Reference Points and Contract Interpretation: An Empirical Examination

Doron Teichman
This Article focuses on the influence of framing on contract-interpretation decisions. A large body of both psychological and economic studies suggests that people treat payoffs framed as gains and payoffs framed as losses distinctly. Building on these studies, we hypothesize that contract interpretation decisions will be affected by the way in which they are framed. More specifically, we expect that promisors will tend to adopt a more self-serving interpretation when they are making decisions in the domain of losses. To test this prediction, we run a series of three experiments that are all based on a between-subject design. The first two studies utilize experimental surveys that measure and compare participants’ attitudes toward a contract interpretation dilemma. The third study is an incentive-compatible lab experiment, in which participants’ actual interpretive decisions determine their payoff. All three experiments confirm our basic hypothesis, and show that framing contractual payoffs as losses rather than gains raises parties’ tendency to interpret their obligations selfishly. Based on these findings the Article revisits some of the basic questions of contract law, shedding new light on an array of issues such as the law of liquidated damages and the optimal design of contracts.

* Professor, Faculty of Law, Bar-Ilan University and Research Fellow, The Edmond J. Safra Center for the Study of Ethics, Harvard University; PhD Candidate the Hebrew University of Jerusalem; and the Joseph H. and Belle R. Braun Senior Lecturer in Law, Faculty of Law, the Hebrew University of Jerusalem. For helpful comments we thank, Oren Bar-Gill, Zev Eigen, David Hoffman Yaakov Kareev, Ilana Ritov, Judith Avrahami, Tess Wilkinson-Ryan and participants of workshops at Bonn University and the Hebrew University. Financial support for this study was provided by the Israel Science Foundation (grant 1283/11). For valuable research assistance we thank Troy Schuller.
I. INTRODUCTION

The traditional economic model of contractual decision-making is straightforward: contracting parties are expected to maximize the monetary benefits they can extract from the transaction. This model generates an array of predictions regarding the different decisions contracting parties can be expected to make during the duration of their relationship. On the formation side, the model suggests that parties will design their transactions to best serve their interests such that the aggregate contractual surplus will be maximized. For example, they will allocate the different risks associated with the transaction to the party best suited to dealing with them. On the performance side, the model implies that parties will act in accordance with their obligations to the extent that such behavior is profitable. For instance, they will perform rather than breach if, and only if, performance is cheaper than breaching and paying damages.

In recent years, however, legal scholars employing a behavioral perspective have shown that the rational choice model does not fully explain contractual choices. Regarding formation, it has been suggested that parties are often susceptible to cognitive biases that cause them to enter into contracts that do not best serve their interests. Regarding performance, it has been argued that an array of forces ranging from social norms to the internal commitment to fulfill promises influences the way in which people carry out their contractual obligations.

This study focuses on the effect of the framing of contractual interpretation decisions. A large body of both psychological and economic studies suggests that people treat payoffs framed as gains and payoffs framed as losses distinctly. More specifically, these studies show that people view losses as more painful than forgone gains. Thus, for example, people will treat a loss of $1,000 on a stock that they own as more painful than a forgone profit of $1,000 on a stock they could have bought. This finding has had a profound effect on the analysis of numerous legal issues ranging

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4 See e.g. Amos Tversky & Daniel Kahneman, The Framing of Decisions and the Psychology of Choice, 211 SCIENCE 453 (1981). For a review of the literature, see infra part II A.
from civil litigation to crime control policy. As Chris Guthrie has noted, understanding the behavioral differences between gains and losses “sheds light on the way people behave in each legal arena and the way legal doctrine has evolved.”

Contract scholarship has not remained immune to the ramifications of framing theories. A main point of interest in this regard is whether objectively equivalent contracts that only differ in the way in which their payoffs are framed generate distinct performance incentives. Take, for example, a construction contract: the parties can design it with a price of 80 and a bonus of 20 for timely performance, or with a price of 100 and a penalty of 20 for late performance. While from a rational choice perspective the two contracts are identical, framing theories suggest that a penalty of 20 will be perceived as more painful than the forgone opportunity to earn a bonus of 20. Hence, such theories predict that there will be more incidence of timely performance under the penalty contract.

Recently, researchers have begun to test this prediction empirically. In both experimental and field studies they offered subjects objectively identical contracts, and manipulated the framing of those contracts as either a bonus contract or a penalty contract. They then measured the level of effort subjects were willing to exert in order to perform their obligations. The results of these studies corroborated the hypothesis that losses and gains generate different incentives, and demonstrated that “subjects choose higher effort levels significantly more often under the loss frame than under the gain frame.”

Our study extends this line of literature and introduces into it a key legal issue that has thus far been overlooked: contractual uncertainty. Existing studies of framing and contracting behavior have employed a somewhat simplistic perception of contracts. That is, they have viewed contracts as a legal vehicle that includes crisp and clear obligations that are perfectly enforced. The reality, however, is far more complex. Contractual obligations are often vague and unclear, leaving room for the parties to interpret them. Thus, in many cases parties need to decide not only how much effort to exert to meet their obligations, but also what precisely those obligations are. This interpretive process, in turn, may be influenced by the way in which payoffs are framed. Given the empirical findings regarding framing, we hypothesize that parties will exhibit a greater tendency to adopt a self-serving interpretation of the contract when this is done to minimize losses as opposed to

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7 See infra notes 41–46 and accompanying text.
10 Brooks et al. id. at 6.
11 See infra notes 58–60 and accompanying text.
enhancing profits. As a result, people might actually exhibit less effort when contract payoffs are framed as losses.

To test this prediction, we constructed a series of three experiments, all of them based on a between-subject design. The first two were based on experimental surveys that measured and compared participants’ attitudes toward a contract interpretation dilemma. In all scenarios the level of legal ambiguity was held constant, as were the monetary stakes. The measure that was manipulated was the framing of the situation as involving the enhancement of profits or minimization of losses. The third was based on an incentive-compatible lab experiment, in which subjects made actual interpretive decisions, and were paid according to their choices. All three experiments confirmed our basic hypothesis, showing that framing contractual payoffs as losses rather than gains raises parties’ tendency to interpret their obligations selfishly.

The Article unfolds as follows: after this brief introduction, Part II presents the background to the questions we explore. It presents the psychological and economic literature dealing with reference points and decision-making, and reviews the contract literature that builds on this body of work. Part III describes the experiments we conducted. Part IV discusses the results. It highlights their implications for understanding contract law, and explores the practical lessons that contracting parties can draw from them. Finally, in Part V we briefly conclude.

II. BACKGROUND: THE FRAMING OF CONTRACTUAL INTERPRETATION DECISIONS

This Section reviews the existing literature regarding framing and contractual decision-making. It begins by outlining the main findings from the psychological literature relating to the topic. That done, it turns to examining how these findings have been incorporated into contract scholarship. Finally, it specifies our hypothesis regarding contractual decisions in situations involving ambiguous contract terms.

A. Framing and the Decision-Making Literature

As mentioned briefly in the introduction, over the last thirty years, and especially in the last decade, we have witnessed a dramatic increase in the theoretical and empirical attacks on the rational choice model. This line of research has demonstrated that people systematically violate the model’s assumptions. It has therefore been argued that the concept of rationality should be replaced with the concept of bounded rationality. That is, while people generally behave rationally, they are also susceptible to numerous cognitive biases that bring about systematic deviations from the rational choice model.

Key to our analysis is the well documented tendency of people to react differently to objectively identical payoffs that are framed as either gains or losses. One of the basic assumptions of standard economic theory is that decisions are

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According to this framework, people weight the different options they face according to the expected utility associated with those options. Individuals are assumed not to care, however, whether outcomes are framed as a gain or as a loss compared to a certain benchmark. Thus, an actual loss of $1,000 in the stock market is equivalent to a forgone gain of $1,000 caused by a failure to invest, since the consequence in both cases is the same.

Since the late 1970s, both economists and psychologists have come to realize that the reference-independence hypothesis is violated in systematic fashion. In their seminal work on the matter, Daniel Kahneman and Amos Tversky introduced a competing theory of human behavior for uncertain choices that recognizes the importance of reference points—prospect theory. According to the theory, people do not evaluate outcomes merely in terms of expected utility. Rather, they view them as gains or losses in comparison to a certain reference point.

The core insight of prospect theory is that people’s attitudes toward gains and losses differ dramatically. Whereas people are risk-averse regarding gains, they are risk-seeking with respect to losses. In other words, the utility created by a gain of 100 is smaller than the disutility created by a loss of equal size. As Kahneman and Tversky famously put it, “losses loom larger than gains.”

Later extensions to the theory demonstrated its relevance to choices that do not involve uncertainty as well. People view their existing entitlements as a baseline against which they evaluate new entitlements. As a result, they perceive forgoing the former as a loss and acquiring the latter as a gain. This asymmetry, in turn, brings about a systematic gap between peoples’ valuations of rights which they possess and their valuations of rights which they do not possess. The maximal amount people are willing to pay in order to purchase a right tends to be significantly lower than the minimal amount they are willing to accept in order to part from that very same right.

The centrality of reference points has been documented in extensive empirical studies. Researchers have employed highly stylized experiments to demonstrate that people treat losses and gains distinctly. For example, in their famous Asian disease experiment Tversky and Kahneman demonstrated that subjects were willing to adopt

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17 See id. at 279.
19 Id. at 44.
more risky policies when the outcomes of the policies were framed as losses rather than gains.22 Others have turned to the field and corroborated the theory based on the actual behavior of individuals.23 For instance, using a unique dataset, Terrance Odean demonstrated that investors tend to hold on to losing stocks too long, whereas they sell gaining stocks prematurely.24 The cumulative value of this body of work was eventually recognized by the awarding of the Nobel Prize to Kahneman in 2002.

Another strand of literature closely related to our study is that dealing with behavioral ethics.25 While traditional rational choice theory assumes that people are selfish and only attempt to maximize their own welfare, this body of scholarship suggests that the picture is more nuanced.26 More specifically, behavioral-ethics scholars have shown that aside from being influenced by their own interests, peoples’ decisions are driven by other factors as well. Numerous studies demonstrate that people are motivated by forces such as trust,27 citizenship,28 morality,29 and fairness.30

Against this backdrop, researchers have recently turned to examining the limits of people’s ethicality. According to this body of work, the simplistic assumption of ethicality should be replaced with the concept of bounded ethicality—“the tendency of individuals to engage in unethical action without even knowing that they are doing so.”31 This line of research has shown that “good” people’s willingness to do “bad” is influenced by a broad range of self-serving biases.32 Several studies employing this line of thought have shown that people constantly look for ways to ignore information.

25 See, e.g., Max H. Bazerman & Francesca Gino, Behavioral Ethics: Toward a Deeper Understanding of Moral Judgment and Dishonesty, (HBS, Working Paper No. 12-054 2012) (explaining the psychological mechanisms which underlie people’s behavior when facing a legal or ethical dilemma).
31 Bazerman & Gino, supra note 25 at 12.
which might harm their wellbeing,\textsuperscript{33} that they rationalize unethical behavior,\textsuperscript{34} and that they lack the willpower that ethical behavior requires.\textsuperscript{35}

In the context of this Article, studies have demonstrated that people are more willing to stretch their ethical boundaries when their decisions are framed as losses rather than gains. For instance, in a mock negotiation study Mary Kern and Dolly Chugh demonstrated that negotiators whose decision was framed as a loss were significantly more likely to engage in misrepresentation and false promises.\textsuperscript{36} Following the same line, Jessica Schwartz Cameron and her colleagues documented the effect of the framing of compensation on the willingness of participants to cheat and collect more money than their performance actually merited in a lab experiment.\textsuperscript{37} Whereas half of the participants’ compensation was structured as a gain (i.e., they earned a dollar for each correct answer), the other half’s was structured as a loss (i.e., they received an initial endowment and a dollar was deducted for each wrong answer).\textsuperscript{38} The results showed that participants in the loss group were more willing to overstate the amount of money they should be paid.\textsuperscript{39} The researchers therefore concluded that when participants had an opportunity to cheat “they took advantage of it more often when they were facing a loss than when they were facing a gain.”\textsuperscript{40}

\textbf{B. Framing and the Contract Literature}

Prospect theory and the concept of reference points have had a profound effect on legal scholarship.\textsuperscript{41} Legal debates have been revisited in light of the theory’s insights in areas such as civil litigation,\textsuperscript{42} securities law,\textsuperscript{43} criminal behavior,\textsuperscript{44} and

\begin{itemize}
\item See, e.g., Francesca Gino & Lamar Pierce, \textit{Dishonesty in the Name of Equity}, 20 PSYCHOL. SCI. 1153 (2009).
\item See e.g., Francesca Gino et al., \textit{Unable to resist temptation: How self-control depletion promotes unethical behavior}, 115 ORG. BEHAV. & HUM. DECISION PROCESSES 191 (2011).
\item See Jessica Schwartz Cameron et. al., \textit{Deservingness and Unethical Behavior and Loss and Gain Frames} (2008) (unpublished manuscript).
\item \textit{Id.} at 12-13.
\item \textit{Id.} at 14.
\item \textit{Id.} at 16. Other studies have shown that, in many (but not all) circumstances, people were less likely to care about fairness in various cooperating games where their payments were framed as losses rather than as reduced gains. See De Dreu and Mckuster, \textit{Gain-Loss Frames and Cooperation in "Rvo-Person Social Dilemmas: A Transformational Analysis}, 72 J. PERSONALITY & SOC. PSYCHOL. 1093 (1997) (showing that individualistic types are less likely to care for fairness in cooperating games where payments are framed as losses).
\item For a general overview see Guthrie, supra note 8 at 1120-55.
\end{itemize}
plea bargaining.\textsuperscript{45} Recently, Eyal Zamir put forward an ambitious argument according to which prospect theory explains the structure of law itself to a large degree.\textsuperscript{46}

Obviously, the area of contract law did not remain unaffected by this new analytical paradigm. The study of contractual default rules, for example, has been transformed by the insights of prospect theory. According to traditional economic analysis, parties are expected to freely negotiate around such rules and gravitate towards the efficient distribution of risks.\textsuperscript{47} In other words, much like any allocation of legal entitlements, the determination of contractual default rules is not expected to affect the ultimate way in which rights are assigned.\textsuperscript{48}

Prospect theory, however, suggests that the determination of default rules is of much greater importance.\textsuperscript{49} If the parties view the allocation of risks created by these rules as a reference point, then contracting around them might be a thorny task. The party “endowed” with a right according to the default rule will tend to view selling this right as a loss. The opposing party, on the other hand, will tend to view the purchase of a new right as a gain. Since losses loom larger than gains, a systematic gap in valuations is expected to emerge and the default rule is expected to remain “sticky.”

Ample empirical evidence—from both the lab and the field—has corroborated the importance of default rules as contractual reference points. Taking an experimental approach, Cass Sunstein explored the willingness of law students to buy or sell two weeks of vacation time as part of their negotiations for an employment contract with a law firm.\textsuperscript{50} As it turns out, students endowed with two additional weeks of vacation by the default rule demanded a significantly higher sum of money to forgo this right than the sum the students who were not endowed were willing to pay in order to gain it.\textsuperscript{51} Other scholars tackled the issue by studying the actual behavior of contracting parties. For example, Eric Johnson and his colleagues compared the decisions of consumers buying insurance in Pennsylvania and New Jersey after both states amended their law to allow for some type of limited coverage.\textsuperscript{52} Importantly, while in Pennsylvania the default remained full coverage, in New Jersey the default was set at the limited level, and consumers who wanted additional coverage had to purchase it. The difference between the choices consumers

\textsuperscript{47} See Feldman & Teichman, supra note 5 at 37. Scholars analyzing the topic within traditional economic assumptions have pointed out that this analysis might not hold even under those assumptions. If, for instance, bargaining takes place in conditions of asymmetric information then parties might fail to negotiate around an inefficient default rule. See Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 YALE L.J. 87, 103 (1989).
\textsuperscript{48} This is merely another application of the Coase Theorem. See Daniel J. Bussel, Liability for Concurrent Breach of Contract, 73 WASH. U. L.Q. 97, 100 (1995)
made in the markets was unequivocal: while only 20 percent bought additional coverage in New Jersey, 75 percent retained full coverage in Pennsylvania.53

Closer to the topic of this paper, Tess Wilkinson-Ryan and Jonathan Baron have recently explored the way gains and losses interact with people’s moral judgment of breach decisions.54 In a stylized experiment, participants were assigned to read one of two scenarios: a breach aimed at enhancing profits due to a more lucrative offer and a breach aimed at minimizing losses due to an unexpected rise in costs.55 After reading the scenarios, participants were asked to choose the appropriate level of damages to be paid by the breaching party. The results indicated that participants viewed a breach aimed at enhancing profits as more morally reprehensible, and that they would set damages in such cases at a higher level.56

C. Framing and Contractual Interpretation Decisions

Against this backdrop, we explore whether framing influences the way in which people interpret ambiguous obligations. The existing literature on contractual performance decisions and framing focuses on the dichotomous choice: to breach or not to breach. For example, when Wilkinson-Ryan and Baron described to their subjects the promisors’ breach decision, they simply stated that “[h]e decides to break his contract in order to take other, more profitable work.”57 Thus, such studies implicitly assume clear contractual obligations in the shadow of which choices are made. We, on the other hand, focus on the arguably more common situation which entails the dilemma of how to interpret an ambiguous obligation.

Contracts are often vague and unclear.58 Both the limitations of the language and transaction costs routinely lead parties to define their obligations in an imprecise manner.59 Contractual vagueness can result from terms that are inherently unclear, such as terms that require parties to engage in a “best effort” or terms that excuse performance in cases of a “material” change of circumstances. Nevertheless, even apparently clear terms may raise interpretative questions. It might be uncertain, for example, whether a chicken that is only suitable for stewing and not for broiling or frying constitutes a “chicken” under a sales contract.60 Either way, contract terms often create grey areas regarding breach: areas in which parties need to employ discretion when making their choices.

The process of contract interpretation entails an ex post division of the contractual pie. That is, the interpreting party needs to decide whether to assume the

53 Id.
55 Id. at 413-14.
56 Id. at 414. See also Tess Wilkinson-Ryan & David A. Hoffman, Breach is for Suckers, 63 VAND. L. REV. 1003, 1028-31 (2010).
57 Wilkinson-Ryan & Baron, supra note 54 at 413. See also Wilkinson-Ryan & Hoffman, supra note 56 at 1029 (using precisely the same phrase in order to describe the decision to breach).
58 In fact, the most common contract disputes are those that involve issues of interpretation. See Alan Schwartz & Robert E. Scott, Contract Interpretation Redux, 119 YALE L.J. 926, 928 n.3 (2010) (reviewing the evidence on the prevalence of contract disputes that stem from interpretation).
59 For a review of the different sources of contractual uncertainty, see 2 E. ALLAN FARNSWORTH, FARNSWORTH ON CONTRACTS § 7.8 (3d ed. 2004).
risk of legal liability and adopt an interpretation that will serve its interests or to opt for an interpretation that serves the interests of the opposing party. From a rational choice perspective, this decision is expected to be independent of the frame. The interpreting party is simply expected to balance the benefit associated with the interpretation that maximizes her payoffs against the probability of legal liability multiplied by its scope. Hence, for example, a rational contracting party will decide to adopt a selfish interpretation that entails a 50 percent chance of being found liable for $300 if it will reduce her costs by $160, but will not do so if it saves her only $140.61

Prospect theory, however, suggests that the process of interpretation is reference-dependent. More specifically, people’s choices are expected to be influenced by whether they view the interpretative dilemma that they face as one that involves enhancing their gains, or lowering their losses. Since people exhibit loss aversion, it is expected that they will tend to interpret their obligations more selfishly when they perceive that they are in the domain of losses. Thus, for example, a loss-averse contracting party might decide to adopt a selfish interpretation that entails a 50 percent chance of being found liable for $300 if it will reduce her losses by $160, but will not do so if it will enhance her profits by $160.

III. EXPERIMENTS

After putting forward the hypothesis that contract interpretation is reference-dependent, this Section turns to testing this hypothesis empirically. Using a between-subject design, participants in all three reported studies were randomly assigned to either a gain or a loss treatment. This manipulation was then used in order to measure the differences between participants’ choices regarding the interpretative dilemma that they faced.

A. Study I: The Status Quo as a Reference Point

The default reference point in the majority of studies applying prospect theory is the status quo.62 Outcomes which enhance people’s wealth are viewed as a gain, whereas outcomes which diminish their wealth are viewed as a loss. In the contractual setting this suggests that the parties’ ex ante state will be used as a benchmark according to which decisions are made. Thus, our first hypothesis is that the break-even mark can function as a reference point for contractual decisions. We anticipate that people will be more willing to adopt a self-serving interpretation of the contract when that interpretation can help them avoid a loss as opposed to when it can help them enhance their gains. In order to test this hypothesis, we conducted an experimental survey using hypothetical vignettes.

Seventy-one students at the Hebrew University of Jerusalem participated in the survey. Their ages ranged between 18 and 30, with a mean of 23.17. The survey employed a between-subject design and included two conditions—Loss Reduction and Gains Enhancement—to which participants were randomly assigned.

61 The foregoing example further assumes risk neutrality, a phenomenon beyond the scope of this study.
in both conditions read the following short vignette about a hypothetical fellow student:

Tomer is a university student who works during the summer in numerous temporary jobs (that complement his usual job that covers his education and living expenses). One of these temporary jobs was painting an apartment. Prior to commencing work, Tomer signed a contract with the person living in the apartment he was to paint, defining his obligations, on the one hand, and the payment he would receive, on the other hand. The contract provided, among other things, as follows:

<table>
<thead>
<tr>
<th>Loss Reduction</th>
<th>Gains Enhancement</th>
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<tbody>
<tr>
<td>The promisor [in other words, Tomer] undertakes to use paint bearing an Israel Standards Mark and which is of reasonable quality.</td>
<td>The promisor [in other words, Tomer] undertakes to use paint bearing an Israel Standards Mark and which is of reasonable quality.</td>
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</table>

When Tomer started working on the project he discovered that the cost of paint is different from what he anticipated. In reality, there are two types of paint that hold an Israeli Standards Mark: X (of lower quality and cheaper) and Y (of higher quality and more expensive). The price difference between the two types of paint is 1,500 NIS. Using paint Y will inflict a loss of 2,000 NIS on Tomer from the project. Using paint X, on the other hand, will lower his losses to 500 NIS.

According to legal advice Tomer received from an attorney friend, there is a 20 percent chance that the cheaper paint will be determined not to meet the reasonable quality requirement and using it would therefore constitute a breach of the contract.

After giving it some thought, Tomer decided that he would rather minimize his losses from the project, and chose to use the cheap paint X such that his loss would be 500 NIS.
After reading the vignette, participants were asked to answer three questions (using 1-10 Likert scales): whether they thought Tomer behaved morally; what in their opinion the perceived proportion of the population that would have behaved like Tomer is; and, finally, what the likelihood that they would have behaved like Tomer is.

To examine the effect of the reference point on participants’ judgment we compared participants’ responses to Moral Judgment, Perceived Consensus and Reported Intention in the Gains Enhancement and Loss Reduction conditions. The comparison was made using a repeated measures ANOVA model, with participants’ responses (Moral Judgment, Perceived Consensus, Reported Intention) as a within-subjects variable and condition (Gains Enhancement, Loss Reduction) as a between-subjects variable. The analysis indicated that, overall, there was a significant difference between the conditions. More specifically, participants in the Loss Reduction condition were more inclined to act like Tomer and judged his behavior less harshly than participants in the Gains Enhancement condition. Together, these findings show that the reference point has a significant effect on participants’ responses. In Table 1 we report the mean scores and standard deviations for perceived morality, consensus and intention in regard to using the cheaper paint.

**Table 1: Mean Scores and Standard Deviations (in Parentheses) for Attitudes towards the Use of Expensive Paint (n = 71)**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Gains Enhancement</th>
<th>Loss Reduction</th>
</tr>
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<tbody>
<tr>
<td>Perceived Morality</td>
<td>4.333 (2.10)</td>
<td>5.694 (2.19)</td>
</tr>
<tr>
<td>Perceived Consensus</td>
<td>7.750 (1.68)</td>
<td>7.833 (1.75)</td>
</tr>
<tr>
<td>Intention</td>
<td>4.667 (2.74)</td>
<td>6.111 (2.68)</td>
</tr>
</tbody>
</table>

In summary, these findings show that people were more likely to view Tomer’s decision to interpret the contract as suggesting he could use the cheaper paint as less moral when it was done to avoid losses than when it was done to increase gains. Expectedly, people who were in the Loss Reduction condition were more likely to report that they would interpret the contract as allowing for the use of the cheaper paint in comparison to people in the Gains Enhancement condition.

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63 The Likert scale is one of the most common summative scales used in the social sciences to rate evaluations or judgments on one dimension. There are a variety of possible response scales; we used scales from 1 to 10. The use of such scales enables participants to report the intensity of their attitudes (unlike dichotomous tools which offer participants a more limited ability to express the intensity of their views).

64 Repeated Measures ANOVA is a very common statistical technique, the aim of which is to identify the sources of variance among participants. In our design, the purpose of the statistical analysis is to examine whether the experimental groups are different from each other. The procedure allows us to tell how much of the difference between participants could be attributed to the assignment to the different subgroups while controlling for possible variations that occur when the participants answer the questions. In plain words, the statistical analyses tell us how much of the differences in the participants’ responses can be explained by the type of contractual framing.

65 (F(1,70) = 5.379, p<0.05, partial eta^2 = 0.071)
B. Study II: Expected Gains as the Reference Point

In the first experiment we corroborated our basic hypothesis and demonstrated that the status quo might function as the reference point for contractual decisions. Yet the contractual setting creates other potential reference points that might influence both promisors and promisees. In this subsection we explore the possibility that the gains the parties expect to realize from the transaction can function as a reference point.

Both psychologists and economists have long since theorized that the reference point is not limited to the status quo. While leaving the precise question of what constitutes a reference point beyond the scope of their analysis, Tversky and Kahneman acknowledged that peoples’ aspirations and expectations might also form a reference point. According to this line of thought, if parties view future gains as part of their endowment, then the disutility associated with not realizing those gains might be similar to that associated with losing goods that are already in possession.

More recently, Botond Köszegi & Matthew Rabin introduced a formal model of reference points that are derived from people’s expectations. According to the framework they present, the reference point is determined by people’s rational expectations based on the recent past. This framework allows them to explain the behavior of parties when their expectations differ from the status quo. For example, while traditional prospect theory might view any individual who sells a good that she owns as being in a situation involving a loss, Köszegi & Rabin argue that when such a transaction is within the person’s expectations it will not be viewed as such. This is why vendors operating in a market will not view a reduction in inventory as a loss.

The role of expectations in the formation of reference points has not only been the topic of theoretical discussions. Numerous empirical studies have shown that people adjust their behavior in order to avoid falling below their expected wealth level. Most notably, labor economists have studied the aversion of workers to failing to earn the amount of money that they expect to earn in a given day. This “target income” that workers set functions as a reference point, and any income below it is viewed by them as a loss.

In a famous study, Colin Camerer and his colleagues documented the decisions made by taxi drivers regarding the amount of hours they were willing to work. Since the demand for taxis shifts substantially across days (e.g., high demand on rainy days, low demand on sunny days), drivers face significant differences in their potential hourly wages. Whereas low-demand days require them to spend a large amount of time searching for customers, thus depressing their hourly income, high-demand days are characterized by briefer search periods and, as a result, higher per-hour income.

68 Id. at 1141-46 (presenting an expectation-based model of reference points).
69 Id. at 1142.
71 Colin Camerer et al., Labor Supply of New York City Cabdrivers One Day at a Time, 111 Q.J. ECON 408 (1997).
Traditional economic theory predicts that taxi drivers will spend more time working on high-demand days (when the return to labor is relatively high) and less time working on low-demand days (when leisure becomes a relatively more attractive option). Yet Camerer and his colleagues found that “drivers tend to quit early on high wage days and drive longer hours on low wage days.”\(^{72}\) They theorize that this result is driven by the fact that drivers’ expected income functions as a reference point.\(^{73}\) Since falling below this point is viewed as a loss, while rising above it is viewed as a gain, drivers will exert additional effort to achieve their daily revenue target.\(^{74}\)

In a more recent study, Tom Chang and Tal Gross corroborated the “target income” hypothesis by examining the productivity of workers in a pear packing factory.\(^{75}\) They exploited the fact that workers in the factory were routinely (i.e., every fifteen minutes) rotated between working stations in which their effective wage varied substantially. More specifically, in some stations workers were required to pack small pears while in others they were required to pack large ones. Since the size of the boxes being packed was constant, filling a box with large pears required much less effort. Workers’ compensation, however, was equal in the different stations. That is, they were paid a flat per-box rate.

According to the rational choice model, workers are expected to exert more effort when packing large pears in order to maximize their payoffs since the per-pea wage then is highest. Nonetheless, Chang and Gross document the reverse behavior: when working in the low payoff stations workers actually accelerated their pace.\(^{76}\) They interpret this finding as an indication that workers set hourly targets and then adjust their effort in order to avoid outputs that are below the target and might be viewed as a loss.\(^{77}\)

Finally, the importance of expectations for the formation of reference points was also examined in a stylized experimental setting by Johannes Abeler and his colleagues.\(^{78}\) Participants in this study were asked to perform a tedious repetitive task. They could choose how many times to perform the task (i.e., how much effort to exert), yet this decision could potentially affect their expected payoff. Participants were informed that they would either be paid a per-task rate or a predetermined fixed rate (with equal probabilities). The payment would be determined only after they decided how many tasks to perform. The treatment in the study was the size of the fixed rate: whereas half of the subjects faced a fixed rate of 3 Euros, the other half faced a fixed rate of 7 Euros.\(^{79}\)

Based on the traditional rational choice assumption, participants were expected to optimize their effort according to the marginal costs and marginal benefits

\(^{72}\) Id. at 408.
\(^{73}\) Id. at 410-12.
\(^{74}\) Id.
\(^{76}\) Id. at 19-21.
\(^{77}\) Id. at 22-23.
\(^{78}\) See Johannes Abeler et al., Reference Points and Effort Provision, 101 AM. ECON. REV. 470 (2011).
\(^{79}\) Id. at 474.
associated with it. Therefore, the flat rate was not supposed to affect their decision, and no difference was expected to be detected between the two treatment groups. However, subjects in the 7 Euros group exhibited substantially higher effort levels than subjects in the 3 Euros group. This finding suggests that participants adjusted their reference points according to their rational expectations. For each group the fixed rate represented a reference point, and participants were averse to the possibility that they would end up on the short side once the method of payment was determined (i.e., performed a large amount of tasks and were paid the fixed rate or performed a small amount of tasks and were paid the per-task rate). Hence, the authors conclude that their findings “support the main predictions of reference-dependent preferences models with a reference point in expectations.”

Legal scholars have occasionally speculated that legal rights might construct reference points. As noted above, contractual default rules—even when they hold no legal power prior to the consummation of the contract—create expectations that can serve as a reference point. Arguably, if a potential entitlement functions as a reference point, then an actual entitlement is even more likely to generate expectations which in turn will function as a reference point. We therefore hypothesize that expected profits will be viewed as a point of reference for analyzing contractual decisions. More specifically, failing to earn those profits will be viewed as a loss (even if the overall outcome involves a net gain), while earning more than those profits will be viewed as a gain.

In order to test this hypothesis, we conducted a second experimental survey using a hypothetical vignette. In contrast to the first experiment, where we focused on the evaluation of gains and losses from the perspective of others, in this study we took a first-person approach focusing on gains and losses relative to one’s own expectations. Thus, this experiment enabled us both to examine a second potential reference point and to broaden our methodological perspective.

Eighty-five students at the Hebrew University of Jerusalem participated in the survey. Their ages ranged between 18 and 50 with a mean of 24.6 years. The survey

80 Id. at 475.
81 Id. at 478-79.
82 Id. at 472. An additional study somewhat related to this project is Ernst Fehr et al., Contracts as Reference Points—Experimental Evidence, 101 AM. ECON. REV. 493 (2011). In this study Fehr and his colleagues examine the willingness of contracting parties to spend resources in order to punish each other, and show that expectations may play a role in this regard. More specifically, they demonstrate that in flexible contracts that allow for an ex post price adjustment sellers are willing to forgo profits in order to punish buyers who decide to impose a low new price. By contrast, sellers exhibit a diminished tendency to punish buyers who opted for rigid contracts that included a single price provision that was determined by an ex ante auction, despite the fact that the auction drove their profits down to a minimum as well. Fehr et al. interpret this finding as evidence that sellers’ expectations play a role in their decisions to penalize buyers. Whereas in the rigid contract there was no expectation of altruistic behavior since the auction determined the price, there was such an expectation in the flexible contract which enabled the buyer to determine the price (id. at 495-6). These findings, however, relate to the unique case of punishment in contracts in response to distributional rather than interpretative decisions. Thus, Fehr and his colleagues designed their experiment with the somewhat unusual characteristic of inverse production costs: sellers had to spend more money in order to produce a good of lower quality (id. at 499). Arguably, the more typical contractual-choice case involves interpretive questions that entail a positive relationship between production costs and quality, and in which parties are concerned with their profits and not with punishing their contracting partners.
83 See supra notes 47-53 and accompanying text.
employed a between-subjects design. That is, participants were randomly assigned to one of two possible experimental conditions: Expected Gain and Expected Loss. The vignette in this experiment described the following short hypothetical regarding a summer job:

<table>
<thead>
<tr>
<th>Expected Loss</th>
<th>Expected Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imagine that during the summer vacation you decided to paint an apartment. This is a one-time job; you do not intend to paint any more apartments in the future. Prior to commencing work, you signed a contract with the person living in the apartment you were to paint, defining your obligations, on the one hand, and the payment you would receive, on the other hand. According to your calculations, the expected profit from the contract is: 4,500 NIS. The contract provided, among other things, as follows:</td>
<td>Imagine that during the summer vacation you decided to paint an apartment. This is a one-time job; you do not intend to paint any more apartments in the future. Prior to commencing work, you signed a contract with the person living in the apartment you were to paint, defining your obligations, on the one hand, and the payment you would receive, on the other hand. According to your calculations, the expected profit from the contract is 3,000 NIS. The contract provided, among other things, as follows:</td>
</tr>
<tr>
<td>The promisor [in other words, you] undertakes to use paint bearing an Israel Standards Mark and which is of reasonable quality.</td>
<td>The promisor [in other words, you] undertakes to use paint bearing an Israel Standards Mark and which is of reasonable quality.</td>
</tr>
</tbody>
</table>

When you started working on the project you discovered that the cost of paint was different from what you had anticipated. In reality, there are two types of paint that hold an Israeli Standards Mark: X (of lower quality and cheaper) and Y (of higher quality and more expensive). Using paint X will allow you to earn the expected 4,500 NIS. Using paint Y will allow you to earn 3,000 NIS.

According to legal advice you received from an attorney friend, there is a 30 percent chance that the cheaper paint will be determined **not** to meet the *reasonable quality* requirement and using it would therefore constitute a breach of the contract.

When you started working on the project you discovered that the cost of paint was different from what you had anticipated. In reality, there are two types of paint that hold an Israeli Standards Mark: X (of lower quality and cheaper) and Y (of higher quality and more expensive). Using paint Y will yield you the expected profit of 3,000 NIS. Using paint X, on the other hand, will yield you a profit of 4,500 NIS.

According to legal advice you received from an attorney friend, there is a 30 percent chance that the cheaper paint will be determined **not** to meet the *reasonable quality* requirement and using it would therefore constitute a breach of the contract.
After reading the vignette, participants were asked to indicate how they would act in reality on a 1 to 10 Likert scale ranging between 1 (would use the cheap paint) and 10 (would use the expensive paint) [hereinafter: Reported Intention].

Figure 1 summarizes the main findings. It shows that participants in the Expected Gain condition leaned more towards using the expensive paint than participants in the Expected Loss condition. To examine the effect of the framing on participants’ Reported Intention, a t-Test was conducted. The analysis revealed a significant effect. Participants in the Expected Gain condition were more likely to use the expensive paint than participants in the Expected Loss condition.

**Figure 1: Participants Reported Intention to Use the Expensive Paint (n = 85)**

![Bar chart showing reported intention]

Hence, in short, in the second study we were able to extend our findings from the first study along two dimensions. First, it was shown that expectations, and not only the status quo, can function as a reference point that will influence the way in which people interpret vague obligations. Second, it was demonstrated that reference points play a role not only in the judgment of other peoples’ choices, but also in predicting one’s own actual choices.

**C. Study III: Incentive-Compatible Lab Experiment**

By using loss and gain vignettes and randomly assigning participants to different conditions, the previous two studies demonstrated the effect of reference points on the way in which people interpret ambiguous obligations. This methodology enabled us to measure both people’s moral judgment and their self-reported expected

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84 A t-Test is a very common statistical technique which is aimed at identifying whether the mean of two groups is different. In our design, the purpose of the statistical analysis is to examine whether the experimental groups are different from each other. The procedure allows us to tell how much of the difference between participants could be attributed to the assignment to the different subgroups. In plain words, how statistically likely a difference of that size is to be obtained by chance.

85 (t(83) = 2.447, p<0.05, Cohen’s d = 0.53 similar to effect size r = 0.26)
behavior. However, since the decisions made by participants in these experiments did not involve any monetary implications, one might question to what degree they predict actual choices. To overcome this drawback, we designed a third experiment that included monetary payoffs that were determined by actual interpretative choices made by participants.

To test the relationship between reference points and actual behavior, participants in Study III played a computerized version of a trivia game. Fifty-one students, 31 men and 20 women, at the Hebrew University of Jerusalem participated in the experiment. Participants were recruited through ads inviting them to participate in a “fun experiment.” The basic task involved a computerized trivia game that included easy and difficult questions. Participants were told that the purpose of the game was to reevaluate a pool of questions that had been used in experiments in the past and would be used in future experiments.

As was the case in the two previous studies, we employed a between-subjects design that included two conditions: Gains and Losses. Participants in the Gains group were told that they would be asked to answer 20 trivia questions, and that for each correct answer, whether the question was easy or difficult, they would receive 1 NIS. Participants in the Loss group, on the other hand, were told that they would receive 20 NIS for their participation in the experiment, but for each mistake, whether in answer to a difficult or easy question, they would lose 1 NIS. Note that while the two groups differ with respect to the frame, they are indistinguishable from an objective perspective.

In order to create an interpretative dilemma for the participants, the instructions informed them that the university rules prohibit us from mandating the amount of easy and difficult questions they must answer in the experiment. Therefore, before each question they would be asked to choose whether they wanted it to be easy or difficult. The instruction then stated that “participants are asked to answer a reasonable amount of difficult questions, so that we have a good mix of both types of questions.” Since the probability of answering a difficult question correctly was significantly lower, interpreting the “reasonable amount” obligation such that it required a smaller number of these questions reflected a selfish interpretation, as it raised participants’ expected payoff. Thus, this design enabled us to use the number of difficult questions that participants chose to solve as a dependent variable that measures their interpretation strategy.

Since we wanted participants to get a feel of what difficult and easy questions look like before making their choices, the experiment started with a trial run of ten questions—five of each type. Participants then received feedback as to their success rate in each type of question, and moved on to the “real game.”

86 We used a pool of 60 multiple choice, general knowledge questions in topics such as sports, music, geography and science that had been used in previous experiments over the past four years. The questions were divided into easy and difficult categories. On average, the chance of answering a difficult question correctly was 30 percent, whereas that of answering an easy question was 60 percent. These estimates are based on series of previous experiments in which 170 students answered the questions.
To examine the effect of the reference point on participants’ behavior, we first looked at the number of difficult questions participants chose to solve in each condition. Figure 2 summarizes the main results. It shows that on average participants in the Gains condition chose to answer 7.32 difficult questions compared to only 3.32 such questions in the Loss condition. To examine whether this difference was significant we used a t-Test. The analysis revealed that participants in the Gains condition chose to solve significantly more difficult questions than participants in the Losses condition.\(^\text{87}\)

**Figure 2: Number of Difficult Questions Answered in the Gains and Losses Conditions**

![Bar Chart]

Although the difference in the rate of choosing difficult questions is significant, two other explanations warrant further examination. First, participants in the Gains condition may have chosen to solve more difficult questions because they were more skillful than participants in the Losses condition to begin with. To test this explanation, we used a repeated measures ANOVA model that compared the achievements of the two groups in the initial practice stage in which there was no manipulation. The analysis revealed that there was no significant difference in initial abilities between the conditions.\(^\text{88}\) Participants in the Gains condition managed to solve in the practice stage 1.44 (29 percent) difficult questions and 3.04 (61 percent) easy questions, quite similar to participants in the Losses condition who managed to solve 1.52 (30 percent) difficult questions and 3.32 (66 percent) easy questions. This suggests that the difference in the rate of choices of difficult questions cannot be attributed to differences in abilities.

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\(^{87}\) \(t(48) = 2.265, p<0.05, \text{Cohen’s } d = 0.98\)

\(^{88}\) \(F(1,48)<1\)
Second, it could be argued that participants in the Gains condition somehow improved their performance during the experiment, and as a result they chose more difficult questions. Alternatively, participants’ solving skill in the Losses condition may somehow have deteriorated, and as a result they chose more easy questions. To test this explanation, we examined in each condition whether the percentage of correctly solved easy and difficult questions in the second stage changed relative to the first practice stage. The analyses did not find any evidence for changes in participants’ performance. In each condition the percentage of correctly solved easy and difficult questions in the second stage was not statistically different from those percentages in the first stage. This suggests that the difference in the rate of choices of difficult questions cannot be attributed to changes in abilities that evolved during the experiment.

Taken together, the above findings demonstrate the influence of framing on the interpretative decisions people actually make. The meaning of the term “a reasonable amount of difficult questions” differed significantly depending on the way in which objectively identical payoffs were portrayed. Participants facing a gain frame were willing to adopt a more generous interpretation and forgo some of their potential gains, whereas participants facing a loss frame were more inclined to adopt a selfish interpretation that would minimize their losses.

IV. DISCUSSION

After presenting our findings regarding the role of framing in contractual interpretation, we now turn to an analysis of these results. We begin by reviewing the contribution of our study to contract theory in general. Then we examine several concrete policy issues and show that our findings can shed new light on them. Finally, we address some of the limitations of our experiments, and sketch out potential paths for future research.

A. General Discussion

The three studies we report on demonstrate the importance of prospect theory to understanding the way parties to contracts interpret vague clauses. The first two studies were based on experimental surveys that examined participants’ attitudes regarding the interpretation of a contract. In the first study, participants were asked to evaluate the behavior of a promisor who interpreted his obligation to use paint of reasonable quality as allowing him to use a cheap and relatively inferior paint. It was shown that people viewed this selfish interpretation more favorably when the promisor adopted it to minimize his losses rather than when he adopted it to increase his gains. The second study examined whether a similar effect could be found when the gains and losses in the performance stage were examined relative to one’s expectations in the formation stage, and whether the effect would hold when participants were asked to predict their own behavior rather than when they were asked to judge the behavior of others. Here, too, a similar picture emerged, as the results demonstrated a higher intention of using the cheaper paint when the revenues from the contract were lower than expected in comparison to when they were higher

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89 $F(1,24) < 1, F(1,20) < 1$ for the Gains and Losses conditions respectively
90 While for the sake of caution we ruled out the improvement hypothesis, one should note that in the context of trivia questions this is an unlikely possibility. Generally, people have a given set of general knowledge, and cannot improve this set during an experiment.
than expected. Hence, even a completely subjective reference point was shown to influence subjects’ interpretation choices. Finally, the third study examined participants’ actual behavior in a lab experiment in which their choices determined their payoffs. Participants agreed to answer a “reasonable amount” of difficult trivia questions, and thus faced an interpretive dilemma regarding how many difficult questions could be seen as fulfilling their obligation. The results again corroborated our hypothesis and demonstrated that when payoffs were presented as losses people were more likely to take the easy route and answer fewer difficult questions. Taken together, the three experiments present evidence of a robust and broad effect of framing on contract interpretation. When people are in the realm of losses, they tend to interpret their contractual obligations more selfishly, whereas when they are in the domain of gains, they are more likely to interpret their obligations in a more cooperative fashion.

The described findings entail numerous lessons for the contracts literature. As noted above, several studies conducted by economists have examined the connection between framing and contractual performance.91 The common result in these studies is that framing payoffs as losses (i.e., penalties) rather than gains (i.e., bonuses) can lead contracting parties to exert a relatively higher level of effort. While we do not dispute the findings of these studies, our results suggest that they rest on the implicit assumption that contracts include crisp and clear obligations, which are perfectly enforced. For example, Hoassian and List’s research examines a labor setting in which employees’ contracts include unambiguous and measurable thresholds for performance, and in which their behavior is perfectly monitored by their employers.92 It is under these conditions that they document that workers exert more effort when threatened with a penalty rather than when motivated by a bonus.93

Our findings shed a new legalistic light on the interaction between framing and contractual performance. Many contracts tend to include obligations that are murky and elusive.94 Alternatively, these contracts might be governed by default rules that are equally unclear.95 In such settings, contracting parties are required to interpret their obligations before making their performance decisions. Since people tend to interpret ambiguous contractual obligations more selfishly when they are in the domain of losses, framing payoffs as losses might actually cause them to exert less effort on performance. A loss frame might therefore not be as desirable as the existing literature would have us believe.

Additionally, our results extend the legal literature on gains, losses, and breach decisions. Much like the economic literature on the topic, the legal literature has also viewed breach decisions as not involving any interpretative dilemmas.96 In other

91 See supra notes 9-10 and accompanying text.
92 See, e.g., Hoassian & List, supra note 9 at 4-9 (describing the setup of their natural experiment).
93 Id. at 9-14.
94 See supra notes 58-60 and accompanying text.
95 See, e.g., U.C.C. § 2-314(2)(b) (fair average quality of goods); U.C.C. § 2-305 (reasonable price); U.C.C. § 1-205 (time for taking an action depends on “the nature, purpose, and circumstances of the action”). In fact, the prevalence of such vague terms in the U.C.C. has brought some contract scholars to argue that the Code does not really set default rules but rather sets default standards. See Alan Schwartz & Robert E. Scott, Contract Theory and the Limits of Contract Law, 113 YALE L.J. 541, 598-601 (2003).
96 See supra note 57 and accompanying text.
words, it has focused on the unique case of willful breaches,\footnote{See Patricia H. Marschall, \textit{Willfulness: A Crucial Factor in Choosing Remedies for Breach of Contract}, 24 ARIZ. L. REV. 733, 733 (1982) (defining a willful breach as “a knowing breach by a party not legally excused from performing, which is made for any primary purpose other than to confer a benefit on the aggrieved party”).} with all of the normative uniqueness associated with such cases.\footnote{For several recent articles discussing and trying to justify the unique treatment of willful breach, see Steve Thel & Peter Siegelman, \textit{Willfulness versus Expectation: A Promisor-Based Defense of Willful Breach Doctrine}, 107 MICH. L. REV. 1517 (2009); Richard Craswell, \textit{When is a Willful Breach “Willful”?: The Link Between Definitions and Damages}, 107 MICH. L. REV. 1501 (2009); Oren Bar-Gill & Omri Ben-Shahar, \textit{An Information Theory of Willful Breach}, 107 MICH. L. REV. 1479 (2009).} This viewpoint misses the mark regarding most breach decisions, since those decisions tend to involve much more subtle fact patterns that might give rise to distinctive normative intuitions among both promisors and those judging their choices. Our results thus allow for a broader analysis of the influence of framing on breach decisions.

\section*{B. Implications}
Thus far, we have focused on the theoretical and abstract interpretations of our findings. We now turn to exploring their implications for three concrete issues. First, we analyze the way in which our results explain existing doctrines within contract law. Second, we discuss the lessons contracting parties can draw from our studies. Lastly, we evaluate the ramifications of our experiments for legal areas beyond contract law.

\subsection*{1) Contract Law}
For the most part, contract law is promisee-centered. As case law, the Restatement and legal scholarship demonstrate, the main focus of contract law is to protect promisees’ contractual interests.\footnote{See Hawkins v. McGee, 146 A. 641, 643 (N.H. 1929) (quoting 3 SAMUEL WILLISTON, THE LAW OF CONTRACTS § 1338 (1920)) (noting that the purpose of contract law is “to put the plaintiff in as good a position as he would have been in had the defendant kept his contract”); Restatement (Second) of Contracts § 344 (1981) (noting that judicial remedies are aimed at protecting the interests of the promisee); Richard Craswell, Against Fuller and Perdue, 67 U. CHI. L. REV. 99, 105-06 (2000) (reviewing legal scholarship and contract casebooks that exhibit a promisee-centered approach).} This promisee-centered approach is evident from the (mostly) strict nature of contractual liability,\footnote{See Restatement (Second) of Contracts, ch. 11, introductory note (1981) (“Contract liability is strict liability.... The obligor is therefore liable in damages for breach of contract even if he is without fault .... ”).} as also from the structure of contractual remedies. The default remedy for breach is expectations damages, which by its very nature focuses on the promisee’s interests.\footnote{See, e.g., Robert E. Scott & George G. Triantis, \textit{Embedded Options and the Case Against Compensation in Contract Law}, 104 COLUM. L. REV. 1428, 1428-29 (2004) (noting that “[e]xpectation, the default measure of damages that derives from the compensation principle, aims to put the promisee in the position she would have occupied had the promisor performed”).}

From the perspective of a rational promisee, the question whether a promisor breached a contract to elevate his gains or cut his losses is irrelevant. The harm created by the former is no greater than the harm created by the latter. There is therefore no greater need to deter breaches driven by profit-enhancement as opposed to breaches driven by loss-minimization. Furthermore, since promisees have to pay ex ante for the remedies they receive ex post, economic theory suggests that it is unlikely that they would want to pay a premium to secure supra-compensatory damages.
Rather, they may be expected to opt for compensatory damages, which maximize the size of the contractual pie.\footnote{102}

Against this backdrop, contract scholars have grappled to explain islands of doctrine which tailor remedies based on the motivations of the breaching party rather than on the harm caused by the breach.\footnote{103} An example of such an island is the doctrine of disgorgement and the way in which courts implement it. As Steve Thel and Peter Siegelman note, while “courts almost always require breaching promisors to surrender their profits, they only sometimes require them to share with promisees the expenses they save by breach.”\footnote{104} From a rational choice perspective, this is a puzzling outcome. Since expenses avoided by breach are no different from profits earned by breach, the law ought to treat the two in the same fashion.\footnote{105}

Once the assumption of reference-independence is relaxed, however, the distinct legal treatment afforded to expenses and profits seems more understandable. While a breach aimed at minimizing losses does require a legal remedy, this remedy can be somewhat moderate, as the behavior of the breaching party reflects a line of action that is in accord with peoples’ moral intuitions. A breach aimed at enhancing profits, on the other hand, reflects a greater deviation from accepted norms. The law therefore utilizes harsher remedies when facing this type of behavior.

While the foregoing analysis can explain the behavioral roots of the current state of disgorgement law, it cannot justify it. From a normative perspective, our results can be interpreted in two conflicting ways. On one hand, the studies might suggest that contract law has been led astray by cognitive biases, and should be reformed such that losses and gains will be treated symmetrically.\footnote{106} On the other hand, all three studies demonstrate that contract law is aligned with peoples’ moral intuitions. To the extent that this alignment can help serve instrumental goals, the structure of disgorgement law should be sustained.\footnote{107}

A second category of cases in which contract doctrine is sensitive to the contracting parties’ reference point is the law of mistake. According to the Restatement of Contracts, a contract may be voidable in cases involving a unilateral mistake relating to a material issue for that party.\footnote{108} The remedy of voiding the contract, however, is subject to several conditions. Of importance from our perspective is the requirement that “the effect of the mistake is such that enforcement of the contract would be unconscionable.”\footnote{109}

\footnote{102 See, e.g., Alan Schwartz, The Myth that Promisees Prefer Supracompensatory Remedies: An Analysis of Contracting for Damage Measures, 100 YALE L.J. 369, 372-383 (1990) (arguing that ex ante promisees will not want to contract for supracompensatory damages).}

\footnote{103 See generally Symposium 107 MICH. L. REV. (2009).}

\footnote{104 See Steve Thel & Peter Siegelman, You Do have to Keep your Promises: A Disgorgement Theory of Contract Remedies, 52 WM. & MARY L. REV. 1181, 1216 (2011).}

\footnote{105 Id.}

\footnote{106 The question regarding the justification of disgorgement doctrine as a general matter is beyond the scope of this paper. We therefore cannot determine whether the law should converge towards the way it treats gain-enhancing breaches or loss-minimizing breaches. We only argue that the asymmetric treatment should be abandoned.}

\footnote{107 See, e.g., Feldman & Teichman supra note 5 at 36 (arguing that aligning contract doctrine with moral intuitions might be an efficient way to bolster compliance).}

\footnote{108 RESTATEMENT (SECOND) OF CONTRACTS § 153 (1979).}

\footnote{109 Id.}
A significant body of case law has dealt with the application of this rule in the context of bidders who made a clerical mistake while calculating their bids. The typical fact pattern in such cases includes a bidder who mistakenly submitted a bid significantly lower than the one she intended. Once the mistake is discovered—usually when all the bids are revealed and it is noticed that the winning bid is significantly lower than all the others—the bidder attempts to withdraw from the contract. The oferee, who is content with his unexpected windfall (oferees in such cases usually hold cost estimates that demonstrate that they expected to pay more than the winning bid), tries to enforce the bid since it is structured as an irrevocable offer.

From a legal perspective, the bidder’s case in many instances hinges on the question whether enforcement of the erroneous bid will be deemed unconscionable. As it turns out, this question is highly dependent on the parties’ reference point. Viewing the facts from the perspective of the bidder, courts routinely frame the potential harm in terms of pecuniary losses when reaching a determination of unconscionability. As the Idaho Supreme Court noted in its famous Boise Junior College decision, “omission of a $25,000 item in a $100,000 bid would be material, but if the $100,000 bid included $50,000 in profit, no hardship would be created by requiring the contractor to comply with the terms of his bid.” On the other hand, viewing the same facts from the perspective of the offeree, courts tend to frame the injury in terms of a forgone opportunity to save costs. For instance, the Boise Junior College decision labeled the oferee’s injury as “a failure to save $9,000 on its construction rather than saving $1,000.”

To be sure, we are not arguing that the doctrine allowing oferees to withdraw from irrevocable bids in cases involving clerical mistakes rests only on the irrational distinction between bidders’ losses and oferees’ gains. If that were the case, it would imply that the doctrine rests on somewhat shaky grounds (especially given that cases dealing with it are mostly litigated between sophisticated business entities). Rather, allowing a withdrawal from irrevocable bids may be an efficient way to save transaction costs, since it allows for reducing the costs of preventing errors. Under such a regime, bidders will not be forced to expend excessive amounts of resources in order to prevent mistakes that the parties might not view as worth preventing from an

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110 For a review of such cases, see Ernest M. Jones, The Law of Mistaken Bids, 48 U. Cin. L. Rev. 43 (1979).
111 Id at 43 (describing the typical case).
112 This is not the only question upon which the parties’ rights will be allocated. For example, bidders must demonstrate that the mistake occurred despite the fact that they took reasonable measures to prevent it. See Alaska International Construction v. Earth Movers of Fairbanks, 697 P.2d 626, 629 (1985).
114 Boise Junior College, id. See also Alaska International Construction, 697 P.2d at 630 where the court ruled that in order to establish facts necessary for unconscionability the bidder “must prove that he would lose a substantial amount of money.” Since in the case at hand it was shown that “[t]he mistake would not cause the bidder to lose money,” the court declined to reach a determination of unconscionability.
115 Id. at 608 (analyzing the injury caused to the oferee from revoking the offer); Kenneth E. Curran v. State, 215 A.2d 702, 704 (1965) (same).
116 Id.
ex ante perspective. In addition, the doctrine fosters better cooperation ex post, as it eliminates potential gaps between the contract price and the market price, which can often lead to opportunistic behavior.\textsuperscript{117} That said, however, the emphasis put by courts on the framing of the parties’ respective positions as a result of the enforcement of the contract seems unwarranted. From the perspective of sophisticated bidders and offerees, there is no difference between losses and gains. Rather, their aim is to maximize the absolute value of their contractual relationship. Courts should therefore limit their analysis to the substantive aspects of the doctrine—whether the mistake was in fact clerical, whether reasonable care was taken, whether prompt notice of the mistake was given, etc.

Finally, the law of liquidated damages also represents a somewhat baffling sensitivity to the way in which the contracting parties’ payoffs are framed. This body of law regulates contract clauses that predetermine the remedy in the case of breach. The Restatement of Contracts caps the level of liquidated damages “at an amount that is reasonable in the light of the anticipated or actual loss caused by the breach and the difficulties of proof of loss.”\textsuperscript{118} Clauses that stipulate damages above this level are struck down and marked as a “penalty.”\textsuperscript{119}

The regulation of contractual penalties by the courts has been subject to significant criticism from law and economics scholars.\textsuperscript{120} According to this line of thought, contract clauses stipulating the remedy for breach are much like any other clause, and should not be subject to judicial scrutiny. Although the remedy offered by the courts might be an efficient default remedy, this does not imply that it is efficient for all parties. Parties who find the remedies offered by the courts to be inadequate—say, because they do not account for some of the harms associated with breach in the concrete relationship at hand—should be able to opt out of those remedies and tailor a more efficient one privately.

A curious aspect of the rules governing liquidated damages is that they are highly sensitive to the way in which parties frame their payoffs. A clause that sets the contract price at 100 and determines that the remedy for nonperformance is 20 might be stricken down as a penalty; yet a clause that sets the contract price at 80 and provides for a bonus of 20 for performance will usually be enforced.\textsuperscript{121} Numerous

\textsuperscript{118} RESTATEMENT (SECOND) OF CONTRACTS § 356 (1981).
\textsuperscript{120} See, e.g., Charles Goetz & Robert Scott, Liquidated Damages, Penalties and the Just Compensation Principle: Some Notes on an Enforcement Model of Efficient Breach, 77 Colum. L. Rev. 554 (1977) (arguing that “[i]n the absence of evidence of unfairness or other bargaining abnormalities, efficiency would be maximized by the enforcement of the agreed allocation of risks embodied in a liquidated damages clause); Schwartz, supra note 102 at 383–87 (criticizing the legal regulation of liquidated damages). For a unique economic based justification for the doctrine, see Philippe Aghion & Benjamin Hermelin, Legal Restrictions on Private Contracts Can Enhance Efficiency, 6 J.L. Econ. & Org. 381, 399 (1990) (defending limits on contract damages as efficient).
\textsuperscript{121} See E. ALAN FARNWORTH, FARNWORTH ON CONTRACTS § 12.18a (2d ed. 1998) (suggesting that bonuses can be used in order to avoid legal regulation).
real-world contracting examples suggest that parties do in fact utilize the bonus design rather than the penalty design in order to incentivize promisors.122

Contract scholars have drawn two contradictory conclusions from the penalty-bonus dichotomy. On one hand, it has been suggested that the distinct treatment of penalties and bonuses renders the doctrine of liquidated damages indefensible. Since the difference between the two frames is merely “semantic,” their radically different legal status seems unjustifiable.123 Furthermore, since the doctrine can be easily circumvented by a simple contracting maneuver, it is expected to be futile.124 On the other hand, it has been argued that the differential treatment of bonuses is merely a defect of the current legal regime. Courts should therefore expand the doctrine and regulate bonuses like they regulate penalties.125

While scholars in the two camps reach diametrically opposed conclusions, it should be noted that they share the same underlying premise. Both camps evaluate the regulation of liquidated damages through the prism of mandatory contract rules. That is, they view the doctrine as one that is aimed at forbidding the consummation of contracts that include penalty provisions, and the lack of regulation of bonuses as a loophole in this regime.

Our findings, however, point towards a new perspective on the law of liquidated damages: a perspective that views the regulation of penalties as a type of default rule. Viewed from this standpoint, the differential treatment of bonuses is not a loophole. Rather, it is a vehicle by means of which the law enables the parties to opt out of the regulation of remedies and design a payoff structure that best fits their interests. Nonetheless, the doctrine encourages parties who wish to opt out of its remedial regime to do so in the shape of bonuses rather than penalties. As we have seen, the difference between penalty clauses and bonus clauses is not merely a semantic one. Clauses that structure payoffs in the shape of penalties tend to encourage more selfish interpretation of contractual obligations. This, in turn, is expected to elevate the amount of contractual disputes and increase the level of contract litigation. Even if parties are fully aware of this aspect of penalty clauses and account for it ex ante, their calculus will ignore the social costs associated with additional litigation. Therefore, mild regulation that pushes the parties towards shaping their obligations in a fashion that is expected to foster more cooperation can be justified.126

126 See Ayres & Gertner, supra note 47 at 95-7 (arguing that the subsidization of the court system justifies the adoption of penalty default rules).
2) Lessons for Contracting Parties

As shown, our findings are of significance to policymakers engaged in the design of contract law. Their relevance, however, is not limited to that audience. Contracting parties may also be able to draw several practical lessons from our results. These lessons relate both to the way contract terms should be drafted ex ante and to the way those terms should be enforced ex post.

From an ex ante perspective, our findings suggest that there is added value to specifying contractual obligations in contexts in which entering the domain of losses is likely. By specifying the precise obligations of the promisor, the parties can preempt interpretations that do not fulfill their mutual ex ante interests. Thus, for example, in the contracting example we analyzed in studies 1 and 2 the parties might have been better off specifying the precise type of paint to be used (especially if a loss was foreseeable).

To be sure, our results clearly do not imply that vague contract terms harm the parties’ interests. Employing vague terms can minimize transaction costs since specifying all obligations in advance is expensive (both in monetary terms and other terms such as time). Furthermore, recent studies show that contractual specificity carries negative consequence from a behavioral perspective. Psychological research on monitoring and sanctioning, trust, and ambiguity and specificity, suggests that a rigid approach to contracts could backfire because it signals lack of trust and thus may crowd out intrinsic motivations to cooperate. All that we are pointing out is that vague terms have a unique disadvantage when they are interpreted by the parties in the domain of losses.

A second lesson that contracting parties can derive from our findings relates to the enforcement of contracts. The detection of breach is often difficult, and requires the exertion of resources by the contracting parties. A franchisee, for instance, might be able to shirk on his obligations without being detected by the franchisor. Since from an ex ante perspective both franchisees and franchisors view such shirking as inefficient, they will need to design an optimal enforcement scheme that will be effective yet not prohibitively expensive.

130 See, e.g., Himanshu Mishra et al., In praise of vagueness: Malleability of vague information as a performance booster. 22 Psychol. Sci. 733 (2011) (demonstrating how getting less information on your performance allows one to interpret egoistically but constructively).
131 Eileen Y. Cho et al., Less Specific Contracts Stimulate Intrinsic Motivation, Build Relationships, and Enhance Task Performance (unpublished manuscript).
132 In the legal scholarship, Shifrin has recently argued that vague legal concepts allow individuals to reflect on their moral values when thinking about the law. Seana V. Shifrin, Inducing Moral Deliberation: On the Occasional Virtues of Fog, 123 HARV. L. REV. 1214 (2010). For an alternative view that examines the perils of uncertainty in law, especially in the context of masking legal benefits, see Yuval Feldman & Shachar Lifshitz, Behind the Veil of Legal Uncertainty, 74 J. L. & CONT. PROB. 134 (2011).
The behavioral analysis of law enforcement suggests that detection costs can be lowered by focusing enforcement efforts on domains of behavior in which the probability of incompliance is higher. Take, for example, the enforcement of the tax code. Prospect theory suggests that taxpayers’ attitude towards tax evasion might differ depending on how their decision is framed. While those who expect a refund function in the domain of gains when filing, those who expect to owe taxes function in the domain of losses. Therefore, taxpayers who owe the tax authority money may be expected to adopt a more aggressive interpretation of their tax liabilities when filing their returns, in order to minimize their losses. A tax authority that wishes to maximize the effectiveness of the resources it dedicates to auditing should therefore incorporate this insight into its policies, and exert additional efforts with respect to loss-framed taxpayers.

Similarly, the results of the three experiments presented in this Article suggest that breach decisions will not be randomly distributed between contracting parties. Rather, since losses loom larger than gains, contracting parties may be expected to behave more aggressively in situations which they perceive as losses (either relative to expected gains or relative to initial wealth levels). This insight suggests that parties could lower enforcement costs by focusing their detection efforts on loss settings. For example, when the expected profits of some franchisees are cut due to an unforeseen change in circumstances (e.g., a tax hike in a certain state), franchisors should direct their enforcement attention towards those franchisees.

3) Beyond Contracts
Our discussion thus far has focused on the implications of our findings in the realm of contracts. One might speculate, however, that these implications reach beyond that realm. The law itself is inherently uncertain, and thus requires individuals to interpret their obligations. Much like contractual uncertainty, legal uncertainty stems from two main sources. First, the limitations of language make it difficult to capture every potential occurrence. For example, it might be unclear whether a law that forbids “vehicles” from entering a park applies to bicycles, roller skates, or even toy automobiles. Thus, bicycle drivers that need to decide whether to drive through the park face uncertainty as to the legal ramifications of their choice. Second, many bodies of law include an array of vague standards. Terms such as “negligent,” “fair,” and “good faith” all create uncertainty with respect to the legal consequences of an act. Hence, for example, a party contemplating whether tort law requires her to take a certain precaution often faces uncertainty as to how courts will evaluate her decision ex post.

Our results suggest that predicting the behavior of individuals subject to such vague legal standards requires incorporating the insights of prospect theory. This incorporation, however, must be cautious. Without sufficient empirical research that

133 See Guthrie supra note 41 at 1142-46.
134 Id. For an empirical corroboration of this theory, see Henry S.J. Robbenn et al., Decision Frame and Opportunity as Determinants of Tax Cheating: An International Experimental Study, 11 J. ECON. PSYCHOL. 341, 345-46 (1990) (reporting on data from 1982 tax return filings).
evaluates legal decision-making in specific contexts, prospect theory might lead to inconclusive policy prescriptions.

Take, for example, the fair use doctrine in copyright law. According to this doctrine, people are entitled to use copyrighted work if that use meets certain conditions. For instance, an artist who wishes to incorporate a few seconds’ long sample from a copyrighted musical recording into his own original work might be able to do so if this use is deemed fair. By allowing such derivative work, copyright law can diminish the deadweight loss associated with granting monopoly power to copyright holders.

The dilemma facing potential users who wish to rely on the fair use doctrine is an extremely risky one. Given the vague nature of the different conditions that constitute the doctrine, there is a tremendous amount of uncertainty associated with its actual application. As Gideon Parchomovsky and Kevin Goldman note, “it is now virtually impossible to predict the outcome of fair use cases.” Hence, the decision regarding how to interpret the rule—aggressively (i.e., incorporate) or moderately (i.e., do not incorporate)—will depend on the parties’ attitudes towards risk.

The accepted view among many legal scholars is that the fair-use roulette creates over-deterrence and inhibits expression. Against this backdrop, Steven Horowitz recently put forward a novel argument according to which the uncertainty associated with the doctrine actually promotes expression. According to Horowitz, since potential users focus on their possible liability, they analyze the decision whether to exercise the doctrine as a loss. This key assumption enables him to argue that “[p]rospect theory suggests the counterintuitive conclusion that potential users may enjoy greater use of copyrighted works under an unpredictable regime of access rights than under a clearer one.”

While this line of argument might be correct, it should be noted that there is an alternative way to view potential users’ decisions. When potential users decide whether to make use of copyrighted materials, they do not only see future liability; rather, they see liability coupled with potential gains. As Study 2 demonstrated, potential gains might serve as a reference point for assessing interpretative choices. Hence, decisions made regarding the fair use doctrine might be made in the domain of gains and not in the domain of losses. If that is the case, then potential users may be expected to exhibit risk aversion towards those decisions, and legal uncertainty might curb expression.

The general point to take from this discussion is that analyzing legal ambiguity through the lens of prospect theory might be much more complex than one would presume at first glance. Fully incorporating the rich insights of the theory into more

136 17 U.S.C. § 107 (setting out the rules of the fair use doctrine).
137 See, e.g., Gideon Parchomovsky & Kevin A. Goldman, Fair Use Harbors, 93 VA. L. REV. 1483 (2007) (reviewing the different criteria according to which fair use is determined).
138 Id. at 1498.
139 Id. at 1497-1502.
140 See Steven J. Horowitz, Copyright’s Asymmetric Uncertainty, U. CHI. L. REV. (forthcoming 2012).
141 Id. at ___.
legal debates requires additional empirical studies that will allow legal scholars to better understand the intricate details of human decision-making.

C. Limitations and Future Research

In this final subsection, we evaluate potential criticisms of this project, outline the limitations of our results, and sketch out additional research that could help address these limitations.

First, as is always the case with experimental studies, the external validity of our results may be questioned. Whereas the lab setting allowed us to carefully control all of the factors we wished to “hold constant,” it did so at the cost of creating an environment that is distinct from the usual environment in which contracts are created and performed. In our first two studies, participants reported their attitudes towards contractual decisions presented to them in an experimental survey. In our third experiment, participants did make actual incentivized decisions, yet they did not truly negotiate a transaction under which they agreed to answer a reasonable amount of difficult questions. Hence, the behavior we document in the lab might differ from behavior in the “real world.”

While we certainly acknowledge this point, it is worth noting that our experimental designs attempted to deal with it. In the first two studies, we intentionally used a hypothetical scenario that relates to a realistic dilemma that participants and their peers might face. Their responses were therefore likely to reflect their actual attitudes. In the third study, we employed an experimental design that minimizes the external validity concern relative to other designs currently employed by researchers in the field. Practically all existing experimental studies of contractual behavior use purely hypothetical frameworks. That is, subjects in these experiments are introduced to a hypothetical and abstract contract that was written by the experimenter, and are then asked to make hypothetical choices (e.g., “breach” or “perform”) based on the payoff structure included in the contract they read. Our design, on the other hand, elicited from subjects their actual decisions, by contracting with them to perform a real task and then measuring the way in which they performed that task. Thus, it comes closer to documenting peoples’ true choices than existing experimental studies.

An additional limitation of our experimental design has to do with the type of decisions that subjects were asked to make. Study 3 was structured such that participants made their interpretative choices incrementally—prior to answering each question they were asked to choose whether they would like it to be difficult or easy. Arguably, the decision-making process in such situations could differ from that in one-shot situations. Since the latter case might trigger a more rigorous deliberative process, that process could lead to different outcomes.

Future research could explore this distinction in greater detail by altering the experimental design we utilized. For example, the framework of our third experiment could be retained, yet require participants to determine what a reasonable amount of

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142 See Zev J. Eigen, Empirical Studies of Contract, 8 ANNUAL REV. L. & SOC. SCIENCE (forthcoming, 2012). The single other exception to this pattern is Eigen, supra note 5.

143 See e.g., Amos Schurr et al., The Effect of Perspective on Unethical Behavior (unpublished manuscript, on file with the author).
difficult questions is at the outset of rather than during the trivia game. Such a design could help ascertain whether a global perspective on the interpretative dilemma elicits a different decision than an incremental perspective.

Finally, the results of our third study might stem not only from the cognitive process associated with loss aversion, but also from the relational aspects of the experiment. A wealth of research on the effect of carrots vs. sticks and monitoring and control suggests that people might react to harsher treatment with limited performance. Quite possibly, then, participants chose to interpret their obligation in the loss frame more selfishly as retaliation for what they saw as harsh and unfair moves by the experimenter who punished them.

Note, however, that our first two studies somewhat control for this issue, as the loss scenarios in both of them were not associated with a penalty. Rather, the source of the loss stemmed from a miscalculation of costs. That said, future studies can attempt to distinguish between the relational and cognitive effects of penalty payoff structures by designing more complex experiments in which the relational tie is severed using third-party intermediaries.

V. CONCLUSION

The world of contractual choices, as depicted in both legal and economic studies, is a world of black or white, right or wrong, performance or breach. The reality of contractual choices, however, is far more complex. It includes genuine interpretative dilemmas that require the parties to determine what their obligations actually are. It is a world with many tones of grey, in which the boundary between performance and breach can be extremely elusive.

In this study we have attempted to peek into the black box of these interpretative decisions. In a series of stylized experiments, we showed that much like other choices, interpretative choices are driven by the way in which they are framed. Since losses loom larger than gains, people exhibit a greater tendency to adopt self-serving interpretations when those interpretations can minimize their losses.

Obviously, the framing of interpretative choices is but one factor that will affect the ultimate decision contracting parties make. In that regard, this Article can serve as a starting point for extensive future research that will explore the precise forces that drive contractual performance. Issues such as the depth of assent (i.e., a signed pen and paper contract compared to an online clickwrap contract), the source of the obligation (i.e., a contract term requiring “best effort” versus a default rule requiring the same), and the identity of the contracting parties (i.e., real persons as opposed to corporations) might all influence the way in which people choose to interpret their obligations. Undoubtedly, assembling the pieces of this puzzle is a thorny task. If the goal is to truly understand contractual choices, however, it is an essential one as well.

See e.g., Falk & Kosfeld supra note 129; Cho et al. supra note 131