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PROPERTY FRAMES[†]

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ABSTRACT

Property law confronts circumstances where owners' excessive perceptions of their ownership rights impose social costs, frustrate policy goals, and hamper the very institutions meant to support private property. Groundbreaking research in cognitive framing suggests an answer to the question of how to selectively attenuate (or strengthen) ownership perceptions. In a novel application of this research, we contend that property law may "set frames" for individual owners. Specifically, we hypothesize that framing property as bundles of rights and forewarning of limitations weakens perceptions of ownership and decreases resistance to

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subsequent restrictions. We conducted experiments to evaluate these claims and found that both bundle-of-rights/discrete-asset framing and forewarning framing affect perceptions of ownership, rights infringement, valuation, and satisfaction. Our study shows that “layering” both of these conditions (bundle framing and forewarning) have a stronger, synergistic impact than the sum of each effect alone. The potential applications of this research to property theory are numerous. Legislators, judges, and regulatory agencies craft legal measures that respond to, or even capitalize on, strong, preexisting frames of citizen-owners. These institutional players also endeavor to limit spillovers and other social harms by reframing property as a limited set of use rights in areas of law including pollution rights, intellectual property, and common interest communities.

TABLE OF CONTENTS

INTRODUCTION.....	451
I. PROPERTY RIGHTS PARADIGMS AS COGNITIVE FRAMES	457
A. <i>When Property Attitudes Are Too Strong</i>	457
B. <i>Cognitive Framing Research</i>	459
C. <i>Property Paradigms: Bundles versus Discrete Assets</i>	462
II. THE EXPERIMENTS	466
A. <i>Methods</i>	466
1. <i>Experiment 1</i>	466
a. <i>Study Design and Hypotheses</i>	466
b. <i>Participants and Materials</i>	466
c. <i>Procedure</i>	466
2. <i>Experiment 2</i>	469
a. <i>Study Design and Hypothesis</i>	469
b. <i>Participants</i>	469
c. <i>Procedure</i>	469
B. <i>Results and Discussion of Findings</i>	470
1. <i>Experiment 1</i>	471
a. <i>Perceptions of Ownership</i>	471
b. <i>Reactions to Regulation</i>	474
c. <i>Emotional Response</i>	476
d. <i>Data Exclusion</i>	477
2. <i>Experiment 2</i>	478
III. REFRAMING PROPERTY RIGHTS: IMPLICATIONS FOR LEGAL THEORY AND PRACTICE	479
A. <i>The Resilience of the Discrete Asset Paradigm</i>	480

B.	<i>Reframing Property: Property Perceptions and Behavior</i>	482
C.	<i>Framing Synergies</i>	484
D.	<i>A Public Choice Model of Framing</i>	485
E.	<i>Framing Costs and Considerations</i>	487
1.	<i>Cognitive Constraints</i>	487
2.	<i>Disuniform Framing and Market Fungibility</i>	489
3.	<i>Normative Considerations and Utility Reduction</i>	490
4.	<i>Frame Drift</i>	491
IV.	APPLICATIONS.....	492
A.	<i>Property Rights and Environmental Regulation: Species Preservation on Private Land and Tradable Pollution Permits</i>	492
B.	<i>Property Rights in Common Interest Communities</i>	494
C.	<i>Intellectual Property Rights: The First Sale and Exhaustion Doctrines</i>	499
CONCLUSION	501

INTRODUCTION

A voluminous scholarly literature has extolled the virtues of private property and advocated laws to secure strong property rights.¹ Yet, in certain contexts, intense preferences for strong, even unfettered, private property rights have created considerable havoc. At times, owners contemplate their property rights with a fierceness and inflexibility that clashes with the needs of modern society. Individuals have shot endangered species, chained themselves to foreclosed property, and built towering “spite fences.” Conflicts arise when limitations do not square with owners’ perceptions of their rights or of the nature of their property

1. See, e.g., RICHARD A. EPSTEIN, *TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN* 52–78 (1985) (fifth amendment); Ilya Somin, *Taking Property Rights Seriously? The Supreme Court and the “Poor Relation” of Constitutional Law*, in *THE UNITED STATES SUPREME COURT: CONTESTED CONSTITUTIONAL DOCTRINES* (Steven Kautz et al. eds., forthcoming 2009) (constitutional law); Thrainn Eggertsson, *Open Access versus Common Property*, in *PROPERTY RIGHTS: COOPERATION, CONFLICT, AND LAW* 73, 77 (Terry L. Anderson & Fred S. McChesney eds., 2003) (property regimes); Annette M. Kim, *A Market Without the ‘Right’ Property Rights*, 12 *ECON. TRANSITION* 275, 301 (2004) (economic development); Shem Migot-Adholla et al., *Indigenous Land Rights Systems in Sub-Saharan Africa: A Constraint on Productivity?*, 5 *WORLD BANK ECON. REV.* 155, 156–61 (1991) (developing countries); Adam D. Moore, *Owning Genetic Information and Gene Enhancement Techniques: Why Privacy and Property Rights May Undermine Social Control of the Human Genome*, 14 *BIOETHICS* 97, 97–99 (2000) (property rights in one’s body).

entitlement.² Ownership perceptions may prompt extra-legal, or “street level,” property behavior that extends beyond the formal scope of the property right and may create negative externalities.³ When that behavior is too costly to police it results in a de facto expansion of the scope of the individual’s property rights; these property behaviors, if common enough, generalize to social norms.⁴ Legislatures in turn may respond by enacting laws that formalize owners’ expectations⁵—in some instances contrary to broader social goals or allocative efficiency.⁶

Groundbreaking psychology research in cognitive framing suggests an answer to the question of how to selectively weaken property perceptions. Daniel Kahneman and Amos Tversky have shown that the way in which a problem or choice is presented or “framed” affects the decision maker’s perceptions, and ultimately the decision maker’s preferences.⁷ The framing of legal rights, specifically property rights, is novel ground in legal scholarship. Our basic insight is that the same property entitlement (or as near to the same as one can obtain without using identical language), presented two different ways, may produce sharply divergent outcomes. How a property entitlement is framed—that is, both the scenario in question and the applicable legal rule—will affect the attitudes and behaviors of societal actors subject to legal rules and influence policy makers as they choose among possible legal rules. In short, how we think

2. See generally JACQUELINE P. HAND & JAMES CHARLES SMITH, NEIGHBORING PROPERTY OWNERS (1988) (describing property conflicts and legal responses).

3. For an analog in the political science literature about how law on the ground is driven by the “street-level bureaucrats” such as state or municipal employees who implement it. See generally MICHAEL LIPSKY, STREET-LEVEL BUREAUCRACY: DILEMMAS OF THE INDIVIDUAL IN PUBLIC SERVICES (1980).

4. See ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES 10–32 (1991). In many instances, social norms can be efficient within the context of a community or group of interdependent resource users. See *id.* at 50–57. However, social norms may also create negative externalities that are borne by individuals outside the community or weaker individuals within the community.

5. For discussion of the question of when and why law should vindicate people’s expectations, see Bailey H. Kuklin, *The Justification for Protecting Reasonable Expectations*, 29 HOFSTRA L. REV. 863 (2001).

6. Recent examples of this abound in the context of homeownership. Recent federal legislation has formally expanded homeowners’ rights by offering foreclosure protection. See Housing and Economic Recovery Act of 2008, Pub. L. No. 110–289, § 257(e)(2)(B), 122 Stat. 2654 (to be codified at 12 U.S.C. § 17157-23). At the state level, a spate of eminent domain laws have imposed limitations on residential takings or super-compensation requirements. See, e.g., IND. CODE § 32-24-4.5-8(2)(A) (2009) (compensation at 150% of fair market value for residential takings); Act of May 18, 2006, Kan. Chapt. 192, 2006 Kan. Sess. Laws 1345 (requiring legislature to consider compensation at 200% of appraised value); S.C. CONST. art. 1, § 13(B) (authorizing legislature to enact laws allowing eminent domain to remedy blight with the property put to public or private use).

7. See generally Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 453–54 (1981). For discussion, see *infra* Part I.B.

about property matters. And because the way we think about property depends in part upon the presentation of rights information, how we write laws and create property entitlements matters too.

The goal of this Article is to investigate how law can employ “property frames” systematically to alter ownership perceptions and expectations regarding regulation. If there are no effects from framing, this suggests that the tremendous academic debate over the proper conception of property may have limited utility on the ground in affecting how people think about their property. If, as we hypothesize, framing property to convey a sense of limitation and cognitively prime restrictions weakens ownership perceptions, then property law may serve to “set frames” in complex legal and social contexts. To clarify our analytical parameters, our aim is not to endorse a normative conception of weak property rights universally or to dispute the utility of private property. In many circumstances, strong property rights perceptions (and even misperceptions) promote individually and socially valuable investment. Rather, we contend that in certain contexts excessively strong rights expectations impose steep social costs in the various currencies of efficiency, fairness, and social responsibility—and may stymie the very property institutions they purport to extend.

The potential applications of our research to property and environmental law are numerous. Statutory law, regulations, case law, and even legal theory can all reframe property rights. Legislators, judges, and regulatory agencies frame (and reframe over time) rights in pollution, intellectual property, land use, concurrent and common ownership, and inheritance to name a few. In some cases, these institutional players craft legal measures that respond to (or even capitalize on) strong, preexisting frames of citizen-owners.⁸ In other cases, they endeavor to limit spillovers and other social harms by reframing property rights as a limited set of use rights, rather than unfettered dominion.

Too often, the subject of attitudes and perceptions has been cast aside in legal scholarship in favor of entirely hypothetical models of behavior or ex post markers such as economic gains or losses, votes, or other external behaviors.⁹ This Article seeks to intervene at an earlier point in the

8. For example, jurisdictions have enacted strong protections against trespass, with some states such as Texas explicitly authorizing the use of force to prevent or terminate trespass. *See* TEX. PENAL CODE ANN. § 9.41 (Vernon 2003).

9. *See, e.g.*, STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 9–109 (2004) (describing law and economics approach to property law including conflict and cooperation in the use of property).

process—before the decision has been made, the money spent, the vote cast. Is this psychological manipulation, a legal sleight of hand? Perhaps. We argue that in some contexts the social ends justify the means. In certain cases, greater gains may avail from the strategic presentation or framing of the initial property right than from our current menu of choice: ex post regulation, incentives, government intervention, and litigation. In addition, attitudes and perceptions not only affect the behavior of individual property owners, but determine the political viability and ultimate fate of laws. In many instances, framing motivates politicians, who act as attitude entrepreneurs, gleaning the sentiments of constituents in some instances, attempting to reshape those sentiments in others.¹⁰

We investigate two ways of framing property: first, bundle-of-rights versus discrete-asset framing, and second, forewarning framing. There is a long-standing debate in the scholarly literature about the appropriate conception of two paradigms—the “discrete-asset” paradigm and the “bundle-of-rights” paradigm—used at various times and by various groups to represent the notion of property rights.¹¹ Under the discrete-asset approach, the owner of a piece of property has dominion, subject to some constraints, over that asset.¹² Under the bundle approach, property can be viewed as a bundle of sticks: each stick represents a right to occupy, use, sell, exclude others from, or deploy property in some way.¹³ Many theorists who have employed the bundle-of-rights conception emphasize its instrumental orientation: rights follow from social goals and policies.¹⁴

10. See Donald R. Kinder, *Opinion and Action in the Realm of Politics*, in 2 THE HANDBOOK OF SOCIAL PSYCHOLOGY 778, 778–87 (Daniel T. Gilbert et al. eds., 4th ed. 1998).

11. See generally Jonathan Remy Nash, *Packaging Property: The Effect of Paradigmatic Framing of Property Rights*, 83 TUL. L. REV. 691, 694–707 (2009).

12. See THOMAS W. MERRILL & HENRY E. SMITH, PROPERTY: PRINCIPLES AND POLICIES, at v (2007) (conceptualizing property rights as the “right to exclude others from [a] discrete thing”); J. E. PENNER, THE IDEA OF PROPERTY IN LAW 2–3, 82–83 (1997) (criticizing the bundle of rights as amorphous as to both particular rights embodied in bundle and quantum of rights that constitute property ownership); I. F. A. HAYEK, LAW, LEGISLATION AND LIBERTY: RULES AND ORDER 107 (1973) (defining property ownership as the right to determine uses); Eric R. Claeys, *Property 101: Is Property a Thing or a Bundle?*, 32 SEATTLE U. L. REV. 617 (2009) (reviewing MERRILL & SMITH, *supra*) (also conceptualizing property as an owner’s interest in determining the use of the thing she owns).

13. See Wesley Newcomb Hohfeld, *Some Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 23 YALE L.J. 16, 31–32, 58 (1913) (proposing theory of property rights and correlative obligations); A. M. Honoré, *Ownership*, in OXFORD ESSAYS IN JURISPRUDENCE 107 (A. G. Guest ed., 1961) (describing “incidents of ownership”); BRUCE A. ACKERMAN, PRIVATE PROPERTY AND THE CONSTITUTION 20–28 (1977) (property law extends different rights in an object to multiple resource users).

14. See JOSEPH WILLIAM SINGER, PROPERTY LAW: RULES, POLICIES, AND PRACTICES, at xxxix–xl (4th ed. 2006) (discussing the role of the bundle of property rights in structuring social relations);

Systematically framing property as a bundle of rights may weaken ownership perceptions because individual strands of rights evoke a sense of limitations; if owners associate dominion with owned objects, moving from object language to rights language may reduce expectations of unlimited control. In addition, the description of a complex of rights, rather than the more simplistic ownership of an object, may increase cognitive demand and encourage information-driven rather than emotional responses. In addition to bundle versus discrete asset frames, we consider whether framing through forewarning affects subsequent rights restrictions. We test whether forewarning—meaning *ex ante* limitations and restrictions explicitly communicated to the rights holder—affects perceptions of ownership, valuation, and regulatory action. We hypothesize that this form of framing primes, or increases the cognitive accessibility of, information on rights restriction and tempers expectations for subsequent property use.

To date, the legal scholarship has largely neglected the potential for property frames to alter ownership perceptions and reactions to subsequent rights infringement. The rational choice model does not account for the powerful effects of framing on decision making.¹⁵ The legal scholarship on property paradigms (i.e., bundles versus discrete assets) focuses exclusively on normative models of property and treats behavior with respect to property as exogenous to the choice of property paradigm. The exception is the legal realists' use of the bundle of rights to depict property as limited, flexible rights capable of ceding to social needs and obligations. Legal realism's deployment of the bundle paradigm may be recast through a psychological lens as cognitive re-framing, at least with respect to the realists' intended audience of sophisticated legal actors.¹⁶ The legal realism scholarship fails, however, to examine the impact of the bundle paradigm on owners' perceptions and to seek empirical evidence of the framing capability of bundles of rights. This Article seeks to fill that empirical void in the property scholarship.

Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 CORNELL L. REV. 745 (2009) (property entitlements entitle not only rights but social obligations).

15. See GARY S. BECKER, *THE ECONOMIC APPROACH TO HUMAN BEHAVIOR* 3–14 (1976) (discussing the spread of rational choice theory from economics to the social sciences).

16. See Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357, 365 (2001) (“[T]he motivation behind the realists’ fascination with the bundle-of-rights conception was mainly political. They sought to undermine the notion that property is a natural right, and thereby smooth the way for activist state intervention in regulating and redistributing property.”).

To accomplish this, we created an experimental deception where incoming first-year law students learned that the law school was considering a change in the school laptop computer policy. We presented the proposed laptop purchase policy to students randomly assigned to one of four “framing” conditions: the bundle-of-rights form, the discrete-asset form, the bundle-of-rights form with forewarning of property rights limitations, and the discrete-asset form with forewarning of property rights limitations. The experiment assessed the effect of bundle-of-rights/discrete-asset framing and forewarning framing on perceptions of ownership, likelihood of installing upgrades, satisfaction, perceptions of property rights infringement from subsequent restrictions, behavioral intentions with respect to compliance, and affective responses. A second experiment instructed students that the law school was considering a laptop buying pool and asked each student to provide willingness to pay amounts for each of four descriptions (discrete asset with forewarning, bundle of rights with forewarning, discrete asset, and bundle of rights) of the same laptop.

Our findings provide evidence that framing similar information in different ways systematically alters perceptions, attitudes, and reactions. We found that framing alone—with no other substantive legal intervention—changes expectations regarding the strength of property rights and reactions to subsequent regulation. Framing also affects satisfaction, valuation, and compliance intentions. Most significantly, our study shows that “layering” both of these conditions, bundle framing and forewarning framing, has a stronger, synergistic impact than the sum of each of these effects alone.

This Article proceeds as follows. Part I describes the problem of excessive property perceptions. We then review the framing research in cognitive psychology and examine the bundle of rights/discrete asset dichotomy in legal theory. We contend that discrete-asset and bundle paradigms may serve as framing devices that attenuate property perceptions and decision making. In Part II, we discuss the two experiments we conducted and report the statistical analyses and results. Part III examines the relevance and import of our findings for property theory. Our findings challenge fundamental conceptions of property law, including assumptions about the endogeneity of property perceptions and the futility of liberating laypeople from the discrete-asset or dominion paradigm of ownership. In Part IV, we suggest areas where reframing might appropriately be used to realign owners’ understandings of their property rights. We focus primarily on areas of law where bundle-of-rights framing can attenuate or refine rights perceptions. However, our research

is equally applicable to contexts that call for strengthening property perceptions; we demonstrate the effectiveness of discrete-asset framing for that purpose. In this Part, we consider regulatory framing of conservation measures and market-based pollution trading permits. We also examine the legal and quasi-legal framing of rights in common interest communities and copyrighted intellectual property.

I. PROPERTY RIGHTS PARADIGMS AS COGNITIVE FRAMES

One of the puzzles of property law has been how to limit perceptions of property dominion when these perceptions prompt externalities and impose social costs. The scholarly debate on property paradigms has fallen short of its potential to impact property law in this respect.¹⁷ The legal literature construes the governing property paradigm as a matter of some theoretical abstraction or, at best, as a conceptual guide for expert decision makers. We contend that the property paradigms—or, in our view, property frames—can be employed not just to specify the appropriate conception of rights but to systematically alter the attitudes, expectations, and behavioral intentions of property owners. In this Part, we consider the problem of excessive ownership perceptions. We then review the empirical literature on cognitive framing and examine the long-standing legal divide over two paradigms of property ownership—bundle of rights versus discrete assets—in view of framing research.

A. *When Property Attitudes Are Too Strong*

Property law is peppered with instances where owners perceive their rights in stronger and more expansive terms than their legal entitlement or societal needs dictate. Property owners have chained themselves to their buildings after defaulting on mortgages.¹⁸ Neighbors routinely use their property in ways that contravene the rights of others. One case describes an owner who built a thirty-foot concrete wall within feet of his neighbor's window (with the neighbor retaliating by posting signs in his yard identifying the owner and describing him in colorful language).¹⁹ This is not to claim that owners are invariably absolutist in their conception of ownership but rather to observe that in discrete contexts unduly robust and

17. See *infra* Part I.C.

18. See Steve Rode, *Woman Chains Self to Home to Prevent Foreclosure*, <http://getoutofdebt.org/2533/woman-chains-self-to-home-to-prevent-foreclosure/> (last visited Jan. 29, 2010).

19. See *When Your Neighbor Builds a Jackass Home*, <http://www.mikeindustries.com/blog/> (July 20, 2008).

expansive notions of property rights impose social costs and frustrate efficiency goals. For example, neighbors' actions may decrease area home values.²⁰ Lobbying for special protections for property, such as enhanced creditor protection for homeowners, increases the cost of credit while reducing its availability.²¹ Conflict and self-help create noneconomic costs by impairing social and neighborhood relations.

Examples of excessive ownership attitudes also occur in the environmental arena. Some landowners believe that their rights in private land justify violations of the Endangered Species Act—a practice termed “shoot, shovel, and shut up.”²² The destruction of species on private land creates externalities in the form of ecosystem harms (which may impair monetarily valuable ecosystem services), diminution of genetic diversity, and loss of societal value from viewing species or knowing they exist.²³

In instances where property attitudes prove costly, law has struggled to alter perceptions and change behavior. One way to reduce “ultra vires” property behaviors—that is, actions outside the scope of the legal entitlement—is by conveying a sense of limitation that owners internalize. Such internalization also addresses instances where behavior is socially desirable but not formally required by law. For example, it is not possible for laws to offer complete specification addressing every eventuality.²⁴ In these cases an individual sense of restraint or a prevailing social norm can

20. Cf. Vicki Been, *What's Fairness Got to Do with It? Environmental Justice and the Siting of Locally Undesirable Land Uses*, 78 CORNELL L. REV. 1001, 1020–21 & nn.109–12 (1993) (describing evidence of effect of locally undesirable land uses on neighboring property values as “quite mixed,” but noting several studies supporting that point).

21. See Reint Gropp et al., *Personal Bankruptcy and Credit Supply and Demand*, 112 Q. J. ECON. 217, 230–31 (1997); see also Richard M. Hynes, *Credit Markets, Exemptions, and Households with Nothing to Exempt*, 7 THEORETICAL INQUIRIES L. 493, 512–15 (2006).

22. See Joyce Morrison, *Shoot, Shovel and Shut-up*, NEWSWITHVIEWS.COM, Aug. 14, 2004, <http://www.newswithviews.com/Morrison/joyce7.htm>; see also Jonathan Remy Nash, *Trading Species: A New Direction for Habitat Trading Programs*, 32 COLUM. J. ENVTL. L. 1, 9–11 (2007) (discussing undesirable incentives to which the Endangered Species Act gives rise). A study of landowner actions toward the Preble's meadow jumping mouse, a threatened species under the Endangered Species Act, found that 25% of landowners destroyed habitat or took other actions that discouraged mouse populations on their land. See Amara Brook et al., *Landowners' Responses to an Endangered Species Act Listing and Implications for Encouraging Conservation*, 17 CONSERVATION BIOLOGY 1638, 1641–49 (2003).

23. See Stephanie Stern, *Encouraging Conservation on Private Lands: A Behavioral Analysis of Financial Incentives*, 48 ARIZ. L. REV. 541, 545–46 (2006).

24. For example, building codes and zoning have not been able to prevent the ingenuity of builders and owners from circumventing these laws. See, e.g., Michael D. Turner, *Paradigms, Pigeonholes, and Precedent: Reflections on Regulatory Control of Residential Construction*, 23 WHITTIER L. REV. 3, 27, 52–55 (2001).

fill the gaps.²⁵ Framing offers a way to constrain individual behavior, increase legal compliance, and encourage pro-social norms of ownership.

B. Cognitive Framing Research

The psychology research demonstrates the effect of framing in decision making and, most important for our purposes, suggests the potential of framing to alter perceptions and behavior with respect to property.²⁶ Rational choice theory predicts that societal actors will seek to maximize individual utility on the basis of stable preferences when presented with a choice, including one created by a legal rule or regime.²⁷ Recent scholarship has highlighted the limits of the rational choice approach.²⁸ Among other things, the rational choice model does not account for the powerful effects of framing on preferences and decision making. The research of Daniel Kahneman and Amos Tversky has shown that, while people may approach a setting with a preconceived or natural frame, the presentation or framing of a choice alters the decision maker's preferences.²⁹

Because presentation frames increase the cognitive accessibility of certain problem attributes, they influence attitudes, emotions, and decisions.³⁰ In a seminal framing study, the "Asian Disease" experiment, Tversky and Kahneman demonstrated that people respond differently to scenarios in which mortality rates are presented as lives saved as opposed

25. See generally ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990).

26. See Tversky & Kahneman, *supra* note 7.

27. See *supra* note 15.

28. See Kenneth J. Arrow, *Economic Theory and the Hypothesis of Rationality*, in *THE NEW PALGRAVE: UTILITY AND PROBABILITY* 25, 25–31 (John Eatwell et al. eds., 1990); HERBERT A. SIMON, *MODELS OF BOUNDED RATIONALITY* 20–75 (1982).

29. Decision frame refers to the internal mental representation of a problem. See generally Tversky & Kahneman, *supra* note 7.

Even in the absence of a choice of presentation, a person's default or "natural frame" may predominate. See Nash, *supra* note 11, at 708 (noting how the traditional metanarrative of property understands the discrete asset paradigm as the "natural frame" through which to view property rights); Jeffrey Evans Stake, *The Property Instinct*, 359 *PHIL. TRANSACTIONS: BIOLOGICAL SCI.* 1763, 1767 (2004) (noting biologists' observations of members of species reacting to perceived infringements of property interests of other members of the species); Jonathan Remy Nash, *Framing Effects and Regulatory Choice*, 82 *NOTRE DAME L. REV.* 313, 356–58 (2006) (describing the "natural frames" through which environmental regulatory devices tend to be viewed).

30. See Daniel Kahneman, *A Perspective on Judgment and Choice: Mapping Bounded Rationality*, 58 *AM. PSYCHOLOGIST* 697, 703 (2003) ("Highly accessible features influence decisions, whereas features of low accessibility are largely ignored. Unfortunately, there is no reason to believe that the most accessible features are also the most relevant to a good decision.").

to lives lost, even though the bottom line effects are identical.³¹ People evaluate gains and losses relative to a cognitive frame or reference point.³² We tend to be risk-seeking, often irrationally so, when it comes to avoiding high-probability losses but risk-averse in the face of high-probability threats to money or other property we view as a gain. For example, given the choice between a certain loss of \$100 versus a 50% chance of either no loss or a \$200 loss, people are likely to choose the risky choice rather than the certain loss, even though the average expected value of the two choices is identical.³³ This pattern reverses with respect to gains where people show a marked tendency to prefer a certain gain for example of \$100 versus a 50% chance of winning \$200. Researchers have found that the activation of emotions plays a mediating role in framing effects.³⁴

While psychology methodologies require invariance (i.e., the identical information or expected utility presented two different ways), political scientists and communications researchers construe frames more expansively as persuasive presentation.³⁵ This research investigates how framing by the media and political elites alters attitudes toward public policies and political events.³⁶ As Donald Kinder and Thomas Nelson write, “public opinion depends in a systematic and intelligible way on how, and especially whether, issues are framed in democratic debate.”³⁷ Framing effects are also evident in product advertising and consumer purchasing decisions. For example, research shows that framing consumer

31. See Kahneman, *supra* note 30, at 702.

32. See Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, 47 *ECONOMETRICA* 263, 263–65 (1979).

33. See *id.*

34. See Benedetto De Martino et al., *Frames, Biases, and Rational Decision-Making in the Human Brain*, 313 *SCI.* 684, 684 (2006).

35. For example, a frame in communication or media “refers to the words, images, phrases, and presentation styles that a speaker . . . uses when relaying information about an issue or event to an audience” Dennis Chong & James N. Druckman, *A Theory of Framing and Opinion Formation in Competitive Elite Environments*, 57 *J. COMM.* 99, 100 (2007). They distinguish between frames and framing effects: “A framing effect occurs when a communication increases the weight of a new or existing belief in the formation of one’s overall attitude [F]rames in communication exercise influence by emphasizing the primacy of certain considerations over others.” *Id.* at 107.

36. The common sources of framing describe the dual role of frames as “rhetorical weapons [of] political elites . . . or . . . journalist[s]” and “cognitive structures that help citizens make sense of politics.” Donald R. Kinder & Thomas E. Nelson, *Democratic Debate and Real Opinions*, in *FRAMING AMERICAN POLITICS* 103, 103 (Karen Callaghan & Frauke Schnell eds., 2005); see also Fuyuan Shen & Heidi Hatfield Edwards, *Economic Individualism, Humanitarianism, and Welfare Reform: A Value-Based Account of Framing Effects*, 55 *J. COMM.* 795, 803–04 (2005). This study also found that individual differences with respect to ex ante value orientations amplified or muted framing effects. See *id.*

37. Kinder & Nelson, *supra* note 36, at 103 (emphasis omitted).

goods with symbolic appeals versus emphasizing instrumental product attributes produces systematic differences in willingness to pay measures.³⁸

Taking a broad view of framing, we may also regard forewarning people of future events or restrictions as a type of framing. Forewarning is a powerful cognitive tool for tempering expectations. Researchers have studied forewarning most intensively in the context of reducing persuasion by forewarning of the persuasive intent of communications.³⁹ Forewarning “primes” specific attitudes and increases the cognitive accessibility of certain information. Even indirect priming may alter attitudes. For example, a recent experiment found that subjects who received a cup of iced coffee from a laboratory assistant later rated a hypothetical person described in written material as colder, less social, and more selfish than subjects who received a hot coffee.⁴⁰

The cognitive framing of property rights is novel ground in both the legal scholarship and psychology literature. Psychology research has made only one significant foray into the field of property, with a substantial body of research on the endowment effect.⁴¹ These studies find that people value property more highly when they own or possess it than when they are presented with the possibility of buying the same item in a voluntary market transaction.⁴² Thus far, the psychology research has confined its inquiry to valuation and has not considered whether framing ownership or ex ante legal entitlements influences perceptions, attitudes, and behavioral intentions. In the legal literature, scholars have studied framing almost exclusively in the contexts of litigation and settlement, finding that subjects are more likely to settle a case out of court when the frame of

38. See Donald P. Green & Irene V. Blair, *Framing and the Price Elasticity of Private and Public Goods*, 4 J. CONSUMER PSYCHOL. 1, 1–4 (1995) (framing goods with symbolic appeals produces higher variance and weaker price elasticity in willingness to pay).

39. This research establishes the forewarning of persuasive intent reduces subsequent persuasion by inducing counter-arguing. See Richard E. Petty & John T. Cacioppo, *Effects of Forewarning of Persuasive Intent and Involvement on Cognitive Responses and Persuasion*, 5 PERSONALITY & SOC. PSYCHOL. BULL. 173, 173 (1979).

40. See Lawrence E. Williams & John A. Bargh, *Experiencing Physical Warmth Promotes Interpersonal Warmth*, 322 SCI. 606, 606–07 (2008).

41. See, e.g., Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1484 (1998); Jeffrey J. Rachlinski & Forest Jourden, *Remedies and the Psychology of Ownership*, 51 VAND. L. REV. 1541, 1541–49 (1998) (demonstrating, through empirical research, that the endowment effect is more applicable to rights protected by an injunctive remedy than by a damages remedy); 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, 530–34 (2005) (questioning experimental evidence of the endowment effect).

42. See sources cited *supra* note 41.

reference makes the same settlement offer appear to be a gain rather than a loss.⁴³ This Article seeks to augment the existing scholarship by empirically testing the effects of framing property rights.

C. Property Paradigms: Bundles versus Discrete Assets

Property theory (unwittingly) suggests two potential mechanisms for framing. Scholars have long recognized the prevalence of two “paradigms” of property rights: the “discrete-asset” paradigm and the “bundle-of-rights” paradigm. Under the discrete-asset approach, each item of property is viewed as a discrete asset—that is, the owner of a piece of property is understood to have dominion, subject to some constraints, over that asset.⁴⁴ The discrete asset paradigm emphasizes the “thing” aspect of property. Under the bundle approach, property consists merely of a bundle of sticks, each representing a right to occupy, use, sell, exclude others from, or deploy property in some way.⁴⁵ One who has an interest in a property asset in fact has a bundle of rights and correlative obligations, and a less than complete set of sticks in the bundle does not negate ownership.⁴⁶ These rights and obligations govern not only the person’s relation to the asset in question, but also the person’s relations with other societal actors.⁴⁷ Implicit in this conception is the province of a legal

43. See Russell Korobkin & Chris Guthrie, *Psychological Barriers to Litigation Settlement: An Experimental Approach*, 93 MICH. L. REV. 107, 134–35 (1994); see also Jeffrey J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113, 144–49 (1996) (similar findings using a variety of litigation simulations).

For exceptions to the focus on litigation and settlement in framing, see Nash, *supra* note 11 (exploring framing based on asset- and bundle-paradigmatic presentations of property rights); Janice Nadler & Shari Seidman Diamond, *Eminent Domain and the Psychology of Property Rights: Proposed Use, Subjective Attachment, and Taker Identity*, 5 J. EMPIRICAL LEG. STUD. 713 (2008) (exploring how framing affects acceptance of government takings of property based on use to which government puts property and former owner’s attachment to property). For a collection of legal and psychological scholars’ treatments of property and psychology, see *Symposium: A Psychological Perspective on Property Law*, 83 TUL. L. REV. 601 (2009).

44. See 2 WILLIAM BLACKSTONE, COMMENTARIES *1–3; PENNER, *supra* note 12, at 70–73; J. W. HARRIS, PROPERTY AND JUSTICE 120 (1996).

45. Honoré described eleven incidents of the liberal conception of full property ownership: the rights to possess, use, manage, the rights to income from the property and the right to capital, the right to security, transmissibility, the incident of absence of term, the duty not to harm others, liability to execution, and residuary character. See Honoré, *supra* note 13, at 113–28; see also 1 JOHN LEWIS, A TREATISE ON THE LAW OF EMINENT DOMAIN IN THE UNITED STATES 52 (3d ed. 1909) (“Property may be defined as certain rights in things which pertain to persons and which are created and sanctioned by law. These rights are the right of user, the right of exclusion and the right of disposition.”).

46. Hohfeld is credited with the earliest formulation of the “bundle of rights.” See Hohfeld, *supra* note 13, at 710 (describing rights, including property rights, as “correlative claims and duties” between societal actors with respect to an object).

47. See, e.g., Felix S. Cohen, *Transcendental Nonsense and the Functional Approach*, 35

“expert,” such as a legislature or court, to determine the content of the bundle of rights.⁴⁸

The bundle-of-rights conception now dominates property law and legal training.⁴⁹ Over the course of the last century, legal scholars came to view the discrete-asset paradigm as inconsistent with legal understandings of property rights.⁵⁰ They systematically abandoned the previously dominant discrete-asset approach in favor of the bundle approach.⁵¹ Legal realists and social relations theorists in particular have employed the bundle concept in pursuit of normative ends, such as correcting power imbalances between social actors.⁵² The bundle of rights lends itself to such pursuits because of its fluidity of form: the particular contents of the bundle, as well as the minimum constituents that create “property,” may vary with societal goals.⁵³ Even law and economics has for the most part adopted the bundle view.⁵⁴ Other scholars have proffered theories that encompass, but are not limited to, the bundle of rights paradigm. These pluralist accounts construe property as bundles of rights versus discrete assets depending on social context and expectations.⁵⁵

COLUM. L. REV. 809, 831 (1935) (describing a “functional method” of rights definition according to social ends); LEWIS, *supra* note 45, at 53 (“The right of user is limited by those regulations which are enacted for the general good . . .”).

48. “[T]he bundle of rights theory transformed property into an almost infinitely malleable concept, amendable to numerous permutations, and subject to *ad hoc* decisionmaking.” Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531, 545–56 (2005); *see also* ACKERMAN, *supra* note 13, at 11.

49. Bruce Ackerman describes the bundle of rights as a “consensus view so pervasive that even the dimmest law student can be counted upon to parrot the ritual phrases on command.” ACKERMAN, *supra* note 13, at 26. For a description of the history of the bundle versus discrete asset debate in the legal scholarship, *see* Claeys, *supra* note 12.

50. *See* Nash, *supra* note 11, at 696.

51. *See, e.g.*, J.E. Penner, *The “Bundle of Rights” Picture of Property*, 43 UCLA L. REV. 711, 712–14 & n.1 (1996); Merrill & Smith, *supra* note 16, at 357–58; Denise R. Johnson, *Reflections on the Bundle of Rights*, 32 VT. L. REV. 247, 250–55 (2007).

52. *Cf.* Jane B. Baron, *The Contested Commitments of Property*, 61 HASTINGS L.J. (forthcoming 2010) (arguing that an important, yet overlooked, aspect of the debate over how to conceive of property rights is the question of how readily property rights should change in response to changes in society’s value commitments).

53. *See* MERRILL & SMITH, *supra* note 12, at 16 (“The [bundle of rights] metaphor implies that one can add to or subtract from the bundle more or less without limit, and still talk about the bundle as property.”).

54. Some economics scholarship espouses a discrete asset focused approach in order to reduce transaction costs. For example, Friedrich Hayek notes that defined expectations reduce “the mutual interference of people’s actions with each other’s intentions” and that property “demarcate[s] for every individual a range of permitted actions by designating . . . ranges of objects over which only particular individuals are allowed to dispose and from the control of which all others are excluded.” HAYEK, *supra* note 12, at 107.

55. *See* STEPHEN R. MUNZER, *A THEORY OF PROPERTY* 17 (1990) (“It is perfectly sound to think of property both as things (the popular conception) and as relations among persons or other entities

Despite this historical shift to the bundle approach among those with legal training, there is a sense that the public-at-large generally adheres to the discrete-asset approach.⁵⁶ J.E. Penner observes that the “average citizen, free of the entanglements of legal philosophy, thinks [property] is . . . the right to a thing.”⁵⁷ Legal training strives to advance students from the layperson’s object-focused notion of ownership to a purportedly more sophisticated bundle approach—“to disabuse entering law students of their primitive lay notions regarding ownership.”⁵⁸ Yet, despite this acculturation, lawyers and judges frequently revert to the discrete-asset paradigm.⁵⁹ For example, Bruce Ackerman details how Takings Clause jurisprudence predominantly analyzes property rights under the lay conception, rather than the bundle-of-rights conception, of property.⁶⁰

Today the legal academy and legal community remain uneasily wedded to the bundle approach.⁶¹ In recent years, some legal scholars have suggested reintegrating the discrete-asset approach into property theory.⁶² For example, Michael Heller argues that property theoreticians’ narrow focus on the bundle paradigm has caused them to ignore problems inherent in the disaggregation and fragmentation of property rights.⁶³ Other

with respect to things (the sophisticated conception)—provided that the context makes clear which conception is meant.”); see also Nestor M. Davidson, *Standardization and Pluralism in Property Law*, 61 VAND. L. REV. 1597, 1598–605 (2008).

56. For example, Bruce Ackerman observes, “I think it fair to say that one of the main points of the first-year Property course is to disabuse entering law students of their primitive lay notions regarding ownership.” ACKERMAN, *supra* note 13, at 26.

57. See PENNER, *supra* note 12, at 2. But see LEWIS, *supra* note 45, at 55 (“The dullest individual among the people knows and understands that his property in anything is a bundle of rights. . . . They constantly act upon this understanding, although they may never have formulated a definition of the word . . .”).

58. ACKERMAN, *supra* note 13, at 26.

59. See, e.g., Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163, 1188–91 (1999) (presenting, skeptically, the traditional account).

60. See ACKERMAN, *supra* note 13, at 113–67. Thomas Merrill makes a similar argument in analyzing the Court’s decision in *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984); see Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 939 (2000). On the general topic of the role of public perception in Takings jurisprudence, see William W. Fisher III, *The Significance of Public Perceptions of the Takings Doctrine*, 88 COLUM. L. REV. 1774 (1988).

61. An aspect of the debate over bundles of rights versus “things” or discrete assets focuses on whether the right to exclude defines property. See Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) (describing right to exclude as “*sine qua non*” of property). Cf. PENNER, *supra* note 12, at 103 (property should be defined as a “right of exclusive use”). Other scholars have criticized the focus on exclusion and offered alternative theories. See, e.g., Larissa Katz, *Exclusion and Exclusivity in Property Law*, 58 U. TORONTO L.J. 275, 278 (2008) (defining property as agenda-setting authority).

62. Not all of these criticisms are recent. For earlier criticism of the bundle approach, see Thomas C. Grey, *The Disintegration of Property*, in PROPERTY: NOMOS XXII 69, 81 (J. Roland Pennock & John W. Chapman eds., 1980).

63. See Heller, *supra* note 59, at 1193–94.

scholars critique the law and economics literature on property for its failure to recognize the importance of property law as governing in rem rights to things.⁶⁴ Most recently, Thomas Merrill and Henry Smith argue that an in rem, thing-based conception of property provides economic explanations for several puzzles of property law, including why property law systems across nations and cultures generally limit the number of available forms of property rights.⁶⁵ This work indicates a renaissance of interest in the discrete-asset paradigm or “in rem” conception of property.

The debate over the proper conception of property—bundle versus discrete asset—has now extended over a century with no resolution in sight. We contend that this debate has missed a critical dimension: the potential of property paradigms to alter lay attitudes and influence political elites. Although the legal literature acknowledges the bundle-asset dichotomy as a conceptual matter, it pays little heed to the important context of whether the governing paradigm affects behavior. Much of the commentary treats behavior in respect to property as exogenous to the choice of property paradigm (i.e., bundle of rights versus discrete asset).⁶⁶ In this sense, the dominant literature adheres to the rational choice model, and fails to consider how the choice of paradigm might affect the frame through which people conceive of property rights.

This study seeks to fill a void in property theory by considering how framing affects perceptions of the strength and scope of property rights. We consider two framing conditions: the bundle versus discrete-asset paradigms and a frame created from a forewarning of limitations. We examine the effect of framing on: (i) the strength of ownership and the extent to which people perceive regulation as an infringement of their property rights, (ii) the value that people attribute to their property, and (iii) the nature of people’s emotional responses to property rights limitations. It is to a discussion of these experiments that we turn in the next Part.

64. See Merrill & Smith, *supra* note 16, at 366–83; see also Adam Mossoff, *Exclusion and Exclusive Use in Patent Law*, 22 HARV. J.L. & TECH. 321, 360–70 (2009) (describing how the realists used their conception of patents to reconceptualize property in land, and suggesting that this enterprise was deleterious for both property in land and for patent law).

65. See Merrill & Smith, *supra* note 16, at 385–88; see generally Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1 (2000). Other scholars have criticized the bundle approach and proposed alternatives. See, e.g., J. W. Harris, *Reason or Mumbo Jumbo: The Common Law’s Approach to Property*, 117 PROC. BRIT. ACAD. 445, 466–67 (2002).

66. See *supra* notes 44–65 and accompanying text.

II. THE EXPERIMENTS

A. *Methods*

1. *Experiment 1*

a. *Study Design and Hypotheses*

This experiment was a two-by-two factorial design with four framing conditions. The first hypothesis was that bundle-of-rights framing would create weaker perceptions of ownership and less perceived infringement of rights from subsequent restrictions (accompanied by greater behavioral intention to comply voluntarily and less negative emotion). We also predicted that the ownership-attenuation effect of bundle framing would decrease valuation of the property, satisfaction with the purchase policy, and willingness to install upgrades. We hypothesized the same main effects for forewarning framing. For the condition that contained both bundle-of-rights and forewarning framing, we hypothesized that the results would run in the same direction but would be stronger than either bundle/asset or forewarning framing standing alone (i.e., an interaction effect).

b. *Participants and Materials*

Participants were 397 incoming first-year law students, comprised of 155 students from Loyola University Chicago School of Law and 242 from Tulane Law School who participated voluntarily in this experiment during an orientation prior to the start of classes.⁶⁷

c. *Procedure*

In an experimental deception, incoming students were informed at the start of law school orientation that the law school was considering adopting new student laptop computer policies. They were asked to review the proposed policies and to provide feedback on a form that was included in the registration materials.⁶⁸ Students were randomly assigned to four

67. Male students account for 49.5% (n = 120) of the respondents while female students constituted 39.5% (n = 96). Students self-reported as Caucasian (77.4%, n = 188), African-American/black (5.8%, n = 14), Hispanic/Latino (5.3%, n = 13), Asian American (4.1%, n = 10), Native American/Alaskan (0.4%, n = 1), and multi-racial (2.1%, n = 5).

68. In both Experiment 1 and Experiment 2, students received instructions that participation was

experimental conditions: discrete asset with forewarning (group 1), bundle of rights with forewarning (group 2), discrete asset no forewarning (group 3), and bundle of rights no forewarning (group 4). Students in the discrete asset conditions (group 1 and group 3) read a proposed policy requiring each J.D. student to purchase a laptop computer from the campus computer store and stating that the student would “have ownership and control of the laptop and, among other things, [could] use, possess, and enjoy the laptop, exclude others from using the laptop, and transfer the laptop.” The students in the bundle of rights conditions (group 2 and group 4) received a proposed policy requiring students to purchase rights to a laptop computer from the campus computer store and stating that once purchased students would “own a set of rights to the laptop. These rights include, among other things, the right to use, possess, and enjoy the laptop, the right to exclude others from using the laptop, and the right to transfer your rights in the laptop.” The entitlement was functionally similar in terms of the scope of ownership in the two conditions; the difference was the use of rights language versus ownership of a thing. In both discrete asset and forewarning conditions, the policies clarified that the students would own, not rent the computers, by stating that the laptop/rights in the laptop would be the student’s to keep.

In the forewarning conditions, (group 1 and group 2) the laptop policies went on to state that the student’s ownership “may be limited in certain ways by the law school.” Specifically, those purchase policies informed students that the laptop would be specially configured for law students, used in accordance with law school regulations and the honor code policy, and otherwise limited by the law school rules or needs of other computer users.

The first part of the experiment contained two manipulation check questions to assess whether participants understood the nature of the property rights and the presence or absence of limitations described in the proposed laptop purchase requirement.⁶⁹ Next, students were asked to state what they would be willing to pay for the laptop described in the proposed laptop purchase requirement and to rate their willingness to invest in

voluntary, confidential, and anonymous, and that they could choose not to complete the survey at any time without penalty.

69. These survey questions asked: (1) According to the proposed laptop purchase requirement, what will you own? (Answer options: I will own the laptop; I will own a set of rights to the laptop; Neither) (2) Does the proposed laptop purchase requirement include limitations on your laptop rights imposed by the law school? (Answer options: There are no limitations on laptop rights imposed by the law school in the laptop purchase policy; There are multiple limitations on laptop rights imposed by the law school in the laptop purchase policy.).

software upgrades on a five-point Likert item ranging from “very likely” to “very unlikely.”⁷⁰ The remainder of Part I consisted of a five-point Likert item assessing the degree of satisfaction with the proposed laptop purchase requirement and a three-question Perceptions of Ownership Scale. The Perception of Ownership Scale, developed for this study, evidences strong reliability (Cronbach’s alpha = 0.77).⁷¹

The second part of the experiment examined the effects of bundle and forewarning framing on reactions to subsequent restrictions. The study instructed participants to assume that the law school had adopted the proposed laptop purchase policy previously described (i.e., one of the four experimental conditions). The laptop purchase requirement was reproduced at this point in the survey. Participants were then told that the law school had decided to adopt policies that affect laptop use and ownership.⁷² The three policies contained restrictions on the classic property rights to use, exclude, and transfer. These proposed policies restricted the right to upload large files and software without prior permission, required students to share their laptops/rights in the laptop from time to time with students in the LL.M. program (with password protection), and required permission from the dean of students to sell or transfer the laptop/rights in the laptop during law school.

Following each restrictive policy scenario, students responded to questions that assessed perceptions of rights infringement, willingness to comply in the absence of enforcement, and emotion (anger, anxiety, and positive mood).⁷³ The Perceptions of Rights Infringement Scale,

70. “Likert scales are psychometric scales commonly used in questionnaires and survey research. Respondents specify their level of agreement to a given statement when responding to questionnaire items.” Leah M. Christensen, *Enhancing Law School Success: A Study of Goal Orientations, Academic Achievement, and the Declining Self-Efficacy of Our Law Students*, 33 L. & PSYCHOL. REV. 57, 65 n.57 (2009).

71. The questions composing the Perceptions of Ownership scale asked participants to indicate their level of agreement with the statements: “If the law school were to adopt this laptop purchase requirement, I would feel that the laptop does *not* belong to me”; “If the law school were to adopt this laptop purchase requirement, I would feel uncertain about whether or not the laptop is my property”; and to report perceived strength of ownership in response to the question, “If the law school were to adopt this laptop purchase requirement, to what extent would you feel that you own the laptop?”

72. The survey instructed participants that the laptop purchase requirement applies to all three policies and that they should consider each policy separately, not cumulatively. The order of the three policies was counterbalanced among the participants.

73. The survey used the five-adjective anger-hostility subscale and the five-adjective tension-anxiety subscale of the Profile of Mood States-Brief Form (POMS-B). Numerous studies have established the high content validity and reliability of the POMS-B with a Cronbach’s alpha > 0.9 (excellent range) measured on a value index from 0 to 1. See, e.g., D.M. McNair et al., *MANUAL FOR THE PROFILE OF MOOD STATES*, New York: Multi-Health Systems; Eun Ja Yeun & Kay KongBum Shin-Park, *Verification of the Profile of Mood States-Brief: Cross-Cultural Analysis*, 62 J. CLINICAL

developed by one of the authors and utilized in the questionnaire, showed strong reliability across all three policy scenarios (perceptions of rights infringement: Cronbach's alpha = 0.74 (file saving), 0.79 (laptop sharing), and 0.84 (laptop transfer)).⁷⁴ Immediately following completion, students received a written debriefing explaining that the survey was an experiment assessing perceptions of property rights and that the law school was not considering new laptop policies.

2. *Experiment 2*

a. *Study Design and Hypothesis*

This was a within-subjects experiment design where subjects were asked their willingness to pay (WTP) for a laptop under all four purchase policy frames (discrete asset with forewarning, bundle of rights with forewarning, discrete asset no forewarning, and bundle of rights no forewarning). The hypotheses were that subjects would show the lowest WTP for the bundle of rights with forewarning description, the highest WTP for the discrete asset no forewarning description, and intermediate WTPs for the discrete asset with forewarning and bundle of rights no forewarning conditions.

b. *Participants*

Participants were fifty-seven incoming first-year evening law students at Loyola University Chicago School of Law who voluntarily participated in the study as part of their law school orientation prior to the start of classes.

c. *Procedure*

At the start of orientation, students were informed that the law school was considering adopting one of four laptop purchase policies and forming a "buying pool" to negotiate a better price for students. The experimental

PSYCHOL. 1173, 1176–77 (2006). To balance the negative adjectives employed in the POMS-B, this question also included a positive mood scale developed by the authors that utilized the adjectives of "empowered," "pleased," "happy," and "respected" (Cronbach's alpha: 0.81 (file saving), 0.81 (laptop sharing), and 0.86 (laptop transfer)).

74. Perceptions of infringement of rights was assessed by asking participants to indicate their degree of agreement or disagreement with the following statements: "How fair or unfair is the policy?"; "When I think about [the policy], I think my rights of ownership have been limited"; and "I think that the law school has a right [to implement the policy]."

materials reproduced an online advertisement from an internet computer store for a laptop computer. The advertisement provided the sales price and detailed laptop specifications. Each student was asked how much he or she would be willing to pay for the laptop described in the advertisement under each of four purchase policies, with the policy ordering counterbalanced among the participants. The four purchase policies were identical to those used in Experiment 1 (discrete asset with forewarning, bundle of rights with forewarning, discrete asset no forewarning, and bundle of rights no forewarning). Immediately following completion of the experiment, students received a written debriefing explaining that the survey was an experiment assessing perceptions of property rights and that the law school was not adopting a laptop purchase policy or forming a buying pool.

B. Results and Discussion of Findings

The results show that two framing devices seem to reduce people's expectations about the strength of their property rights.⁷⁵ First, the use of the bundle paradigm to frame property rights attenuates ownership perceptions and reactions to subsequent rights restriction. Second, the presence of forewarning about the possibility of future limitations on property ownership and use has a similar effect. Moreover, we observe the combination of these two—that is, reliance upon the bundle paradigm and the inclusion of forewarning—to most effectively reduce people's expectations about property rights. We found no significant differences in the results based on race, gender, income, or school affiliation.⁷⁶

75. We used analysis of variance of independent one-tailed planned orthogonal contrasts to test whether the data conformed to the predicted pattern of sample means among the four subject groups. Subjects who did not correctly answer both manipulation check questions were excluded from the sample and analysis. The effect sizes are reported using the Pearson correlation coefficient.

76. Demographic factors did not have a statistically significant effect on the results (comparison of sample means: *school affiliation*: all $t_s < 1.63$, all 2-tailed $p_s > 0.10$; *gender*: all $t_s < 1.74$, all 2-tailed $p_s > 0.08$; *race*: all $f_s < 2.34$, all 2-tailed $p_s > 0.074$; and *income*: all $f_s(df_{bg}5, df_{wg} 201) < 1.11$, all 2-tailed $p_s > 0.35$). The only exceptions were that African-American students scored lower than Hispanic students on positive mood under the laptop transfer restriction ($f(4, 217) = 2.67$, 2-tailed $p < 0.033$) and Tulane students scored slightly lower than Loyola students for positive mood in response to file saving restrictions, $t(226) = 2.15$, 2-tailed $p < 0.032$, $r^2 = 0.02$. The effect of not currently owning a laptop or never having owned a laptop could not be analyzed because virtually the entire sample owned laptops; only seven students had never owned a laptop and only one student did not currently own a laptop but had previously owned one.

1. Experiment 1

a. Perceptions of Ownership

The bundle-of-rights frame (group 2 and group 4) markedly reduced the subjects' perceptions of the strength of their ownership entitlement as well as ownership-related attitudes and intentions. Subjects in the bundle-of-rights condition had significantly lower scores on the perception of ownership scale than subjects exposed to the discrete asset frame, $t(238) = 11.74$, one-tailed $p < 0.0001$, $r^2 = 0.36$ (see Fig. 1). This was a large effect. Subjects who received the laptop purchase policy framed as a bundle of rights also reported lower valuations of the laptop when asked how much they would be willing to pay for it than when the laptop purchase was framed as a discrete asset, $t(228) = 5.74$, one-tailed $p < 0.0001$, $r^2 = 0.12$ (see Fig. 2). There was not a statistically significant difference between the bundle-of-rights groups and the discrete-asset groups on their reported likelihood of installing upgrades, $t(238) = 1.58$, one-tailed $p < 0.06$, or satisfaction with the policy, $t(237) = 1.41$, one-tailed $p < 0.09$ (see Figs. 3, 4).

The forewarning framing condition (group 1 and group 3) showed a similar pattern of results, suggesting that forewarning also constrains the "dominion" approach to property. There was a statistically significant difference in perceptions of ownership between the forewarning and no forewarning groups, $t(238) = 6.64$, one-tailed $p < 0.0001$, $r^2 = 0.15$ (see Fig. 1). Forewarned individuals perceived themselves to have weaker rights in the laptop than their non-forewarned counterparts. As predicted, forewarning groups were willing to pay less money for the laptop described in the purchase policy than no forewarning groups, $t(228) = 2.92$, one-tailed $p < 0.002$, $r^2 = 0.04$ (see Fig. 2). There was a small but statistically significant effect of forewarning on likelihood of installing upgrades and satisfaction with the laptop purchase policy. Groups who were forewarned of property rights limitations reported less willingness to pay for upgrades, $t(238) = 2.47$, one-tailed $p < 0.007$, $r^2 = 0.02$, and less satisfaction, $t(237) = 2.80$, one-tailed $p < 0.003$, $r^2 = 0.03$ (see Figs. 3, 4).

When the frame consisted of both the bundle paradigm and forewarning (group 2 interaction condition), the statistics reveal three key findings. First, subjects under this frame had the weakest perceptions of laptop ownership, $t(238) = 15.27$, one-tailed $p < 0.0001$, $r^2 = 0.49$ (see Fig. 1). In contrast, subjects who were presented with the discrete-asset frame with no forewarning perceived themselves to hold the strongest property rights of the four subject groups (see Fig. 1). Second, in keeping with this

ownership-attenuation effect, the bundle of rights/forewarning subjects displayed the lowest willingness to pay for the laptop. The bundle of rights/no forewarning and discrete asset/forewarning groups stated higher valuation than the bundle of rights/forewarning group but lower valuation than the discrete asset/no forewarning group, $t(228) = 7.13$, one-tailed $p < 0.0001$, $r^2 = 0.18$ (see Fig. 2). The bundle of rights plus forewarning group also reported the lowest likelihood of installing upgrades, $t(238) = 3.35$, one-tailed $p < 0.0005$, $r^2 = 0.04$, and the least satisfaction with the laptop purchase policy, $t(237) = 3.49$, one-tailed $p < 0.0005$, $r^2 = 0.05$ (see Figs. 3, 4). Last, as discussed next in Part II.B.1.b, the bundle of rights combined with forewarning produced the least perceived rights infringement from restrictive regulation.

FIGURE 1: PERCEPTIONS OF OWNERSHIP

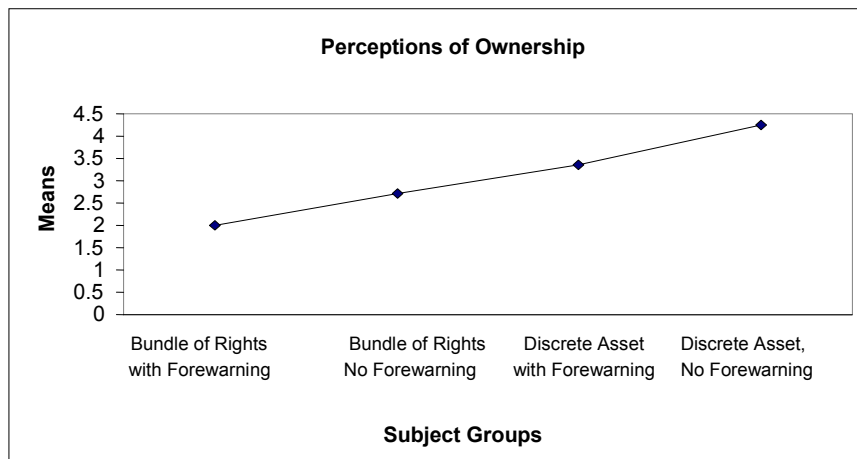


FIGURE 2: WILLINGNESS TO PAY



FIGURE 3: LIKELIHOOD OF INSTALLING UPGRADES

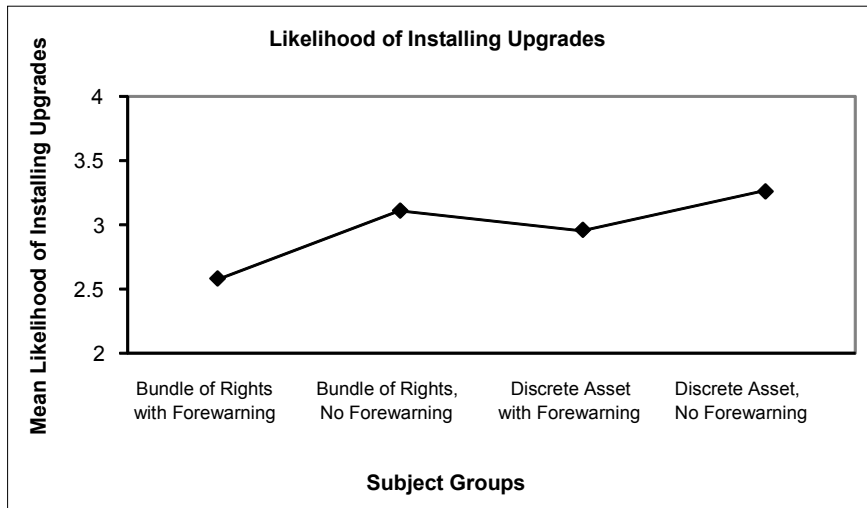
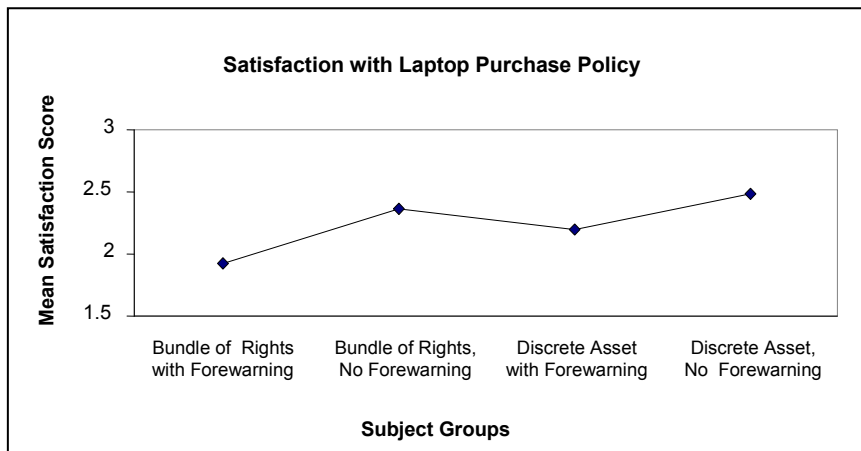


FIGURE 4: SATISFACTION WITH LAPTOP PURCHASE POLICY



b. Reactions to Regulation

As predicted, the bundle-of-rights condition weakened reactions to limitations on property rights. This effect was statistically significant for all three restrictive policies: file saving $t(229) = 2.75$, one-tailed $p < 0.003$, $r^2 = 0.03$; laptop sharing $t(236) = 4.22$, one-tailed $p < 0.0001$, $r^2 = 0.07$; and laptop transfer $t(233) = 3.62$, $p < 0.0001$, $r^2 = 0.05$ (see Fig. 5). There was also a small but statistically significant effect for refusal to comply for laptop sharing but no significant effects for file saving or laptop transfer: file saving $t(233) = 1.21$, one-tailed $p < 0.114$, $r^2 < 0.01$; laptop sharing $t(237) = 2.63$, one-tailed $p < 0.0043$, $r^2 = 0.01$; and laptop transfer $t(233) = 1.54$, $p < 0.063$, $r^2 < 0.01$ (see Fig. 6).

Forewarning of future restrictions also reduced perceptions of rights infringement following regulation. This effect was statistically significant for the three restrictive policies affecting laptop transfer, $t(233) = 1.74$, one-tailed $p < 0.042$, $r^2 = 0.01$; laptop sharing $t(236) = 2.05$, one-tailed $p < 0.021$, $r^2 = 0.02$; and file-saving $t(229) = 2.87$, one-tailed $p < 0.0025$, $r^2 = 0.03$ (see Fig. 5). There was a small, statistically significant effect for refusal to comply with subjects who were forewarned of limitations reporting greater willingness to comply: file saving $t(233) = 2.45$, one-tailed $p < 0.0072$, $r^2 = 0.01$; laptop sharing $t(237) = 1.72$, one-tailed $p < 0.043$, $r^2 < 0.01$; and laptop transfer $t(233) = 2.25$, $p < 0.013$, $r^2 = 0.01$. This is reflected in Figure 6.

When the bundle-of-rights form and forewarning were layered together (group 2 interaction conditions) participants reported the lowest perceived rights infringement. Participants exposed to this dual frame were most likely to accept what those in other conditions saw as interference with their property rights. Conversely, subjects in the discrete asset, no forewarning group showed the greatest perceived infringement. This finding held true across all three policy scenarios: laptop sharing $t(236) = 5.20$, one-tailed $p < 0.0001$, $r^2 = 0.10$; file saving $t(229) = 4.58$, one-tailed $p < 0.0001$, $r^2 = 0.08$; and laptop transfer $t(233) = 4.42$, one-tailed $p < 0.0001$, $r^2 = 0.08$ (see Fig. 3). There was also a statistically significant, although small, effect for willingness to comply (see Fig. 4). Subjects who received forewarning and bundle framing expressed the greatest behavioral intention to comply with the proposed regulations: file saving $t(233) = 3.01$, one-tailed $p < 0.0014$, $r^2 = 0.01$; laptop sharing $t(237) = 3.61$, one-tailed $p < 0.0002$, $r^2 = 0.01$; and laptop transfer $t(233) = 3.12$, one-tailed $p < 0.0009$, $r^2 = 0.01$ (see Fig. 6).

FIGURE 5: PERCEPTIONS OF INFRINGEMENT BY POLICY SCENARIO

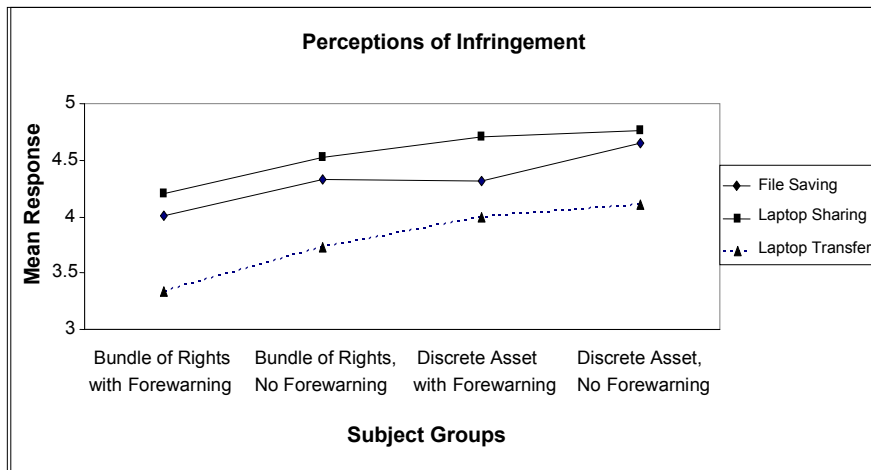
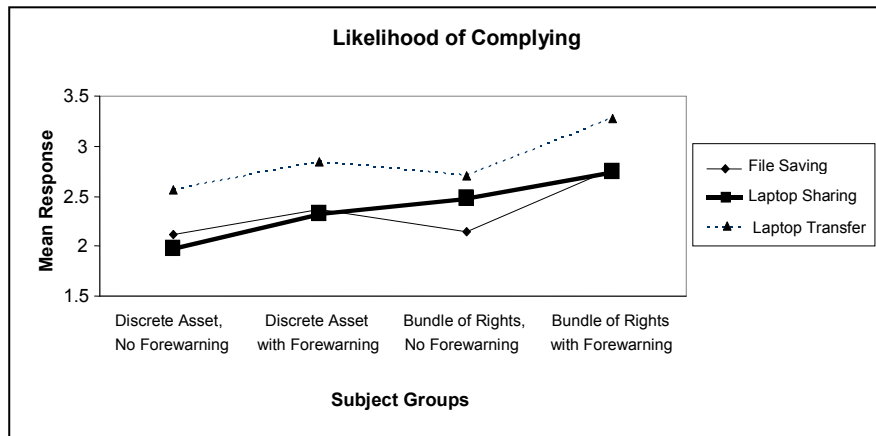


FIGURE 6: LIKELIHOOD OF COMPLYING BY POLICY SCENARIO



c. Emotional Response

Our findings with respect to subjects' emotional reactions were not uniformly significant and, even when significant, were typically of small magnitude. In the bundle condition, there was a significant difference in the predicted direction of less anger and hostility only in the laptop transfer restriction. (file saving $t(221) = 1.01$, one-tailed $p < 0.16$, $r^2 < 0.01$; laptop sharing $t(228) = 1.09$, one-tailed $p < 0.14$, $r^2 < 0.01$; and laptop transfer $t(223) = 1.68$, $p < 0.048$, $r^2 = 0.01$). In the forewarning condition, the anger/hostility measure was significant only for laptop sharing (file saving $t(221) = 1.33$, one-tailed $p < 0.10$, $r^2 < 0.01$; laptop sharing $t(228) = 1.85$, one-tailed $p < 0.034$, $r^2 < 0.01$; and laptop transfer $t(223) = 0.58$, one-tailed $p < 0.28$, $r^2 < 0.01$). The tension/anxiety measure generated no statistically significant results for bundle/discrete asset framing or forewarning/no forewarning framing for any of the three scenarios.⁷⁷

When both bundle-of-rights and forewarning framing were present (group 2 interaction condition), there was a significant decrease in anger/hostility relative to the other three conditions. The anger/hostility

77. In the bundle framing conditions, the anger/hostility measure was significant only for laptop transfer: Tension/anxiety results for bundle framing: file saving $t(221) = 0.40$, one-tailed $p < 0.35$, $r^2 < 0.01$; laptop sharing $t(226) = 1.25$, one-tailed $p < 0.11$, $r^2 < 0.01$; and laptop transfer $t(226) = 0.63$, one-tailed $p < 0.27$, $r^2 < 0.01$. Tension/anxiety results for forewarning: file saving $t(221) = 0.82$, one-tailed $p < 0.21$, $r^2 < 0.01$; laptop sharing $t(226) = 1.17$, one-tailed $p < 0.13$, $r^2 < 0.01$; and laptop transfer $t(226) = 0.53$, one-tailed $p < 0.30$, $r^2 < 0.01$.

effect was statistically significant across all three policy scenarios: file saving $t(221) = 1.92$, one-tailed $p < 0.028$, $r^2 < .01$; laptop sharing $t(228) = 2.42$, one-tailed $p < 0.008$, $r^2 = 0.01$; and laptop transfer $t(223) = 1.87$, one-tailed $p < 0.032$, $r^2 < 0.01$. However, the results provide only limited support for the tension/anxiety interaction hypothesis (i.e., both bundle and forewarning framing). Only the laptop sharing scenario showed significant results: file saving $t(221) = 1.00$, one-tailed $p < 0.17$, $r^2 < 0.01$; laptop sharing $t(226) = 1.99$, one-tailed $p < 0.025$, $r^2 = 0.01$; and laptop transfer $t(226) = 0.95$, one-tailed $p < 0.18$, $r^2 < 0.01$.⁷⁸

Why might some of the emotional measures not generate statistically significant effects? There are several possible explanations. Perhaps the most likely is that the various scenarios were understood by participants either as uncertain to affect them or hypothetical, and therefore did not elicit strong emotional responses. Another explanation is that while some of the emotional adjectives offered by the POMS-B mood scale were potentially salient to participants' responses, others (such as, for example, "shaky" and "grouchy") simply did not capture the feelings elicited by the scenarios. It is also possible that frames affect people's cognition of property rights, but do not evoke emotional responses. This may suggest that the costs of reframing are not as high as one might have expected. A final possibility is that the subjects, who were incoming law students, perceived that lawyers should behave objectively and unemotionally and responded accordingly.

d. Data Exclusion

Approximately 20% of participants failed the two-question test to assess understanding by answering at least one of the questions incorrectly. In particular, participants in group 4—the group that had property rights presented under the bundle paradigm with no forewarning of limitations—were the most likely to fail the manipulation check. With framing experiments, one cannot be certain precisely how the participants interpreted the frame. The majority of group 4 subjects were excluded ($n=44$) based on responding incorrectly that the bundle of rights/no forewarning purchase policy meant that the law school had specifically imposed multiple limitations. The most likely interpretation of this result is that the bundle of rights, as we hypothesized, casts property

78. Also, positive mood was not significant: file saving $t(224) = 0.003$, one-tailed $p < 0.499$, $r^2 < 0.01$; laptop sharing $t(227) = 1.27$, one-tailed $p < 0.103$, $r^2 < 0.01$; and laptop transfer $t(224) = 0.052$, one-tailed $p < 0.479$, $r^2 < 0.01$.

rights in a language of limitation rather than dominion. However, what we did not anticipate was that this sense of limitation may have been so robust for some participants that they perceived a bundle comprised of a full array of property rights as an explicit restriction by the law school (as was the case in the forewarning conditions). In some sense, then, perhaps the frame that was conveyed to these participants was not the frame that we intended to convey. Importantly, however, the excluded subjects do not alter our experimental findings. When we run our statistical tests with these excluded subjects added back in, the means for the various measures between these excluded subjects and the other participants do not differ in a statistically significant way.

2. Experiment 2

The data in Experiment 2 confirmed the predictions that subjects presented with all four framing conditions would assign the lowest willingness to pay to the bundle of rights with forewarning description, the highest willingness to pay to the discrete asset, no forewarning description, and intermediate values to the bundle of rights without forewarning and the discrete asset with forewarning descriptions (see Tbl. 1 & Fig. 7).

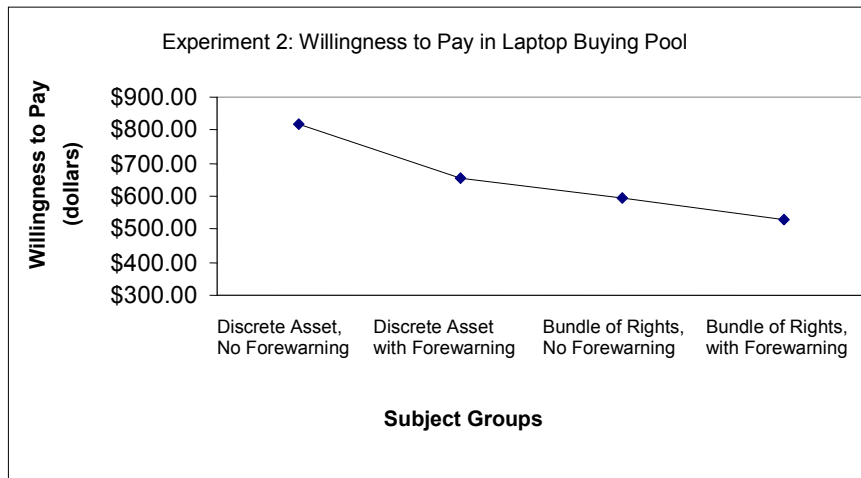
TABLE 1

	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Bundle of Rights/Forewarning	46	\$531.08	237.47
Bundle of Rights/No Forewarning	48	\$594.77	250.57
Discrete Asset/Forewarning	49	\$652.53	281.54
Discrete Asset/No Forewarning	53	\$818.87	353.58

The predicted pattern was statistically significant, $t = 4.2$, one-tailed $p < 0.0001$, $r^2 = 0.08$ (contrast coefficient 131.09, SE 31.21). The analysis excluded instances where students responded with zero valuation, as this response appeared to indicate a desire not to participate in a buying pool, not an actual valuation of zero. Even with all zero valuations retained in the data set, however, the framing and forewarning effects remain highly

significant, $t = 3.61$, one-tailed $p < 0.0004$, $r^2 = 0.07$ (contrast coefficient = 121.40, $SE = 33.60$).

FIGURE 7: WILLINGNESS TO PAY IN LAPTOP BUYING POOL



III. REFRAMING PROPERTY RIGHTS: IMPLICATIONS FOR LEGAL THEORY AND PRACTICE

Our empirical findings validate the idea that framing affects perceptions, cognitions, and behavioral intentions with respect to property rights. In other words, framing matters. This conclusion reveals a fundamental flaw in how many commentators understand people to view and react to property rights. Scholars usually assume that reactions to property rights are exogenous to the way in which those rights are presented.⁷⁹ Our findings suggest, quite to the contrary, that people's reactions to property rights are endogenous to the frame through which those rights are presented. Put another way, people's reactions to property rights, and to limitations on those rights, is not simply a function of the rights and limitations themselves. They are, rather, a function of the rights and limitations combined with the frame through which the rights and limitations are presented. And, as a corollary, they may be changed by

79. See *supra* Part I.C.

varying either the rights (or limitations) or the frame. In this Section, we discuss the ramifications of our findings for property theory and law.

A. *The Resilience of the Discrete Asset Paradigm*

Our empirical findings raise problems for an account that commentators have advanced for decades (without evidence). Many property theorists have touted the strength of the discrete-asset paradigm. They assert that lay individuals remain wedded to the discrete-asset paradigm.⁸⁰ And, while those trained in the law ascend from the discrete-asset paradigm to the bundle paradigm, that is only the case after considerable legal education.⁸¹ Both components of the story, then, emphasize, if implicitly, the resilience of the discrete-asset paradigm against framing.

Our findings tend to refute this account. They show that, contrary to the assertions about the strength and dominance of the discrete-asset paradigm,⁸² people without a formal legal education can be liberated from the discrete-asset paradigm (assuming that that is their natural frame to begin with) fairly easily. After reading a brief purchase policy description, participants in our experiment demonstrated framing effects with respect to property perceptions and intentions. Years of legal education and “frame indoctrination” were not required.

Our findings also bear on claims that possessiveness and strong property attachments are evolutionarily hard-wired. First, the relative ease of reframing, particularly in the bundle-of-rights conditions, does not support a robust evolutionary drive toward absolutism in property acquisition and retention.⁸³ Second, we question theories of a property

80. See, e.g., JEREMY WALDRON, *THE RIGHT TO PRIVATE PROPERTY* 27 (1988) (“The layman thinks of [private property] as a two-place relation of ownership between a person and a thing”); Grey, *supra* note 62, at 69 (“Most people . . . conceive of property as *things* that are *owned* by persons.”); see also Joan Williams, *The Rhetoric of Property*, 83 *IOWA L. REV.* 277, 283 (1998).

81. See ACKERMAN, *supra* note 13; Penner, *supra* note 51, at 712–14 & n.1 (1996); Merrill & Smith, *supra* note 16, at 357–58 (“It is a commonplace of academic discourse that property is simply a ‘bundle of rights,’ and that any distribution of rights and privileges among persons with respect to things can be dignified with the (almost meaningless) label ‘property.’ By and large, this view has become conventional wisdom among legal scholars: Property is a composite of legal relations that holds between persons and only secondarily or incidentally involves a ‘thing.’” (footnotes omitted)).

82. See *supra* text accompanying notes 56–60. Our results are broadly consistent with those in Nash, *supra* note 11, at 711–19; *id.* at 721 (discussing the results and noting that, “for all statistically significant results, subjects who received surveys that presented property rights under the bundle paradigm were more accepting of law school interference with those rights than those whose surveys presented the rights under the discrete asset paradigm”).

83. For example, studies reveal that some tribal groups have social norms that foster more communal property rights. For discussion of the success and failure of some of these resource

“instinct” in light of the evolutionary history of humans to live in groups and vary their property arrangements and territorial borders in pro-social (and adaptive) ways.⁸⁴

Real-world examples provide evidence of the success of bundle-of-rights and forewarning reframing. One case in point is the rise and quick acceptance of zoning regulation. Zoning represented a substantial accretion in government power and imposed very real limitations on individuals’ property rights—including limitations on homeownership. Zoning reflects the bundle paradigm, with property owners holding only the rights to certain uses and kinds of development. Yet, zoning is pervasive and well accepted by the general public, at least compared to public reaction to eminent domain.⁸⁵ This state of affairs has ensconced itself over time, with vast swaths of the population exposed to zoning as a limitations frame. While isolated disputes over zoning persist, the notion that the government has the power to zone—and the concomitant point that people’s land use interests are subject to substantial limitation through zoning—has been absorbed by the public.⁸⁶ The acceptance of property rights limitations in zoning does not, however, appear to have generalized to all property contexts, perhaps because other forms of regulation are more sporadic, visible, or emotionally evocative than zoning.

Another example of successful reframing is landlord property rights vis-à-vis tenant rights. While landlords historically enjoyed substantial dominion by virtue of property ownership, the evolution of the law in this area has substantially eroded landlords’ rights.⁸⁷ Landlords may no longer

management regimes, see Ezra Rosser, *This Land is My Land, This Land is Your Land: Markets and Institutions for Economic Development on Native American Land*, 47 ARIZ. L. REV. 245, 308–10 (2005).

84. For a discussion of evolution and territoriality, see Stephanie Stern, *Housing Exceptionalism in the Fourth Amendment*, 95 CORNELL L. REV. (forthcoming 2010). Jeffrey Stake writes about a property instinct with respect to temporal priority and possession but notes that “[o]ur property instinct or mental adaptation might be nothing more than a natural inclination to learn the rules that other humans use to resolve the coordination problem inherent in resource disputes . . .” Stake, *supra* note 29, at 1764. For a discussion of possible evolutionary theories of property rights, see James E. Krier, *Evolutionary Theory and the Origin of Property Rights*, 95 CORNELL L. REV. 139, 150–59 (2009).

85. It is now well accepted that “[a] person should not purchase property until he has ascertained what zoning ordinances, if any, affect it.” 3 WARREN’S WEED ON THE NEW YORK LAW OF REAL PROPERTY § 9.04 (Oscar LeRoy Warren et al., eds.) 4th ed. 2000). Acceptance of zoning is enhanced by the continued availability of the Takings Clause for regulatory actions that “go[] too far,” Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922), and by the Court’s holding in *Palazzolo v. Rhode Island*, 533 U.S. 606 (2001), that the mere fact that someone gains title to property after a zoning ordinance has already taken effect does not preclude a Takings challenge.

86. We are grateful to Nicole Garnett for this point.

87. For discussion, see Karl Manheim, *Tenant Eviction Protection and the Takings Clause*, 1989 WIS. L. REV. 925, 1009 & n.502; Thomas M. Quinn & Earl Phillips, *The Law of Landlord-Tenant: A*

avail themselves of self-help,⁸⁸ law empowers tenants to offset rental payments for breaches of the implied warranty of habitability,⁸⁹ and landlords must abide by publicly approved rental increases in cities with rent control and stabilization.⁹⁰ Concededly, landlords have not embraced these reforms with enthusiasm—yet still the basic point remains that the landlord’s property interest today, generally speaking, resembles the bundle paradigm and has been accepted by the public.

B. Reframing Property: Property Perceptions and Behavior

Our findings demonstrate that the framing of property rights affects people’s perceptions of those rights. Our results expand the psychological literature validating the power of framing and provide new evidence that framing effects extend to property rights. Our research also bridges the theoretical divide between property theorists about the proper conception of property—and pushes the boundaries of this debate. As Stephen Munzer writes, “[i]t is perfectly sound to think of property both as things . . . and as relations among persons or other entities with respect to things—provided that the context makes clear which conception is meant.”⁹¹ Framing offers law a way not only to make that context clear, but to actually shape attitudes and expectations.⁹²

Why is framing property so effective? We contend that framing through the bundle of rights casts property in a “language of limitation.” Bundle framing does this by breaking out use rights as stand-alone rights that may be granted or, presumably, not granted (or even taken away). Indeed, in the bundle of rights/no forewarning condition, a significant number of participants understood the bundle-of-rights frame to impose explicit limitations on their property rights. In addition, by increasing cognitive demand, bundle-of-rights framing may encourage participants to shift from “system 1” affectively-driven processing to more analytical “system 2” processing. Forewarning emphasizes, or cognitively primes, the prospect of regulation and regulatory loss. Research has shown that

Critical Evaluation of the Past with Guidelines for the Future, 38 FORDHAM L. REV. 225, 227–35 (1969); see generally Amanda Quester, *Evolution Before Revolution: Dynamism in Connecticut Landlord-Tenant Law Prior to the Late 1960s*, 48 AM. J. LEGAL HIST. 408 (2006).

88. See Manheim, *supra* note 87, at 1009.

89. See *id.* at 1009 n.502.

90. See, e.g., Craig Gurian, *Let Them Rent Cake: George Pataki, Market Ideology, and the Attempt to Dismantle Rent Regulation in New York*, 31 FORDHAM URB. L.J. 339, 342 (2004).

91. MUNZER, *supra* note 55, at 17.

92. *Id.*

framing a problem as a loss increases cognitive processing and mental model complexity.⁹³ Similarly, feelings of personal threat increase information processing relative to feelings of personal mastery.⁹⁴ Framing by forewarning of restrictions or suggesting limitation indirectly through the bundle-of-rights paradigm likely causes individuals to perceive a threat to their personal situation which increases information processing and recall upon subsequent regulation.

It is important to underscore that our experiments measured perceptions and attitudes. We recognize that attitudes do not translate automatically into behavior. At the same time, attitudes are of great importance in understanding behavior. For one thing, attitudes are surely not unrelated to behavior; the empirical literature indicates that attitudes translate, albeit imperfectly, into behavior.⁹⁵ Accordingly, we cannot conclude from our study, for example, that a subject who indicated a particular willingness-to-pay for a laptop would actually offer to pay that amount of money.⁹⁶ However, we can infer that framing is likely on average to affect actual willingness to pay. Indeed, several studies have found a correlation between verbal expressions of willingness to pay and actual purchasing behavior.⁹⁷

Certain factors increase the likelihood that attitudes will translate into behavior. These factors include having a vested interest in the outcome, how clearly defined the attitude is, the presence of behavioral intentions, and whether the attitude is formed on the basis of direct experience.⁹⁸ In particular, bringing an attitude to mind plays a key role in prompting behavior; the more frequently attitudes are brought to mind, the higher the consistency between attitude and action.⁹⁹ Thus, multiple exposures to a

93. See Dhavan V. Shah et al., *The Interplay of News Frames on Cognitive Complexity*, 30 HUM. COMM. RES. 102, 105 (2004).

94. See George E. Marcus, *The Structure of Emotional Response: 1984 Presidential Candidates*, 82 AM. POL. SCI. REV. 737, 737–39 (1988).

95. The translation is not one-to-one—but neither is it zero. See Russell H. Fazio, *How do Attitudes Guide Behavior?*, in HANDBOOK OF MOTIVATION AND COGNITION 205 (E. Tory Higgins & Richard M. Sorrentino eds., 1986).

96. As a general matter, attitudes will most likely translate into actual behavior when the costs of undertaking the relevant behavior is low. See *id.*

97. See Green & Blair, *supra* note 38, at 3 (reviewing studies on verbal versus actual willingness to pay).

98. See Fazio, *supra* note 95, at 218–19.

99. See ELIOT R. SMITH & DIANE M. MACKIE, SOCIAL PSYCHOLOGY 305 (3d ed. 2007) (“If attitudes are to guide actions, they must be readily accessible and appropriate to their intended behavior. Attitudes can be made accessible through deliberate thought, self-awareness, or frequent use, [or if they are] specific to a particular behavior . . .”).

frame, or as we discuss below, exposure to multiple frames, enhances not only effects on attitudes but also the translation of attitudes to behaviors.

C. Framing Synergies

Our study shows that “frame layering” greatly enhances the success of framing. Specifically, we found that employing both forewarning of restrictions on property use and the bundle-of-rights paradigm increased framing effects synergistically—that is, more than the sum of either framing device standing alone. This finding is critical because framing is not a costless enterprise, particularly when laypeople encounter complex legal frames.¹⁰⁰ Our research responds directly to this issue by finding a simple method, frame layering, which increases the cost-effectiveness of framing interventions.

What is it about the combination of framing property rights in the bundle paradigm and framing via forewarning that tends to do a successful job at reducing people’s expectations about their property rights? We speculate that bundle framing and forewarning framing attenuate expectations because they focus attention on limitations in rights. The combination of the two does even more work than either standing alone, presumably because each framing mechanism tends to reinforce the other. It is jointly, then, that the framing mechanisms are most successful at liberating people from the discrete asset mindset and focusing attention on property constraints.

In practice, are there occasions when paradigm framing (i.e., bundle/discrete asset) works in concert with the inclusion of forewarning? We think the answer to this question is “yes.” In the statutory context, sophisticated legal players routinely confront combinations of bundle and forewarning framing. Statutes such as the Clean Air Act limit use rights with respect to pollution and specify *ex ante* restrictions.¹⁰¹ In other instances, background societal norms frame property interests in a particular way, with legal rules and disclosures enhancing that frame. Creating multiple layers of frames or capitalizing on preexisting framing synergies increases the efficacy of rights-limiting regulation and, in some cases, may reduce enforcement costs.

100. See *infra* Part III.E.

101. See, e.g., Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1677, 1681 (2007).

D. A Public Choice Model of Framing

One of the most powerful aspects of framing is its effect on public opinion.¹⁰² Effective framing alters attitudes. Attitudes in turn create political climates. Framing may also have a significant effect on political behavior. Attitudes are more likely to translate into behavior when the actions in question are low in cost.¹⁰³ Casting a vote in an election or referendum and responding to a public opinion phone poll are relatively low-cost behaviors.¹⁰⁴

Elected representatives are cognizant of constituents' voting and frequently are responsive to their strongly held attitudes. They may be chastened by voters' attitudes to adopt or modify laws or implement other reforms.¹⁰⁵ These actions may take the form of legislation that has an affirmative impact, or "symbolic legislation" that simply affirms a shared understanding.¹⁰⁶ Even though it lacks substantive "teeth," symbolic legislation may further entrench a particular frame. Political entrepreneurs (the class of which may include some politicians) perceive the resonance of frames and may react by translating frames into political will for change or, as the case may be, for maintaining the status quo.¹⁰⁷

As an example, consider the Supreme Court's decision in the celebrated *Kelo v. City of New London*¹⁰⁸ case. In *Kelo*, the Court upheld a state's determination that the use of eminent domain to obtain non-blighted properties for a private redevelopment project was a "public use" and therefore permissible under the Constitution's Takings Clause.¹⁰⁹ Commentators have noted that the decision in *Kelo* was entirely consistent

102. There is direct empirical evidence that framing issues, particularly in a way that highlights the potential for individual loss from a baseline reference point, increases political behavior (e.g., voting). This occurs because framing in the language of loss increases cognitive complexity which in turn mediates political behavior. See Shah et al., *supra* note 93, at 116.

103. See BRUNO S. FREY, NOT JUST FOR THE MONEY: AN ECONOMIC THEORY OF PERSONAL MOTIVATION 60–63 (1997).

104. Of course, the low voter turnout indicates that voting is not costless. However, compared to the cost of changing one's individual behavior with respect to property or undertaking personal protest of a property law, voting is comparably quite low cost.

105. Politicians also may take action to strengthen existing frames or to defend them against perceived assault.

106. See, e.g., Kirsten H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *ECOLOGY L.Q.* 183, 215 (2005) (characterizing state efforts to address global warming as symbolic regulation).

107. See, e.g., Dale B. Thompson, *Political Obstacles to the Implementation of Emissions Markets: Lessons from RECLAIM*, 40 *NAT. RESOURCES J.* 645, 659–60 (2000) (discussing political entrepreneurs).

108. 545 U.S. 469 (2005).

109. *Id.* at 490 (citing U.S. CONST. amend. V).

with earlier Supreme Court precedent; in short, if the decision worked a change in preexisting law, it was not a large one.¹¹⁰ Despite this, public reaction to the *Kelo* decision was negative, and nothing short of vociferously so.¹¹¹ One might say that the public's "frame" of property rights did not square with preexisting Supreme Court Takings Clause precedent, and *Kelo*—a dry Supreme Court opinion—was unsuccessful at altering that frame.¹¹²

In response to the public outcry, federal and state politicians considered, and in some cases enacted, statutes to constrain the freedom that governments could constitutionally enjoy under *Kelo*.¹¹³ For example, California amended its Constitution to prohibit state and local governments from exercising eminent domain over owner-occupied residences for the purpose of economic development with certain exceptions for public health and safety needs.¹¹⁴ Indiana mandated compensation at 150% of fair market value for condemnation of a primary residence¹¹⁵ and many states adopted legislation limiting eminent domain for private redevelopment or urban renewal to "blighted" areas.¹¹⁶ Some of

110. See, e.g., Thomas W. Merrill, *Six Myths about Kelo*, 20 PROB. & PROP. 19, 19–20 (2006); Daniel H. Cole, *Why Kelo is Not Good News for Local Planners and Developers*, 22 GA. ST. U. L. REV. 803, 803 (2006). *But cf.* Ilya Somin, *Controlling the Grasping Hand: Economic Development Takings after Kelo*, 15 SUP. CT. ECON. REV. 183, 240–44 (2007).

111. See, e.g., Cole, *supra* note 110, at 819–25.

112. We note that the Court's job is not—or at least the Justices on the Court may not see their job to be—reframing ordinary individuals' perceptions. *But see* Barry Friedman, *The Politics of Judicial Review*, 84 TEX. L. REV. 257 (2005) (questioning whether the Supreme Court can consistently defy the public will); LARRY D. KRAMER, *THE PEOPLE THEMSELVES: POPULAR CONSTITUTIONALISM AND JUDICIAL REVIEW* (2004) (arguing that constitutional decision-making is often grounded upon, and draws support from, popular opinion). *Cf.* ACKERMAN, *supra* note 13, at 113–67 (discussing how existing Supreme Court Takings precedent vindicates lay expectations about property rights).

113. See, e.g., Cole, *supra* note 110, at 830–44; Somin, *supra*, note 110, at 244–59. *But cf.* Ilya Somin, *The Limits of Backlash: Assessing the Political Response to Kelo*, 93 MINN. L. REV. 2100 (2009).

114. See CAL. CONST. art. I, § 19 (amendment proposed after a public initiative collected enough signatures to qualify this for statewide ballot). Colorado, Connecticut, and New Jersey proposed but did not enact similar legislation.

115. See H.B. 1010, 114th Gen. Assem., 2d Reg. Sess. (Ind. 2006) In addition, Connecticut now requires the government to pay 125% of the average appraised value of property acquired by eminent domain by a development agency, see S.B. 167, 2007 Leg., Jan. Sess. (Conn. 2007), and Kansas requires the legislature to consider compensation to all landowners whose property is condemned at 200% of the appraised value, see S.B. 323, 2007 Leg., Sess. of 2007 (Kan. 2007).

116. See, e.g., S.B. 167, 2007 Leg., Jan. Sess., (2007) (eminent domain for urban renewal allowed only in blighted areas), S.B. 7, 127th Gen. Assem. (Ohio 2007) (at least 70% of parcels must be blighted before area can be designated as a blighted area), S. 155, 2007 Leg., 117th Sess. (S.C. 2007) (authorizes legislature to enact laws allowing eminent domain to remedy blight with the property put to public or private use), H.B. 365, 2007 Leg., Gen. Sess. (Utah 2007) (use of eminent domain in urban renewal if property is blighted).

this legislation was weak or symbolic; in other cases, statutes imposed substantial constraints.¹¹⁷

The eminent domain example illustrates how politicians may respond to strong public frames regarding private property protection (as well as their own frames) through legislative change. These new laws have a feedback effect on public perceptions and strengthen already robust frames—in some cases to the detriment of other social goals. As evidenced by our study, effective framing of property rights *ex ante* through law or norms has the potential to attenuate public response (and thus to reduce the likelihood of unconsidered or reactionary legislation in the heat of the political moment).

E. Framing Costs and Considerations

What are the costs and considerations of reframing, and when can we expect reframing to be successful? Our experiments suggest that framing can be accomplished at less cost than many commentators have assumed. Yet, framing is not costless. Developing and communicating frames effectively is a resource-intensive venture.¹¹⁸ Moreover, framing is not invariably successful. Citizens may fail to notice or attend to property frames. The frame that the owner infers may differ from the intended frame. For example, the failure of a number of subjects in group 4 to answer the manipulation check questions correctly illustrates the vulnerability of framing to ambiguity and disuniformity. In this Section, we consider cognitive constraints on framing, the risks of disuniform framing, normative considerations, and the problem of frame drift.

1. Cognitive Constraints

Although our data refute the traditional account that the discrete-asset frame is strongly entrenched in the lay mindset, we remain careful not to overstate the ease with which reframing might be accomplished. Consider that the initial understanding of a property right is a frame. As scholars explain, there is cost associated with the initial definition of property rights.¹¹⁹ Indeed, one can expect property rights to arise only where the

117. See Somin, *supra* note 113.

118. The design of our experimental instruments took a considerable amount of time. Presumably, the fact that reframing was sought for reasons other than experimentation would not reduce the time investment required.

119. For discussion, see Henry E. Smith, *Semicommon Property Rights and Scattering in the Open Fields*, 29 J. LEGAL STUD. 131 (2000); Henry E. Smith, *Exclusion versus Governance: Two*

benefits of having those rights exceed the information costs of delineating, monitoring, and enforcing those rights.¹²⁰ Reframing presumably involves not only the cost of delineating, monitoring, and enforcing new property rights, but also the cost of suppressing the preexisting rights frames.

Several factors affect the cost of reframing. One factor is surely the number and strength of preexisting natural frames. The greater the number of preexisting frames and mechanisms underlying those frames, the harder and more costly it will be to achieve reframing.¹²¹ In addition, people may have strong preexisting frames and subjective attachments for certain types of property,¹²² such as family heirlooms or homes,¹²³ and weaker attachments to other property.¹²⁴ One might theorize that convincing people to abandon their preexisting frames and to accept a different frame might be more difficult where attachments to the underlying property are stronger.¹²⁵ A second factor is the extent to which the new frame differs from the original frame. The more discordant the new frame is as compared with the old one, the more difficult, and therefore more costly, it will be to convince people to accept the new frame. In contrast, marginal reframing can be attained more cheaply and easily. A third factor is the duration that one desires the reframing to persist. It is reasonable to expect that more extensive and time-consuming reframing will be required to durably ensconce the new frame in individuals' minds. A fourth factor might be whether reframing addresses educated or sophisticated players. While individual property owners may adhere to less nuanced conceptions

Strategies for Delineating Property Rights, 31 J. LEGAL STUD. S453 (2002); Henry E. Smith, *Governing Water: The Semicommons of Fluid Property Rights*, 50 ARIZ. L. REV. 445 (2008).

120. See Harold Demsetz, *Toward a Theory of Property Rights*, 57 Am. Econ. Rev. Proc. 347 (1967); Jonathan Remy Nash, *Economic Efficiency versus Public Choice: The Case of Property Rights in Road Traffic Management*, 49 B.C. L. REV. 673, 679–81 (2008) (describing the theory that property rights evolve based upon economic considerations).

121. See Chong & Druckman, *supra* note 35, at 108–09. For discussion of the difficulties and costs of reframing in various contexts, see Sean Hannon Williams, *Sticky Expectations: Responses to Persistent Over-Optimism in Marriage, Employment Contracts, and Credit Card Use*, 84 NOTRE DAME L. REV. 733 (2009).

122. See generally Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849 (1987).

123. See Jeannie Suk, *Taking the Home*, 20 L. & LITERATURE 291, 295–98 (2008) (describing the potential loss of a home to eminent domain or foreclosure as particularly likely to generate anxiety). But see Stephanie M. Stern, *Residential Protectionism and the Legal Mythology of Home*, 107 MICH. L. REV. 1093 (2009).

124. See, e.g., David Fagundes, *Property Rhetoric and the Public Domain*, 94 MINN. L. REV. 652 (2010) (discussing “patent trolls”). Of course, a piece of property, like a patent, to which people might ordinarily not develop a strong attachment might, in particular cases, still generate a strong connection.

125. See Nadler & Diamond, *supra* note 43 (presenting empirical evidence that people’s opposition to governmental takings increases the greater the attachment the former owner had to the property that was taken).

of property ownership, sophisticated actors, such as corporations and their legal counsel, are familiar with law and legal institutions. As such, they are more likely to understand legal limits on the uses of their property.¹²⁶

2. *Disuniform Framing and Market Fungibility*

Although reframing is usually successful, its effects may not be identical across all participants. This creates disuniform framing where the actual effect deviates from the intended one. To achieve the fine-tuning necessary to reframe uniformly might be quite costly. Much as people are sometimes overwhelmed with information provided in disclosures¹²⁷ and on labels,¹²⁸ people might be unable, or at least strongly disinclined, to sort through all the information necessary to convey meaningful, uniform reframing.

On the other hand, one might choose to accept less costly, but also more likely disuniform and unpredictable, reframing. The introduction of disuniform reframing—that is, a situation where some people have one frame of reference for property rights and another group has another, or perhaps a situation where people have different understandings of property rights with respect to different classes of property—may introduce its own costs. Disuniformity in property rights impairs the fungibility of property and thus adversely affects market trading in property rights.¹²⁹ One of the

126. This is a possible reason as to why law students, and ultimately lawyers, are better able to internalize the bundle paradigm, despite having been reared in the discrete asset paradigm. Cf. Kyle D. Logue, *Legal Transitions, Rational Expectations, and Legal Progress*, 13 J. CONTEMP. LEGAL ISSUES 211, 229 (2003) (explaining that, insofar as presumption against legal transition relief is designed to encourage societal actors to anticipate legal change, the presumption should apply more strongly to sophisticated actors, for they are better positioned to anticipate legal change).

127. See, e.g., William N. Eskridge, Jr., *One Hundred Years of Ineptitude: The Need for Mortgage Rules Consonant with the Economic and Psychological Dynamics of the Home Sale and Loan Transaction*, 70 VA. L. REV. 1083, 1133 (1984) (“Some psychological studies suggest that the processing capacity of short term memory is five to seven ‘chunks’ of information—beyond that, processing problems occur. These ‘information overload’ studies may not represent the final word on the subject, but there is substantial agreement that decisionmakers cannot effectively process numerous chunks of information.”) (footnote omitted); Patrick K. Hetrick, *Drafting Common Interest Community Documents: Minimalism in an Era of Micromanagement*, 30 CAMPBELL L. REV. 409, 414–20 (2008) (“The quest for certainty and clarity in document drafting reaches a point of diminishing returns as the clauses, cross-references, and pages accumulate to the point of wearing out the reader.”); Nancy Ann Connery, *The “How To” Manual for Closing a Residential Sale*, in PLI’S MCLE BRIDGE THE GAP PROGRAM MATERIALS 391, 438 (1999) (noting that, among the documents at a real estate closing are “a truth-in-lending disclosure statement . . . which invariably confuses the buyer,” and “a HUD settlement statement, which discloses (in a completely confusing fashion) all closing expenses”).

128. See, e.g., Lars Noah, *The Imperative to Warn: Disentangling the “Right to Know” from the “Need to Know” about Consumer Product Hazards*, 11 YALE J. ON REG. 293, 369 (1994).

129. See generally James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607 (2000). Cf. Janet C. Neuman, *Have We Got a Deal for You:*

values of property law—and, arguably one of the reasons that property law has evolved as it has—is that the limited number of building blocks from which property may legally be assembled makes it possible for the rights and liabilities that inhere in owners and third parties to be disseminated as unambiguously as possible and understood by large numbers of people.¹³⁰ It is for this reason that policymakers seeking to develop functioning markets in environmental degradation rights must take care to define rights broadly and clearly.¹³¹ Similarly, the law of negotiable instruments renders personal defenses unavailable to holders in due course in order to provide clearly delineated property rights that render the instruments tradable.¹³² With respect to property frames, the cost of “reframing” understandings of property across swaths of the public could be sizeable.

3. Normative Considerations and Utility Reduction

Beyond the simple balancing of benefits and costs—or perhaps included in it—one also needs to consider the normative implications of reframing. In this Article, we focus predominantly on attenuating property rights through bundle/forewarning framing in the specific contexts of property and environmental law.¹³³ We acknowledge, however, that there are many situations where strong rights, or even strong misperceptions of rights, are desirable for economic investment, political stability, or personal utility.

Normative misframing occurs when framing weakens property rights when in fact stronger rights are needed (or vice versa) to promote efficiency, investment, or other goals.¹³⁴ For example, the avoidance and

Can the East Borrow from the Western Water Marketing Experience?, 21 GA. ST. U. L. REV. 449, 488–89 (2004) (lack of definition in water rights makes development of market in water rights difficult).

130. See generally Merrill & Smith, *supra* note 16; Henry E. Smith, *The Language of Property: Form, Context, and Audience*, 55 STAN. L. REV. 1105 (2003).

131. See Ruhl & Salzman, *supra* note 129, at 638–42.

132. On the goals and history of the law governing negotiable instruments and commercial paper, see Curtis Nyquist, *A Spectrum Theory of Negotiability*, 78 MARQ. L. REV. 897, 900–01 (1995); M.B.W. Sinclair, *Codification of Negotiable Instruments Law: A Tale of Reiterated Anachronism*, 21 U. TOL. L. REV. 625, 628–68 (1990) (history of legislative enactments); Edward L. Rubin, *Learning from Lord Mansfield: Toward a Transferability Law for Modern Commercial Practice*, 31 IDAHO L. REV. 775, 795–98 (1995).

133. See, e.g., Thomas W. Merrill & Henry E. Smith, *The Morality of Property*, 48 WM. & MARY L. REV. 1849 (2007); Merrill, *supra* note 61; Carol M. Rose, *Property as the Keystone Right?*, 71 NOTRE DAME L. REV. 329 (1996); EPSTEIN, *supra* note 1, and the authorities cited therein.

134. See, e.g., Richard A. Epstein, *How to Create—or Destroy—Wealth in Real Property*, 58 ALA. L. REV. 741 (2007) (noting that strong conceptions of property are important as a bulwark against excessive state regulation). Cf. Amnon Lehavi, *The Property Puzzle*, 96 GEO. L.J. 1987, 1991 (2008)

resolution of minor disputes may not be worth the sacrifice that large-scale watering down of property rights might entail. When policy makers make the wrong normative choice, framing (because of its effectiveness) amplifies the negative consequences of that error. Property institutions often reflect, and evolve naturally with, society's core values and artificial framing may short-circuit that process.¹³⁵ In addition, because framing focuses and narrows citizens' thoughts, it may suppress individual insight and group deliberation and thus reduce the likelihood that normative errors will be corrected.¹³⁶

Our evidence suggests additional reasons for using bundle-of-rights and forewarning framing selectively. In our study, these frames decreased valuation and preference-satisfaction. We found that subjects attached less financial value to the laptop and were less satisfied with the legal rule (i.e., purchase policy) in the bundle of rights and forewarning conditions.¹³⁷ Of course, there may be ways to structure framing to minimize this problem. A recent study suggests that dissatisfaction may be ameliorated with framing that emphasizes the ultimate benefits to citizens of regulation or resource allocation.¹³⁸ Nonetheless, we emphasize the importance of targeting framing interventions to problem areas in law where social gains exceed individual utility losses.

4. *Frame Drift*

Our data offer no insights as to the durability of reframing and longevity of entitlement expectations.¹³⁹ The surveys did not take

(arguing that "dramatic" and broad decisions about property rights should be made explicitly by publicly "reasoned resolutions of government entities entrusted with the power and duty of collective decisionmaking," subject to the supervision of courts).

135. See Joseph William Singer, *Democratic Estates: Property Law in a Free and Democratic Society*, 94 CORNELL L. REV. 1009 (2009); Merrill & Smith, *supra* note 133; Davidson, *supra* note 55.

136. One study found that framing an issue in terms of a value (in this case equality) increased inter-subject agreement but led subjects to express fewer thoughts about the issue. See Paul R. Brewer & Kimberly Gross, *Values, Framing, and Citizens' Thoughts about Policy Issues: Effects on Content and Quantity*, 26 POL. PSYCHOL. 929, 929-43 (2005).

137. The lower satisfaction with the policy is consonant with research showing that individuals prefer certainty and overweigh the value of certain outcomes relative to probable outcomes, even when the economic value is identical. See Tversky & Kahneman, *supra* note 7; see also Chris Guthrie, *Prospect Theory, Risk Preference, and the Law*, 97 NW. U. L. REV. 1115, 1119 (2003) (describing applications of prospect theory to various legal issues).

138. See Eyal Gamliel & Eyal Peer, *Positive versus Negative Framing Affects Justice Judgments*, 19 SOC. JUST. RES. 307, 312 (2006) (framing situations to emphasize benefits rather than burdens increased perceptions that the situation was just).

139. Cf. Scott Davies, *From Moral Duty to Cultural Rights: A Case Study of Political Framing in Education*, 72 SOC. EDUC. 1, 6 (1999) ("Framing strategies are far from foolproof; they are often

participants very long to complete. To the extent that reframing was achieved, we do not know whether that reframing persists for any substantial length of time. It may be that some, or all, participants who acclimated to a new frame reverted to a default or other frame after some period of time. It may also be that “sticky” reframing is possible but requires more extensive, and costly, reframing efforts. These are issues we could not investigate within our study design but which would be productively addressed by future research.¹⁴⁰

IV. APPLICATIONS

In this Part, we discuss areas where it might be possible, and normatively desirable, to attain reframing via the bundle paradigm and forewarning.¹⁴¹ Among many potential applications of our research, we consider conservation on private land, pollution, common interest communities, and intellectual property rights. Specifically, we discuss the potential of framing in the environmental law context of species preservation and marketable pollution permits.¹⁴² We also examine the interplay of property frames and legal disputes in common interest communities and in the first sale doctrine of copyright law.

A. Property Rights and Environmental Regulation: Species Preservation on Private Land and Tradable Pollution Permits

Consider the setting of environmental law. Here, property owners often fail to take into account the external harms they impose upon neighbors and society in general. In response, environmental laws generally seek to reduce the problematic activities, to force actors to internalize the

rebutted by opponents who are seeking to undermine and discredit the claims. Transforming or extending frames poses risks for interest groups, since by moving into new discursive territory and by allying with new causes, they may gain new opponents.”) (citation omitted).

140. In addition, future research could productively explore the interaction between framing and perceptions of procedural justice. For research in this area, see Zinta S. Byrne & Deborah E. Rupp, *Expectations, Voice, and Outcome: Framing Effects on Fairness Judgments*, 5, 15–17, (2000) (unpublished manuscript, available at <http://lamar.colostate.edu/~zinta/research.htm>).

141. We recognize that one might use the bundle paradigm to the contrary to *strengthen* property rights: One could emphasize that each stick in the bundle constitutes a valuable property right such that its removal entitles one to compensation. *Cf.* EPSTEIN, *supra* note 1. This is not the type of bundle reframing we examined in our study.

142. *Cf.* Hannah Jacobs Wiseman, *Notice and Expectation Under Bounded Uncertainty: Defining Evolving Property Rights Boundaries Through Public Trust and Takings*, 21 TUL. ENVTL. L.J. 233, 262–63 (2008) (discussing how existing property law fails to communicate the clear boundaries of property rights in this context).

externalities, or both. Despite these justifications for environmental regulations, individual property owners in some cases have had very negative reactions to government regulation of their property rights. One example is the substantial resistance by property owners, especially in the western United States, to enforcement of the Endangered Species Act.¹⁴³

Reframing efforts, not only in the context of stand-alone statutes but more pervasively throughout property law, can alter owners' perceptions of their rights vis-à-vis the environment. For example, formalizing or broadening the use of wildlife or conservation zones may create framing effects in some landowners. This approach builds upon the preexisting frame of zoning, which is widely accepted and arguably an internalized frame, and extends it to habitat or wildlife preservation. Similarly, the use of conservation easements frames property rights by emphasizing bundle ownership and explicitly removing one stick (i.e., the right to develop) from the bundle. In a conservation easement, a landowner donates the development rights in her land to a land trust or other nonprofit in exchange for tax benefits. The easement, and the subsequent owner education and ongoing property monitoring by land trusts, reinforce the frame.¹⁴⁴ Conservation easements have enjoyed national success with a variety of donors, including ranchers and other owners of working lands.¹⁴⁵

Market-based pollution permits offer another example of a legal form that capitalizes on framing. These regimes limit the amount of pollution that a property owner may emit to the number of tradable pollution permits that the property owner holds. Each permit authorizes its holder to emit a fixed amount of the pollutant per year (or other relevant time period). Permits may be traded freely among societal actors.¹⁴⁶ The

143. See, e.g., *Environmental Law, Wetlands Regulation, and Reform of the Endangered Species Act*, Conference Transcript, 31 WM. & MARY ENVTL. L. & POL'Y REV. 747, 749 (2007) (statement of U.S. Rep. Richard Pombo) ("Over the years, we've seen the [Endangered Species Act] be interpreted in different ways and implemented in different ways, and it has caused a number of conflicts with private property owners and with the desires of people. And that conflict has manifested itself mainly throughout the western part of the United States, but increasingly in other parts of the country."); Robert Meltz, *Where the Wild Things Are: The Endangered Species Act and Private Property*, 24 ENVTL. L. 369, 369–70 (1994) (summarizing the debate over the Endangered Species Act and private property interests).

144. See generally Nancy A. McLaughlin, *Rethinking the Perpetual Nature of Conservation Easements*, 29 HARV. ENVTL. L. REV. 421 (2005) (describing conservation easements and ways to adapt or remove easements over time).

145. See Stern, *supra* note 23.

146. See generally Jonathan Remy Nash & Richard L. Revesz, *Markets and Geography: Designing Marketable Permit Schemes to Control Local and Regional Pollutants*, 28 ECOLOGY L.Q. 569, 575–76 (2001).

introduction of tradable pollution permit regimes has effectively reframed pollution to industrial actors as a limited use right. Permit trading systems have been used successfully to control air and water pollution.¹⁴⁷ In particular, the Clean Air Act's national sulfur dioxide emission trading system has dramatically reduced acid rain.¹⁴⁸ In keeping with the notion that sophisticated actors may acclimate more readily to technical and complex reframings, tradable pollution permit systems have not been applied to private citizens.¹⁴⁹

While tradable permits have altered expectations of industrial actors, these regimes have been less successful at reframing rights in the eyes of some environmental groups and private citizens.¹⁵⁰ They charge that the permits communicate an ethos of nonregulation and "paying to pollute"—in essence an undesirable value frame. One of us has argued that these objections rely upon erroneous framings of the regulatory options among the general public and environmental community.¹⁵¹ In particular, tradable pollution permits are framed to minimize the role of government in limiting pollution and to emphasize market forces as the sole control on pollution.¹⁵² These frames persist even though, in reality, more common "command-and-control" regimes that directly limit polluting activities also convey in some sense a "right to pollute" and indirectly rely upon market forces to establish limits on pollution.¹⁵³

B. Property Rights in Common Interest Communities

Another setting in which reframing may be appropriate is the purchase by individuals of property interests that combine elements of private and

147. See Shi-Ling Hsu, *Fairness Versus Efficiency in Environmental Law*, 31 *ECOLOGY L.Q.* 303, 383–89 (2004). Currently, tradable pollution permits are poised to serve as the cornerstone of a global regime to reduce climate change.

148. See Nash, *supra* note 29, at 323–24.

149. See Thompson, *supra* note 107, at 645, 665–67 (explaining political economy that successfully defeated efforts to include use of consumer products in regional air pollution emissions permit trading program).

150. See Nash, *supra* note 29, at 325–34.

151. See *id.* (arguing that framing effects help to explain persistence of economically unjustifiable critiques of market-based forms of environmental regulation, and thus may explain the continued dominance of command-and-control regulation).

152. This framing suggests or emphasizes the "commodification" of the environment.

153. Some have suggested that the very terminology used to describe the permits itself frames the permits, unnecessarily, as an undesirable regulatory response. See Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 *DUKE L.J.* 1, 36 (1991); Jonathan Remy Nash, *Too Much Market? Conflict Between Tradable Pollution Allowances and the "Polluter Pays" Principle*, 24 *HARV. ENVTL. L. REV.* 465, 531 (2000); Nash, *supra* note 29, at 370–71.

commons ownership—“common-interest communities.” Common-interest communities include homeowners’ associations for single-family homes, cooperatives, condominiums, and timeshares. These ownership forms sometimes generate confusion for owners and would-be owners, who think they are buying one thing but in fact are getting another.¹⁵⁴ Owners’ expectations of the strength and scope of their property rights frequently create contention within these communities leading to a substantial docket of litigation.¹⁵⁵

Common-interest communities engender conflict between the preexisting frames of many owners and the governing legal rules. Purchasers may believe they are obtaining more legal rights than the law in fact accords them. This problem occurs in a variety of common-interest communities, but may be particularly marked in single-family subdivisions with homeowners’ associations. Owners move into what appears to be a traditional single-family structure and take with them a set of expectations regarding single-family ownership dominion—the “home as castle.”¹⁵⁶ These expectations are reinforced by the physical aspects of the property that the owner experiences on a daily basis: a stand-alone housing structure, private yard, exclusive driveway, etc. When the homeowners’ association imposes restrictions, such as limiting house paint color, prohibiting remodeling work, or regulating common area usage, there is often a clash between the owners’ perception of their property rights and the legal reality of common interest ownership.¹⁵⁷

This conflict is exacerbated by the incentive for sellers to mis-frame the rights being purchased at the time of sale. The seller—often a developer or promoter marketing a common-interest community—is motivated to use marketing materials to frame the rights being purchased

154. For example, in some cases buyers of timeshares are victims of “fraudulent misframing” where savvy marketers misrepresent the scope of the property rights or capitalize on buyers’ reference point of fee simple ownership. See, e.g., Carl W. Herstein, *Real Property*, 46 WAYNE L. REV. 1037, 1086 (2000) (“Anyone who has vacationed at the same spot, at the same time for 5, 10, or 20 years would almost invariably agree that they have a strong psychological sense of place and attachment, which would only be enhanced by interval ownership because it marries these preexisting feelings with a sense of entitlement and proprietorship.”); Hetrick, *supra* note 127, at 419–20; Ellen R. Peirce & Richard A. Mann, *Time-Share Interests in Real Estate: A Critical Evaluation of the Regulatory Environment*, 59 NOTRE DAME L. REV. 9, 58 (1983) (noting that timeshare “purchasers are more likely to rely upon the seller’s advertising and sales pitch than upon detailed and typically turgid registration statements”); see also Heller, *supra* note 59, at 1183–85 (noting the difficulties posed by the rise of various forms of common-interest communities, and observing that such communities “illustrate the difficulty of distinguishing good from bad fragmentation”).

155. See Lee Anne Fennell, *Contracting Communities*, 2004 U. ILL. L. REV. 829, 830–35 (2004).

156. See Stern, *supra* note 123.

157. See Fennell, *supra* note 155, at 849–51.

as broadly as possible. There are two reasons for this. First, a purchaser who believes she is getting more rights will be willing to pay a higher price. This creates an incentive for the seller to market the property using as broad a frame as possible and to de-emphasize the bundle-of-rights and common-ownership aspects. Second, absent fraud or other unlawful acts, the seller will not be liable if an owner later finds that the rights purchased are less copious than she thought at the time of purchase.

In the absence of effective regulation, the seller has little interest in making sure that the frame presented to the purchaser matches the legal reality that the owner will face down the road. For example, one common-interest community where rights frequently fall short of expectations is the timeshare. Timeshares are a highly circumscribed form of ownership where multiple parties hold limited-use rights, typically in the form of allocated time at a resort or vacation property. Considerable thought and effort is put into timeshare marketing that emphasizes the ownership interest and downplays limitations and restrictions. It is then not surprising that timeshares are a frequent source of conflict and litigation.¹⁵⁸

The incentive for developers and real estate agents to inaccurately frame ownership rights bears on the debate over housing and fraud regulation. Commentators have criticized fraud and other building regulation for reducing the supply and increasing the cost of housing.¹⁵⁹ Our work suggests that a baseline of fraud and transaction regulation may be essential to counteract seller incentives for strategic mis-framing. The findings in our study illustrate the relative ease of framing property interests to potential owners, including exaggerated and fabricated frames. In the case of common interest communities, markets do not readily self-correct to address mis-framing. Information costs for buyers are high because of the large numbers of small-scale developers, the varying rather than standardized nature of housing products, and ability of developers to structure their projects as separate companies or ventures and to use multiple business names. We do not claim that all levels and types of regulation are desirable and our research does not answer the question of “how much” regulation is efficient. But, the power of framing and the incentives for fraudulent mis-framing support a role for regulation and anti-fraud measures.

158. For discussion, see James J. Scavo, *Marketing Resort Timeshares: The Rules of the Game*, 73 ST. JOHN'S L. REV. 217, 222–23 (1999).

159. The costs of regulation are evidence not only in transaction and fraud regulation but also in land use and building regulation. For a review of this literature, see ROBERT C. ELLICKSON & VICKI L. BEEN, *LAND USE CONTROLS: CASES AND MATERIALS* 28–29 (3d ed. 2005).

Moving from the general case for regulation to specific regulatory strategies, one answer to the framing incentive problem is to mandate disclosure on the part of sellers of common interest community housing. Indeed, this is the primary regulatory approach in many states.¹⁶⁰ But disclosure has its limitations.¹⁶¹ For one thing, much as having too many warnings on a product may overwhelm consumers,¹⁶² prospective purchasers may have difficulty in digesting large amounts of disclosures. For another, the complexity of the warnings may be unclear to lay would-be purchasers.¹⁶³

Our study suggest some ways to improve disclosure (or frame-setting). Disclosures should be made in “plain language” and succinctly.¹⁶⁴ Lawyering rights descriptions with explicit forewarning of ownership limitations may also increase disclosure efficacy. For example, a short overview of the disclosures followed by material identifying the property form and listing limitations would be appropriate. Perhaps even an evocative name or property form such as “limited fee simple” or “fee simple in a limited interest community” for condominium or subdivision owners would further reinforce the appropriate frame. Even if the buyer does not fully understand the property form or limitations, she typically communicates with her bank, broker, and other agents who are likely to explain, or at least cite, the property rights legal structure.¹⁶⁵

Even with these changes, disclosure standing alone may still come up short.¹⁶⁶ Our finding about frame layering suggests that disclosure is best

160. See, e.g., Vincent Di Lorenzo, *Disclosure as Consumer Protection: Unit Purchasers' Need for Additional Protections*, 73 ST. JOHN'S L. REV. 43, 45–51 (1999) (describing New York's approach).

161. See *id.* at 51–73 (arguing that New York's disclosure approach leaves purchasers at risk).

162. See, e.g., Lars Noah, *The Imperative to Warn: Disentangling the “Right to Know” from the “Need to Know” About Consumer Product Hazards*, 11 YALE J. ON REG. 293, 369 (1994).

163. See, e.g., Di Lorenzo, *supra* note 160, at 67 (“Experienced individuals in the field of co-op/condominium offerings agree that individual consumers cannot be expected to understand an offering plan, and that they require expert assistance from attorneys, accountants, and real estate salespeople. While most buyers obtain the assistance of counsel, the assistance of other experts—e.g., accountants—is rarely sought. Moreover, given the cognitive barriers to appreciation of risks, one wonders if the assistance of counsel is effectively assisting purchasers in adequately perceiving and evaluating the risks of purchase.” (footnote omitted)).

164. Cf. 17 C.F.R. § 230.421 (mandating use of plain English in securities disclosure documents). See Judith D. Fischer, *Why George Orwell's Ideas About Language Still Matter for Lawyers*, 68 MONT. L. REV. 129, 144–45 (2007) (discussing numerous instances of legal requirements for the use of plain English).

165. See, e.g., Eskridge, *supra* note 127, at 1112 (“The homebuyer is typically educated, not by reading complicated disclosures, but by talking to bankers, builders, and brokers—intermediaries who often benefit from giving advice.”).

166. See Di Lorenzo, *supra* note 160.

employed in coordination with other framing devices. This can occur at various points in the transaction and ownership process. Post-acquisition, for example, homeowners' associations can convey and maintain frames experientially. Here, one form of common-interest community—the cooperative—illustrates the importance of setting and reinforcing frames.¹⁶⁷ Because owners buy shares in the cooperative rather than purchasing their individual apartment or townhome-style unit in fee simple, it behooves cooperatives to be particularly adept at rights framing. If purchasers do not fully appreciate the distinction, there is a greater likelihood for problems to arise because of the risk-sharing structure of ownership as well as density-related conflicts.¹⁶⁸ The cooperative ownership form is in and of itself a powerful legal frame. Prior to purchase, buyers must undergo a rigorous interview and screening process that aids in the initial phase of frame-setting.¹⁶⁹ In addition, cooperatives periodically inoculate against “frame drift” through cooperative meetings, voting practices, and vetting of potential buyers by cooperative members.¹⁷⁰

Extrapolating from the cooperative model, attention by homeowners' associations and property managers to early communications with new owners, as well as ongoing association meetings to discuss common areas and rights limitations, are important framing devices. Indeed, homeowners' association meetings may be as valuable for frame-maintenance as for addressing administrative matters. As common-interest communities continue to grow (and to trend toward professional management), developing innovative techniques for experiential frame-setting and maintenance is a productive avenue for reducing conflict and non-compliance.

Of course, other normative debates arise in structuring common-interest communities;¹⁷¹ the resolution of those debates may affect the type

167. See, e.g., Richard J. Kane, *The Financing of Cooperatives and Condominiums: A Retrospective*, 73 ST. JOHN'S L. REV. 101, 119 (1999).

It may be the case that cooperatives founder on other dimensions, such as a tendency to adopt overly restrictive regulations or use conflicts from higher-density housing. From the perspective of framing, however, cooperatives provide one model for frame-creation and maintenance.

168. Cf. Fennell, *supra* note 155, at 849–64.

169. See, e.g., Rosemarie Maldonado & Robert D. Rose, *The Application of Civil Rights Laws to Housing Cooperatives: Are Co-Ops Bastions of Discriminatory Exclusion or Self-Selecting Models of Community-Based Living?*, 23 FORDHAM URB. L.J. 1245, 1247–48 (1996).

170. Condominiums may also fare better on this score thanks to their relative ubiquity and the relatively clear documentation the banking industry has required in order to provide mortgage loans. See Mark Fenster, *Community by Covenant, Process, and Design: Cohousing and the Contemporary Common Interest Community*, 15 J. LAND USE & ENVTL. L. 3, 20 (1999).

171. See Gregory S. Alexander, *Dilemmas of Group Autonomy: Residential Associations and*

and scope of reframing that is viable in a given context. One might discover as a result of normative conflicts over the purpose and role of common-interest communities and their governance (i.e., communitarian, democratic, or mixed models) that uniform reframing is prohibitively expensive. As we discussed previously, the costs and contextual success of reframing remain quite relevant to the question of when framing will have the most impact on law and the particular framing strategies best-suited to individual property issues. At a minimum, however, a case can be made for some form of government intervention in the market for common-interest communities to remedy the information failures—indeed, the framing failures—that inhere in such markets.

C. Intellectual Property Rights: The First Sale and Exhaustion Doctrines

Intellectual property confronts many instances where holders of intellectual property rights wish to reframe that property so as to limit purchasers' rights.¹⁷² In particular, holders often want to limit the ability of purchasers to transfer or reproduce protected work or inventions. Some of the most contentious issues, and divided case law, in intellectual property focus on what are in essence framing conflicts.¹⁷³ One illustrative example is the first sale doctrine in copyright (a similar principle, referred to as patent exhaustion, applies to patented property). The first sale doctrine allows the purchaser of copyrighted material to transfer the particular copy she has obtained so long as she does not make additional copies.¹⁷⁴ For example, a purchaser may lawfully sell a book she purchased but she may not scan the book into electronic format and sell dozens of electric copies. Through the lens of framing, we can view the first sale doctrine as legally framing the purchaser's rights to allow a salient and expected use: a one-time transfer of the purchased work.

Community, 75 CORNELL L. REV. 1 (1989) (discussing conflict between interest-group pluralism and communitarian conceptions of common-interest property arrangements); Gerrit De Geest, *The Provision of Public Goods in Apartment Buildings*, 12 INT'L REV. L. & ECON. 299 (1992) (detailing relevant governance issues and explaining how doctrines of law and economics would suggest resolving them). Cf. Fenster, *supra* note 170, at 24–44 (offering case studies of common-interest communities, including discussion of the varied normative values important to different communities).

172. For a discussion of the importance of property rhetoric to many current debates involving the scope of intellectual property rights, see Fagundes, *supra* note 124, at 9–15.

173. For example, the debate over fair use may provide another interesting application of framing, particularly to the extent that the doctrine reflects a degree of acceptance of limitation of owners' rights.

174. See 17 U.S.C. § 109 (2006).

The question that has arisen is whether the copyright holder may override the first sale doctrine through explicit restrictions on transfer, or a “shrinkwrap” license arrangement. There is a split of opinion among the circuits with respect to this issue. One of the most recent cases to address this point, *UMG Recordings, Inc. v. Augusto*,¹⁷⁵ held that Augusto, who had obtained and sold on eBay promotional CDs originally provided to music industry insiders, was protected by the first sale doctrine.¹⁷⁶ The court found that a purported license to the “intended recipient for personal use only” did not create a valid license as the substance of the transaction bore the indicia of a gift transfer.¹⁷⁷ The decision balances multiple concerns in intellectual property, including preventing restraint of trade and limiting the availability of creative works. With respect to framing, the decision also suggests that the court did not view UMG’s attempted reframing through the shrinkwrap license as rigorous enough to override either the first sale doctrine or the intellectual property purchaser’s frame.¹⁷⁸

The emerging case law on the first sale doctrine implicates the issues of default frames and of framing efficacy. One reason for upholding the first sale doctrine is that it squares with purchaser’s property frame—at the least, purchasers of copyrighted material expect to be able to sell or transfer that material.¹⁷⁹ In the *Augusto* case, for example, UMG did not take action or evidence intent to regain control and so Augusto’s only notice of limitation was a boilerplate “shrinkwrap” license—a limitation that did not align with ordinary perceptions of original CDs as property that can be resold.¹⁸⁰ Russell Korobkin suggests that when contract terms are not salient to consumers, the law should increase the use of mandatory, standardized terms and allow limited judicial review of seller-drafted terms.¹⁸¹ Our framing research extends this point further: efficiency and fairness are best served when non-salient contract forms square with

175. 558 F. Supp. 2d 1055, 1065 (C.D. Cal. 2008).

176. *See id.* at 1065.

177. *See id.* at 1058, 1060–61.

178. *See id.* at 1060.

179. It is also possible that the original owner’s expectation that she can limit acquirer rights as a condition of transfer comports with the owner’s frame or understanding of property. However, the atypical nature of the restriction at issue in first sale and the likelihood that the acquirer is not a sophisticated party suggests that the acquirer’s frame, and the balance of the equities in favor of the acquirer, may be stronger in such conflicts.

180. Indeed, the frame with respect to CDs or DVDs can be quite expansive. Companies routinely struggle to prevent purchasers from copying music or movies and reselling those copies.

181. *See* Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1245 (2003).

purchasers' or acquirers' frames. Intellectual property holders who wish to limit purchasers should bear the burden of demonstrating rigorous and effective reframing of purchaser property rights.¹⁸²

CONCLUSION

In this Article, we have evaluated empirically the question of whether it is possible to “reframe” people’s perceptions of property interests. Contrary to the implicit assumptions of many commentators, we have provided evidence of successful reframing of ownership perceptions and reactions to regulation. In particular, we have identified two factors that tend to reduce people’s expectations about the strength of their property rights: (i) framing the property rights under the “bundle-of-rights” as opposed to the “discrete-asset” paradigm; and (ii) including a forewarning about limitations in the property rights. The reduction in people’s expectation is largest when both factors are employed. Certainly, reframing has its costs—especially uniform and predictable reframing. This suggests the need to employ reframing selectively. Reframing may not be desirable in all circumstances and there may be conflicts in particular instances as to whether framing should be used to weaken or strengthen property rights. Many normative issues attend the question of how strong people’s expectations about their property rights ought to be.

182. Cf. Glen O. Robinson, *Personal Property Servitudes*, (U. of Va. Sch. of Law, Law & Economics Research Papers, Working Paper No. 03-9, 2003), available at <http://ssrn.com/abstract=477541> (comparing intellectual and real property servitudes and arguing that the reasons for limiting an intellectual property owner’s right to impose post-transfer exceptions on use and resale are more exceptional than commonly assumed).

APPENDIX A: DESCRIPTIVE STATISTICS FOR LAPTOP PURCHASE POLICY

		<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
Perceptions of Ownership Scale	Discrete Asset/Forewarning	75	3.35	.99
	Bundle of Rights/Forewarning	73	2.01	.60
	Discrete Asset/No Forewarning	67	4.24	.91
	Bundle of Rights/No Forewarning	27	2.73	.97
Laptop Valuation (dollars)	Discrete Asset/Forewarning	74	\$1158.78	533.75
	Bundle of Rights/Forewarning	67	\$600.75	525.02
	Discrete Asset/No Forewarning	65	\$1249.23	483.19
	Bundle of Rights/No Forewarning	26	\$946.92	574.36
Likelihood of Installing Upgrades	Discrete Asset/Forewarning	76	2.96	1.16
	Bundle of Rights/Forewarning	73	2.58	1.24
	Discrete Asset/No Forewarning	66	3.26	1.23
	Bundle of Rights/No Forewarning	27	3.11	1.12
Satisfaction with Laptop Purchase Policy	Discrete Asset/Forewarning	75	2.19	.98
	Bundle of Rights/Forewarning	73	1.93	.82
	Discrete Asset/No Forewarning	66	2.48	1.0
	Bundle of Rights/No Forewarning	27	2.37	.79

APPENDIX B: RESPONSES TO RESTRICTIVE POLICIES DESCRIPTIVE
STATISTICS

		<i>N</i>	<i>Mean</i>	<i>SD</i>
Perceptions of Rights Infringement				
File Saving	Bundle of Rights/Forewarning	67	4.01	.90
	Bundle of Rights/No Forewarning	27	4.33	.70
	Discrete Asset/Forewarning	74	4.32	.95
	Discrete Asset/No Forewarning	65	4.65	.50
Laptop Sharing	Bundle of Rights/Forewarning	72	4.20	.88
	Bundle of Rights/No Forewarning	27	4.52	.56
	Discrete Asset/Forewarning	74	4.71	.41
	Discrete Asset/No Forewarning	67	4.76	.53
Laptop Transfer	Bundle of Rights/Forewarning	70	3.34	.98
	Bundle of Rights/No Forewarning	27	3.73	.94
	Discrete Asset/Forewarning	74	4.00	1.02
	Discrete Asset/No Forewarning	66	4.11	1.05
Likelihood of Complying				
		<i>N</i>	<i>Mean</i>	<i>SD</i>
File Saving	Bundle of Rights/Forewarning	69	2.77	1.24
	Bundle of Rights/No Forewarning	27	2.15	1.32
	Discrete Asset/Forewarning	75	2.37	1.42
	Discrete Asset/No Forewarning	66	2.11	1.12
Laptop Sharing	Bundle of Rights/Forewarning	72	2.74	1.29
	Bundle of Rights/No Forewarning	27	2.48	1.16
	Discrete Asset/Forewarning	75	2.32	1.37
	Discrete Asset/No Forewarning	67	1.97	1.10
Laptop Transfer	Bundle of Rights/Forewarning	70	3.27	1.25
	Bundle of Rights/No Forewarning	27	2.70	1.27
	Discrete Asset/Forewarning	74	2.84	1.43
	Discrete Asset/No Forewarning	66	2.56	1.30
Anger/Hostility				
		<i>N</i>	<i>Mean</i>	<i>SD</i>
File Saving	Bundle of Rights/Forewarning	67	5.67	5.47
	Bundle of Rights/No Forewarning	26	6.31	5.27
	Discrete Asset/Forewarning	70	6.06	5.19
	Discrete Asset/No Forewarning	62	7.52	5.74
Laptop Sharing	Bundle of Rights/Forewarning	69	6.30	5.56
	Bundle of Rights/No Forewarning	26	7.58	5.79
	Discrete Asset/Forewarning	74	6.96	5.65
	Discrete Asset/No Forewarning	63	8.71	5.92
Laptop Transfer	Bundle of Rights/Forewarning	67	4.27	4.79
	Bundle of Rights/No Forewarning	25	4.52	4.40
	Discrete Asset/Forewarning	73	5.34	5.63
	Discrete Asset/No Forewarning	62	5.97	5.25

Tension/Anxiety		<i>N</i>	<i>Mean</i>	<i>SD</i>
File Saving	Bundle of Rights/Forewarning	68	4.68	5.34
	Bundle of Rights/No Forewarning	26	5.08	5.80
	Discrete Asset/Forewarning	71	4.77	4.65
	Discrete Asset/No Forewarning	60	5.57	4.80
Laptop Sharing	Bundle of Rights/Forewarning	68	5.53	5.24
	Bundle of Rights/No Forewarning	26	6.31	5.24
	Discrete Asset/Forewarning	73	6.37	5.17
	Discrete Asset/No Forewarning	63	7.35	5.30
Laptop Transfer	Bundle of Rights/Forewarning	67	4.07	4.65
	Bundle of Rights/No Forewarning	26	4.19	4.82
	Discrete Asset/Forewarning	74	4.26	4.58
	Discrete Asset/No Forewarning	63	4.86	4.78