





# Behavioral Economics and the Practice of Law

Behavioral economics combines insights from psychology, judgment, and decision making, and economics to generate a more accurate understanding of human behavior. This article considers these insights as they relate to the practice of law.

BY ROBERT C. PORT

## A (Very) Brief Overview of Behavioral Economics<sup>1</sup>

Behavioral economics is the study of how people make decisions. In particular, behavioral economics is “a relatively new field that combines insights from psychology, judgment, and decision making, and economics to generate a more accurate understanding of human behavior.”<sup>2</sup> Although these insights have significant application to how people make decisions regarding their investments, they have application for a broad range of decision making. This article considers these insights as they relate to the practice of law.

The research demonstrates that decision-making is often not as rational and analytical as traditional economic theory would predict.<sup>3</sup> Traditional economic theory—think Adam Smith, “The Wealth of Nations”<sup>4</sup>—makes two basic assumptions. First, the person making choices either knows or has assessed

all the information relevant to making a decision. Second, the person is rational, and makes decisions that are logical and consistent based on an objective calculation of risk and costs compared to the expected rewards. This is often referred to as “utility theory.”<sup>5</sup>

The problem with utility theory is its limited application in real-world situations. It describes how people *should* make decisions rather than how they *actually* make decisions. Real-life decision-making usually employs a variety of cognitive “rules-of-thumb,” called heuristics. Heuristics are unconscious shortcuts by which our minds make decisions, sometimes instantaneously or irrationally, rather than engaging in the thoughtful, logical, analytical or rational approach that traditional economic theory suggests.<sup>6</sup>

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life economic decisions between alternatives whose outcomes are uncertain.<sup>7</sup> The theory suggests that people make decisions based on their intuitive perception of the risk of a loss or a gain rather than a true probabilistic analysis of the likely final outcome.

Behavioral economics challenges the notation that people make thoughtful rational decisions when faced with economic choices:

In standard economics, we think—we assume—that people are perfectly rational, which means that they always behave in the best way for them. They can compute everything, they can calculate everything and they can make, always, consistently, the right decisions. In contrast, behavioral economics doesn't assume much about people. Instead of starting from the idea that people are perfectly rational, we say we just don't know, but let's check it out. So, what we do is we put people in different situations to check how they actually make decisions. And what we find in those experiments is that people often don't behave as you would expect from a perfectly rational perspective.<sup>8</sup>

In sum, behavioral economics reveals that we are “predictably irrational.”<sup>9</sup>

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## Behavioral Economics and Securities Class Action Litigation

Without directly using the term “behavioral economics,” it appears that the Supreme Court has recognized its impact in evaluating the proofs and defenses presented in securities class action litigation. In *Basic Inc. v. Levinson*, the Supreme Court upheld the validity of the “fraud-on-the-market” presumption.<sup>10</sup> That presumption provided that class action investors could satisfy the reliance requirement for proving stock fraud premised on a material misrepresentation because it was assumed that the price of the stock they had purchased or sold occurred in an “efficient market,” one which reflected all public material information, including material misrepresentations.

In its subsequent holding in *Halliburton Co. v. Erica P. John Fund, Inc.*,<sup>11</sup> the Court held that defendants can defeat the *Basic* presumption at the class certification stage by introducing evidence that the alleged misrepresentation did not affect the stock price. Of particular note is the concurrence by Justices Thomas, Alito and Scalia, which channels behavioral economic theories by stating that the *Basic* presumption is based on “a questionable understanding of disputed economic theory and flawed intuitions about investor behavior.”<sup>12</sup> The concurrence further observed:

*Basic* based the presumption of reliance on two factual assumptions. The first assumption was that, in a “well-developed market,” public statements are generally “reflected” in the market price of securities. 485 U.S., at 247, 108 S.Ct. 978. The second was that investors in such markets transact “in reliance on the integrity of that price.” *Ibid.* In other words, the Court created a presumption that a plaintiff had met the two-part, fraud-on-the-market version of the reliance requirement because, in the Court’s view, “common sense and probability” suggested that each of those parts *would* be met. *Id.*, at 246, 108 S.Ct. 978.

In reality, both of the Court’s key assumptions are highly contestable and do not provide the necessary support for *Basic*’s presumption of reli-

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ance. The first assumption—that public statements are “reflected” in the market price—was grounded in an economic theory that has garnered substantial criticism since *Basic*. The second assumption—that investors categorically rely on the integrity of the market price—is simply wrong.<sup>13</sup>

The concurrence captures the basic premise of behavioral economics: Contrary to traditional economic theory, which presumes a clear-eyed analytical evaluation of the costs and benefits of a decision, we may not consistently understand or implement probability when making economic decisions, our assessment of the probability of future expected events may be flawed, we regularly act impulsively and with unconscious biases, and we often act without complete information or ignore material information. As one district court has observed, “Because the notion of information efficiency upon which the fraud-on-the-market presumption rests is crumbling under sustained academic scrutiny, the future of securities fraud class action litigation—dependent on this presumption—may be in jeopardy.”<sup>14</sup>

### Behavioral Economic Concepts in the Practice of Law

In their work describing why people are “predictably irrational,” behavioral economists have identified a number of common themes—heuristics—in decision making, many of which have application to the practice of law. Some of these are discussed below.

#### Anchoring

Anchoring describes how exposure to a recent number or exposure to certain environments affects decision-making. Anchoring is “a behavioral bias in which the use of a psychological benchmark carries a disproportionately high weight in a market participant’s decision-making process.”<sup>15</sup> The concept of anchoring focuses on our tendency to attach or “anchor” our thoughts to a reference point—even though that reference point may have no logical relevance to the decision

at hand. Behavioral economist Daniel Kahneman describes anchoring as “one of the most reliable and robust results of experimental psychology.”<sup>16</sup>

To illustrate this bias, in a well-known experiment, subjects are asked to write down the last few digits of their Social Security number. They are then presented with a jar of marbles, and asked to guess the number of marbles in a jar. Subjects with higher Social Security numbers almost always guess higher.<sup>17</sup> Similarly, researchers asked participants whether Mahatma Ghandi died before or after the age of nine years or whether he died before or after the age of 140 years. The average of answers given to the two questions differed by 17 years, although these anchors seemed to be obviously irrelevant.<sup>18</sup>

As a consequence, the starting point at the beginning of the decision-making process has a very real effect on the final result. In a negotiation, anchoring efforts should occur early in the process before the other party has an opportunity to anchor based on their own decision-making processes or other experiences.

Consider the following which might be anchor points for your client:

- The first offer made in a negotiation.
- The amount of damages set forth in a complaint.
- Litigation costs already incurred.
- Media reports of similar verdicts or settlements.
- Lawyer advertising as to verdicts and settlements achieved.
- The sale of a similar property or business.
- The highest perceived prior value of a property or business.
- “Conducting a meeting in a cheap coffee shop might create mental associations that help you negotiate a lower price whereas meeting in an expensive restaurant or well decorated office might have the opposite effect.”<sup>19</sup>

#### Overconfidence

Human beings have a tendency to overestimate their own skills and predictions for success. We overestimate the prob-

abilities of good things happening and discount the probabilities of failure or loss unless we are always pessimistic.

Socrates is said to have observed that “True knowledge exists in knowing that you know nothing.”<sup>20</sup> Former U.S. Secretary of Defense Donald Rumsfeld observed that

[T]here are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don’t know we don’t know.<sup>21</sup>

Experts and highly educated people—such as attorneys—are prone to have greater overconfidence bias than laypeople because their education (and perhaps their income and position of seniority) gives them the (over)confidence to believe they are right.<sup>22</sup> Thus, a lawyer might be too confident in their ability to convince the court that adverse case law is distinguishable.

Behavioral economists have identified a variety of cognitive biases that lead to overconfidence. One is the “illusion of control”—the tendency for people to overestimate their ability to control events.<sup>23</sup> Attorneys, for example, might feel that they can control outcomes for situations in which they demonstrably do not have complete control, such as a jury’s decision or whether the other party will accept the terms of a business proposal.

Another and related bias leading to overconfidence is the “hot-hand” fallacy—the belief that a person who has experienced success with a random event has a greater chance of further success in additional attempts.<sup>24</sup> A flipped coin that has landed on heads 10 times in a row still has only a 50/50 chance of landing on heads on the 11th flip—though if it has landed heads 100 times in a row you might question the fairness of the coin. An attorney who has won their last 10 cases, or secured the last 10 zoning variances, still must recognize that their success or failure on the next case or zoning dispute is not completely assured.

One approach to counter overconfidence is to conduct a “premortem” as discussed below:

A premortem is the hypothetical opposite of a postmortem. A postmortem in a medical setting allows health professionals and the family to learn what caused a patient's death. Everyone benefits except, of course, the patient. A premortem in a business setting comes at the beginning of a project rather than the end, so that the project can be improved rather than autopsied. Unlike a typical critiquing session, in which project team members are asked what might go wrong, the premortem operates on the assumption that the "patient" has died, and so asks what did go wrong. The team members' task is to generate plausible reasons for the project's failure.<sup>25</sup>

This strategy for addressing overconfidence involves "prospective hindsight . . . which helps . . . identify risks at the outset."<sup>26</sup> Using this strategy, the lawyer imagines early on in the representation that the desired goal has not been achieved—the case was lost on summary judgment or at trial, or the business deal collapsed—and then works backward from that hypothetical failure to determine what potentially could lead to that negative result. Moving forward, the attorney can then have a greater sensitivity to those risks that could derail the matter.

### Planning Fallacy

The "planning fallacy" refers to the tendency for people to consistently underestimate both the time and costs for completing projects.<sup>27</sup> Because human judgment is generally overconfident and optimistic, people tend to underestimate the costs, completion times and risks of planned actions. Some examples are provided below.

- In a litigation situation, both sides will likely underestimate not only the amount of time needed to reach a conclusion, but also the cost of the litigation process. Litigators are notorious for underestimating the length of a deposition, arguments on a motion, or a hearing or a trial.
- In a deal situation, parties will underestimate the time needed to negotiate

and draft the details of the relevant documents.

Behavioral economists suggest that the best way of avoiding the planning fallacy is to use a data-driven technique called "reference class forecasting." Essentially, reference class forecasting tries to eliminate the subjective prejudices of the forecaster (the "inside view") and focuses on reasonably objective data ("the outside view").<sup>28</sup> For example, when trying to predict the legal fees and expenses of a lawsuit, the analysis would be this:

First, identify a set of similar activities. When trying to predict how much a lawsuit might cost in legal fees, for example, identify a group of similar lawsuits. This group of similar prior lawsuits is your reference class.

Second, collect data on the reference class. How long did those lawsuits last from beginning to end? How much were the total legal fees? This data provides the baseline for evaluating your own situation. So, if your firm has handled 10 similar types of lawsuits in the past, and the average legal fees incurred were \$100,000, then \$100,000 is your baseline.

Third, evaluate the effect of concrete differences between your particular case and the reference class cases. For example, if your firm's hourly rates have increased year over year, then you will want to adjust the baseline estimate upward to reflect the increases in hourly rates. If some of the prior cases required more witnesses than your case will, then you might adjust your estimate downward.

Finally, the fourth, and possibly hardest, step is to actually use the estimate and ignore your inevitable desire to use your original "prediction" about the cost in place of the hard data.<sup>29</sup>

### Confirmation Bias

Confirmation bias is the tendency to interpret new facts and experiences in ways that reinforce our pre-existing beliefs.<sup>30</sup> Simply stated, we favor information that confirms our beliefs, while discounting facts that counter those beliefs. As a consequence, confirmation bias causes us

to give less weight to information that challenges those beliefs, and we may not even search for conflicting evidence or differing opinions.

Confirmation bias often places undue influence on information gathered early on. A person forms an initial opinion and then evaluates subsequent evidence through that filter so that it confirms the opinion. The "first impression" controls, and then the person has "blindness" on, preventing any realistic assessment of contrary information.

In "Predictably Irrational," psychologist Daniel Ariely describes an experiment in which MIT students were asked to taste-test two types of beer. One was a regular beer, and the other was the same beer, but with balsamic vinegar added. The altered beer was "MIT Beer." As expected, when told in advance that MIT Beer contained vinegar, the students preferred the regular beer. In contrast, however, when they were not told in advance about the vinegar, the students typically preferred MIT Beer.<sup>31</sup>

Much of what lawyers do involves direct adversarial situations (litigation, arbitration, mediation), or quasi-adversarial situations, such as contract negotiations. Confirmation bias can cause either or both sides to have an unrealistic view of their chance of success, leading to an inability to objectively evaluate the matter, and resulting in extended litigation or negotiation deadlocks. Some examples:

- Clients often have no ability to recognize the possibility that the fact finder will not find them credible, will not find the facts as the client swears them to be, or that the fact finder might otherwise not see their case as straightforward as the client believes it to be.
- A litigation lawyer fails to adjust the "theme" of the case as identified early on even when discovery produces evidence challenging that theme or suggesting alternative theme(s).
- A lawyer might discount or wholly ignore the probable effect of negative testimony at a deposition by focusing on the parts of the deposition that support his client's position.

- A business client may be so enamored of the proposed deal that they overestimate the cost savings of a merger, the ease of regulatory approval or the ability to merge different business cultures into one.

Confirmation bias can be countered by maintaining an objective viewpoint from the start. Also, it is useful to seek input and feedback from objective third parties who have no stake in the matter. Any negative information counter to our initial analysis and impressions must be carefully and objectively analyzed, without fear that doing so might be a challenge to and reveal the bias in our own decision-making.

### Loss Aversion

Loss aversion is the tendency of people to fear losses more than they desire a gain of similar value. For example, research has found that the perceived risk of a financial loss is weighed more heavily in decision-making than the possibility of a gain of equal value. This is known as “loss aversion,” and by some measures, a loss has about twice as much psychological impact as a gain of the same amount.<sup>32</sup> A person viewing himself or herself as losing something places more value on the thing lost than someone who views the transaction as receiving the same thing, even though the economic value of the loss and the gain are the same.<sup>33</sup>

A lawyer who understands these incentives may be able to set up the litiga-

tion or the business negotiation to increase the chance of reaching a successful result. Loss aversion suggests that rather than trying to achieve a result by threatening the adverse party with a significant loss, the lawyer who can frame the consequences for all parties as a “win-win” should do better in achieving the result desired by their client.

For example, a litigation settlement might be structured so that the payor is able to secure favorable tax treatment for the payment made, thus reducing the actual out-of-pocket cost of the settlement. The release of a lis pendens as part of a settlement, thus allowing real property to be marketed, might be viewed as a significant gain even if significant consideration is paid by the defendant to accomplish that result. As another example, “in a shipping contract, a lawyer might start with a higher base price that includes insurance and offer a discount if the customer maintains its own insurance rather than start with a lower base price and then try to get the customer to pay extra for the shipper to cover insurance. Loss aversion suggests that the customer will view the discount as a gain, and the payment of extra fees as a loss, and be more willing to forgo the discount than pay the extra fees.”<sup>34</sup>

### Hindsight Bias

Another common behavioral tendency is “hindsight bias.” This describes situations in which a person believes, after the fact, that what happened was predictable and completely obvious, when in fact,

the event could not have been reasonably predicted. In other words, “I knew it all along.”<sup>35</sup> The fact is that “stuff happens,” often in ways that are unpredictable and unexplainable, but it won’t appear that way after the fact.<sup>36</sup>

Psychologists attribute hindsight bias to our innate need to find order in a chaotic and uncertain world. To do so, we create rationalizations that allow us to believe that unexpected or unpredictable events most certainly could have, and should have, been predicted. “People [are] driven to overstate the accuracy not only of their original predictions but also of those made by others.”<sup>37</sup>

Some clients expect lawyers to have perfect foresight as to the course of negotiations, the way in which a judge or jury will decide a case, or what a government regulator might do. How many times have we heard a disappointed client say “You should have known!” as if we have the perfect foresight of a crystal ball?

To reduce the challenges of disappointment caused by a client’s hindsight bias, the lawyer should regularly remind the client of all the independent variables in the litigation/negotiation decision making process over which the attorney has little or no control:

- The strategies of the adverse party and their counsel;
- The interpretations of law by the court;
- The facts as found by the judge or jury;
- The subjective impressions that each of the players involved have of each

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other (opposing counsel, opposing party, judge, jury, mediator).

## Conclusion

By understanding some of the key heuristics and unconscious tendencies lawyers and their clients use to make their decisions—decisions that are often “predictably irrational”<sup>38</sup>—a lawyer can accomplish two things. First, we can better understand our own decision-making processes and improve them. Second, with that knowledge, we can help our clients make better decisions, and be reasonably confident in the process by which those decisions are reached. ●



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## Endnotes

1. Some academics and commentators use the phrase “behavioral finance” interchangeably with “behavioral economics.” See, e.g., Frederick C. Dunbar & Dana Heller, *Fraud on the Market Meets Behavioral Finance*, 31 DEL. J. CORP. L. 455, 483-97 (2006).
2. Francesca Gino, *The Rise of Behavioral Economics and Its Influence on Organizations*, HARV. BUS. REV., Oct. 10, 2017, <https://hrb.org/2017/10/the-rise-of-behavioral-economics-and-its-influence-on-organizations>.
3. See e.g., Sendhil Mullainathan & Richard H. Thaler, *Behavioral Economics, How Behavioral Economics Differs from Traditional Economics*, <https://www.econlib.org/library/Enc/BehavioralEconomics.html> (“The standard economic model of human behavior includes three unrealistic traits—unbounded rationality, unbounded willpower, and unbounded selfishness—all of which behavioral economics modifies.”).
4. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS, Modern Library; Sixth Printing ed. (Jan. 25, 1994), Edwin Cannan (Ed.).
5. Utility theory “tries to depict rational or optimal choice behavior.” Psychology Dictionary, <https://psychologydictionary.org/utility-theory/>.
6. See generally, DANIEL KAHNEMAN, THINKING, FAST AND SLOW 97-103 (2013).
7. The theory originated in a 1979 paper by Daniel Kahneman and Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, ECONOMETRICA, Vol. 47, No. 2, pp. 263-292 (Mar. 1979), <https://www.its.caltech.edu/~camerer/Ec101/ProspectTheory.pdf>. Kahneman later won the 2002 Nobel Memorial Prize in Economics for his work developing prospect theory “for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty.” The Nobel Prize Press release, Oct. 9, 2002, <https://www.nobelprize.org/prizes/economic-sciences/2002/press-release/>.
8. Dan Ariely Interview—A Primer on Behavioral Economics, <https://thebestschools.org/features/dan-ariely-interview-behavioral-economics/>.
9. DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS (2008). In 2017, Professor Richard Thaler of the University of Chicago was awarded the Nobel Memorial Prize in Economic Sciences “for his pioneering work in establishing that people are predictably irrational—that they consistently behave in ways that defy economic theory.” Binyamin Appelbaum, *Nobel in Economics is Awarded to Richard Thaler*, N.Y. TIMES, Oct. 9, 2017, <https://www.nytimes.com/2017/10/09/business/nobel-economics-richard-thaler.html>.
10. *Basic Inc. v. Levinson*, 485 U.S. 224 (1988).
11. *Halliburton Co. v. Erica P. John Fund, Inc.*, 573 U.S. 258 (2014).
12. *Id.* at 288.
13. *Id.* at 289. As suggested examples of why it is inaccurate to assume investors rely on the market price in making their decisions, “[b]ehavioral economics researchers have . . . identified numerous types of trading activity—some rational and some not—where traders may not rely on the accuracy of the market price. These traders may range from value investors seeking stocks they believe are mispriced, to momentum traders to money managers engaging in herding behavior. The natural argument, then, is that it makes little sense to assume that all investors have relied on the market price and thus, indirectly, on any misrepresentation.” Charles R. Korsmo, *Market Efficiency and Fraud on The Market: The Danger of Halliburton*, 18 LEWIS & CLARK L. REV. 827, 866 (2014).
14. *In re PolyMedica Corp. Secs. Litig.*, 453 F. Supp. 2d, 260, 272 (D. Mass. 2006).
15. Investopedia, <https://www.investopedia.com/terms/a/anchoring.asp>. See generally, KAHNEMAN, *supra* note 6, at 119-128.
16. Kahneman, *supra* note 6, at 119.
17. Warren E. Agin, *An Introduction to Behavioral Economics and Negotiations*, ABA Business Law Section, BUS. LAW TODAY, Nov. 3, 2017, <https://businesslawtoday.org/2017/11/an-introduction-to-behavioral-economics-and-negotiations/>.
18. *All you need to know on Anchoring*, The Rational Think Tank—Behavioral Insights for the Legal Profession, July 23, 2017, <https://www.rationalthinktank.com/2017/07/23/all-you-need-to-know-on-anchoring/>.
19. Agin, *supra* note 17.
20. [https://www.brainyquote.com/quotes/socrates\\_382301](https://www.brainyquote.com/quotes/socrates_382301). See also, “The only true wisdom is in knowing you know nothing.” (<https://www.goodreads.com/author/quotes/275648.Socrates>). There is scholarly debate as to whether Socrates actually said this exact quote. The phrase appears to be a paraphrasing from Plato’s account of Socrates’ statement, “I neither know nor think that I know.” [https://en.wikipedia.org/wiki/I\\_know\\_that\\_I\\_know\\_nothing#cite\\_note-6](https://en.wikipedia.org/wiki/I_know_that_I_know_nothing#cite_note-6).

21. DoD News Briefing—Secretary Rumsfeld and Gen. Myers—Presenter: Secretary of Defense Donald H. Rumsfeld, Feb, 12, 2002, 11:30 AM, <http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636>.
22. See, e.g., Daniel Kahneman, *Don't Blink! The Hazards of Confidence*, N. Y. TIMES MAG., Oct. 19, 2011 (“In general, however, you should not take assertive and confident people at their own evaluation unless you have independent reason to believe that they know what they are talking about. Unfortunately, this advice is difficult to follow: overconfident professionals sincerely believe they have expertise, act as experts and look like experts.”), <https://www.nytimes.com/2011/10/23/magazine/dont-blink-the-hazards-of-confidence.html>; Rolf Dobelli, *The Overconfidence Effect—Why you systematically overestimate your knowledge and abilities*, PSY. TODAY, June 11, 2013, <https://www.psychologytoday.com/us/blog/the-art-thinking-clearly/201306/the-overconfidence-effect>, (“Experts suffer even more from the overconfidence effect than laypeople do. If asked to forecast oil prices in five years’ time, an economics professor will be as wide of the mark as a zookeeper will. However, the professor will offer his forecast with certitude.”); Nate Silver, *Herman Cain and the Hubris of Experts*, Oct 27, 2011, (“Experts have a poor understanding of uncertainty. Usually, this manifests itself in the form of overconfidence: experts underestimate the likelihood that their predictions might be wrong.”), <https://fivethirtyeight.com/features/herman-cain-and-the-hubris-of-experts/>.
23. “Illusion of control is the tendency for human beings to believe they can control or at least influence outcomes that they demonstrably have no influence over.” ScienceDaily, *Illusion of Control*, [https://www.sciencedaily.com/terms/illusion\\_of\\_control.htm](https://www.sciencedaily.com/terms/illusion_of_control.htm).
24. “The hot hand is the notion that because one has had a string of successes, an individual or entity is more likely to have continued success. For example, if one flipped a (fair) coin and guessed correctly that it would land on heads three times in a row, it might be said that they have a “hot hand.” Under such circumstances, a person believes that their odds of guessing which side the coin will land on next are greater than the 50 percent they actually are.” Investopedia, <https://www.investopedia.com/terms/h/hot-hand.asp>.
25. Gary Klein, *Performing a Project Premortem*, HARV. BUS. REV. (Sept. 2007), <https://hbr.org/2007/09/performing-a-project-premortem>.
26. *Id.*
27. The term was coined “to describe plans and forecasts that ‘are unrealistically close to best-case scenarios [and] could be improved by consulting the statistics of similar cases.’” KAHNEMAN, *supra* note 6, at 250.
28. Farnam Street, *Countering the Inside View and Making Better Decisions* (May 24, 2015), <https://fsblog/2015/05/inside-view-michael-mauboussin> (quoting MICHAEL MAUBOUSSIN, THINK TWICE: HARNESING THE POWER OF COUNTERINTUITION (2009)).
29. Agin, *supra* note 17.
30. Confirmation bias “is a tendency to search for or interpret information in a way that confirms one’s preconceptions, leading to statistical errors.” ScienceDaily, [https://www.sciencedaily.com/terms/confirmation\\_bias.htm](https://www.sciencedaily.com/terms/confirmation_bias.htm).
31. DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS, 204-08 (2008); Leonard Lee, Shane Frederick, & Dan Ariely, *Try It, You’ll Like It—The Influence of Expectation, Consumption, and Revelation on Preferences for Beer*, Psychol. Sci., Vol. 17, No. 12, pp. 1054-58 (2006), <http://web.mit.edu/ariely/www/MIT/Papers/Beer.pdf>.
32. Amos Tversky & Daniel Kahneman, *Advances in Prospect Theory: Cumulative Representation of Uncertainty*, J. OF RISK AND UNCERTAINTY, 5: 297-323 (1992), [http://psych.fullerton.edu/mBIRNBAUM/psych466/articles/Tversky\\_Kahneman\\_JRU\\_92.pdf](http://psych.fullerton.edu/mBIRNBAUM/psych466/articles/Tversky_Kahneman_JRU_92.pdf). See also, KAHNEMAN, *supra* note 6, at 284 (“The ‘loss aversion ratio’ has been estimated in several experiments and is usually in the range of 1.5 to 2.5.”)
33. A related concept is the “endowment effect,” which describes the tendency of people who have a good to value it more than someone who does not. As an example, the maximum amount of money that buyers are willing to pay to acquire something is often lower than the minimum amount of money that a seller is willing to accept for it. See, e.g., Carey K. Morewedge and Colleen E. Giblein, *Explanations of the endowment effect: an integrative review*, TRENDS IN COGNITIVE SCI., Vol. 19, No. 6, pp. 339-348 (June 2015) (“The endowment effect is the tendency for people who own a good to value it more than people who do not. Its economic impact is consequential. It creates market inefficiencies and irregularities in valuation such as differences between buyers and sellers, reluctance to trade and mere ownership effects. Traditionally, the endowment effect has been attributed to loss aversion causing sellers of a good to value it more than buyers. New theories and findings—some inconsistent with loss aversion—suggest evolutionary, strategic, and more basic cognitive origins.”).
34. Agin, *supra* note 17.
35. KAHNEMAN, *supra* note 6, at 202. See also, NASSIM NICHOLAS TALEB, FOOLED BY RANDOMNESS 55-56 (2004) (“Things are always obvious after the fact.”)
36. “Despite the common cliché, hindsight is not 20/20. Without corrective lenses, hindsight is close to legally blind. Once we learn what did happen, we look back and believe that we knew it was going to happen all along—even if we were utterly in the dark at the time.” Jason Zweig, *Your Money & Your Brain*, 110-11 (2008).
37. Kahneman, *supra* note 6, at 203. “Similar results have been found for other events that gripped the public attention such as the O.J. Simpson murder trial and the impeachment of Bill Clinton. The tendency to revise the history of one’s beliefs in light of what actually happened produces a robust cognitive illusion. . . . The worse the consequence, the greater the hindsight bias. In the case of a catastrophe, such as 9/11 we are especially ready to believe that the officials who failed to anticipate it were negligent or blind.” *Id.*, 202-04.
38. See generally, DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS (2008).