
Bridging the Property-Contract Divide: Testing the Endowment Effect in Law

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BRIDGING THE PROPERTY-CONTRACT DIVIDE: TESTING THE ENDOWMENT EFFECT IN CONTRACT LAW

*Marco Jimenez**

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This Article examines the relationship between contract and property law by examining the extent to which parties tend to conceptualize and treat contracts as property. In doing so, this Article seeks to answer a question residing at the intersection between contract and property law, namely, whether the promises underlying contracts merely constitute a form—an empty vessel into which substantive property rights are poured—or whether they constitute something more substantial, perhaps even a species of property itself. If it is the latter, which I suspect it is, this suggests that, at the very least, one can understand contract law and some of its more pressing problems much better (such as whether to allow efficient breach, or whether to continue the common law’s expressed preference for money damages over specific performance) by viewing them, at least in part, through a property-based lens. More ambitiously, if the promises in contracts can be shown to be valued as a type of property, then policy makers would do well to consider various property-based solutions to contract law previously thought to be unavailable or inappropriate.

To test whether, and to what extent, contract law has its basis in property, I conducted an experiment to examine whether the endowment effect—a key component of property law and one of the most important findings in behavioral economics¹—plays a role in the way parties tend to think about contracts. The endowment effect, which has been called “the most significant single finding from behavioral economics for legal analysis to date,”² holds that individuals tend to value those things they happen to own more than they would have

1. Daniel Kahneman, a co-discoverer of the endowment effect, was awarded the Nobel Prize “for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty.” See *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2002*, NOBEL FOUND., <https://www.nobelprize.org/prizes/economics/2002/summary/> (last visited Sept. 19, 2018).

2. Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 Nw. U. L. REV. 1227, 1229 (2003) [hereinafter Korobkin, *The Endowment Effect and Legal Analysis*].

valued those same things if they happened not to own them.³ So, for instance, the endowment effect has shown that individuals who tend to value a particular item (e.g., a candy bar) at \$1 will frequently place a greater value on that item (more than \$1) once it is given to them and they come to think about that item as their private property.⁴ This strange result not only challenges our understanding of how value is traditionally measured,⁵ but it stands in stark contrast to one of the most important tools of legal analysis: the Coase theorem.⁶

According to the Coase theorem, an individual who places a one-dollar value on an item such as a candy bar should value that candy bar at \$1 whether it is in the store or in their pantry: the mere ownership of an item should not change a party's valuation of that item one way or another. More formally, the Coase theorem predicts that "the allocation of resources to individuals who can bargain and transact at no cost should be independent of initial property rights."⁷ Consequently, where bargaining is costless, the price an individual is willing to pay (WTP) to acquire an item (such as a candy bar) should be equal to the price an individual is willing to accept (WTA) to part with that same item.⁸ The endowment effect provides empirical evidence against the Coase theorem's prediction by revealing that, in fact, individuals frequently

3. *Id.* at 1228 ("The much studied 'endowment effect' stands for the principle that people tend to value goods more when they own them than when they do not."). The endowment effect appears to be explained, at least in part, by the principle of loss aversion, whereby a party tends to weigh its potential losses more heavily than its potential gains. See, e.g., Jennifer Arlen, *Comment: The Future of Behavioral Economic Analysis of Law*, 51 *VAND. L. REV.* 1765, 1775 (1998); Owen D. Jones & Sarah F. Brosnan, *Law, Biology, and Property: A New Theory of the Endowment Effect*, 49 *WM. & MARY L. REV.* 1935, 1950 (2008).

4. See Korobkin, *The Endowment Effect and Legal Analysis*, *supra* note 2, at 1228 ("Move a person from a city house to a country house and, . . . he is quite likely to prefer the country house more than he did when he resided in the city.").

5. See, e.g., WARD FARNSWORTH, *THE LEGAL ANALYST: A TOOLKIT FOR THINKING ABOUT THE LAW* 213–14 (2007) ("Discrepancies between the amounts one is willing to pay and accept for something also can create problems for the Coase theorem. . . . [T]he general idea of the theorem is that no matter where the law assigns a right, it will end up in the same hands—the hands of whoever is ready to pay the most for it—so long as transaction costs (impediments to bargaining) don't get in the way. But endowment and wealth effects suggest otherwise . . ."). See also Arlen, *supra* note 3, at 1776 (arguing that traditional economic analysis assumes rational choice, self-interested maximization of utility, and stable preferences); Jones & Brosnan, *supra* note 3, at 1959.

6. Like Daniel Kahneman, Ronald H. Coase was also awarded the Nobel Prize, in his case "for his discovery and clarification of the significance of transaction costs and property rights for the institutional structure and functioning of the economy." See *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1991*, NOBEL FOUND., <https://www.nobelprize.org/prizes/economics/1991/summary/> (last visited Sept. 19, 2018).

7. Daniel Kahneman, Jack Knetsch, & Richard Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 *J. POL. ECON.* 1325, 1339–40 (1990).

8. See, e.g., *id.* at 1328.

provide very different answers to the questions “how much would you buy item *X* for if you did not own it” and “how much would you sell item *X* for if you did own it.” The difference between the two values offered for “*X*” has come to be called the “willingness to pay” versus “willingness to accept” gap (or the WTP-WTA gap), and has also been referred to as the “offer-asking problem.”⁹

While there is substantial research supporting the endowment effect in property law, there have been few tests, and little direct evidence, of such an effect in contract law. This seems strange, because contract law is a place where the WTP-WTA gap would, if it existed, seem to be of the greatest practical importance. This is because the offeree’s WTP and the offeror’s WTA is what accounts for the desire of parties to enter into contracts in the first place, and is therefore at the heart of the types of transactions with which contract law is concerned.¹⁰ Stated simply, unless a party believes it will increase its utility (broadly defined) by entering into a bargain with another party to exchange property rights, that party will refuse to contract. Instead, the party will prefer to maintain the status quo.

Not only is it strange, but the fact that the endowment effect has not been directly tested on the promises making up contract law is also unfortunate. As other scholars have argued, contract law seems to share a number of other important characteristics with property law, and both fields might benefit by bridging this theoretical divide. Specifically, if the presence of an endowment effect, which has heretofore only been associated with the ownership of property, can also be detected in contract law, it would seem to indicate that, on at least some level, that contract law behaves like and possesses characteristics of property law as well. This finding would not only help bridge these seemingly distinct

9. See, e.g., Korobkin, *The Endowment Effect and Legal Analysis*, *supra* note 2, at 1228 (describing the “offer-asking gap” as “the empirically observed phenomenon that people will often demand a higher price to sell a good that they possess than they would pay for the same good if they did not possess it at present”). See also Duncan Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A Critique*, 33 *STAN. L. REV.* 387, 401 (1981) (“The offer-asking problem arises because as a matter of fact some people some of the time will give a very different answer to the question, ‘How much will you pay to prevent X from happening?’ than they will give to the question, ‘How much are you asking in exchange for allowing us to do X?’”).

10. See, e.g., Elizabeth Hoffman & Matthew L. Spitzer, *Willingness to Pay vs. Willingness to Accept: Legal and Economic Implications*, 71 *WASH. U. L.Q.* 59, 98–99 (1993) (“In two-person bargaining situations, WTA exceeding WTP would tend to reduce the number of voluntary trades. Specifically, if two parties bargained over a right, and if each party’s WTA exceeded the other party’s WTP, no trade would occur. In such a situation, a buyer is unable to offer enough money to persuade the owner to give up the right. For example, assume that George owned a hat and Ronald wanted to buy it.”).

areas of law, but would allow important insights gleaned from one area to be transferred to the other, as discussed more fully in the Article's conclusion.

Therefore, this Article fills this empirical gap and tests whether, and to what extent, the endowment effect applies directly to the promises to exchange goods (i.e., contracts), rather than to the property that is frequently exchanged through the medium of contract. More specifically, the question explored in this Article is whether an individual who does not yet "own" an item, but merely has some contractual right to obtain that item at some future date would also experience something like the endowment effect in the promise itself.

INTRODUCTION

Commentators since Adam Smith¹¹ have, intentionally or not, driven a wedge between contract and property law.¹² Frequently, commentators conceptualize one without regard to the other,¹³ as though contract law involves promises of an abstract and ethereal nature, rather than promises to perform future transfers of earthly rights to *property*.¹⁴ Things, however, were not always this way. Once, those who breached contracts were thought to have "sinned against the great god of Property, not of Contract."¹⁵ Even in the early days of the common law, a plaintiff who was owed money would have brought an action in *debt*, basing their claim not "on a mere promise," but on

11. ADAM SMITH, LECTURES ON JUSTICE, POLICE, REVENUE AND ARMS 131 (Edwin Cannan ed., 1896) ("Breach of contract is naturally the slightest of all injuries, because we naturally depend more on what we possess than what is in the hands of others. A man robbed of five pounds thinks himself much more injured than if he had lost five pounds by a contract.").

12. F. MAITLAND, THE FORMS OF ACTION AT COMMON LAW 38 (A.H. Chaytor & W.J. Whitaker eds., 1936) (arguing that a "vast gulf . . . to our minds divides the 'Give me what I own' and 'Give me what I am owed'"). See also E. ALLAN FARNSWORTH, CONTRACTS 7–8 (4th ed. 2004) [hereinafter E. ALLAN FARNSWORTH] (commenting how some have "suggested that a breach by the debtor is regarded as a wrong with respect to the creditor's property, that the creditor's claim is founded, not on what the creditor is owed, but on what the creditor owns. The contemporary bank depositor displays this misconception of the transaction in referring to 'my money' in the bank, rather than to the obligation that the bank owes the depositor.").

13. Andrew S. Gold, *A Property Theory of Contract*, 103 Nw. U. L. REV. 1, 2 (2009) ("[C]ontract discourse rarely recognizes actions as property.").

14. See, e.g., J.E. PENNER, THE IDEA OF PROPERTY IN LAW 123 (1997) ("[W]hile we can notionally regard the object of the right, the contractual relation . . . as 'things', they are not the right kind of things for property given the way we understand them.").

15. WILLIAM SEAGLE, THE QUEST FOR LAW 256 (1st ed. 1941).

the fact that the defendant *possessed* something that *belonged* to the plaintiff.¹⁶

Although modern law has largely forgotten this way of thinking about contracts, there is more than a little truth to these seemingly antiquated views. Indeed, some recent commentators have attempted to bridge the theoretical divide between contracts and property¹⁷ by examining some of the ways in which contract theory would benefit from recognizing its affinity with property. For instance, Professor Gold has suggested that we might profitably view contracts from within property's rights-based perspective. Under this perspective, making a contract would represent not merely the making of an enforceable promise to another party, but conferring on that other party the *ownership* of a future obligation.¹⁸ While viewing contracts in this way would certainly aid in bridging the divide between contract and property *theory*, it is still an open question as to whether doing so would bridge these areas *empirically*. To do that, one would need to test whether contract law, specifically the promises within contract law, tends to *behave* like property law in the real world. This Article provides that approach.

More specifically, this Article tests whether the endowment effect—which is thought to be unique to property law¹⁹—is also present in the promises contained within most contracts. The endowment effect has been called “the most significant single finding from behavioral eco-

16. E. ALLAN FARNSWORTH, *supra* note 12, at 13 (noting that the concept of debt was based on the notion that it would “be unjust to allow the debtor to retain [something] without paying for it”).

17. See, e.g., Gold, *supra* note 13; Peter Benson, *The Unity of Contract Law*, in *THE THEORY OF CONTRACT LAW* 118, 134–35 (Peter Benson ed., 2001) (arguing that “the wrong which a breach does to a promisee’s right to performance consists in the promisee being deprived of the thing promised,” and that “[t]his right to physical possession vests at formation”); Stephen A. Smith, *Towards a Theory of Contract*, in *OXFORD ESSAYS IN JURISPRUDENCE: FOURTH SERIES* 107, 123 (Jeremy Horder ed., 2000) (“On the right-creation view of contract, a contract creates what is in effect a property right in the promisee, albeit a property right in the performance of an act.”).

18. When one enters into a contract with another party, one acquires “a proprietary interest in [another’s] future action.” Gold, *supra* note 13, at 3. It is an interesting question whether individuals are treating as property the promise itself or the thing being promised, or some combination of the two. For a review of the relevant literature, see Gold, *supra* note 13, at 2 n.3.

19. See, e.g., Arlen, *supra* note 3, at 1778 n.47 (citing the evidence on vouchers presented in the article by Kahneman, Knetsch, & Thaler, *supra* note 7). Professor Arlen argues that “[t]he endowment effect appears to vanish . . . when people do not actually possess the commodity at the time they are asked to trade it, but possess only the promise of the commodity.” Arlen, *supra* note 3, at 1778–79.

nomics for legal analysis to date.”²⁰ Although the effect itself can be defined in many ways, in its most basic form, it states that individuals tend to value goods that they *own* more than they value goods they do not own.²¹ If the endowment effect also holds true in contract law (i.e., if it can be shown that individuals value goods that they are contractually entitled to more than they would value them otherwise), then we will have obtained evidence suggesting that contract law shares important characteristics with property law—that individuals view contractual entitlements in much the same way that they view property entitlements. This, in turn, could help justify some of the theoretical work currently attempting to bridge these two areas of law²² with important implications for both fields especially in regard to remedies, as we shall soon discuss.

Indeed, thinking about contracts through the property law lens can shed light on many important areas of contract doctrine that are currently obscured when viewed through the traditional contract law lens. For example, one of the deepest questions in contract law concerns why a public authority, such as the state, should be involved in the seemingly personal matter of enforcing private promises between autonomous persons. Several answers have been proposed, each with various degrees of success, ranging from economic theories (promises should be enforced to maximize wealth)²³ to promissory theories (promises should be enforced because they are “sacred *per se*,” and because “the duty to keep one’s promise is one without which rational society would be impossible”)²⁴ to consent-based theories (courts

20. James Robert Ward, *The Endowment Effect and the Empirical Case for Changing the Default Employment Contract from Termination “At-Will” to “For-Cause” Discharge*, 28 L. & PSYCHOL. REV. 205, 209 (2004).

21. See, e.g., Korobkin, *The Endowment Effect and Legal Analysis*, *supra* note 2, at 1251 (noting that the endowment effect may “exist[] because individuals form attachments to what they own rather than as a consequence of negative emotions associated with the abstract concept of loss. If so, an item owned will have a predictably higher value than the very same item that is unowned. From this perspective, an unowned widget is merely a commodity with a value based on its potential for use or exchange. An owned widget, however, loses at least a portion of its commodity status and takes on additional value.”).

22. See, e.g., Gold, *supra* note 13, at 3 (arguing that to unify contract and property law it is necessary to view contracts from property’s rights-based perspective in which the contract equals ownership of an obligation and in which contracts are used to transfer a right to the ownership of another’s future performance).

23. See, e.g., RICHARD POSNER, *THE ECONOMIC ANALYSIS OF LAW* 99 (9th ed. 2014) (arguing that enforcing promises “has five distinct economic functions: (1) to prevent opportunism, (2) to interpolate efficient terms either on a wholesale or a retail basis (gap-filling versus ad hoc interpretation), (3) to punish avoidable mistakes in the contracting process, (4) to allocate risk to the superior risk bearer, and (5) to reduce the costs of resolving contract disputes.”).

24. Morris Cohen, *The Basis of Contract*, 46 HARV. L. REV. 553, 571–73 (1933) (arguing that promises should be enforced because they are “sacred *per se*,” and because “the duty to keep

should enforce agreements where the parties have manifested assent to one another because they have expressed a legal intention to be bound),²⁵ among others. A property-based approach, however, would cut through this theoretical Gordian knot and try to more intuitively to understand the non-enforcement of a contract as a type of state-sanctioned theft. Under this approach, enforcing contracts would not be a matter of putting into practice economic, promissory, or consent-based theories, but would entail the much simpler and more intuitive matter of protecting property rights by giving to the owner what rightfully *belongs* to him or her.

Similarly, a property-based view of contracts could provide important insights into otherwise puzzling justifications for the most common contract remedy—expectation damages. For instance, in their seminal article, *The Reliance Interest in Contract Damages*, Fuller and Perdue struggled with the notion that contract law purports to compensate the plaintiff via expectation damages²⁶ because, they thought, it gave the plaintiff “something he never had.”²⁷ With this as their starting point, Fuller and Perdue spent much of the remainder of their article attempting to show how this paradoxical reality might be theoretically justified.

A property-based view, on the other hand, would proceed very differently: it would begin by assuming that the promisee actually owned the promised performance. It would assume, in other words, that the promisee had a property-based interest in the promise itself. With this as the starting point, the remedial issue would proceed straightforwardly: the property-based model would not only justify—but require—that the breaching party turn over what *belongs* to its rightful owner, or, if not possible or practical, its monetary equivalent.²⁸ If this

one’s promise is one without which rational society would be impossible”). See also CHARLES FRIED, *CONTRACT AS PROMISE: A THEORY OF CONTRACTUAL OBLIGATION* 16 (2d ed. 1981) (“An individual is morally bound to keep his promises because he has intentionally invoked a convention whose function it is to give grounds — moral grounds — for another to expect the promised performance.”).

25. Randy E. Barnett, *A Consent Theory of Contract*, 86 COLUM. L. REV. 269, 304 (1986) (arguing that courts should enforce agreements where the parties have manifested assent to one another because they have expressed a legal intention to be bound).

26. “Expectation damages” are those damages necessary to “put the [promisee] in as good a position as he would have occupied had the defendant performed his promise.” L.L. Fuller & William R. Perdue, Jr., *The Reliance Interest in Contract Damages: I*, 46 YALE L.J. 52, 54 (1936).

27. *Id.* at 53, 57.

28. Indeed, in a recent article “challeng[ing] the conventional wisdom that monetary remedies are usually a satisfactory substitute for in-kind redress,” Professor Daphna Lewinsohn-Zamir performed several experiments showing that individuals “strongly prefer in-kind entitlements and remedies over monetary ones.” See Daphna Lewinsohn-Zamir, *Can’t Buy Me Love: Monetary Versus In-Kind Remedies*, 2013 ILL. LAW. REV. 151, 151 (2013).

view were widely accepted, the real puzzle of contract law remedies would no longer revolve around trying to justify expectation damages, which has been a preoccupation with contracts scholars ever since Fuller and Perdue penned their famous article in 1936. Rather, the real puzzle would first be in attempting to justify why an even more straightforward and property-like remedy—specific performance—is not more routinely available for the breach of contract, and second, attempting to account for those conditions under which a contract remedy might deviate from either specific performance or expectation damages.

Finally, many traditional contract defenses might be better understood under a property-based theory of contract, first by disambiguating such defenses from the main body of contract law, and second, by resting these defenses on foundations that exist independent of—though still encompassing—contract law, such as notions of corrective or distributive justice.²⁹ Although there are many other benefits that can be gained by reexamining contracts through a property law lens, what remains to be seen now is whether, in fact, contract law *does* behave like and share important characteristics with property law.

I. THE ENDOWMENT EFFECT

A. *General Overview of the Endowment Effect*

The term *endowment effect* was first coined by Richard Thaler in 1980 to refer to the fact that “randomly assigned owners of an object appear to value the object more than randomly assigned non-owners of the object.”³⁰ Stated differently, the endowment effect holds that individuals tend to value goods they own more than goods they do not own.³¹ However, this effect seems to have been intuitively understood

29. See, e.g., Gold, *supra* note 13, at 3–4 (promoting an understanding of contract law consistent with the ends of corrective justice); Anthony T. Kronman, *Contract Law and Distributive Justice*, 89 YALE L.J. 472, 472 (1980) (arguing that contract law must be understood on distributive grounds).

30. David Gal, *A Psychological Law of Inertia and the Illusion of Loss Aversion*, 1 JUDGMENT & DECISION MAKING 23, 23 (2006). See also Michael Heller & Rick Hills, *Land Assembly Districts*, 121 HARV. L. REV. 1465, 1479 (2008) (“Humans have a well-verified psychological inclination to value their current endowments more than identical items that they currently lack but could purchase”); Steffen Huck, Georg Kirchsteiger, & Jörg Oechssler, *Learning to Like What You Have—Explaining the Endowment Effect*, 115 ECON. J. 689, 689 (2005) (“The endowment effect describes the fact that people demand much more to give up an object than they are willing to spend to acquire it.”).

31. See, e.g., Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSP. 193, 194 (1991) (“[T]his pattern—the fact that people often demand much more to give up an object than they would be willing to pay to acquire it—[is called] the *endowment effect*.”). The endowment effect has also been called “status quo bias.”

long before it was officially christened in the late twentieth century. Indeed, Oliver Wendell Holmes Jr., writing over a century ago, noted:

A thing which you enjoyed and used as your own for a long time, whether property or an opinion, takes root in your being and cannot be torn away without your resenting the act and trying to defend yourself, however you came by it. The law can ask no better justification than the deepest instincts of man.³²

Although Holmes seems to have had in mind those situations where a property right has been established for some period of time, it is remarkable how similar this idea is to modern conceptions of the endowment effect.

If this effect applies to contract law, however, it would seem to be at odds with several important assumptions frequently thought to animate contract law, namely, the Coase theorem and much of modern economic theory. For instance, the Coase theorem predicts that “the allocation of resources to individuals who can bargain and transact at no cost should be independent of initial property rights.”³³ This is to say that the value an individual places on a good should be independent of whether the individual happens to own or possess that good. An important implication of the Coase theorem, especially for contract law, is that a buyer’s WTP for a particular good should be equal to the seller’s WTA (i.e., price) to part with that same good.³⁴ Otherwise the free exchange of goods will be hindered by the simple economic “accident” of who happens to own or possess a particular good

See, e.g., William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 8 (1988). But this term is perhaps too broad, as the endowment effect might best be understood as a “manifestation of” the status quo bias. *See, e.g.,* Donald Langevoort, *Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review*, 51 VAND. L. REV. 1499, 1503–04 (1998). *See generally* Korobkin, *The Endowment Effect and Legal Analysis*, *supra* note 2, at 1293 n.5–6.

32. Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 477 (1897).

33. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1339–40.

34. *See, e.g.,* Korobkin, *The Endowment Effect and Legal Analysis*, *supra* note 3, at 1231 (noting that when “out-of-pocket and opportunity costs [are treated] identically[, then] the maximum amount an individual is willing to pay (WTP) for an entitlement should be [the] same as the minimum amount that he would be willing to accept (WTA) to sell that same entitlement if he owned it. If these two measures of value diverge, [then] . . . the Coase Theorem [is] incorrect, or at least incomplete . . .”). *See also* Kahneman, Knetsch, & Thaler, *supra* note 7, at 1328; G. Klass & K. Zeiler, *Against Endowment Theory: Experimental Economics and Legal Scholarship*, 61 UCLA L. REV. 2, 4 (2013) (“Endowment theory says that [WTP-WTA gaps] . . . are at least partially explained by the general phenomenon of loss aversion. Prospect theory holds that when deciding what to do, people give possible losses more weight than potential gains of the same magnitude. Endowment theory is an application of prospect theory, adding the hypothesis that ownership determines whether one experiences a change as a gain or as a loss. Endowment theory posits that ownership sets one’s reference point, the movement from which triggers either a perceived gain or loss, and that people perceive the transfer or sale of endowments as losses.”).

at a particular point of time.³⁵ If this were so—and there is already some research suggesting that it is³⁶—the implications could be profound, as it would mean that any policy concerned with promoting economically-efficient contracts (a matter of transactional justice) would be subject, at least in part, to how the contractual entitlements were initially distributed (a matter of distributive justice).³⁷

So long as the endowment effect is confined to property law there is no need to reexamine the extent to which the Coase theorem and modern economic theory might not be relevant to contract law. But if the endowment effect does apply to contract law as well as to property law, then it is important to reexamine the applicability of these theories to contract law.³⁸ Therefore, before proceeding further, we should pause to examine the evidence for the endowment effect in property law, much of which has been established by way of a number of experiments³⁹ that have important implications for the law.⁴⁰ It is to these experiments that we now turn.

35. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1326–28 (“An implication of this asymmetry [between WTP and WTA] is that if a good is evaluated as a loss when it is given up and as a gain when it is acquired, loss aversion will, on average, induce a higher dollar value for owners than for potential buyers, reducing the set of mutually acceptable trades.”).

36. Russell Korobkin, *The Status Quo Bias and Contract Default Rules*, 83 CORNELL L. REV. 608, 611–12 (1998) [hereinafter Korobkin, *The Status Quo Bias*] (arguing that, contrary to what the Coase theorem would predict, parties have a preference for terms that have been previously anointed by lawmakers as default terms).

37. This, in turn, would mean that economic efficiency could be increased by altering the distribution of resources in society. To put the same point more starkly, failing to alter initial entitlements would result in a less efficient society than would otherwise result. Exploring this line of thought further, though interesting, is beyond the scope of this Article.

38. See, e.g., Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 596–97 (2003) (citing Korobkin, *The Status Quo Bias*, *supra* note 36) (“In the realm of contract law, a party subject to the endowment effect would ask much more to give up a default that is favorable to it than the party would bid to obtain from its contract partner a clause that is identical to the default. As a consequence, for such parties defaults are more like mandatory rules; the endowment effect would prevent parties from conveniently altering the allocations that the defaults create.”).

39. “For instance, in one well-known series of endowment effect experiments, Kahneman, Knetsch and Thaler (1990) found that randomly assigned owners of a mug required significantly more money to part with their possession (around \$7) than randomly assigned buyers were willing to pay to acquire it (around \$3). Kahneman et al. (1990, 1991) and Tversky and Kahneman (1991) attributed this result to loss aversion: owners’ loss of the mug loomed larger than buyers’ gain of the mug.” Gal, *supra* note 30, at 23.

40. See, e.g., Kahneman, Knetsch, & Thaler, *supra* note 7, at 1328 (“[O]ne implication of this asymmetry [between WTP and WTA] is that if a good is evaluated as a loss when it is given up and as a gain when it is acquired, loss aversion will, on average, induce a higher dollar value for owners than for potential buyers, reducing the set of mutually acceptable trades.”). See also Kahneman, Knetsch, & Thaler, *supra* note 7, at 1345 (“Another manifestation of loss aversion in the context of multiattribute negotiations is what might be termed ‘concession aversion,’ a reluctance to accept a loss on any dimension of an agreement. . . . A somewhat more subtle implication of concession aversion is that it can produce inefficient contract terms.”).

B. *Previous Experiments Testing the Endowment Effect*

In one famous experiment,⁴¹ researchers compared the difference between the willingness to pay (WTP) and willingness to accept (WTA) price amounts of money among fans seeking tickets to Duke University basketball games. As a general matter, demand for Duke basketball tickets greatly exceeds supply, and for home games, Duke rations out these tickets via a lottery system. After one such distribution, researchers called the winners and losers of the lottery and asked the winners how much they would be willing to accept to sell their tickets, and the losers how much they would be willing to pay to purchase a ticket. Because the tickets were assigned randomly, one would expect that the winners and losers came from a roughly homogenous group. Therefore, one would expect their WTPs and WTAs to converge because an individual in any given group could have, through a different distribution of luck, found herself placed in another group. The results, however, did not bear this out. On average, the winners of the random lottery refused to sell their tickets for anything less than \$2,400, whereas the losers (who, prior to the distribution, presumably wanted the tickets just as much as those who ultimately won the lottery) refused to purchase the tickets for more than \$170.⁴² The endowment effect, it would seem, was alive and well in Duke basketball.

In a second experiment,⁴³ researchers divided a classroom into two sets of students and gave mugs to the students in every other seat. Researchers asked each student who received a mug how much they would need to accept to sell their mug, while the students who did not receive any mugs were asked how much they would be willing to pay to buy a mug. Because the mugs were distributed at random, and because there was no reason to believe that one randomly-selected group would tend to value the mugs more or less than another randomly-selected group, it stands to reason that each group of students, on average, should value the mugs about equally. This, however, is not what happened. Instead, the students who received mugs tended to value them *more* than the students who did not receive mugs and were willing to sell them, on average, for about \$4.50 per mug. The students who did not initially receive mugs, however, tended to value them *less* than the other group and, on average, were willing to buy them for

41. See generally DAN ARIELY, PREDICTABLY IRRATIONAL, REVISED AND EXPANDED EDITION 167–73 (2009); Ziv Carmon & Dan Ariely, *Focusing on the Forgone: How Value Can Appear So Different to Buyers and Sellers*, 27 J. CONSUMER RES. 360 (2000).

42. See generally Carmon & Ariely, *supra* note 41, at 360–70.

43. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1332.

only \$2.25 per mug.⁴⁴ Once again, researchers gained strong evidence in support of the endowment effect.⁴⁵

Finally, in a third experiment,⁴⁶ the researchers divided the subjects into three groups. In the first group, to establish general preferences among all of the students for candy bars vis-à-vis mugs, 55 students were asked to select between receiving a candy bar or a mug. The group was about evenly split, with 56% of the students selecting the mug, and 44% selecting the candy bar. This information was then used to test whether students who randomly received mugs would exchange them for candy bars, and whether students who randomly received candy bars would exchange them for mugs.

In the second group, researchers gave 76 students a mug, and then asked if the students would like to trade their mug for a 400-gram Swiss chocolate bar. According to the data gathered from the first group, one would predict that 56% of the 76 students, or nearly 43 students, would prefer the mug to the candy bar and would refuse the trade, whereas 33 students would prefer the candy bar to the mug and would engage in trade. Surprisingly, when the experiment was conducted, a full 89% of the students who originally received the mug elected to keep the mug, and only 11% traded.

The experiment yielded similar results in the third group, where researchers gave 87 students the candy bar first, rather than the mug, and the researchers then asked if the students would like to trade their candy bar for a mug. Again, based on the data gathered from the first class, one would predict that 56% of the 87 students, or nearly 49 students, would prefer the mug to the candy bar and would therefore trade, whereas 38 students would prefer the candy bar to the mug and would refuse the trade. Once again, however, the endowment effect

44. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1332.

45. *But see* Charles R. Plott & Kathryn Zeiler, *The Willingness to Pay—Willingness to Accept Gap, the “Endowment Effect,” Subject Misconceptions, and Experimental Procedures for Eliciting Valuations*, 95 AM. ECON. REV. 530, 530 (2005). After conducting experiments with both lottery tickets and coffee mugs, Plott and Zeiler reported that they were unable to detect a WTA-WTP gap after performing several experimental controls, thereby “call[ing] into question the interpretation of observed gaps as evidence of loss aversion or prospect theory.” *Id.*; *see also* Charles R. Plott & Kathryn Zeiler, *Exchange Asymmetries Incorrectly Interpreted as Evidence of Endowment Effect Theory and Prospect Theory?*, 97 AM. ECON. REV. 1449 (2007); Charles R. Plott & Kathryn Zeiler, *Exchange the Willingness to Pay—Willingness to Accept Gap, the “Endowment Effect,” Subject Misconceptions, and Experimental Procedures for Eliciting Valuations: Reply*, 101 AM. ECON. REV. 1012, 1026–27 (2011).

46. Jack L. Knetsch, *The Endowment Effect and Evidence of Nonreversible Indifference Curves*, 79 AM. ECON. REV. 1277, 1278 (1989). *See also* On Amir & Orly Lobel, *Stumble, Predict, Nudge: How Behavioral Economics Informs Law and Policy*, 108 COLUM. L. REV. 2098, 2103 (“Ownership causes individuals to request far more money when selling an item than non-owners are willing to pay.”).

took hold, and a full 90% of the students elected to keep the candy bar, while only 10% traded.

C. *Contract Law and the Endowment Effect*

Although the prevalence of the endowment effect is well established in the area of property law, some commentators have *denied* the existence of such an effect in the area of contracts.⁴⁷ If such an effect were found, however, it could have important implications for contract law. As I have argued previously, “if the promisee comes to think of the performance owed to him or her as a property entitlement, the promisee will then attach additional utility to the promisor’s promise *ex post* due to the endowment effect.”⁴⁸ This would mean not only that a breach of promise would disappoint the promisee’s expectation interest, but that protecting the promisee’s right to the promisor’s performance with expectation damages might compensate the promisee too little rather than too much.⁴⁹ The question, therefore, is whether a promisee, in fact, tends to think of a promisor’s promised performance in terms of a property-based entitlement rather than a mere disappointed expectation. It is to this question that this Article now turns.

II. TESTING THE ENDOWMENT EFFECT IN CONTRACT LAW

A. *Establishing Initial Preferences*

To test whether the endowment effect holds true in contract law, I designed an experiment that was somewhat different from the classic exchange experiments discussed above.⁵⁰ Specifically, rather than testing to see whether individuals experienced an endowment effect when

47. See, e.g., Arlen, *supra* note 3, at 1778–79. Drawing upon the article by Professors Daniel Kahneman, Jack Knetsch, and Richard Thaler, see *supra* note 7, Professor Arlen argues the endowment effect appears to vanish when people “do not actually possess the commodity at the time they are asked to trade it, but possess only the promise of the commodity.” Arlen, *supra* note 3, at 1778–79. But see Robert A. Prentice, “Law &” *Gratuitous Promises*, 2007 U. ILL. L. REV. 881, 917–18 (2007) (“Because of the endowment effect, people value things more once they consider them part of their ‘endowment’ than they did before. Importantly, much evidence indicates that actual ownership is not necessary for the endowment effect to attach. Simply thinking of an item as yours can make it seem more valuable. Once people partially adapt to the possession of a good, their reference point shifts, and failing to acquire the item is not affectively neutral, but actually feels like a loss. Thus, once *A* promises to give his house to *B* a year hence, *B* will tend to include that house in his psychological endowment; and if *A* does not fulfill his promise, *B* will feel a psychological loss. Although from an economic point of view *B* has not changed position, from a psychological point of view *B* has sustained a loss.”).

48. Marco Jimenez, *Value of a Promise*, 56 UCLA L. REV. 59, 107 (2008).

49. See, e.g., Jones & Brosnan, *supra* note 3, at 1946.

50. See *supra* Part I.B; *infra* Appendix I.

they were given a particular good (e.g., mugs, chocolate bars, or Duke basketball tickets), I instead tried to see whether individuals would experience an endowment effect when they were simply given a contract entitling them to a good at some future date. The difference between giving the students a good and a promise entitling them to the good is that they would end up with the promised good in the future only if the promise were in fact faithfully performed. To set up this experiment, I first distributed voting clickers to all 67 students present in my first-year contracts class at the beginning of the first day of class.⁵¹ My teaching assistant and I kept track of which clicker was assigned to each student, so I could determine later on in the experiment how each individual student voted.

The first step in this experiment was to register the general preferences that existed among the students. To do so, I brought a number of different items into class, ranging from snacks⁵² to soft drinks⁵³ to candy bars⁵⁴ to caffeinated beverages.⁵⁵ On one side of the chalkboard I placed a sign that read “Item #1,” and on the other side I placed a sign that read “Item #2.” One at a time, I then proceeded to place various items, under the respective signs. After one item was placed under each sign, I asked the class to raise their hands to vote as to whether they preferred the first or the second item. My goal was to find two items that were preferred relatively equally by the class, i.e., where each item was preferred by between 40% to 60% of the class.⁵⁶ After several attempts, the class finally expressed relatively equal preferences for two items: a king-sized Snickers bar (Snickers) and a bottled Starbucks Coffee Frappuccino (Starbucks). I then asked the students to vote again on their preferred item using their clickers so I could register their exact preferences. Doing so, I learned that 39 stu-

51. It was important that the experiment be conducted on the first day of class, before the students learned the following: what constitutes an enforceable promise, what constitutes efficient breach, and possible legal excuses to performance such as impossibility, impracticability, and frustration of purpose. That being said, it is still important to note that there may have been some selection bias in that this experiment was performed in a law school contracts class (rather than, say, in a civil procedure class, or, even better, in an undergraduate literature class), and that the students may have been trying to act in a way that impressed their professor and their classmates, rather than in a way that truly expressed their preferences. By performing this experiment early on, in addition to giving directions during the experiment, hopefully these sorts of biases were reduced. Nevertheless, it is impossible to determine whether such safeguards were able to eliminate all such potential biases. I am grateful to Professor Andrew Gold for this observation.

52. E.g., Pringles and Starburst.

53. E.g., Coca Cola and Mountain Dew.

54. E.g., Snickers and Almond Joy.

55. E.g., Red Bull and bottled Starbucks Coffee Frappuccinos.

56. See *infra* Appendix I.

dents (58%) preferred Snickers to Starbucks, whereas 28 students (42%) preferred Starbucks to Snickers.⁵⁷

B. Registering the Strength of Initial Preferences

The next step in the experiment was to measure how much each student preferred one item (e.g., Snickers) to the other (e.g., Starbucks). To do so, I displayed a PowerPoint slide and asked the students to vote with their clickers on the following question: “If you selected item #1 [Snickers], how much do you prefer item #1 to item #2 [Starbucks].”⁵⁸ They could select from the following three choices:

1. I *strongly*⁵⁹ prefer item #1 [Snickers] to item #2 [Starbucks]
2. I *mildly* prefer item #1 [Snickers] to item #2 [Starbucks]
3. I *weakly* prefer item #1 [Snickers] to item #2 [Starbucks]

I explained to the students, in general terms, that a “strong preference” meant that the student *really*, and in no uncertain terms, preferred one item over another; a “mild preference” corresponded to a moderate preference that was both too strong to be described as “weak,” but too weak to be described as “strong;” a “weak preference” indicated that the student only *slightly* preferred one item over another. Their votes were as follows:

1. I *strongly*⁶⁰ prefer item #1 [Snickers] to item #2 [Starbucks]: 25 Students (66%)
2. I *mildly* prefer item #1 [Snickers] to item #2 [Starbucks]: 10 Students (26%)
3. I *weakly* prefer item #1 [Snickers] to item #2 [Starbucks]: 3 Students (8%)⁶¹

As the data shows, the students who preferred Snickers to Starbucks tended to *really* prefer Snickers to Starbucks: 35 of the 38 students (92%) that originally preferred Snickers expressed either a strong or mild preference, while only 3 of the 38 students (8%) expressed a weak preference. From these data, one would predict that the students who preferred Snickers would, on average, be very reluctant to trade them for Starbucks if given the opportunity to do so.

I then gathered similar data for the group of students who expressed a general preference for Starbucks, asking them to use their

57. See *infra* Appendix II. I would use this information later in the experiment to test whether students who were randomly promised Snickers would exchange those promises for promises to Starbucks, and whether students who were randomly promised Starbucks would exchange those promises for promises to Snickers.

58. See *infra* Appendix I.

59. Emphases in original.

60. Emphases in original.

61. See *infra* Appendix II

clickers to vote on the following question: “If you selected item #2 [Starbucks], how much do you prefer item #2 to item #1 [Snickers].” Their choices (and voting results) were as follows:

1. I *strongly* prefer item #2 [Starbucks] to item #1 [Snickers]: 9 Students (32%)
2. I *mildly* prefer item #2 [Starbucks] to item #1 [Snickers]: 14 Students (50%)
3. I *weakly* prefer item #2 [Starbucks] to item #1 [Snickers]: 5 Students (18%)⁶²

Once again, similar to the group of students who expressed a preference for Snickers, the students who preferred Starbucks also exhibited relatively strong preferences: 23 of the 28 students (82%) indicated that they had either a strong or mild preference for Starbucks over Snickers, while only 5 of the 28 students (18%) expressed a weak preference for Starbucks.⁶³ Here, too, one would expect that students who preferred Starbucks would, on average, be very reluctant to trade them for Snickers if given the opportunity to do so. In both groups, I was fortunate to have only a few students who were relatively indifferent between the two items: only 3 of the 38 students in the Snickers group registered a weak preference for Snickers (8% of the total), and only 5 of the 28 students in the Starbucks group indicated a weak preference for Starbucks (18% of the total).

As explained below, these data become extremely important later on in the experiment because, all else being equal and absent the presence of an endowment effect, one would predict that students who expressed a strong or mild preference for a given item would be *more* willing to engage in trade with another student if they received a promise to an item they did not originally prefer. Indeed, one would expect that the stronger the student’s original preference for a certain item was, the more likely that student would be to trade to acquire the preferred item. The corollary should also hold: one would expect stu-

62. See *infra* Appendix II.

63. Overall, however, the group that preferred Snickers exhibited stronger preferences than the group that preferred Starbucks: most students who preferred Snickers (25 of the 38 students in this group, or 66% of the students) tended to *strongly* prefer Snickers, whereas most students who preferred Starbucks exhibited only a *mild* preference for Starbucks (14 of the 28 students in this group, or 50% of the students). The careful reader will note that, although the voting clickers were initially distributed to 67 students, and although all 67 students registered their initial preferences for either Snickers or Starbucks, unfortunately one of the students who registered a preference for Snickers did not vote on the level of preference for Snickers over Starbucks. Therefore, whenever this Article discusses the strength of the students’ preference for Snickers over Starbucks, this Article does not include the result of the non-voting student, changing the base (for this portion of the Article) from 67 to 66. It should be noted that keeping the base at 67 (which the reader is invited to do) would have had a negligible impact on the statistics, and would not have altered any of the conclusions reached in this Article.

dents to refuse to exchange a contract promising them an item for which they originally indicated a preference. If they did engage in such seemingly irrational behavior, one would expect it to be more common among those students who exhibited only a weak initial preference for the item they were promised.

C. *Distributing and Tracking Contracts*

After I gathered data regarding the students' preferences for Snickers and Starbucks as well as the strength of those preferences, I then moved to the next part of the experiment. I announced to the class that I would be handing out written contracts promising each student either Snickers or Starbucks in the very near future.⁶⁴ My teaching assistant and I then handed to each student previously prepared written promises, signed by me, to receive either "Item #1" (Snickers) or "Item #2" (Starbucks). These "contracts"⁶⁵ were distributed in alternating fashion, one student was given a promise for "Item #1," and the next student was given a promise for "Item #2" without regard to their original preferences. Once the contracts were handed out, I told each student to look carefully at their contract. I explained that these contracts were randomly distributed and that some students will—and others will not—have received contracts entitling them to receive the items they originally preferred. I congratulated those students who received contracts promising them their preferred item and expressed my condolences to those who did not. As the students looked at their contracts, cheers and moans could be heard throughout the classroom as the students read their contracts and realized that they were promised an item for which they either did, or did not, originally express a preference.⁶⁶

64. Specifically, I announced to the class the following: "Because this is contract law, what I am doing now is handing out contracts to each of you, which you are receiving from my T.A., promising you either item #1 or item #2. These are *real contracts*, and are fully enforceable. Each of you *will* receive, in the very near future, the item that has been promised to you." See *infra* Appendix I.

65. Although these "contracts" were arguably invalid because they were not supported by consideration, the students (or most of them, anyway) did not yet know this, as this was the first day of class. In any event, I went out of my way to assure them that this was not a hoax, and that they would, in fact, be receiving the items they were promised in the near future. Due to the nature of the experiment, it is also important to point out that this study, in point of fact, technically tests the endowment effect of *promises*, rather than the endowment effect of *enforceable promises* (i.e., contracts), as the promises here were not technically enforceable because they lacked consideration.

66. Specifically, once the contracts were distributed to the entire class, I made the following announcement: "Please *keep* the contract that has been given to you. Do not throw it away, do not trade it away, and do not give it away. If you look carefully at your contract, you will notice that some of you have been promised the item for which you originally indicated a preference,

I then emphasized to the class, emphatically and in no uncertain terms, that these were *real* contracts and that they were fully enforceable. I also emphasized that in the very near future each student would, in fact, actually be receiving the item that has been promised to them. Each of these items was still prominently displayed in front of the classroom. Because I wanted to test whether the students would come to feel an “attachment” to their promised item, I told all of the students that they were not allowed to lose, throw away, trade, or give away their contract. I also told them they needed to keep their contracts until they “enforced” their contract against me for the item (Snickers or Starbucks) the contract entitled them to, which I promised to bring to class in the near future.

To see whether the students received a contract for their preferred item through this random distribution, I next displayed a PowerPoint slide asking them to vote on the following question: “Is the promise you received for the item for which you stated a preference?”⁶⁷ The class was asked to vote for one of the following two options: “Yes—the item promised to me was the item I wanted,” or “No—the item promised to me was not the item I wanted.”⁶⁸ As a result of the random distribution of promises, I learned that 30 students (45%) were given contracts to receive their preferred item, while 37 students (55%) did not.⁶⁹ These were encouraging results. Because most students did *not* receive the items to which they originally indicated a preference, and because most students exhibited relatively strong preferences for their preferred item, one would expect—absent the endowment effect and significant transaction costs—a lot of exchanges to take place in the next phase of the experiment.

Next, I announced to the students that we would return to this exercise soon, but that at this time I wanted to go over the course syllabus. For the next fifteen minutes or so, I went through the syllabus, explaining course policies, assignments, and grading. The reason for this was to give the students some time to get used to their promised item to test whether they would come to feel an attachment to that promised item (i.e., an endowment effect).⁷⁰ In fact, because each student

and some of you have not. For those of you who have, congratulations. For those of you who have not, my apologies. [Audible sighs were heard at this point] But these are the goods you will be given in the future. Please keep your contracts.” See *infra* Appendix I.

67. See *infra* Appendix I.

68. See *infra* Appendix I.

69. Note that all 67 students are once again participating in the experiment. See *supra* note 59.

70. This may have been unnecessary, as there is some evidence of an “instant endowment effect,” by which “the value that an individual assigns to [objects] appears to increase substantially as soon as that individual is given the object.” See Kahneman, Knetsch, & Thaler, *supra*

was only given fifteen minutes or so to get used to their promised item, the endowment effect would have to (1) be quite strong, (2) attach relatively quickly, or (3) both for its effect to be detected in this experiment.⁷¹ The implications of this are important because if the presence of an endowment effect could be detected in the context of contract law in such a short period of time, its effect in the real world might be even stronger than indicated in this experiment.

D. Trading Exercise

After going through the course syllabus for fifteen minutes or so, I returned to the experiment and told the class that we would now be engaging in a trading exercise. I announced to the class that each student had in front of them a contract entitling him or her to receive item #1 (Snickers) or item #2 (Starbucks) at a date in the near future.⁷² I reiterated that the item promised to them may, or may not, have been the item for which they originally indicated a preference. I then told them that I wanted each student to decide which of the following two options they would prefer: (1) keeping the contract I had just given to them, which would entitle them to receive the listed item at some future date; or (2) trading their contract with another student, allowing each student to receive their originally preferred item. Importantly, I told the class that students were not obligated to trade, but may now do so if they liked, and in fact should do so if they believed that the trade would make them better off. Based on the earlier results, in which 55% of the class did not receive contracts for the item for which they originally preferred and that most of the class exhibited a strong or mild preference for their desired item, one would expect—absent an endowment effect and significant transaction costs—many students to engage in trades with one another.

To see whether this assumption held, I then told the class that they would be given five to ten minutes to move around the room and engage in trades with one another, if they so desired. The activity in the

note 7, at 1342. If I repeat this experiment in the future, I would be curious to see whether the instant endowment effect also held true with respect to contract law. Based on the close affinities discussed in Part III.B., I would expect that it would.

71. Indeed, there is experimental evidence suggesting that the endowment effect is stronger when the participants are given immediate possession of a good, rather than a promise to a good at some future date. *See, e.g.,* Kahneman, Knetsch, & Thaler, *supra* note 7, at 1342 n.7 (“The impression gained from informal pilot experiments is that the act of giving the participant physical possession of the good results in a more consistent endowment effect. Assigning subjects a chance to receive a good, or a property right to a good to be received at a later time, seemed to produce weaker effects.”).

72. *See infra* Appendix I.

classroom was frantic for the first five or so minutes, as many students freely moved about the room and attempted to find trading partners, suggesting that there did not appear to be any significant transaction costs inhibiting trade. However, the students who were seemingly content with the items promised to them in their contracts stayed in their seats and declined to trade with others who came by and offered to do so. After about ten minutes, most of the activity had died down, as most of those who wanted to trade contracts had done so. I asked the students if there was still anyone left who wanted to trade their contract, but had not done so. A few students raised their hands, so I let them continue the negotiation and trading exercise for a few more minutes. Finally, when all desired trades were made and I ensured that no additional students wished to engage in further trade, I made another announcement.

I asked all of the students who did *not* receive a contract for the item they originally preferred, but still did *not* trade, to tell me why they refused to do so on a signed sheet of paper.⁷³ These written responses would become important to help me determine whether the students tended to justify their refusal to trade in language suggestive of an endowment effect.⁷⁴ Once the written responses were collected, I moved on to the next part of the experiment.

E. Predicting the Number of Trades Absent an Endowment Effect

In many experiments testing the endowment effect, researchers attempt to predict the number of trades that will take place by doing the following: (1) capturing the initial preferences of the group with respect to a number of items; (2) randomly distributing these items among members of the group; and (3) predicting that the number of trades will correspond to the product of the number of each item distributed and the groups' preferences for that item.⁷⁵ Thus, for instance, in one experiment, the researcher separated the students into different groups with between 55 to 87 students in each group.⁷⁶ To register the general preferences of the larger combined group, a researcher asked one segment of students (Group 1) to choose between receiving a mug, which sold for \$4.95, or a 400-gram Swiss Chocolate

73. Specifically, I displayed a PowerPoint slide that stated the following: "If you did not receive a contract for the item for which you originally indicated a preference, but did not trade it for a contract entitling you to the item you originally preferred, please tell me why by: Writing your name and your response on a sheet of paper, folding the paper in half, and passing it up front." See *infra* Appendix I.

74. See *infra* Part III.C.

75. See, e.g., Knetsch, *supra* note 46, at 1277.

76. Knetsch, *supra* note 46, at 1278.

bar, which sold for \$6. Based on their votes, the researcher was able to determine that, when given no initial entitlement to either the mug or the chocolate, 56% of the students preferred the mug, while 44% of the students preferred the chocolate bar. The researcher then distributed mugs to each of the 76 students in the second group (Group 2), and told them that they could keep their mug, or trade it for a chocolate bar.⁷⁷ Using the data gleaned from Group 1, the researcher predicted that 43 students would, on average, prefer to keep their mugs, while 33 would trade their mugs for chocolate bars.⁷⁸

Applying this methodology to my own experiment, one would similarly predict that, given a random distribution of contracts, about half of each group would receive their originally preferred item. Therefore, based on the original preference data,⁷⁹ one might predict that about half of the 38 students who expressed a preference for Snickers would be dissatisfied with their contract and would engage in trade. Further, one would also predict that half of the 38 students who expressed a preference for Starbucks would be dissatisfied with their contract and would want to trade.⁸⁰

Fortunately, however, I was able to obtain real data from my students rather than relying on the estimated predictions based on an application of probability theory. I was not only able to capture each student's actual preference through clickers for Snickers versus Starbucks (rather than relying on a rough proxy of their preferences obtained from the preferences of another group), but I was also able to capture, once the contracts were distributed, whether each student actually received a contract for their preferred item.⁸¹

Thus, as previously discussed,⁸² I learned that, in fact, only 30 students (45%) were given contracts to receive their preferred item, whereas 37 students (55%) were not given contracts for their pre-

77. Similarly, the researcher gave a chocolate bar to each student in the third group (Group 3) and told them that they could keep it or trade it for a mug.

78. Knetsch, *supra* note 46, at 1278. In the actual experiment, only 11 of the predicted 33 students traded their mugs for chocolate bars, which reveals that 22 students altered their preferences to reflect their initial entitlement. Knetsch, *supra* note 46, at 1278.

79. See *supra* Part II.A.

80. On the other hand, one might predict that less than 39 of the students who preferred Snickers would engage in trade due to the transaction costs of the trading exercise. Although I tried to keep these transaction costs as low as I could by encouraging the students to trade with each other, transactions costs are difficult to eliminate and may have been very high for some students. I am grateful to Professor Jennifer Arlen for this observation.

81. Rather than trusting in random distribution to ensure that exactly one half of each group was satisfied and the other half unsatisfied—an assumption that is frequently made, but honored more in its breach than in its observance.

82. See *supra* Part II.C.

ferred item. From this, one would expect that no students in the first group would engage in trade with any other student, whereas all of the students in the second group who were able to find trading partners would trade, absent the existence of an endowment effect or significant transaction costs—of which there appeared to be little as discussed above.

So, how many students actually engaged in trade with one another? Were disappointed students who exhibited strong initial preferences for their preferred items more or less likely to engage in trade? Could the presence of an endowment effect be detected in an experiment dealing exclusively with contracts promising students items, rather than by giving them the actual items? In the next section, I will address these and other similar questions.

III. RESULTS AND DISCUSSION

A. *Quantitative Evidence for the Presence of the Endowment Effect*

Turning to the results of the trading exercise used to test the endowment effect in contract law, the first thing I wanted to know was the percentage of students that actually traded with one another. I therefore asked the entire class to vote yes or no on the following question: “Did you enter into a trade?”⁸³ One would predict that, because 55% of the class did not get the item they originally preferred, about 55% of the class would trade, assuming the existence of an adequate trading partner.⁸⁴ One would also expect that *all* of the students who received the item for which they originally expressed a preference would refuse to trade.

Turning first to this second prediction, I asked those students who received a contract for the item they originally preferred the following question: “For those of you who received a promise for the item you originally preferred, did you trade?”⁸⁵ Predictably, not a single student in this group traded—all 32 students in this group refused to trade with a fellow classmate. There was nothing terribly exciting about this data but it was nevertheless reassuring to see the students behave rationally and take the experiment seriously. The students who got what they wanted, and therefore ought to have been satisfied with the contracts they were given, did not engage in inexplicable trades with one another.

83. See *infra* Appendix I.

84. It should be emphasized that, in this experiment, I confirmed that everyone who *wanted* to trade *did* trade.

85. See *infra* Appendix I.

The trading results of the disappointed students who did not receive a contract for the item they originally preferred were even more interesting. I turned to this second group of students and asked them to vote on the following question: “For those of you who did *not* receive a promise for the item you originally preferred, did you trade?”⁸⁶ Here, the Coase theorem would predict that, absent transaction costs, close to 100% of the students in this group would engage in trade if they could find an adequate trading partner—unless their preferences somehow changed in the interim. Interestingly, however, only 20 of the students in this group (56%) entered into a trade with another classmate, while sixteen of the students (44%) refused to trade at all, despite not receiving a contract promising them their originally-preferred item!⁸⁷ These data are even more remarkable when one recalls that most of the students tended to express relatively strong preferences for their originally preferred items.⁸⁸

One is left to wonder what might have caused 16 of the 36 students to change their minds about the items they were promised and to refuse to engage in trade which, based on their initial preferences, should have made them better off. Can we attribute this to the endowment effect? Could holding on to a contract entitling them to receive a good they did not originally prefer for the short duration of fifteen minutes really have changed their initial preferences? I shall turn to these questions—and these students—momentarily, but before I do, I want to pause to consider how we might use these data to tell us something about the presence and strength of a possible endowment effect in contracts.

B. Quantitative Evidence for the Strength of the Endowment Effect

In a frequently-cited article on the endowment effect coauthored by Nobel Laureate Daniel Kahneman, 70 students were paired into 35 groups, which played a simple game of Nim.⁸⁹ The winning member in each pair was given a 400-gram Swiss chocolate bar and the losers were given a ticket. Next, the pairs were instructed to engage in negotiations over the value of the ticket. This resulted in the ticket owner’s ability to trade in the ticket for the agreed-upon value in cash that

86. See *infra* Appendix I.

87. See *infra* Appendix II. Although 37 of the 67 students in the class indicated that they did not receive the item for which they originally indicated a preference, when I specifically asked this group of students whether they entered into a trade, only 36 of the 37 students voted.

88. See *supra* Part II.

89. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1340–41 (describing the entire experiment conducted).

could be used to purchase chocolate bars from the winner. The 2 members in each group were then given unlimited time to trade with one another in both of these bargaining sessions. Because the chocolate bars and cash were randomly distributed among the participants,⁹⁰ the experimenters, drawing on economic analysis, predicted that, on average, half of the students (or 17.5 of the 35 pairs of students) would engage in trade.⁹¹ Instead, only 7 such trades took place.

From this, the experimenters were able to calculate the presence and quantitative strength of the endowment effect by dividing the predicted number of trades, V^* , by the actual number of trades that took place, V . If no endowment effect were present, then the numerator would be equal to the denominator (because the number of actual trades would equal the number of predicted trades) and the ratio would be 1 (e.g., $V/V^* = 17.5/17.5 = 1$). Similarly, the strongest possible endowment effect would be represented by a ratio of 0 (e.g., $V/V^* = 0/17.5 = 0$) because if everyone refused to trade randomly distributed goods of relatively equal value ($V = 0$), it would suggest that the process of owning the goods caused the participants to value these goods more than one would expect based on a purely random distribution. In the authors' own words, "[i]f there is an endowment effect, the value of the good will be higher for sellers than for buyers, and observed volume V will be less than V^* . The ratio V/V^* provides a unit-free measure of the undertrading that is produced by the effect of ownership on value."⁹²

Applying this logic to their study, the experimenters found evidence for a relatively strong endowment effect of 0.4 ($V/V^* = 7/17.5 = 0.4$).⁹³ Applying the same methodology to the data generated in my experiment, one finds that because only 20 of 36 predicted trades took place, there is evidence for the presence of an endowment effect in contract law of approximately $V/V^* = 20/36 = 0.55!$

90. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1328 ("In each case, a random allocation design was used to test for the presence of an endowment effect. Half of the subjects were endowed with a good and became potential sellers in each market; the other half of the subjects were potential buyers.").

91. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1328 ("Conventional economic analysis yields the simple prediction that one-half of the goods should be traded in voluntary exchanges. If value is unaffected by ownership, then the distribution of values in the two groups should be the same except for sampling variation. . . . The null hypothesis is, therefore, that half of the goods provided should change hands.").

92. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1329.

93. Kahneman, Knetsch, & Thaler, *supra* note 7, at 1340–41.

C. *Comparing the Endowment Effect in Contract and Property Law*

Although these data provide compelling evidence for an endowment effect in contract law, the 0.55 effect does not appear to be as strong as the 0.4 effect for property reported by Kahneman and others. But this is only at first glance. In fact, because my experiment was designed to capture my students' actual preferences, whereas the Kahneman, Knetsch, and Thaler study estimated each student's probable preferences, comparing the two numbers does not produce a direct apples-to-apples comparison.

To see why this is so, it is useful to see what would have happened had I employed (as much as possible) in my own study the methodology used by Kahneman in his study. Doing so, one would have begun with the prediction, based on a purely random allocation, that out of my original 67 students, 33.5 of them would have received contracts promising them items they did not originally prefer and would therefore not have entered into trades.⁹⁴ Then, because only 20 of my students actually entered into trades, one would have assumed there to be an endowment effect of approximately 0.597 ($V/V^* = 20/33.5 = 0.597$).⁹⁵ These data would have been incorrect because we know that exactly 36 students, rather than the estimated 33.5 students, did not receive contracts to the goods they originally preferred.

In attempting to *approximate* their students' preferences, other studies have probably over or underestimated their students' *actual* preferences to some extent. When researchers randomly allocate goods, it would only be in extraordinarily rare circumstances that exactly 50% of the students are given goods that they preferred, while exactly 50% are given goods that they did not prefer.

Nevertheless, by obtaining my students' preferences before I performed the contract experiment, I was able to obtain some rather compelling evidence suggesting that the endowment effect in my experiment may be even stronger than what is suggested by my reported 0.55 ratio. Recall that, after the trading exercise, I asked those students who did not receive a contract promising them their originally preferred item to tell me on a sheet of paper why they did not trade

94. Fortunately, I was able to obtain precise data about the preferences of each of my students using clickers. Therefore, I did not have to assume, as a purely random allocation would have, that half of my students would have received (and half of them would not have received) contracts to the item they originally preferred. Instead, I was able to examine data compiled from clickers and tell precisely which student preferred which item, whether each student received his or her preferred item, and whether each student traded one item for another.

95. See *infra* Appendix II.

for their preferred item.⁹⁶ Once I collected these papers, I was able to match up each student's written response with data obtained from their votes regarding the strength of that student's original preferences. Combining these data, I was able to determine whether any students who did not trade tended to express strong, mild, or weak preferences for their originally preferred good. This allowed me to determine whether any common characteristics were shared regarding strength of preferences among those students who refused to trade. Even more importantly, however, it allowed me to compare each student's behavior to the written response and to carefully examine the students' justifications regarding their behavior.

Before turning to the data, one would probably predict that the students who refused to trade were those who exhibited only weak initial preferences for their originally preferred item. If the students who received a contract entitling them to Starbucks only slightly preferred Snickers to Starbucks, then it makes sense that they might not think the cost of negotiation to be worth the benefit of receiving the initially preferred item. Such behavior would hardly be conclusive evidence of an endowment effect and could just reflect the fact that transaction costs exceed the benefits of trade. Further, this would pose no danger to the Coase theorem either, as Coase himself recognized the possibility that not all socially-beneficial trades will be made because transactions are "often . . . sufficiently costly . . . to prevent many transactions that would be carried out in a world in which the pricing system worked without cost."⁹⁷

In this experiment, however, we know that transaction costs were not sufficiently compelling in at least 20 cases to prevent mutually beneficial trades from being made. Turning to the 16 trades that were not made, therefore, the question becomes whether it was merely transaction costs, *or something else*, that prevented otherwise mutually beneficial transfers from taking place. Would it turn out that only students who exhibited weak initial preferences refused to trade? Would those who exhibited strong initial preferences ever change their minds? If so, how would they justify their course of action in their written responses? Finally, might these responses exhibit language corresponding to the endowment effect? It is to these questions I turn to next.

96. See *supra* Part II.D.

97. R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960).

D. *Qualitative Evidence for the Strength of the Endowment Effect*

As previously suggested, transaction costs may have prevented at least some mutually beneficial trades from taking place. Assuming the existence of such transaction costs, one might reasonably expect that a weak endowment effect may outweigh these costs and entice students with weak initial preferences to change their minds. Comparatively, only a much stronger endowment effect could persuade those students exhibiting strong initial preferences to change their minds. Thus, in addition to the *quantitative* evidence previously examined regarding the strength of the endowment effect in contract law,⁹⁸ one can also obtain important *qualitative* evidence regarding the strength of this effect. This can be accomplished by examining whether the endowment effect was sufficiently strong to entice not only those students who exhibited weak initial preferences to change their minds. One could also examine whether the endowment effect could influence those who exhibited mild and, most compellingly, strong initial preferences to change their minds as well.

To begin my qualitative analysis, I combed through the data captured via the voting clickers and identified the 16 students who did not enter into a trade even though they received a contract promising them an item for which they did *not* indicate an initial preference. It is important to note that the initial preference data were collected via the voting clickers *before* I told the class that they would be receiving contracts for a good at some point in the near future.⁹⁹ Thus, these data were gathered before it was possible for an endowment effect to attach to either good. Amazingly, only 3 of the 16 students (18.75%) indicated a weak preference for the item they originally preferred! The remaining students characterized their initial preferences as either mild or strong, with 7 students (44%) exhibiting mild initial preferences, and 6 students (38%) exhibiting strong initial preferences.

In some respects, these qualitative data provide evidence for an endowment effect that is every bit as compelling as the 0.55 ratio reported above.¹⁰⁰ This is because these data demonstrate that the simple act of using a contract to promise students items they did not initially desire was able, in some cases, to overcome even *strong* initial preferences for items they did not receive. In other respects, these data are even more compelling than the quantitative data reported above, because although the 0.55 ratio provides compelling evidence

98. See *supra* Part III.B.

99. See *supra* Part II.A.

100. See *supra* Part III.B.

for the *presence* of an endowment effect, the number alone tells us very little about the *strength* of this effect. To be sure, this ratio tells us *something* about the strength of this effect, in that a lower ratio is more likely to be correlated with a strong endowment effect than a higher ratio. However, it tells us little about how strong the endowment effect had to be for the students to overcome their original preferences and therefore little about the internal strength of the effect on the students themselves.

E. Rationalizing the Endowment Effect

Perhaps the most revealing aspect of this experiment was contained in the written responses themselves.¹⁰¹ Several of the sixteen students who received contracts promising them items they did *not* originally prefer employed language highly suggestive of the endowment effect in their attempt to rationalize their refusal to trade.¹⁰²

1. Responses from Students with Weak Initial Preferences

The students' weak initial preferences for a particular item indicate a general indifference between the two goods being offered. Thus, we would expect that the comments from those students would reflect those weak preferences. And, not surprisingly, this is exactly what we see. One student, for instance, wrote of the subsequent refusal to trade: "I did not trade because I am okay with the item I received. I only mildly preferred item 2 over item 1, and even though I received

101. Recall that, after the trading exercise concluded, the students were asked to answer the following question: "If you did not receive a contract for the item for which you originally indicated a preference, but did not trade it for a contract entitling you to the item you originally preferred, please tell me why by writing your name and your response on a sheet of paper, folding the paper in half, and passing it up front." See *supra* Part II.D.

102. In interpreting the student responses that follow, it is important to note that the endowment effect may not be the only force at play responsible for a student's failure to engage in a trade that could have resulted in them obtaining an item more in line with their initial preferences. Although I did not find any direct evidence of this in the responses, it is also possible that the students exhibited a reluctance to trade in an effort to reduce the amount of regret they might later experience. In a fascinating article drawing on a number of endowment effect studies involving lotteries, Professors Arlen and Tontrup suggested that parties' deviations from rational choice theory (such as parties exhibiting the endowment effect) may partly result from the parties' aversion to experience the regret in trading. See, e.g., Jennifer Arlen & Stephan Tontrup, *A Process Account of the Endowment Effect: Voluntary Debiasing Through Agents and Markets* 5 (N.Y. Univ. Law & Econ., Working Paper No. 339, 2013) ("[R]egret is not only determined by the potential loss associated with a bad deal. Instead, the amount of regret people anticipate strongly depends on the process of trading: people experience greater anticipated regret the more they feel responsible for the decision to trade."). See also Thomas Gilovich & Victoria Husted Medvec, *The Temporal Pattern to the Experience of Regret*, 67 J. PERSONALITY & SOC. PSYCHOL. 357, 362 (1994) ("[P]eople's regrets typically involve only those negative outcomes for which they feel partly responsible.").

item 1, I'm okay with it. (I liked both).” In a similar vein, another student wrote:

Although I did prefer the Snickers bar over the Frappuccino, I only had a mild preference for one over the other as seen in my vote. I wanted a Snickers but I do not know what I'll want on the day the items are actually handed out. I could be tired that day and need caffeine or I could be thirsty and not want the Snickers at all. These are several of the reasons why I chose to keep the contract I was dealt.

This second comment is much more interesting because it is highly suggestive of some of the *ex post* rationalizations. As we shall soon see, these rationalizations will become prevalent among the responses of those students who refused to trade after expressing mild and strong initial preferences. All in all, these comments are about what we would expect to find among a group of students relatively indifferent between two items.

2. Responses from Students with Mild Initial Preferences

The findings in this subpart are even more interesting! This subpart focuses on the responses given by students who expressed either mild or strong initial preferences for their originally preferred items, but then changed their preferences when they received a contract promising to give them an item they did *not* originally prefer. These students' comments not only provide evidence of the existence of the endowment effect in contract law, but perhaps more importantly, provide evidence as to *how* the endowment effect operated on them.

The comments made by the students in this group tended to fall into one of two broad categories: (1) those in which students altered their initial preferences, but did not attempt to account for the reasons driving these changed preferences and (2) those in which students seemed to struggle to justify to themselves (or to me) their changed preferences.

A typical example from a student falling into the first category is provided in the following response: “I did not have a strong preference for item 2 over item 1. Therefore, when I received item 1 I was satisfied and was not moved to trade.”¹⁰³ Here, all we can tell from this category of comments is that these students, upon receiving contracts promising a good to them that was not originally preferred, were suddenly “satisfied” and “not moved to trade.” Although the

103. Another student falling into this category explained their changed preference by simply stating, without explanation, the following: “Started liking the Snickers bar instead.”

endowment effect can probably explain the behavior of these students, the students made no attempt to do so themselves.

Unexpectedly, some students who fell into the second category attempted to engage in ad hoc justifications for their changed preferences. Students in this second category generally tended to account for their changed preferences by (1) rationalizing their *new* preferences, (2) misrepresenting (either intentionally or unintentionally) their *old* preferences, or (3) some combination of the two.

For instance, an example of how students attempted to rationalize their new preference can be seen in the following comment: “I originally wanted a Snickers but I got thirsty and changed my mind on what I wanted.” It is interesting that, despite expressing a mild initial preference for Snickers, the student suddenly got thirsty after receiving a contract promising Starbucks. This attempted rationalization becomes suspect, however, once it is recalled that the Starbucks was promised to be given to this student at some indefinite date in the future, thereby making the student’s *current* preference for a thirst-quenching item curiously irrelevant.¹⁰⁴

Some students, however, attempted not only to rationalize their *new* preferences, but to misrepresent (either intentionally or unintentionally) their old preferences as well. One example comes from a student who explained his or her decision as follows: “I didn’t trade because after a cost/benefit analysis, I decided it was preferable to get the drink. My preference for the candy was *slight*; the decision to stay with what I was given was not difficult.”¹⁰⁵ Here, the student not only attempted to rationalize the new preference by attributing it to the product of a “cost/benefit” analysis,¹⁰⁶ which may or may not be true, but also misrepresented (either intentionally or unintentionally) the

104. One wonders if the student considered the fact that he or she may be hungry in the future, or whether there were other psychological processes/effects at play that were captured in testing for the endowment effect.

105. Emphasis added. It is interesting to note that the student does not drive an artificial wedge in his or her mind between what is “owed” and what is “owned,” in that the student does not talk in terms of what was *promised*, but in terms of what “was *given*,” to him or her.

106. This attribution seems dubious. Although the student tells us that a “cost/benefit” analysis was responsible for his or her new preference, one wonders why this same cost/benefit analysis did not lead to student to *originally* prefer the item he or she was promised through the vehicle of contract 10 minutes earlier. One possibility is that transaction costs may have accounted for the new preference, in that the costs of negotiation exceeded the gains from trade for this particular student. While this is certainly a possibility, it seems unlikely here because (1) the student expressed a mild original preference for the originally preferred item, rather than a weak one; (2) negotiating costs were minimal, as numerous students were walking around the room, approaching others, and engaging in trade; and (3) other similarly situated students *did* engage in trade. It seems to me that a much better explanation for the student’s refusal to trade is the endowment effect.

initial preference as *slight*. Whereas, in fact, I later learned by matching up this student's response with data obtained by clickers that this student's original preference was *mild*, not slight.¹⁰⁷

Similarly, another student wrote that: "My preference for one product over the other was *minimal*. After I was told which product I would be receiving and considered that I would receive the product in class, I thought that product #2 would be preferable and quickly warmed up to the idea."¹⁰⁸ Here again, the student not only attempted to rationalize the new preference (in language highly suggestive of an endowment effect, by the way) by explaining that, once the good was promised the student "quickly warmed up to the idea" of receiving this item in the near future. The student also misrepresented the initial preference as "minimal," a term that would most properly be used synonymously with a *weak*, rather than a *mild*, initial preference.¹⁰⁹

One wonders, but can never know, whether these students simply misremembered their initial preferences (perhaps with some help from the endowment effect in shifting those preferences), or whether the students misrepresented their initial preference in an effort to justify why they engaged in seemingly irrational behavior by refusing to trade with another student for a contract promising them the good for which they indicated an initial preference. It is not necessary to resolve this issue here, but it is interesting to note that the external manifestation of the endowment effect (e.g., in the form of a 0.55 ratio) may be driven by much deeper, internal psychological processes that appear to be at work both in property and contract law.

3. Responses from Students with Strong Initial Preferences

The most surprising part of this experiment was that the endowment effect was sufficiently strong to overcome students' strong initial preferences! It seems that the students who expressed in no uncertain terms that they *strongly* preferred one item to another changed their preferences when they were simply endowed with a contract promising them their least-preferred item. The responses from these students tended to exhibit the same *ex post* rationalization that we have already seen above.¹¹⁰ However, I found no evidence that these students misrepresented the strength of their initial preferences in their written responses, probably because their preferences took a 180 degree turn

107. Recall that a "slight" initial preference corresponds with a "weak" preference for one item over another. See *supra* Part II.B.

108. Emphasis added.

109. See *supra* Part II.B.

110. See *supra* Parts III.E.1–III.E.2.

once the contracts were distributed. Thus, for instance, one student attempted to explain her behavior as follows:

At the time of the decision I was more hungry than thirsty so I chose the Snickers, but upon realizing that I would get the coffee drink I figured that preferences change and maybe by the time you handed out the items I would rather have a drink instead of a snack.

We have already seen a student in the “mild preferences” group make a similar comment,¹¹¹ and the remarks I made there apply here as well. It is also interesting to note that the student did not suddenly realize that she may get thirsty in the future and might prefer Starbucks. Rather, it was only after the student was promised Starbucks that the student realized that she might get thirsty in the future. Of course, as pointed out earlier, the student may be just as likely to be hungry as to be thirsty in the future, but this fact seems not to have crossed her mind. The student chalked up the episode to the fact that “preferences change,” and to this I say, they most certainly do! But the fact that such a strongly-held initial preference can change so fast through the simple process of endowing that student with a promise to receive a non-preferred item at some undefined future date is, to say the least, surprising.

Another student provided a slightly different justification for changing a strong initial preference for Snickers: “I chose to not trade my item because I haven’t tried a Frappuccino and decided that I would take this opportunity to try one. I had already resolved myself to trying the new product and didn’t want to change my mind again.” What is interesting here is the language employed by this student to explain the newfound preference: the student “chose” to not trade, “decided” to try Starbucks, and “resolved” to try a new product. Of course, the student’s assertion of personal autonomy here is partly an illusion. When I initially distributed the contracts promising the students a given item, I announced to the entire class that they were explicitly prohibited from trading, destroying, or giving away their contracts.¹¹² It was only after I captured the class’s initial preferences and went over the syllabus for fifteen minutes or so that I announced to the students that they would be given the opportunity to trade. Thus, this student did not *choose* to refuse to trade because the student resolved to try Starbucks; rather, the disappointed student only resolved to try Starbucks once I distributed the contracts and informed the class of their inability to trade. It is also interesting that the student justified the choice not to trade by saying that she “didn’t want to change [her]

111. See *supra* Part III.E.2.

112. See *supra* Part II.C.

mind again.” It was the student’s very choice itself to *not* trade the good that represented her change of mind in the first place!¹¹³

Once again, as this entire discussion should make clear, the endowment effect explains much more than a mere external phenomenon represented by a ratio. It reflects something deeper going on in the mind of a disappointed promisee that should, at the very least, cause us to reconsider some of our most fundamental assumptions about contract law. It is to some of these concerns that I shall briefly turn in my concluding comments.

CONCLUSION

Having considered the evidence establishing the presence of an endowment effect in contract law, what are some of the implications going forward? This is not the proper place for an in-depth discussion of all of the ways in which the property-based endowment effect is significant for contract law, but I think there are several that are worth briefly mentioning here.

First, as a conceptual matter, the evidence seems to suggest that individuals probably tend to think of the promised performance at the heart of contract law as having much more in common with property rights than is commonly realized. This suggests that these two fields are probably more closely aligned than recognized at present.¹¹⁴ When individuals are promised something through the vehicle of contract, the evidence suggests that they tend to think of themselves as actually *owning* (rather than merely being *owed*) the promised item.¹¹⁵ The fact that the promised-for good is not currently in their possession does not appear to present too large an obstacle for the endowment effect,¹¹⁶ concluding that its reach might be broader than previously supposed, stretching through the field of property law and touching the core of contract law as well.¹¹⁷

113. The student’s choice may suggest the presence of an immediate endowment effect attached to the promise, but might also reflect their expectations about the kind of agreement that would result from additional negotiations. See, e.g., Alvin E. Roth & Francoise Schoumaker, *Expectations and Reputations in Bargaining: An Experimental Study*, 73 AM. ECON. REV. 362, 371 (1983) (“[I]ndividuals entered the experiment with more or less mutually consistent prior expectations about what kinds of agreements would result, and that they updated these responses to their experience in the experiment.”).

114. Gold, *supra* note 13, at 2 (“[C]ontract discourse rarely recognizes actions as property.”).

115. See MATTLAND, *supra* note 12; E. ALLAN FARNSWORTH, *supra* note 12.

116. *But see* Arlen, *supra* note 3.

117. In fact, even the suggestion that the endowment effect may be slightly stronger for goods actually *possessed* (0.4) than *promised* (0.55) may be less indicative of the difference between the strength of the endowment effect in contract and property law than one might at first suppose: it may turn out that, in a purely property-based scenario, individuals might value goods they own,

Second, as a descriptive matter, the bridging of contract and property law can help us better understand a number of intractable problems currently plaguing contract law. Take, for instance, a simple breach of contract. If, as the ancients supposed, a breach of contract really constitutes a “sin[]against the great god of Property, not of Contract,”¹¹⁸ then perhaps it makes sense, at least in some instances, to view a breach of contract not merely in terms of the promisee’s disappointed expectations. Rather, the breach could be viewed as a type of theft of the promisee’s promise by the promisor. In property terms, the breach could be viewed as a type of theft of the owner’s property by the possessor. In fact, this view has been suggested elsewhere,¹¹⁹ although it is not traditionally based on endowment effect grounds.

Indeed, such a bringing together of these two fields would help explain the resistance of many academics¹²⁰ and businesses¹²¹ against the doctrine of efficient breach. If contract law shares important characteristics with property law, and this Article suggests that it does, then allowing an efficient breach of contract is, in some respects, akin to allowing an efficient theft of property. For example, a thief is allowed to steal property from one party, sell it to a third party, pay the original owner its court-determined market value, and pocket the difference as profit. No legal system, of course, has ever gone so far because this would effectively grant to each individual a private right of eminent domain. To the extent that contract law shares important characteristics with property law, one might argue that these two problems should be treated alike.

but not currently in their possession, less than they value goods they own that are currently in their possession. If this were so, then even this small discrepancy between the relative strengths of these endowment effects would vanish. Although I know of no empirical research testing this observation, it would make for an excellent research project.

118. SEAGLE, *supra* note 15.

119. See, e.g., Benson, *supra* note 17, at 134–35 (“[T]he wrong which a breach does to a promisee’s right to performance consists in the promisee being deprived of the thing promised.”).

120. See, e.g., Daniel Friedmann, *The Efficient Breach Fallacy*, 18 J. LEGAL STUD. 1, 4 (1989) (“The theory [of efficient breach] . . . is, in principle, equally applicable to property rights, where it leads to the adoption of a theory of ‘efficient theft’ or ‘efficient conversion.’”); Ian R. MacNeil, *Efficient Breach of Contract: Circles in the Sky*, 68 VA. L. REV. 947, 963 (1982).

121. Most individuals who contract in the business world consider the practice of efficient breach, like the idea of efficient theft, to be unethical, and would withhold future business from those who engaged in such behavior. For instance, in a 1990 survey of 119 North Carolina corporations, eighty-six respondents indicated that they would most likely refuse to enter into future contacts with parties who deliberately breached their agreements. David Baumer & Patricia Marschall, *Willful Breach of Contract for the Sale of Goods: Can the Bane of Business Be an Economic Bonanza?*, 65 TEMP. L. REV. 159, 165–66 (1992).

Finally, as a normative matter, the close affinity between contracts and property suggests that some of contract law's most fundamental doctrines may need to be rethought. Take, for instance, the common law's preference for expectation damages in contract law, as compared to the civil law's preference for specific performance. If contract law shares in common important characteristics with property law, then disappointed promisees will rarely be made whole through a judicial award of money damages—Why? Even putting aside court costs and attorney's fees, expectation damages only entitle victims of a breach to receive the market value of their promised performance.¹²² But where money damages are not exactly equivalent to specific performance (i.e., where money damages do not allow the disappointed promisee to go into the market and replace the exact good he or she lost), then the additional value the promisee placed on the promised-for good by way of the endowment effect will go uncompensated. Even more dramatically, if the endowment effect is present in contract law, the decision-maker (i.e., the judge) or the fact-finder (i.e., the judge or jury) will, by definition, *always* value the right differently than its owner, which means that *every* award of money damages will present an endowment effect problem.¹²³ This is not to suggest that the endowment effect must *necessarily* be fully compensated in all cases,¹²⁴ rather, it is to suggest that it be kept in mind. The decision regarding the compensation of this effect should be made on sound public policy grounds¹²⁵ and not by way of a legal fiction that assumes the promisee to be fully compensated by way of expectation damages.

122. These damages are themselves likely to be under-compensatory for reasons going far beyond the scope of this Article. *See, e.g.*, Jimenez, *supra* note 48, at 96–107.

123. I would like to thank Mike Allen for suggesting this idea during a presentation of this paper before a faculty workshop at Stetson University College of Law.

124. Although if the non-delivery of item “X” by way of a broken promise is functionally equivalent to a theft of item “X,” it is difficult to see why it should not be compensated in most cases.

125. It may make sense, for example, to have a rebuttable presumption that would account for (and compensate) the presence of the endowment effect where the promised performance is between two private parties, who tend to place idiosyncratic values on promised-for performances or goods. It would make less sense to have a rebuttable presumption that the endowment effect will not be accounted for in contracts between corporations, who usually do not place idiosyncratic values on contracted-for performances or goods.

APPENDIX I

This appendix outlines the procedure for the classroom experiment I conducted. It includes the verbatim text from each of the PowerPoint slides that were shown to the students during the classroom experiment, along with additional comments made by me (where applicable) above and below each slide. Each student used a “clickers” device to register their preferences in class, and once all of the students entered their votes, these results became immediately available. “Item #1” corresponded with a king-size Snickers bar, while “Item #2” corresponded with a bottled Starbucks Frappuccino. Sixty-seven students participated in this experiment.¹²⁶ This appendix also includes the notes as I prepared them for myself before the experiment began, which I consulted during the experiment to make announcements to the students.

Overview

The following explanation was given to the class:

Contract law is very simple, and I never want you to lose sight of this fact as we navigate our way through all the cases. At its core, contract law is about promises: about making promises, breaking promises, keeping promises, interpreting promises, excusing promises, and enforcing promises. That’s it!

Introduction to Experiment

The following explanation was given to the class:

So what I thought I would do is, rather than start the first day of class with a case, or with reading, we would do a little classroom experiment that incorporates many aspects of contract law. We will come back to these exercises again and again through the course.¹²⁷

Distribution of Clickers

At this time, the clickers were distributed to each of the students. The following instructions were given to the class:

The first thing I am going to do is to pass out these clickers to everyone in the classroom. What I would like you to do is, when the attendance sheet comes around, turn over your clicker and make sure

126. *But see supra* text accompanying note 59.

127. In addition to testing for the endowment effect, I also went on to ask the students a series of questions about why contracts should be enforced, whether efficient breach should be allowed, what remedies should be available for breach, etc., all of which we returned to time and time again through the course.

you have the correct number next to it. We will use these clickers to answer several questions that I will be posting soon.

Announce

The following was announced to the class:

Because this is contract law, which deals with making promises to exchange goods in the future, I thought we would start off this class by running a little experiment. In front of me I have several items. I am trying to find two items that are preferred roughly equally by the class.

Note to instructor: Have students raise hands until you find two goods that are preferred by between 40% and 60% of the class, display these two items in the front of the classroom, designating one item as “Item 1,” and the other item as “Item 2,” then ask the following series of questions.

Slide One

The following question was asked: “Which item do you prefer?” The following answer options were listed: “(1) Item #1” and “(2) Item #2.”

Slide Two

The following question was asked: “If you selected item #1, how much do you prefer item #1 to item #2?” The following answer options were listed:

1. I *strongly* prefer item #1 to item #2
2. I *mildly* prefer item #1 to item #2
3. I *weakly* prefer item #1 to item #2

Note to instructor: explain to students what is meant by “strong,” “mild,” and “weak” preferences. A strong preference means you *really* prefer one item to another. A weak preference means that you only *slightly* prefer one item to another. A mild preference means you moderately prefer one item to another: a preference that is too strong to be weak, but too weak to be strong.

Slide Three

The following question was asked: “If you selected item #2, how much do you prefer item #2 to item #1?” The following answer options were listed:

1. I *strongly* prefer item #2 to item #1
2. I *mildly* prefer item #2 to item #1
3. I *weakly* prefer item #2 to item #1

Distribution of Contracts

At this time, the contracts were distributed to each of the students. The following explanation was given to the class:

Because this is a course in contract law, what I am doing now is handing out contracts to each of you, which you are receiving from my teaching assistant, promising you either item #1 or item #2. These are *real contracts*, and they are fully enforceable. You *will* receive, in the very near future, the item that has been promised to you.

The following instructions were given to the class:

Please keep the contract that has been given to you. Do not throw it away, do not trade it away, and do not give it away. If you look carefully at the contract, you will notice that some of you have been promised the item for which you originally indicated a preference, and some of you have not. For those of you who have, congratulations. For those of you who have not, my apologies. But these are the goods you will be given in the future. Please keep your contracts.

Note to instructor: At this time, I provided an overview of the course, to give time for the endowment effect to kick in. I went over the syllabus, how I am setting up the course, what will be covered and when, etc. After about 10 or 15 minutes, I then returned to the experiment.

Slide Four

The following question was asked: “Is the promise you received for the item for which you stated a preference?” The following answer options were listed:

1. Yes, the item promised to me was the item I wanted
2. No, the item promised to me was not the item I wanted

Negotiation Exercise

The following instructions were given to the class:

Okay, now, here is what we are going to do. Each of you has a contract in front of you entitling you to item #1 or item #2 at a date in the near future. The item promised to you may, or may not, be the item for which you originally indicated a preference. Each of you may keep the contract I have just given to you, which will entitle you to the listed good at some date in the future. Or you may, if you prefer, trade with someone else the contract I have given to you for the contract I have given to the other student. *It is important to note that you are not obligated to trade, but you may do so if you*

like."¹²⁸ Please feel free to move around the room. You have 5-10 minutes. Trade!

Note to instructor: Survey how many trades have been made.

Slide Five

The following question was asked: "Did you enter into a trade?" The following answer options were listed:

1. Yes, I entered into a trade
2. No, I did not enter into a trade

Slide Six

The following question was asked: "Breakdown: For those of you who received a promise for the item you originally preferred, did you trade?" The following answer options were listed:

1. Yes
2. No

Slide Seven

The following question was asked: "Breakdown: For those of you who did not receive a promise for the item you originally preferred, did you trade?" The following answer options were listed:

1. Yes
2. No

Slide Eight

The following instructions were displayed:

Trading Exercise: If you did not receive a contract for the item for which you originally indicated a preference, but did not trade it for a contract entitling you to the item you originally preferred, please tell me why by: Writing your name and your response on a sheet of paper, folding the paper in half, and passing it up front.

128. As part of the experiment not reported here, I also had those students who entered into trades attempt to draft a brief contract that they believed would be enforced by a court.

APPENDIX II

	Which item do you prefer? ¹²⁹	If you selected item #1, how much do you prefer item #1 to item #2? ¹³⁰	If you selected item #2, how much do you prefer item #2 to item #1? ¹³¹	Did you enter into a trade? ¹³²
Number of 1 responses	39	25	9	20
Number of 2 responses	28	10	14	47
Number of 3 responses	N/A	3	5	N/A
Total Participants	67	38 ¹³³	28	67

129. The students were given the choice between Item #1 (Snickers) and Item #2 (Starbucks).

130. Students' responses were gauged on a scale of strong, mild, or weak preferences. Students chose number 1 if they *strongly* preferred Snickers to Starbucks. Students chose number 2 if they *mildly* preferred Snickers to Starbucks. Students chose number 3 if they *weakly* preferred Snickers to Starbucks.

131. Students' responses were gauged on a scale of strong, mild, or weak preferences. Students chose number 1 if they *strongly* preferred Starbucks to Snickers. Students chose number 2 if they *mildly* preferred Starbucks to Snickers. Students chose number 3 if they *weakly* preferred Starbucks to Snickers.

132. Students chose number 1 if they traded for their preferred item. Students chose number 2 if they did not trade.

133. One student who registered an initial preference for Snickers did not vote on the strength of that preference. *See supra* text accompanying note 59.

