prison. . . . Not all defendants view plea bargains through loss frames, however. A defendant who is in pre-trial detention is likely to view prison as the baseline and eventual freedom as a gain, particularly if freedom is possible in weeks or months.”).

but not in others<sup>230</sup>—judges are involved in the plea bargaining process, then judges might favor plea agreements that are framed in an attractive manner over those that are not, just as we found with respect to civil settlements.<sup>231</sup>

In part, law is based upon and intended to serve societal norms and broadly held moral intuitions. Framing seems consistent with such norms and intuitions, and allowing framing to influence legal judgments may possess some advantages even if it is not economically rational. If law strays too far from societal norms and intuitions, then it may lose respect and people may be less willing to accept it, even if (precisely because it does not exhibit a framing effect) it is actually more rational. For example, our results may dovetail with societal intuitions to be more protective of those fired from jobs than of disappointed job applicants (Study 4) or to favor those who own property over those who merely have an option to acquire it (Study 6).

The results offer clear advice for lawyers. Lawyers will find they have more persuasive force when describing their client as facing a loss than a lost opportunity. Alleged infringements on a right can commonly be described as a loss from a current position, even if it is truly a foregone gain. Likewise, a lawyer on the defense side can reduce the power of a plaintiff's claim by characterizing it as a foregone opportunity. A good deal of advocacy consists of tilting a client's position into a psychologically congenial structure, and framing represents a powerful underlying script that lawyers can (and doubtless do) take advantage of.

Given the adversarial nature of our legal system,<sup>232</sup> it is tempting to think that competing uses of psychological illusions will cancel each other out. If a plaintiff characterizes her claim as a loss and a defendant characterizes it as a foregone gain, will some underlying truth emerge? We have our doubts for several reasons. Notably, although we commonly picture trial court proceedings as consisting of two highly skilled lawyers fighting it out in front of a judge,<sup>233</sup> this picture is not always accurate. In about one-third of cases, at least one party is not represented by counsel.<sup>234</sup> And in small claims

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230 See Nancy J. King & Ronald F. Wright, *The Invisible Revolution in Plea Bargaining: Managerial Judging and Judicial Participation in Negotiations*, 95 TEX. L. REV. 325, 326 (2016).

231 Guthrie et al., *supra* note 159, at 797.

232 *Greenlaw v. United States*, 554 U.S. 237, 243 (2008) (“In our adversary system, in both civil and criminal cases, in the first instance and on appeal, we follow the principle of party presentation. That is, we rely on the parties to frame the issues for decision and assign the courts the role of neutral arbiter of matters the parties present.”).

233 See Maurice Rosenberg, *Resolving Disputes Differently: Adieu to Adversary Justice?*, 21 CREIGHTON L. REV. 801, 810 (1988) (“Probably the commonest caricature of the adversary concept is a parody that goes: ‘Set two trained legal gladiators against one another, let them fight, claw and hack at each other until exhaustion and, presto, the truth will emerge.’”).

234 See *Civil Pro Se and Non-Pro Se Filings, by District During 12-Month Period Ending September 30, 2013*, ADMIN. OFF. U.S. CTS., [http://www.uscourts.gov/sites/default/files/statistics\\_import\\_dir/C13Sep13.pdf](http://www.uscourts.gov/sites/default/files/statistics_import_dir/C13Sep13.pdf) (last visited Nov. 17, 2018) (reporting that twenty-seven percent of civil filings were made by pro se litigants); see also Emily S. Taylor Poppe & Jeffrey J.

courts, attorneys are forbidden and individuals must represent themselves.<sup>235</sup> Judges also must sometimes decide on an ex parte basis, such as in applications for a temporary restraining order, vessel arrest, search warrant, wiretap, arrest warrant, tracking device, or writ of attachment. Even where both parties are represented by counsel, the quality of lawyers may be uneven.<sup>236</sup> Although while some lawyers are excellent, and many are good, some are deficient.<sup>237</sup> Not only are lawyers themselves susceptible to framing,<sup>238</sup> and thus unable to appreciate the need for—or lack the ability to accomplish—reframing, but the particular lawyer who would benefit from reframing must recognize the danger.

Furthermore, some claims likely more naturally lend themselves to one position or another. The fictional Archie Bunker could not grasp the wisdom of his son-in-law's efforts to get him to see past the money illusion, and often people cannot be debiased. In the real world, discounts still have more power than surcharges, even though consumers are constantly exposed to both. Similarly, many people who review the Asian disease problem switch from the safe choice in the gain frame and the risky choice in the loss frame, even when they view them side by side.<sup>239</sup> We suspect that most legal issues have a natural frame that is difficult to resist. The first frame presented might also be the most influential. Taking a benefit is just not psychologically the same as the failure to confer a benefit, and the loss of a legal right will never feel quite the same as the failure to recognize a new right.

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Rachlinski, *Do Lawyers Matter? The Effect of Legal Representation in Civil Disputes*, 43 PEPP. L. REV. 881, 883 (2016) (“PopPoTrends suggest that pro se litigation is on the rise.”).

235 See *Basic Considerations and Questions*, CAL. DEP'T CONSUMER AFF., [https://www.dca.ca.gov/publications/small\\_claims/basic\\_info.shtml](https://www.dca.ca.gov/publications/small_claims/basic_info.shtml) (last visited Nov. 17, 2018) (“You can't have the attorney represent you in court.”).

236 Kent Roach, *Wrongful Convictions and Criminal Procedure*, 42 BRANDEIS L.J. 349, 365 (2003) (“The battle theory does not work well when one of the gladiators is inexperienced, incompetent, woefully under-resourced, drunk or asleep.”); see also Jennifer Bennett Shinall, *Slipping Away from Justice: The Effect of Attorney Skill on Trial Outcomes*, 63 VAND. L. REV. 267 (2010). The problem of disparity likely is more severe in civil cases than in criminal cases. See Richard A. Posner & Albert H. Yoon, *What Judges Think of the Quality of Legal Representation*, 63 STAN. L. REV. 317, 344 (2011) (“Disparities in resources and quality of legal representation in criminal cases are tempered by constitutional protections of the higher burden of proof for the prosecution and the entitlement of the defendant to effective assistance of counsel. These constitutional guarantees do not extend to civil cases, to the potential detriment of poorer litigants.” (footnotes omitted)). That is, there is no “floor” in civil cases.

237 William W. Schwarzer, *Dealing with Incompetent Counsel—The Trial Judge's Role*, 93 HARV. L. REV. 633, 633 (1980) (“Inadequate performance of trial lawyers has become a growing concern to the bench, the bar, and the public.”).

238 Andrew J. Wistrich & Jeffrey J. Rachlinski, *How Lawyers' Intuitions Prolong Litigation*, 86 S. CAL. L. REV. 571, 589–94 (2013).

239 See Keith E. Stanovich & Richard F. West, *Individual Differences in Framing and Conjunction Effects*, 4 THINKING & REASONING 289, 295 (1998) (reporting that thirty-one percent of the subjects in a within-subjects presentation of the Asian disease problem changed preferences between the frames).

Although a skilled lawyer might sometimes be able to recharacterize a claim, one frame will generally have more psychological power than another.

Can judges remedy the erratic choices that framing can produce? Although frames can be powerful, we suspect judges can do more to recognize the power of the illusions they create. Awareness of the arbitrariness of framing is a first step. Judges who understand that framing can influence their judgment are at least prepared to address this extralegal influence on their decisionmaking. Judges who know that a legal right can be described as either a gain and as a loss can contemplate their decision from both perspectives. The oral argument in the *Expressions Hair Design*, discussed above,<sup>240</sup> suggests that some Supreme Court Justices recognize the role that framing plays in decisionmaking, but does not necessarily reflect an understanding of how framing will affect them in legal settings. Judges can also encourage lawyers to reframe arguments so that they are exposed to both perspectives. Finally, they can ensure that they are not rushing whenever possible. Research indicates that susceptibility to framing is caused by uncritical reliance on heuristic processing, which can be exacerbated by time pressure.<sup>241</sup>

We expect judicial decisions to be consistent, not to vary depending on superficial redescrptions of options. Although there are limits to what judges can do to combat framing, especially when the adversary system misfires, deliberation can help. “The mind has its illusions as the sense of sight; and in the same manner as feeling corrects the latter, so reflection and calculation correct the former.”<sup>242</sup>

Framing produces a powerful influence on judgment in the legal system. As the review above indicates, hundreds of studies show how it affects decisionmaking, including decisionmaking in legal settings. Our research reveals that framing influences how judges think as well. Rights at risk of loss draw more sympathy and attention from judges than foregone rights. Because framing influences judges as they craft and interpret law, framing thus likely accounts for numerous odd asymmetries across a wide range of legal issues. The path of the law thus might well be bent by the cognitive illusions framing produces.

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240 See *supra* notes 174–77 and accompanying text.

241 Lisa Guo et al., *Thinking Fast Increases Framing Effects in Risky Decision Making*, 28 PSYCHOL. SCI. 530, 541 (2017) (reporting that in hypothetical and incentivized choices, time pressure increased framing effect); see also Mathieu Cassotti et al., *Positive Emotional Context Eliminates the Framing Effect in Decision-Making*, 12 EMOTION 926, 930 (2012) (reporting that “positive emotional context can reduce loss aversion, and it strongly reinforced the dual-process view that the framing effect stems from an affective heuristic belonging to intuitive System 1.”); Yan Sun & Barbara Mellers, *Trade—Upgrade Framing Effects: Trades Are Losses, but Upgrades Are Improvements*, 11 JUDGMENT & DECISION MAKING 582 (2016).

242 PIERRE SIMON LAPLACE, A PHILOSOPHICAL ESSAY ON PROBABILITIES 160 (Frederick Wilson Truscott & Frederick Lincoln Emory trans., John Wiley & Sons 1902) (1886).

## APPENDIX: STIMULUS MATERIALS

A. *Salary Dispute (Labeled “Salary Dispute”; California Judges)*

Imagine you are presiding over a bench trial involving an alleged breach of a written contract. The plaintiff is an independent consultant working full time for a small tech company on a series of projects over the course of several years. The parties agreed that the firm would pay the plaintiff a fixed salary that was consistent with the going rate in his profession for the first year, and then a “fair salary” thereafter. The company is making a small profit. At the time, the industry was experiencing a recession with substantial unemployment [LOSS: but the area had no inflation / GAIN: and inflation of 12%]. There were many other consultants anxious to work at the firm. The company decided [LOSS: to decrease the salary paid to the plaintiff 7% / GAIN to increase the salary paid to the plaintiff only 5%] for the second year of work. The plaintiff sued, contending that the salary in the second year was not a “fair salary.”

Based solely on this information, how would you decide the case?

\_\_\_\_\_ For the defendant because the [LOSS: 7% reduction / GAIN 5% increase] is acceptable

\_\_\_\_\_ For the plaintiff because the {LOSS: 7% reduction / GAIN 5% increase} is unfair

B. *Breach of Contract (Labeled “Contract Dispute”; Minnesota version)*

You are presiding over a bench trial involving a contract dispute in which Jeremy Plains has sued Acme Flooring. Plains buys older homes, refurbishes them, and sells (or “flips”) them quickly. The dispute arose over a contract in which Acme promised to install new flooring in a home that Plains was about to sell. The buyers wanted to move into the home without any further hassles or repairs and offered Plains an extra \$20,000 if the floors were redone to their satisfaction before they moved in.

Plains contracted with Acme to install the flooring for \$12,000, which was to be completed just a few days before the closing. Acme expected to earn \$1,000 profit from the job, after accounting for the cost of flooring, other equipment, and labor. Shortly after accepting the contract with Plains, however, Acme

[GAIN: was offered another job for a local builder that would earn the company \$2,000 profit (instead of the \$1,000 it expected to earn on the job for Plains) for the same amount of work, but had to be done right away. /

LOSS: encountered an unexpected rise in the price of flooring such that completing the job would have cost it \$1,000 instead of earning it any profit.]

Acme then informed Plains that it was breaking its contract. Plains sold the home without the new flooring and therefore did not receive the bonus

the buyers had offered. The buyers were upset and posted nasty comments on several local social media outlets about Plains because the flooring was not completed in time.

Plains sued Acme for the loss of the bonus and harm to its reputation. Acme admits that it broke the contract to [GAIN: earn an extra \$1,000 from another job and offers no defense against liability / LOSS: avoid incurring a loss of \$1,000 on the job]. The parties only contest the extent of damages. Plains requests damages for the lost bonus and damage to his reputation. Acme contends that Plains might not have received the bonus anyway, as the flooring had to meet the buyer's subjective standard and that the harm to their reputation is minimal at best. Acme also asserts that Plains could have found another company to do the job quickly if it had offered more money.

How much should Acme be required to pay Plains?

\$ \_\_\_\_\_

*C. Mutual Mistake (labeled "Contract Dispute"; Utah judges)*

Imagine that you are presiding over a contract dispute. The plaintiff and the defendant are both avid collectors of vintage video games. The plaintiff is suing to rescind the [SELL: sale of a vintage video game that he sold to the defendant / BUY: purchase of a vintage video game that he bought from the defendant.]

The case actually involves two video games. One, called "Family Fitness Stadium Events," was created in the early 1980's for the original Nintendo video game system. It was made by a long defunct company called Bandai and has been called the "Holy Grail of video game collectors." Only 200 copies of this game were ever sold and its odd, amusing graphics has captivated the imagination of those who collect vintage video games. It is extremely rare and worth a great deal. "Family Fitness" is easily confused with the other video game at issue in this case, called "Nintendo Fitness," which is extremely common and worth very little.

The plaintiff and the defendant both attended a large convention of collectors who buy and sell vintage video games, comic books, and related memorabilia in Salt Lake City. They both rented booths at the convention at which they offered videos from their collections for sale. They also bought items from other collectors at the convention.

[SELL: The plaintiff had placed the game in question among a set of bargain games, and offered it for sale for \$1, as the plaintiff believed it was the common "Nintendo Fitness" game. The defendant spotted the game and bought it on a whim. The next day, the defendant took the game to an expert and learned that is the "Family Fitness" game and is worth \$38,000.

[BUY: The defendant had placed the game in question among a set of high-end games, and offered it for sale for \$38,000, as the defendant believed it was the "Family Fitness" game. The plaintiff spotted the game and bought it

on a whim. The next day, the plaintiff took the game to an expert and learned that it is the common “Nintendo Fitness” game and is worth only \$1. ]

When the plaintiff learned the true value of the game, he sued to rescind the transaction. He contends that the [SELL: sale / BUY: purchase] of the game was based on a mutual mistake. Utah courts have adopted the rule regarding mutual mistake stated in the *Restatement (Second) of Contracts*, which provides that a contract is voidable when “a mistake of both parties at the time a contract was made as to a basic assumption on which the contract was made has a material effect on the agreed exchange of promises.” The plaintiff contends that neither party understood what the game actually was and misapprehended the true value of the game, thereby undermining the basic assumption of the contract. The defendant asserts that the plaintiff was taking his chances when selling the game and that at a convention like this, a deal is a deal and should be enforced.

The parties have filed cross motions for summary judgment and agree that the only issue is whether the doctrine of mutual mistake entitles the plaintiff to rescind the contract. How would you rule on the motions?

[SELL:

\_\_\_ I would grant the plaintiff’s motion and require the defendant to return the game

\_\_\_ I would grant the defendant’s motion and allow him to keep the game

BUY:

\_\_\_ I would grant the plaintiff’s motion and require the defendant to return the \$38,000

\_\_\_ I would grant the defendant’s motion and allow him to keep the \$38,000]

*D. Employment (Labeled “Employment Discrimination Problem”; Florida Judges)*

Imagine that you are presiding in a bench trial of the following employment discrimination lawsuit.

Frank Porter, a 61-year-old man, filed a complaint with the Florida Commission on Human Relations under the Florida Civil Rights Act of 1992, asserting that he was the victim of age discrimination at the hands of Gatorville College, a small private college. The Commission, overburdened with other complaints, failed to investigate the allegations within 180 days of the complaint, so pursuant to Section 760.11 of the Act, Porter retained counsel and filed suit against Gatorville College under Section 760.10 of the Act, which makes it unlawful for an employer to discriminate on the basis of age (and other protected statuses).

The facts presented at trial are as follows.

[HIRE: Porter was one of five applicants for four “Resident Director” positions at four dormitories at Gatorville College. All of the applicants held

similar educational and professional credentials. The College chose not to hire Porter, contending that he did not have the interpersonal and staff management skills of the other applicants. Porter contends that the real reason he was not hired is because of his age. In support of this argument, he points out that the other four applicants, each of whom was hired, are all under 30, while he is 61.

[FIRE: Porter was one of five Resident Directors at Gatorville College, which sought to reduce its Resident Director staff from five to four. All of the Resident Directors held similar educational and professional credentials. The College chose to discharge Porter, contending that he did not have the interpersonal and staff management skills of the other Resident Directors. Porter contends that the real reason he was discharged is because of his age. In support of this argument, he points out that the other four Resident Directors, each of whom was retained, are all under 30, while he is 61.]

He also produced notes from the central administration supervisor who met with him. Next to Porter's name, the notes read, "Energy? Understanding of today's college students?"

To establish the Defendant's liability for age discrimination, the Plaintiff must show that his age was a "substantial or motivating factor" that prompted the Defendant's decision [HIRE: not to hire him / FIRE: to fire him. Based solely on the facts reported above, would you find for the plaintiff or the defendant?

Plaintiff                  Defendant

*E. Medical Malpractice (Labeled "Damages Issue"; American Judges Association conference version)*

Imagine that you are presiding over a bench trial in a medical malpractice case. The plaintiff, Cliff Roberts, is suing City General Hospital for malpractice arising from ocular surgery. The hospital admits that malpractice occurred, but you must determine an appropriate damage award.

[FORGEONE GAIN: Roberts was a skilled welder who suffered severe damage to the retinas in both of his eyes during a freak explosion on a job site four years earlier. He has been blind ever since. Treatment to restore Roberts' eyesight was not initially available. Recently, however, the Food and Drug Administration approved a new artificial retinal implant that would completely restore his vision. Roberts underwent surgery to attach the implant at City General Hospital. At first, the procedure appeared to go perfectly. Hours later, however, Roberts developed an infection in both eyes. An inquiry revealed that a nurse had mistakenly brought surgical equipment into the operating room that had just been used on a patient with a staph infection. Roberts remains blind and now has no hope that his sight can be restored. The hospital admits that but for the error, the surgery would have been successful and Roberts would have likely enjoyed normal vision for the rest of his life. /

LOSS: Roberts was a skilled welder suffering from a rare disease that had begun to cause the retinas in both of his eyes to degenerate slowly. Although the disease caused only minor visual impairment (he could still read, drive, and perform his job adequately), he faced a long-term risk that his vision would deteriorate. Treatment to remedy Roberts' condition was not initially available. Recently, however, the Food and Drug Administration approved a new artificial retinal implant that would eliminate his potential loss of vision. At first, the procedure appeared to go perfectly. Hours later, however, Roberts developed an infection in both eyes. An inquiry revealed that a nurse had mistakenly brought surgical equipment into the operating room that had just been used on a patient with a staph infection. The surgery caused Roberts to lose his eyesight completely and there is no hope that his sight can be restored. The hospital admits that but for the error, the surgery would have been successful and Roberts would have likely enjoyed normal vision for the rest of his life.]

Roberts is 34 years old, married, and has two young children (ages 4 and 2). He continues to hold an office job in the company where he once worked as a welder. He has learned to read Braille and, with the aid of a special computer, has mastered basic accounting skills. He is thus able to support himself and his family. He [FOREGONE GAIN: will never resume driving / LOSS: has lost] the ability to drive, of course, and he continues to have difficulty getting around by himself. He [FOREGONE GAIN: will never regain / LOSS: has lost] the ability to engage in his favorite sports and hobbies, which had included skiing, painting, and tennis. Roberts has begun psychotherapy for depression and has had little interest in replacing these activities with others that he can manage while blind. He claims that his marriage has also suffered since the surgery and that he cannot find meaningful ways to engage with his children.

The hospital has admitted that it is liable for [FOREGONE GAIN: failing to restore Roberts' eyesight / LOSS: causing Roberts' blindness]. It has settled with him for all economic damages (e.g., loss of potential income, specialized equipment in his home, and occupational therapy to help Roberts adapt). The parties could not agree on an amount for Roberts' lost enjoyment of life. Roberts asserts that he [FOREGONE GAIN: will never again enjoy / LOSS: has lost] his favorite hobbies, he is depressed, and his home life [FOREGONE GAIN: will never be as it once was when he could see / LOSS: has deteriorated since he lost his vision]. The hospital notes that most blind people develop interests that do not depend on sight (including forms of skiing). It also contends that for most people, blindness is not an impediment to a successful marriage or family life.

Based on these facts, how much would you award Roberts for the lost enjoyment of life attributable to the hospital negligently [FOREGONE GAIN: failing to restore his sight / LOSS: causing him to lose his sight?]

\$ \_\_\_\_\_

*F. Water Rights (Labeled “Water Rights”; New Mexico Version)*

You are presiding over a case involving water rights. A large real-estate developer, Ted Wayne, is challenging a determination by the Office of the State Engineer (“OSE”), which is charged with managing the State’s Water Resource Allocation Program.

Most water rights are privately owned and managed under a prior appropriation system of recorded rights (earlier recorded water rights trump later ones). Water obtained through State and Federal projects, however, is managed through the OSE, and often sold off at deep discounts to encourage agriculture and development. These rights, however, are subject to reallocation and readjustment in times of scarcity.

**OPTION:** In the most recent auction, Wayne obtained an option to buy water rights that the OSE made available for potential use in suburban Albuquerque. He has paid nothing yet for the option—he won the auction by committing to pay the most for the water once the option is exercised.

**OWN:** In the most recent auction, Wayne purchased water rights that the OSE made available for use in suburban Albuquerque. He won the auction by paying the most for the water. The OSE anticipates that these rights will be available after the construction of a new aqueduct next year, whereupon Wayne will be able to begin using the water./]

Wayne intends to use the water to support a new, 300-unit residential housing development with a golf course. He cannot obtain construction permits without sufficient water rights and alternative sources will be prohibitively expensive.

The continuing drought in California, however, has recently caused the Federal Bureau of Reclamation to reallocate massive amounts of water. All Western states have seen reductions in their allocation from Federal projects, including New Mexico. The OSE has, in turn, had to reduce available water allocations. It has decided that [OPTION: Wayne will not be able to exercise his option to purchase his water allocation. / OWN: it is cancelling Wayne’s water allocation, and his money will be refunded.]

The OSE’s decisions are subject to judicial review, and Wayne has filed suit. The OSE’s factual determinates are subject to enormous deference and Wayne does not challenge them. Rather, he asserts that it was inappropriate for the OSE to privilege other uses of water over his proposed residential development. He notes that the OSE allowed several large ranches and farms to retain and even to expand their water consumption. He also argued that OSE is undertaking a new project to divert water to in-stream flow to support trout fishing in a recreational area. He admits that his planned golf course would be a heavy user of water, but notes that domestic consumption accounts for only a tiny fraction of water used state-wide.

The OSE's determinations must be based "a reasonable and fair assessment" of the state's water needs. Wayne argues that the OSC should not have privileged other users and thus should not have

[OPTION: refused to allow him to exercise his option to buy water rights. The OSC contends that its governing regulation allow it broad discretion to determine appropriate water uses and that it often must prohibit users from exercising their options to buy water rights. /

OWN: canceled Wayne's rights. The OSC contends that its governing regulation allow it broad discretion to determine appropriate water uses and that it often must cancels water rights.]

Based on these facts, is your initial impression that OSE's [OPTION: refusal to allow Wayne to exercise his option to buy /OWN: decision to cancel Wayne's] water rights is "reasonable and fair"?

Yes            No

*G. Products Liability (Labeled "Products Liability Issue" 7th Circuit Judges and Federal Magistrate Judges)*

Imagine that you are a judge are presiding over a bench trial of a products liability lawsuit. The plaintiffs are numerous foreign nationals who are suing the manufacturer of a vaccine designed to combat the outbreak of an unusual strain of Dengue Fever in equatorial countries in Africa. Assume that jurisdiction in U.S. Courts is appropriate and that the manufacturer is liability if the drug design was defective. Public health officials at the United Nations concluded that this illness would have killed 600 people before conventional public health programs brought it under control. Fortunately, a vaccine was developed quickly. A United Nations program administered the vaccine to millions of people in just a few months, thereby quickly containing the outbreak.

Unfortunately, the vaccine did not save all 600 people from the illness. The drug company that manufactured the vaccine faced two alternative designs. At the time the drug company had to make a choice about the vaccine, the estimates of the effect of the vaccines were as follows:

[GAINS:

Vaccine A: 200 people would be saved from the illness

Vaccine B: 1/3 probability that all 600 people would be saved and a 2/3 probability that no one would be saved. /

LOSSES:

Vaccine A: 400 people would die from the illness

Vaccine B: 1/3 probability that no one would die from the illness and a 2/3 probability that all 600 would die from the illness.]

The drug company chose vaccine A without disclosing the alternative design to public health officials. This lawsuit arises from the death of several people who took the vaccine and nevertheless died from the illness. The plaintiffs alleged that the choice of design was unreasonable, rendering the drug defective. They contend that the drug company should have used vaccine B, arguing that the alternative design [GAINS: could have saved 400 more people. /LOSSES: left 400 people to die from the illness.] Public health experts disagree on which vaccine was appropriate.

Liability turns on the issue of whether the drug company made the reasonable choice when selecting vaccine A. What is your opinion?

\_\_\_ Vaccine A was the appropriate choice

\_\_\_ Vaccine B was the appropriate choice

*H. Bankruptcy (Labeled, “Choice Among Reorganization Plans”;  
Bankruptcy Judges)*

You are presiding over a Chapter 11 reorganization of a small business, “Hammer Time, Inc.” Hammer Time is a home supply and service business consisting of a hardware store, a carpet shop, and a contracting business. Hammer Time’s contracting work is profitable, but the hardware store and carpet shop are failing. Several months ago, Hammer Time filed for protection and reorganization under Chapter 11. Hammer Time listed debts owed to suppliers, utilities, landlords, companies from whom it has rented construction equipment, and several sub-contractors. Hammer Time listed assets such as inventory, office furniture, and construction equipment. It has several construction contracts underway that would earn it revenue if it continued as a going concern. An immediate liquidation would leave the unsecured creditors with \$600,000 less than they are owed.

You are conducting a confirmation hearing. Two competing plans for reorganization have been offered by the unsecured creditors: Plan A and Plan B. Each has received a comparable level of support from the unsecured creditors, but neither has attracted support from holders of two-thirds of the unsecured debt, as required by 11 U.S.C. § 1126(c). Both plans, however, satisfy the other requirements for confirmation. All of the secured creditors have agreed to accept either plan. Under these circumstances, pursuant to 11 U.S.C. § 1129(c), you must “consider the preferences of creditors” and confirm one of the two plans.

Which plan would you choose?

GAINS:

\_\_\_ If you select Plan A, \$200,000 of the unsecured debt will be paid for sure

\_\_\_\_\_ If you select Plan B, there is a  $1/3$  probability that all of the unsecured debt will be paid and a  $2/3$  chance that none of it will be paid.

LOSSES:

\_\_\_\_\_ If you select Plan A, \$400,000 of the unsecured debt will remain unpaid for sure

\_\_\_\_\_ If you select Plan B, there is a  $1/3$  probability that none of the unsecured debt will remain unpaid and a  $2/3$  probability that all of the unsecured debt will remain unpaid