

2012

Resource Access Costs

Lee Anne Fennell

Follow this and additional works at: http://chicagounbound.uchicago.edu/law_and_economics



Part of the [Law Commons](#)

Recommended Citation

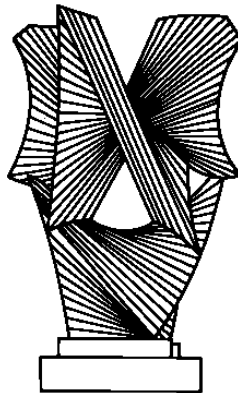
Lee Anne Fennell, "Resource Access Costs" (Coase-Sandor Institute for Law & Economics Working Paper No. 616, 2012).

This Working Paper is brought to you for free and open access by the Coase-Sandor Institute for Law and Economics at Chicago Unbound. It has been accepted for inclusion in Coase-Sandor Working Paper Series in Law and Economics by an authorized administrator of Chicago Unbound. For more information, please contact unbound@law.uchicago.edu.

CHICAGO

INSTITUTE FOR LAW AND ECONOMICS WORKING PAPER NO. 616
(2D SERIES)

PUBLIC LAW AND LEGAL THEORY WORKING PAPER NO. 404



RESOURCE ACCESS COSTS

Lee Anne Fennell

THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO

October 2012

This paper can be downloaded without charge at the Institute for Law and Economics Working Paper Series: <http://www.law.uchicago.edu/Lawecon/index.html> and at the Public Law and Legal Theory Working Paper Series: <http://www.law.uchicago.edu/academics/publiclaw/index.html> and The Social Science Research Network Electronic Paper Collection.

RESOURCE ACCESS COSTS

*Lee Anne Fennell**

In *The Problem of Social Cost*, Ronald Coase firmly installed transaction costs at the center of the economic analysis of law.¹ The potential for these costs to inconveniently interpose themselves between the world as we know it and an ideal of perfect efficiency has provided generations of law and economics scholars with an analytic north star. But the relationship between property rights and transaction costs is a fundamentally unstable one. Property rights seem to be an antecedent to transactions,² yet property can also be viewed as an invention necessitated by transaction costs,³ or as an input into the magnitude and composition of transaction costs.⁴ To think about property and transaction costs together, then, is to confront a conceptual Möbius strip.⁵ Isolating and addressing transaction costs turns out to be a slippery business that can interfere with the goal of structuring resource access optimally.⁶ For property theorists, it is the wrong enterprise.

Transaction costs are not always, and not uniquely, problematic. Like other ways of structuring access to resources, transactions are costly to

* Max Pam Professor of Law and Herbert and Marjorie Fried Research Scholar, University of Chicago Law School. I thank Abraham Bell, Yun-chien Chang, Nestor Davidson, Daniel Kelly, Giuseppe Dari-Mattiacci, Richard McAdams, Christopher Serkin, Joseph Singer, Henry Smith, Lior Strahilevitz, Stewart Sterk, Avishalom Tor, anonymous reviewers for the American Law and Economics Association, and participants in the 2012 Property Works in Progress Conference at Fordham Law School and at faculty workshops at Notre Dame School of Law and the University of Chicago Law School for helpful comments. I also thank the Stuart C. and JoAnn Nathan Faculty Fund for financial support.

¹ R.H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960). The Coase Theorem holds that when transaction costs are zero, an efficient result will be reached, regardless of the initial assignment of legal entitlements.

² See, e.g., Coase, *supra* note 1, at 8 (“It is necessary to know whether the damaging business is liable or not for damage caused since without the establishment of this initial delineation of rights there can be no market transactions to transfer and recombine them”); Douglas W. Allen, *Transaction Costs*, in ENCYCLOPEDIA OF LAW AND ECONOMICS, VOL. I: THE HISTORY AND METHODOLOGY OF LAW AND ECONOMICS 893, 898 (Bouckaert, Boudewijn and De Geest, Gerrit, eds. 2000) (“Given that trade is the transfer of property rights, there can be no trade (and hence no gains from trade) in the absence of property rights.”).

³ See Yun-chien Chang & Henry E. Smith, *An Economic Analysis of Civil versus Common Law Property*, NOTRE DAME L. REV. (forthcoming 2012), manuscript at 23 n. 58 (“in a zero transaction cost world, we would not need property rights at all”); Brian Angelo Lee & Henry E. Smith, *The Nature of Coasean Property*, 59 INT’L REV. ECON. 145, 148 (2012) (“The institution of property is itself a mechanism that enables us to avoid these [transaction] costs”); see also *infra* note 90 and accompanying text.

⁴ See, e.g., Giuseppe Dari-Mattiacci, *Endogenous Transaction Costs* (unpublished manuscript, Jan. 2012).

⁵ Some definitions of transaction costs explicitly embrace this entwinement with property rights. See Allen, *supra* note 2, at 897 (discussing property rights and transaction costs as “fundamentally interlinked” and “two sides of the same coin” on the “property right” vision of transaction costs).

⁶ The ultimate aim is optimal resource use, but I focus here on the law’s role in structuring access as a proxy for use. Some complications will be discussed below. See Part IV.C, *infra*.

produce.⁷ They may be underproduced or overproduced in certain settings due to unsolved (or suboptimally solved) collective action problems, but in other instances they may be supplied at the efficient level. Because making transactions cheaper or less necessary consumes resources that might be better deployed elsewhere, we cannot infer inefficiency from high transaction costs alone.⁸

Nor are costly transactions the only source of inefficiency worth addressing. For example, entitlement design choices implicitly subsidize certain inputs into resource access, such as boundary protection, which may drive a wedge between private and social cost in a way not usually associated with transaction costs.⁹ Thus, existing institutional structures may raise the costs of resource access even when no transaction is in view.¹⁰ The important question is whether legal changes can cost-effectively improve resource access. That inquiry proves to be broader in some ways, narrower in other ways, and more finely specified than the usual focus on transaction costs allows.

The problem is not ultimately definitional in nature, although widely divergent definitions of transaction costs have made it hard to separate substantive disagreements from semantic ones. Consider Harold Demsetz's sustained criticism of the central place given to transaction costs in Coasean analysis,¹¹ and his suggestion that "ownership costs" should receive more attention.¹² This critique (unlike Demsetz's widely-cited work on property

⁷ See HAROLD DEMSETZ, FROM ECONOMIC MAN TO ECONOMIC SYSTEM: ESSAYS ON HUMAN BEHAVIOR AND THE INSTITUTIONS OF CAPITALISM 109-10 (2008). Legal changes may be able to reduce the cost of inputs into that production process, but should be pursued only when the cost reductions are worth the price. See *infra* Part III.A.

⁸ Coase himself emphasized that external effects like train sparks do not necessarily signal an inefficiency warranting intervention. See Coase, *supra* note 1, at 18. Demsetz would extend Coase's point to apply regardless of the presence and magnitude of transaction costs, on the ground that too-costly transactions are efficiently left undone. See Harold Demsetz, *The Problem of Social Cost: What Problem? A Critique of the Reasoning of A.C. Pigou and R.H. Coase*, 7 REV. L. & ECON. 1, 10 (2011). Pierre Schlag previously argued that several points Coase made about externalities could be made in an identically structured manner about transaction costs. See generally Pierre Schlag, *The Problem of Transaction Costs*, 62 S. CAL. L. REV. 1661, 1665 (1989). Although my points and Demsetz's are different from Schlag's, they find common ground in this observation.

⁹ The notion of transaction cost could be cast broadly enough to reach all aspects of property rights, including this one. See Allen, *supra* note 2; *infra* Part I.B. But legal scholars do not always view transaction costs so broadly. For example, anticommons theorists have said nothing about the point mentioned in the text, despite their intense concern about the implications of property configuration choices for later transactions. See, e.g., Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621 (1998); Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163 (1999); Francesco Parisi, *Entropy in Property*, 50 Am. J. Comp. L. 595 (2002). In any event, simply expanding the definition of transaction costs does not resolve the conceptual difficulties flagged here. See text accompanying notes 121-122, *supra*.

¹⁰ It is true, but irrelevant, that these costs would disappear in a zero transaction cost world because everyone could pay the owner to configure optimally. If costless transactions were on offer, then the mediating institution of property would no longer be necessary at all. See *supra* note 3.

¹¹ DEMSETZ, *supra* note 7, at 106-117; Demsetz, *supra* note 8; Harold Demsetz, *Ownership and the Externality Problem in PROPERTY RIGHTS: COOPERATION, CONFLICT, AND LAW 282* (Terry L. Anderson & Fred S. McChesny, eds, 2003).

¹² See, e.g., DEMSETZ, *supra* note 7, at 116-17 (classifying free-rider problems as "ownership costs" rather than "transaction costs"); see also Demsetz, *supra* note 8, at 5 (discussing the "positive costs of ownership" in

rights) has been largely ignored by property theorists in the legal academy,¹³ and for an obvious reason: Demsetz defines transaction costs in a manner that is much narrower than most property rights theorists use the term,¹⁴ making his complaint seem uninterestingly terminological. But his critique flags problems that are substantive and important. A broader definition can indeed bring Demsetz's "ownership costs" (and much else) within the transaction cost tent, but as long as it leaves murky how these elements relate to each other and to legal interventions, the confusion and incompleteness in the analysis of resource allocation will persist.

This essay argues that transaction costs (however defined) do not comprise a useful category for legal scholars interested in the efficiency implications of property arrangements.¹⁵ Treating them as focal confuses the *cause* of our difficulties in structuring access to resources (positive transaction costs) with the *solution* to the cost minimization problem that a world featuring scarce resources and positive transaction costs presents. To see the point, observe what the counterfactual zero transaction cost world does for us. Certainly, it ensures that the "things" that property scholars focus their attention on—entitlements to emit, pieces of land, water access rights, and so on—reach their highest valuing users. But the zero transaction cost assumption also, and crucially, means that we need not worry about spending too many or too few resources on the transactions that accomplish these feats; all transactions are free. Likewise, we need not worry in the zero transaction cost world about keeping things in place when their current possessor is the high valuer; the necessary transactions to accomplish this will also be costless.

As soon as we introduce positive transaction costs into a world of resource scarcity, we must worry not only about thing-misallocation but also about resources being misallocated to structure access to those things. To focus single-mindedly on reducing or overcoming transaction costs is to miss the significance of the other resource access structures that their

connection with the existence and enforceability of private property rights); Demsetz, *supra* note 11, at 284 (describing his approach as one that not only "argues against the emphasis given by Coase, and now by the profession, to transaction cost" but that "also argues that more emphasis should be given to the conditions of ownership."); see also Harold Demsetz, *Toward a Theory of Property Rights II: The Competition between Private and Collective Ownership*, 31 J. LEGAL STUD. 563, 565-56 (2002) (observing that Coase assumed the existence of private property rights, whereas Demsetz's own work examined the development of those rights).

¹³ There are some exceptions. See, e.g., Fred S. McChesney, *Coase, Demsetz, and the Unending Externality Debate*, 26 CATO J. 179 (2006). Other scholars have engaged related aspects of Demsetz's recent work. See, e.g., Brett Frischmann, *Spillovers Theory and Its Conceptual Boundaries*, 51 WM. & MARY L. REV. 801, 810-16 (2009).

¹⁴ See Douglas W. Allen, *Transaction Costs*, in ENCYCLOPEDIA OF LAW AND ECONOMICS, VOL. I: THE HISTORY AND METHODOLOGY OF LAW AND ECONOMICS 893, 903-04 (Bouckaert, Boudewijn and De Geest, Gerrit, eds. 2000); Lee & Smith, *supra* note 3, at 150.

¹⁵ I am not the first to question the significance of transaction costs. See, e.g., Schlag, *supra* note 8, at 1699 ("To treat the presence, absence, and identity of transaction costs as the predicate determination for deciding whether to create or supplant actual pricing markets is wrongheaded."); Demsetz, *Ownership*, *supra* note 11, at 284 ("deny[ing] the importance attached by Coase to transaction cost").

presence has necessitated, and the costs associated with those structures. For example, the appealing idea that we might reduce transaction costs through thoughtful entitlement design must be tempered with attention to the converse possibility: that we might pay too much, in the currency of entitlement design, to achieve transaction cost reductions.

There are three basic reasons that transaction costs comprise a poor category around which to organize legal interventions or against which to judge the efficacy of different entitlement design choices. First, the category (at least as typically invoked) is underinclusive in ways that go to the heart of the connection between property rights and transactions. Just as there are costs associated with moving resources into the hands of a high valuer, there are costs associated with resisting transfers and keeping resources in the hands of a high valuer. The structural features of resource access arrangements—property rights—variously embody and necessitate these two sets of costs. Coase's analysis did not address transfer resistance costs, either because he assumed the existence of property rights capable of reliably resisting transfers, or because he assumed any problems with transfer resistance could be handled through another zero-cost transaction. Yet in a world of positive transaction costs, both transfer costs and transfer resistance costs must be taken into account, along with the misallocations that occur when either set of costs becomes prohibitively large.¹⁶

A second problem is overinclusiveness. Not all of the costs that are thrown together in the transaction cost bucket are equally amenable to legal interventions, nor do all of them signal inefficiencies in the allocation of resources. Some transaction costs represent blunt facts about the world that are relatively insensitive to targeted legal interventions, like the time it takes a human being to read a page of text or drive to a meeting, while others are almost entirely the product of legal and institutional rules. The question we must ask is whether there is any reason to believe that transactions are being underproduced by the market. For legal scholars, the inquiry collapses into a related question: is there any reason to believe that transaction cost *reductions* are being underproduced? If not, transaction costs should not present any special cause for concern, and the law should not attempt to alter, offset, or circumvent them.

A third problem relates to another sort of heterogeneity among impediments to efficient resource allocation. Some obstacles, like communicating with another party, relate to the coordination of willing buyers and sellers; others, like the overstatement of one's reservation price, involve conflicts over surplus.¹⁷ The distinction between conflict and

¹⁶ To be precise, the misallocations in question are of the underlying resources subject to transfer or transfer resistance. There is no misallocation of resources full stop, if the costs of moving or stopping a resource exceed the gains from doing so, and those moving or stopping costs cannot be cost-effectively reduced.

¹⁷ Some scholars have flagged this heterogeneity in transaction costs. See Ian Ayres & Eric Talley,

coordination applies not only when resources must be moved to reach a higher valuer, but also when resources must be kept from moving in order to remain with a higher valuer.¹⁸ In some cases, both nonowners and owners agree that a nontransfer should take place and need only coordinate over it, while in other cases they disagree about whether the resource should be transferred. These are different sorts of problems that call for different solutions.

In some ways, these are familiar points. It is understood already that all ways of structuring access to resources are costly.¹⁹ Transaction costs can be (and have been) defined to include the costs of property rights²⁰—although this is more of a conceptual stretch than proponents of the approach have acknowledged.²¹ There are large literatures that address various aspects of the cost minimization problem associated with structuring resource access, including work on the theory of the firm and problems of incomplete contracting.²² In the property field, work on the

Solomonic Bargaining: Dividing a Legal Entitlement To Facilitate Coasean Trade, 104 YALE L.J. 1027, 1036 (1995) (“[A]n overarching ‘Coasean’ theme of our analysis is that the type of transaction cost matters: It is inadequate to think of ‘transaction costs’ as some sort of composite good whose components imply similar policies.”); Carol M. Rose, *The Shadow of The Cathedral*, 106 YALE L.J. 2175, 2184 (1997) (distinguishing “Type I Transaction Costs,” which she defines as “difficulties that may result from having to find and assemble numerous or indistinctly defined interested parties, the costs that come prior to bargaining altogether,” from “Type II Transaction Costs,” which are “the impediments that come *after* bargaining begins, from parties who are close-mouthed, pokerfaced, strategically bargaining misanthropes”); Richard N. Langlois, *The Secret Life of Mundane Transaction Costs*, 27 ORGANIZ. STUD. 1389 (2006) (distinguishing transaction costs associated with “opportunism” and “incentive misalignment” from standard neoclassical “frictions” that are analogous to transportation costs). Other scholars have moved certain conflict costs—notably the costs of strategic behavior—outside of the transaction cost framework altogether. See *infra* Part I.B.1. What the analysis here adds to these earlier taxonomic moves is not only a matter of framing and emphasis; I also locate the conflict versus coordination distinction in a broader set of resource access impediments that encompasses the costs involved in keeping resources in place as well as the costs of transacting over them.

¹⁸ I use the idea of “movement” here metaphorically, to mean rerouting access to the resource to a different user. In the case of real property, the “thing” does not physically move.

¹⁹ See, e.g., THRÁINN EGGERTSSON, ECONOMIC BEHAVIOR AND INSTITUTIONS 102 (1990) (“[t]he firm, the market, and the legal system are all costly social arrangements”); Allen, *supra* note 2, at 895 (“all methods of allocating resources have costs and benefits, and no single mechanism works for free and dominates all others”).

²⁰ See, e.g., Allen, *supra* note 2, at 898-99 (observing that commonly used understandings of transaction costs “implicitly recognize the threat of appropriation and theft” and stating that “[w]hen property rights are protected and maintained in any context, transaction costs exist”). Yet Allen’s complaints about the “redundant” use of phrases like “zero transaction costs *and* complete property rights” (emphasis his) suggests this definition has not won universal acceptance. See *id.*

²¹ A thought experiment shows how aggressive this reading of transaction costs really is. Suppose we were to reframe the Coase Theorem around an assumption of zero transfer resistance costs, rather than zero transaction costs, in a world without any private property rights at all. If those who value a resource most highly can costlessly hold onto it, but others cannot, efficient outcomes would eventually follow if we make assumptions about background transfer mechanisms that are as strong as the assumptions that Coase implicitly made about background property rights. Had costless transfer resistance been Coase’s frame, we might now be debating whether the costs of markets or other means of moving resources in a more or less costly fashion were “really” transfer resistance costs, just as we now debate whether the institutions that provide transfer resistance (property rights) are “really” transaction costs.

²² See, e.g., R.H. Coase, *The Nature of the Firm*, 4 ECONOMICA N.S. 386 (1937); Sanford Grossman & Oliver Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POLIT. ECON. 691 (1986); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POLIT. ECON. 1119 (1990). New Institutional Economics uses a broad understanding of transaction costs to examine questions of institutional design within firms and other organizational structures. See, e.g., OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS* (1975).

optimal scope and form of land ownership has taken to heart lessons from the theory of the firm in balancing internal management and external transactions.²³ The relationship between the specification of property rights and the costs of transacting has received attention as well, with literatures developing around divided and incomplete property rights.²⁴ Scholars have also recognized important differences among types of transaction costs.²⁵

Yet these insights, threaded through different economic and legal literatures, have not been brought together in a way that allows for their intuitive use in legal contexts. Legal scholars regularly invoke the Coase Theorem's central term in law reviews,²⁶ workshops, and classrooms, but they usually do so without specifying what they mean by it, much less what assumptions they are making about the surrounding property regime.²⁷ There is instead a tendency to fall back on simple prescriptions like "reduce transaction costs" or "use the law to mimic market outcomes."²⁸ That carrying out these operations introduces costs of its own and may be less effective than other ways of improving resource access is rarely discussed. As a staple of daily discourse, the notion of transaction costs is treacherous, ready to mislead all those who are not prepared to steep themselves in oceans of economic literature on the topic, untangle deep and abiding mysteries about how property rights and transactions interact, and work through a tangle of definitional controversies.

The reflexive resort to transaction costs thus invites confusion. But it does more than that. It also keeps legal scholars in general and property scholars in particular from building as usefully as they might on existing insights. Property theory today is alive with debate on core questions of entitlement design: whether property rules or liability rules should dominate, whether an exclusion- or thing-based vision of property should trump the bundle of rights metaphor, whether fixed menus of tenure forms aid or impede efficiency, and so on. These conversations inevitably circle

²³ See Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315 (1993); Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. (PAP. & PROC.) 347, 354-59 (1967).

²⁴ See, e.g., Ayres & Talley, *supra* note 17; Antonio Nicita et al. *Towards a Theory of Incomplete Property Rights*, American Law & Econ. Assoc. Ann. Meetings (2007) http://works.bepress.com/antonio_nicita/3; Amnon Lehavi, *The Dynamic Law of Property: Theorizing the Role of Legal Standards*, 42 RUTGERS L.J. 81 (2010).

²⁵ See *supra* note 17.

²⁶ According to LEXIS, in the last year alone more than 1100 law review articles have included the term "transaction cost" (the search "transaction costs and date geq (09/02/2011)" in the U.S. & Canadian Law Review database produced 1101 hits). Rerunning the search as "transaction costs w/3 defin! and date geq (09/02/2011)" to pick up uses that included a proximate definition (labeled as such) yielded 14 hits.

²⁷ There have, however, been some careful attempts to locate a fixed starting point in comparing the effects of different institutional arrangements. See Ellickson, *supra* note 23, at 1326, n. 34 (setting out "three foundational entitlements" that are treated as exogenous in comparing land institutions, building on earlier work by Frank Michelman).

²⁸ See Schlag, *supra* note 8, at 1662-63 (listing 5 "analytical formulae" used by law and economics scholars, including instructions to "approximate the outcomes" that would obtain under zero transaction cost conditions, and, "[w]here transaction costs are high, restructure legal entitlements so as to reduce transaction costs") (citations omitted).

around to transaction costs, but because the term is confusingly and indeterminately bound up in the very enterprise at hand—designing entitlements—it can offer little guidance.

In place of a single term—transaction costs—which carries a meaning that is opaque, contested, and unstably related to the design of entitlements, we need a set of concepts that will clarify the legal scholar's task of improving access to resources. As a first step in that direction, I propose the umbrella term of "resource access costs" to designate the full range of costs associated with structuring access to resources. There are three significant moves embedded in my construction of this category. First, I include the costs of all transfers of resources, not just the costs of market transactions. Second, I include the costs of resisting the transfer of resources. Because property rights are a powerful transfer-resistance technology that also influences the costs of transfers, the costs of formulating and enforcing entitlements becomes an explicit part of the analysis. Third, because the costs associated with the suboptimal use of resources are a function of the interaction between resource access structures and transfer and transfer-resistance costs, they are encompassed as well.

Creating this wide class of costs is only an interim step to addressing concrete resource problems. We next must identify those costs that the law is in a position to cost-effectively reduce. Here heterogeneity among resource access costs becomes important. Building on previous scholarship,²⁹ I focus on two important subsets—conflict costs and coordination costs—each of which presents distinctive difficulties, corresponds to different features of an entitlement regime, and responds to different interventions. I also make a cross-cutting distinction between resource access costs that are the product of unsolved collective action problems and those that are not. The existence of such a collective action problem represents a necessary but not a sufficient condition for legal intervention. The question, as far as efficiency goes, is whether legal interventions can cost-effectively improve resource access.³⁰ If there is no surplus available for legal interventions to tap into, the question can be easily answered in the negative.

This approach usefully refocuses the attention of property scholars. It has two main payoffs. First, recognizing the full range of resource access costs challenges conventional thinking surrounding transaction costs. Efforts to reduce or avoid transaction costs will often be misguided. Indeed, transaction costs may at times be inefficiently low, producing too

²⁹ See, e.g., sources cited in *supra* note 17.

³⁰ Of course, legal interventions might be appropriate for distributive or other reasons, aside from efficiency.

many transfers of resources to higher-valuing users.³¹ Reframing the relevant set of costs thus clarifies the basis for legal intervention, and the limits on it.

A second set of payoffs sounds in property theory. Property rights are powerful mechanisms for paving the way or blocking the path between resources and high-valuing users. Meaningful evaluation of these arrangements requires moving past the property scholar's tendency to focus on the primary "thing" in view when evaluating efficiency. That focus draws attention to impediments to the thing's efficient allocation but away from the efficient allocation of resources that might be used (or not) to carry out transactions, stop them, or to make them less expensive. Likewise, property scholars concerned with transaction costs often talk past each other; some focus their attention on features in entitlement design that ease coordination, while others focus on dampening the conflict costs associated with private information.³² A clarifying vocabulary can improve the quality of this dialogue and recenter attention on the necessary design tradeoffs. For example, instead of saying a particular property feature reduces transaction costs, we might more usefully say that it "improves transactability," "increases legibility," or "pre-divides surplus."

The analysis proceeds in four parts. In Part I, I examine the relationships among transaction costs, property rights, and the pursuit of efficiency, with special attention to Demsetz's critique of Coase's focus on transaction costs. Part II constructs the category of resource access costs, and Part III shows how that category can be refined and subdivided to inform legal interventions. Part IV considers some objections and extensions.

I. TRANSACTION COST TROUBLE

The Coase Theorem, as it is taught in law school classrooms, stands for the idea that parties will bargain to an efficient result regardless of the law's initial assignment of entitlements if transaction costs are zero.³³ Students are then reminded that, as Coase well recognized, transaction costs are not zero, and indeed are routinely large. Hence, the initial assignment of legal entitlements can and does matter to efficiency. This formulation is fairly uncontroversial as far as it goes, and the takeaway lesson that law matters

³¹ My argument here is very different from the argument about "too low" transaction costs put forward in David M. Driesen & Shubha Ghosh, *The Functions of Transaction Costs: Rethinking Transaction Cost Minimization in a World of Friction*, 47 ARIZ. L. REV. 61, 99 (2005). They refer to instances where transaction costs are prohibitive, and hence not incurred. See *infra* Part I.C (discussing latent and realized transaction costs).

³² Rose makes this point when she observes that Ian Ayres and Eric Talley appear to have concerned themselves with "Type II" rather than "Type I" transaction costs. Rose, *supra* note 17, at 2184.

³³ For example, the University of Chicago Law School included this summary of the Coase Theorem in the planner it distributed to law students at the beginning of last school year: "Simply stated: in a world where there are no transaction costs, an efficient outcome will occur regardless of the initial allocation of rights." THE UNIVERSITY OF CHICAGO LAW SCHOOL 2011-12 SOURCEBOOK AND PLANNER at 21.

after all should be reassuring to law students and their professors. Nonetheless, the Coase Theorem often has the side effect of turning transaction costs into objects of resentment. If only they were zero! Why must they be so large? Isn't there anything anyone can do about them, these destroyers of efficiency?

This negative attention on transaction costs has led to some fruitful advances, but also to some wrong turns and dead ends. Understanding what the law should or should not try to do about transaction costs has been complicated by the absence of any agreed-upon definition of the term or any systematic way of ordering the heterogeneous phenomena that answer to that name. Behind a raft of terminological debates and taxonomic shortfalls lies a deep and often unacknowledged confusion about how transaction costs relate to property rights. Before we can start to untangle these difficulties, however, it is helpful to start with the intuitive case Demsetz raises against giving any special attention to transaction costs.

A. *The Demsetzian Critique*

Over the past decade, Demsetz has produced a significant body of law and economics scholarship that, among other contributions, challenges certain aspects of Coase's analysis and conclusions in *The Problem of Social Cost*. One element of that critique goes to the relationship between transaction costs and economic inefficiency.³⁴ While agreeing with Coase that a zero transaction cost world would produce allocative efficiency, Demsetz views it as deeply mistaken to equate positive transaction costs, or rational reactions to them, with inefficiency. In a representative passage, Demsetz analogizes transaction costs to transportation costs:

Imagine a railroad capable of shipping goods between two firms. The railroad incurs costs if it does this, and the cost may be so high that the shipment does not occur (and, instead, as Coase wrote in 'The Nature of the Firm' (1937), the would-be receiving firm chooses to rely on in-house production of the good that would have been shipped were there no transport cost). No inefficiency has been created if the shipment does not take place under these circumstances, for the implied gain from making the shipment is less than the cost of doing so. But, pray tell, we reach the same conclusion if we change 'shipment cost' to transaction cost. So, we had better re-examine Coase's reasoning about

³⁴ Demsetz's critique also goes to what should be included in transaction costs, as well as to the impact on efficiency of property rights and ownership structure. See *infra* Part I.B.

positive transaction cost.³⁵

At one level, this illustration makes the simple but powerful point that everything costs something, and the cost of transacting over resources is no different in kind from the cost of running machinery or of moving things from place to place.³⁶ We expect rational actors to make decisions based on what things cost, given existing technologies and physical constraints. It is a mistake to call the results inefficient if they cannot be otherwise, or cannot be otherwise at a cost that is less than the identified suboptimalities themselves.

So far so good. But digging deeper into the example raises the question of why the goods that one firm needs are located a train's journey away from that firm. The legal analogue, of course, is the assignment of rights to parties that are not the highest valuing users of those rights. The movement of rights, like the movement of goods, only comes into play when a starting point has separated these elements from the place where they would do the most good. Because getting them to that place costs more than it is worth, Demsetz is right to say that, given our starting point, the results are efficient. But we need not take the starting point as a given. Demsetz recognizes this when he notes (citing Coase) that the goods might be manufactured on site rather than moved over from elsewhere.³⁷

Not only can private parties use a change in ownership structure to alter the starting point, but the law itself can decide how entitlements will be allocated in the first instance. Demsetz recognizes this as well. Indeed, he has located the inefficiency in Coase's account in the law's misallocation of legal entitlements, not in positive transaction costs.³⁸ For legal scholars, Demsetz's insistence that the law, not the market, is to blame for inefficiencies will sound neither novel nor surprising. We are already occupationally inclined to think law is the most likely culprit, or at least the

³⁵ Demsetz, *What Problem?* *supra* note 8, at 7.

³⁶ Elsewhere Demsetz describes transactions as a product like any other:

Transaction cost is no different from other costs in regard to determining which good or service is to be produced. If the cost of producing a hydrogen-fueled automobile exceeds the price that people are willing to pay for the vehicle, efficient resource allocation requires that this vehicle not be produced. Similarly, efficient resource allocation requires that a transaction not take place if the cost of producing the transaction exceeds the price that people are willing to pay to engage in exchange. We do not shout 'inefficiency!' if the vehicle is not produced. Why proclaim inefficiency if a transaction is not produced?"

DEMSETZ, *supra* note 7, at 109-10.

³⁷ Demsetz, *supra* note 8, at 7.

³⁸ *E.g.*, DEMSETZ, *supra* note 7, at 111-12. Demsetz focuses on a Coase's statement that when transaction costs are higher than the gains from transacting, "the initial delimitation of legal rights does have an effect on the efficiency with which the economic system operates." *Id.* (quoting Coase, *supra* note 1, at 16). As Demsetz convincingly argues, the economic system does not operate with any less efficiency owing to positive transaction costs; instead, it "does the best that can possibly be done" under the circumstances. *Id.* at 112.

most tractable margin for seeking improvement. Instead, legal scholars' interest in transaction costs is very much like our interest in transportation costs might be if the government were to propose allocating location-specific goods by random helicopter drop. Positive transportation costs would make this a poor way of getting goods physically into the hands of those who value them most highly. But if transportation costs were zero (the goods could frictionlessly glide to the places they are most valued), we would not fret about the distribution mechanism.

On this account, transaction costs help to identify instances in which the law's allocation mechanism is likely to be worth the cost of worrying about. Transaction costs are thus different in kind from other sorts of costs, like burning cleaner coal or moving goods around from place to place.³⁹ And they are different in kind for a reason Demsetz himself emphasizes: they are occasioned by an act occurring outside of the market system in the court's assignment of entitlements.⁴⁰ Legal scholars may, therefore, have good reason to pay special attention to transaction costs, even if economists have no reason to treat them differently from any other cost. Not only might high transaction costs suggest that courts and other legal institutions should take more care in assigning entitlements efficiently in the first place, legal scholars might work on finding other ways to lower, counter, or sidestep transaction costs.

Yet each of these measures should be undertaken only if it is worth it, which requires a comparison of all the other possible ways of dealing with the misallocation, from letting it be, to resolving it with a more accurate initial assignment, to altering the underlying entitlement design, to applying some other transaction cost reduction or avoidance technique. Guido Calabresi made just this point in observing that the costs of both transactions and transaction substitutes must be considered in deciding what to do about misallocations.⁴¹

Demsetz's transportation example contains no such comparisons because it involves costs that are assumed to be immutable, at least in the short run.⁴² If we could invent a faster train, transportation costs that were

³⁹ These are two of the examples that Demsetz uses in arguing that transaction costs are no different from other costs. See Demsetz, *supra* note 8, at 7, 10.

⁴⁰ See, e.g., *id.* at 8-9.

⁴¹ See Guido Calabresi, *Transaction Costs, Resource Allocation and Liability Rules—A Comment*, 11 J. L. & ECON. 67, 69 (1968) (observing that "transactions do cost money," and that "substitutes for transactions, be they taxation, liability rules, or structural rules, are also not costless"). Calabresi goes on to explain: "Whatever device is used, the question must be asked: Are its costs worth the benefits in better resource allocations it brings about or have we instead approached a false optimum by a series of games that are not worth the candles used?" *Id.* This general approach is consistent with Calabresi's later work on the costs of accidents, which also powerfully applies the insight that problems are only worth solving if the solution is cheaper than the problem itself. See generally GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970).

⁴² Demsetz does, however, consider (without endorsing) the possibility that the court system could be run on market principles. If the court were dependent "on revenues secured from petitioners who purchase their services and decisions," he argues, "ownership of a disputed resource would never go to the petitioner who is less capable

initially prohibitive could fall low enough to be worth incurring. This possibility alone does not make out a case for legal intervention, however. We cannot assume that the absence of a faster train is a product of inefficiency without knowing *why* the faster train is not running. Does it cost more to invent, produce, and maintain than it is worth? Have political factions conspired to keep it out of production, or does the law fail to grant sufficient returns to the inventor?⁴³

Ultimately, the standard Chicago assertion that there is no cost-effective faster train (because if there were, we would all be riding on it already) depends on assumptions about the processes (markets and politics) that produce trains. Likewise, if the magnitude of transaction costs depends not on the interplay of competitive markets but rather on governmental responses (or the lack thereof) to collective action problems, the Chicago retort holds considerably less sway. But is that the case? The answer depends on just what we mean by transaction costs.

B. Contested Definitional Terrain

The definition of transaction costs has been a source of disagreement and confusion among scholars.⁴⁴ In *The Problem of Social Cost*, Coase himself did not use the term “transaction cost”⁴⁵ but instead referred to the “costs involved in carrying out a market transaction,” which he described as follows:

In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on.⁴⁶

Later, Coase embraced Carl Dahlman’s breakdown of transaction costs into “search and information costs, bargaining and decision costs, policing and enforcement costs.”⁴⁷ Scholars have subsequently developed a variety of

of maximizing value from its use.” Demsetz, *supra* note 8, at 9.

⁴³ Even if this is so, it is still not clear we can claim inefficiency. We would need to know how the costs of altering the legal or political landscape in ways that would be more conducive to the production of the fast trains compare with the gains those trains will deliver.

⁴⁴ See, e.g., Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 16 (1982) (“The meaning of transaction cost is not well-standardized in the literature.”).

⁴⁵ See, e.g., Robert C. Ellickson, *The Case for Coase and Against “Coaseanism,”* 99 YALE L.J. 611, 612 n.8 (1989) (pointing this out).

⁴⁶ Coase, *supra* note 1, at 15.

⁴⁷ R.H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 6 (1988) (quoting Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 148 (1979)); see also Ellickson, *supra* note 45, at 614 (characterizing this

other transaction cost taxonomies.⁴⁸

There is broad agreement that the costs people incur to get together, communicate with each other, and draw up and police contracts represent transaction costs. But the status of some other elements is contested. Indeed, Douglas Allen has observed a sharp dichotomy in the use of the term, with the “neoclassical” literature taking a much narrower view of transaction costs than the “property rights” literature.⁴⁹ On the narrowest account, the one to which Demsetz subscribes, transaction costs are limited to the cost of using the price system under conditions of perfect competition⁵⁰—a state of the world that leaves no room for haggling and that presupposes the existence of property rights. Other accounts, including those used by most scholars concerned with property rights, are considerably broader.

Three sets of costs relevant to the law’s treatment of entitlements have been inconsistently welcomed in, booted out, or ignored altogether in various definitions of transaction costs: strategic bargaining behavior, the costs of defining and enforcing property rights, and the costs of internal governance within property holdings or firms.

1. Strategic Bargaining Behavior.

Some of the most significant and troublesome barriers to exchange involve strategic behavior. Two familiar subspecies of strategic behavior are “free riding,” which involves misrepresenting the price one is willing to pay, and “holding out,” which involves misrepresenting the price one is willing to accept.⁵¹ In addition to these problems, which are usually associated with multi-player scenarios,⁵² are problems of bilateral monopoly

taxonomy as dividing up transaction costs temporally, based on whether they are “incurred at a pre-bargain, bargain, or post-bargain stage”).

⁴⁸ See, e.g., Ellickson, *supra* note 45, at 615-16 (breaking up transaction costs along functional lines into “get-together costs,” “decision and execution costs,” and “information costs”); Rose, *supra* note 17, at 2184 (defining and distinguishing “Type I” and “Type II” transaction costs); Langlois, *supra* 17, at 1392, fig. 1 (breaking down transaction costs in several ways, including whether the costs are “fixed,” “a function of time,” or “a function of number of exchanges or volume of trade”).

⁴⁹ See Allen, *supra* note 14. The neoclassical view is exemplified by Demsetz, who treats transaction costs as nothing more or less than the cost of using the market. *Id.* at 903-04. See also Schlag, *supra* note 8, at 1674-76 (discussing definitional disputes).

⁵⁰ See DEMSETZ, *supra* note 11, at 107.

⁵¹ Sometimes individuals who accurately represent their idiosyncratically high reservation prices are popularly dubbed “holdouts,” but I prefer Seigelman & Parchomovsky’s alternative term, “holdin” for these individuals. Gideon Parchomovsky & Peter Siegelman, *Selling Mayberry: Communities and Individuals in Law and Economics*, 92 CAL. L. REV. 75, 128-29 (2004). An extreme version of (true) holding out involves misrepresenting not only the magnitude of one’s reservation price but also its sign—as where a terrible musician whose sounds hurt even his own ears will play in order to be paid to stop. See, e.g., Daniel B. Kelly, *Strategic Spillovers*, 111 COLUM. L. REV. 1641 (2011); see also Harold Demsetz, *Theoretical Efficiency in Pollution Control: Comments on Comments*, 9 WESTERN ECON. J. 444 (1971); Harold Demsetz, *When Does the Rule of Liability Matter?* 1 J. LEGAL STUD. 13, 22-25 (1972).

⁵² Free-riding arises in contexts where more than one person is in a position to fund a good from which other individuals cannot be cost-effectively excluded. Holding out is often, although not always, associated with

in which struggles over the division of surplus can take the form of a Chicken Game.⁵³ These strategic impediments to bargaining are included in some definitions of the term “transaction costs,” but not others.⁵⁴ Coase’s own phrase, “to conduct negotiations leading up to a bargain,” could be read to encompass strategic interactions. Indeed, it might seem implausible that Coase would mention the costs of “negotiation”—an activity that, by definition, only occurs when there is surplus on the table that must be divided up⁵⁵—unless he meant to include the costs associated with parties attempting to garner larger shares of that surplus for themselves.⁵⁶ However, Coase later expressed doubt that conflicts over surplus division would thwart bargains in a significant proportion of cases,⁵⁷ which might support a narrower reading.⁵⁸

Demsetz, for his part, contends that strategic behavior—manifested as misrepresentation of reservation prices—cannot count as a transaction cost.⁵⁹ Similarly, Robert Cooter asserts that parties to bargaining interactions face “another obstacle of an entirely different kind” from transaction costs when they must decide how to divide up the surplus in the absence of a fixed price.⁶⁰ Other scholars, however, have placed some or all strategic bargaining costs under the heading of transaction costs. Oliver

settings where a number of parties hold entitlements that must be assembled, and each one is essential to the project as a whole. Because large number holdout situations can be broken down into a series of two-player bilateral monopoly situations between a would-be assembler and each would-be seller, the same Chicken Game analysis that applies to the latter also applies to the former. *See, e.g.*, CHARLES J. GOETZ, *LAW AND ECONOMICS: CASES AND MATERIALS* 35 (1984) (describing a land use assembly problem as “chicken in action”); Lee Anne Fennell, *Common Interest Tragedies*, 98 NW. U. L. REV. 907, 941-42, 946-47 (2004) (applying the Chicken Game template to anticommons problems). For an illuminating discussion of the differences and similarities between holding out and free riding, see Lloyd Cohen, *Holdouts and Free Riders*, 20 J. LEGAL STUD. 351 (1991).

⁵³ The Chicken Game has thus been used to illuminate a variety of bargaining situations. *See, e.g.*, DOUGLAS G. BAIRD ET AL., *GAME THEORY AND THE LAW* 43-45 (1994); WARD FARNSWORTH, *THE LEGAL ANALYST: A TOOLKIT FOR THINKING ABOUT THE LAW* 130-32 (2007).

⁵⁴ *See e.g.*, Schlag, *supra* note 8, at 1675-76.

⁵⁵ Negotiation has no place in competitive markets; market participants instead confront “non-negotiable equilibrium market prices, prices that cannot be influenced by individual bargaining.” Demsetz, *supra* note 8, at 12. If there is any negotiation going on, then, it must be under conditions where there is no competitive price and a real question of how to divide gains from trade. *See* Cooter, *supra* note 44, at 17.

⁵⁶ *But see* Demsetz, *supra* note 8, at 12 (“Close reading of Pigou and Coase does not reveal concerns about strategic misrepresentation.”); Cooter, *supra* note 44, at 19 (suggesting Coase viewed “strategic considerations” as “inconsequential”).

⁵⁷ *See* COASE, *supra* note 47, at 161 (discussing the problem of surplus division and stating that “there is good reason to suppose that the proportion of cases in which no agreement is reached will be small”).

⁵⁸ Coase might still regard the costs that strategic behavior imposes on the bargaining process as transaction costs, even if such strategies would not often preclude a bargain altogether, although those costs are themselves parasitic on the credible threat of “no deal.” *See also* Donald H. Regan, *The Problem of Social Cost Revisited*, 15 J. L. & ECON. 427, 429-30 (1972) (arguing that to include “bargaining tactics” among transaction costs would call into question the compatibility of individual rationality and zero transaction costs—at least if one supposes that rational actors may sometimes bargain in ways that fail to reach efficient outcomes).

⁵⁹ *See, e.g.*, Demsetz, *supra* note 8, at 11 (“The potential for deceit is not due to positive transaction cost. If everyone who would benefit from improved climate could transact freely (that is, could be gathered at no cost, could speak to each other at no cost, could write and enforce contracts at no cost), the problem of biased demand revelation would still remain.”).

⁶⁰ Cooter, *supra* note 44, at 17.

Williamson would count strategic behavior among transaction costs.⁶¹ Guido Calabresi includes among transaction costs the “costs of excluding from the benefits the free loaders, that is, those who would gain from a bargain but are unwilling to pay to bring it about.”⁶² The costs associated with holding out have also been expressly encompassed in some accounts of transaction costs.⁶³ Other scholarship sends mixed signals about whether strategic behavior is or is not a transaction cost.⁶⁴

This definitional issue has attracted interest because removing strategic behavior from the realm of transaction costs presents a challenge to the Coase Theorem.⁶⁵ Eliminating transaction costs (defined to exclude such behavior) would not be enough to ensure an efficient result outside of competitive market conditions. Or, as Cooter bluntly puts it: “The Coase Theorem is false because the final obstacle to private noncompetitive bargains is the absence of a rule for dividing the surplus, not the cost of bargaining.”⁶⁶ Yet, the lack of a rule about surplus is not an immutable fact; it stems from a failure to specify rights over that surplus *ex ante*.⁶⁷ If that lack of specification is itself a product of high transaction costs (of obtaining information, of contracting over all contingencies),⁶⁸ then Cooter's critique begins to unravel—but so too does our grip on the preconditions for transactions.

⁶¹ WILLIAMSON, *supra* note 22, at 251-52 (observing, in discussing Coase's work: “Instead of costless bargaining, my negotiations are characterized by information impactedness, opportunism, and the sacrifice of valuable resources as parties seek strategic advantage and thereafter engage in haggling”).

⁶² Calabresi, *supra* note 41, at 67. Interestingly, Cooter seems willing to count the costs of excluding “freeloaders” as a transaction cost, despite his insistence that strategic behavior in the absence of fixed prices represents a wholly distinct phenomena. See Cooter, *supra* note 44, at 16 (citing Calabresi, *supra* note 41). Demsetz, in contrast, views free riding as a serious impediment to efficiency but does not consider it a transaction cost. DEMSETZ, *supra* note 7, at 116-17 (classifying free-rider problems as “ownership costs” rather than “transaction costs”).

⁶³ See, e.g., Robert C. Ellickson, *New Institutions for Old Neighborhoods*, 48 DUKE L.J. 75, 103 (1998); Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209, 273 (1986).

⁶⁴ For example, Robert Ellickson includes “information costs” in his taxonomy of transaction costs, and then indicates in a footnote that “[s]trategic behavior by a bargainer is designed to generate information about a transferor's reservation price and terms.” Ellickson, *supra* note 45, at 615-16 & n. 25. Earlier in the same article, however, Ellickson makes an offhand reference to “armchair theorizing about whether strategic behavior, or wealth effects, or nonconvexities, or what-not might undermine Coase-Theorem predictions about life in the never-never-world of zero transaction costs”—an aside that suggests “strategic behavior” could exist even if transaction costs were zero. *Id.* at 613.

⁶⁵ See, e.g., Schlag, *supra* note 8, at 1675-76.

⁶⁶ Cooter, *supra* note 44, at 28. Cooter does posit that a version of the Coase Theorem that specifies not only zero transaction costs but also “perfect competition” and “perfect information” holds true. Cooter, *supra* note 44, at 15 (citing Richard O. Zerbe, *The Problem of Social Cost: Fifteen Years Later*, in THEORY AND MEASUREMENT OF ECONOMIC EXTERNALITIES 29 (Steven A.Y. Lin, ed. 1976)).

⁶⁷ This failure to specify surplus division is a general characteristic of private property rights, although it can be characterized as a way in which private property rights are incomplete. See Lee Anne Fennell, *Property and Precaution* 4(2) J. TORT L. 1, 60 n.246 (2011); text accompanying note 135, *supra*.

⁶⁸ See STEVEN N.S. CHEUNG, WILL CHINA GO ‘CAPITALIST’? AN ECONOMIC ANALYSIS OF PROPERTY RIGHTS AND INSTITUTIONAL CHANGE 37 (2d ed. 1986) (“If all transactions, broadly defined, were *truly* zero, it would have to be accepted that consumer preferences would be revealed without cost.”) (emphasis in original).

2. Defining and Enforcing Property Rights.

Coase's framework assumes the existence of property rights.⁶⁹ Demsetz's work emphasizes that property entitlements cost something to define and enforce.⁷⁰ Should these costs count as transaction costs? At one level, the construction of enforceable entitlements seems fully anterior to the transactions with which Coase was concerned. Transactions have entitlements as their subjects, and property law merely provides the vehicles in which tradable commodities arrive on the scene. There may be problems designing those vehicles—as where indivisibilities enable free rider problems—but for Demsetz, at least, those problems are not transaction costs.⁷¹

However, transaction costs have been understood to include the costs of enforcing agreements. Not only does Coase's initial definition hint in this direction by including costs “to undertake the inspection needed to make sure that the terms of the contract are being observed,” he later expressly endorses Dahlman's placement of “policing and enforcement costs” under the transaction cost umbrella.⁷² Property rights might be viewed either as a means for policing agreements, or as a technology that lowers the cost of doing so.⁷³ At a more fundamental level, the work of defining and enforcing property entitlements is one of many costs that society incurs to create conditions conducive to enforceable transactions. Oran Young puts it this way:

[M]ajor transaction costs will not show up in prices or be taken into account in ordinary efficiency calculations. These include such things as the costs of defining and securing property rights, enforcing contracts, and maintaining competition in the face of monopolistic pressures.⁷⁴

Of course, many other things are but-for preconditions of transactions, including the development of language, mathematics, and a monetary system. Calling them all transaction costs seems overbroad. Property rights

⁶⁹ See, e.g., Coase, *supra* note 1, at 8; Demsetz, *supra* note 12, at S655. Coase's conception of property rights has been criticized for being insufficiently “Coasean.” See generally Thomas W. Merrill & Henry E. Smith, *Making Coasean Property More Coasean*, 54 J. L. & ECON. S77 (2011). Merrill & Smith's critique focuses on Coase's assumption that property entitlements can be disaggregated and combined without limit. Because a Coasean conception of interactions among entitlement-holders is sensitive to transaction costs, it suggests the need to create property packages that will minimize these costs. See *id.* at S92-99.

⁷⁰ See generally Demsetz, *supra* note 23.

⁷¹ See Demsetz, *supra* note 8, at 11-12.

⁷² See *supra* note 47 and accompanying text.

⁷³ See Allen, *supra* note 2, at 899 (noting connections between the transaction costs of “inspection, enforcing, policing, and measurement” and property rights).

⁷⁴ ORAN R. YOUNG, RESOURCE REGIMES: NATURAL AND SOCIAL INSTITUTIONS 129 (1982) (citing E.J. Mishan, *The Postwar Literature on Externalities: An Interpretative Essay*, 9 J. Econ. Lit. 1, 21-24 (1971)).

arguably stand in a different relationship to transactions than these fixed (and long sunk) costs because they are legally malleable features of the world that produce ongoing costs themselves and influence the costliness of transactions going forward.⁷⁵

Yet reading transaction costs to subsume the whole of property rights is problematic. For one thing, almost everyone speaks and writes as if transaction costs and property rights are separate things – right down to the Royal Swedish Academy of Sciences, which awarded Ronald Coase the 1991 Prize in Economic Sciences in Memory of Alfred Nobel "for his discovery and clarification of the significance of transaction costs *and* property rights for the institutional structure and functioning of the economy."⁷⁶ Linguistic habits aside, viewing property as just another flavor of transaction costs is conceptually incoherent, if we think that there must be some object of a transaction—a point to which I will return.

Nonetheless, the inclination to include property rights in the analysis surrounding transaction costs is understandable. Property rights can make transactions easier in some ways and harder in other ways. Their scope and complementarity will determine the need for further transactions.⁷⁷ Moreover, property's primary strategy—identifying an "owner" as the residual claimant—avoids the high costs of transacting over every contingency.⁷⁸ This point connects to bodies of work on incomplete contracting and the theory of the firm,⁷⁹ and it brings us to another area of contested definitional terrain.

3. Internal Governance.

Another set of costs relates to property organization, and specifically to the governance burdens found on the inside of the property envelope. For example, firms may integrate a variety of functions as a result of high (inter-firm) transaction costs.⁸⁰ Fred McChesney has taken the view that these internal "management costs" might be termed a form of transaction costs, while Demsetz has assumed the opposite.⁸¹ Coase himself discussed organizational changes such as vertical or horizontal integration as

⁷⁵ See Langlois, *supra* note 17, at 1392-93 & fig. 1 (identifying both fixed transaction costs and transaction costs that are a function of time as "costs of property rights").

⁷⁶ Nobelprize.org, www.nobelprize.org/nobel_prizes/economics/laureates/1991/press.html (emphasis added).

⁷⁷ See Merrill & Smith, *supra* note 69.

⁷⁸ See, e.g., Grossman & Hart, *supra* note 22, at 692, 695.

⁷⁹ See *supra* note 22.

⁸⁰ See, e.g., COASE *supra* note 22.

⁸¹ See DEMSETZ, *supra* note 7, at 107 ("Coase clearly meant to distinguish costs incurred to manage resources within the firm from costs incurred to interact across markets at market-determined prices, and I wish to preserve this distinction."); McChesney, *supra* note 13, at 190-91 (observing that "what Demsetz refers to as 'management costs' are just internal transaction costs" and noting that these costs would be encompassed if transaction costs were "defined as all costs arising from interactions among two or more economic actors").

alternatives to high costs of market transactions.⁸² But this would not rule out applying the more generic moniker of transaction costs to both classes of costs, and their much-remarked ability to substitute for each other might argue for bringing them within the same analytic umbrella.⁸³

Adding this last category to the definition of transaction costs makes the term broad enough to reach the institutional structures in which transactions (or their substitutes) take place, as well as the transactions themselves. Indeed, Steven Cheung has suggested that “[w]ere it not for the popular usage of the [transaction cost] term, they should perhaps be called ‘institution costs.’”⁸⁴ Douglas Allen’s expansive definition similarly embraces the costs associated with establishing and operating property institutions.⁸⁵ Such a broad definition of transaction costs avoids certain problems of underinclusiveness, but it does not help to structure the analytic work of designing entitlements or determining when legal interventions are called for. The problems of overinclusiveness and lack of specification remain.

C. Realized and Latent Transaction Costs

All of the definitional debates outlined above stem from a single cause: the uneasy relationship between property rights and transaction costs. The nature of the problem becomes evident if we consider what the expression “zero transaction costs” means. If the phrase means just that there are no observable transactions occurring on the ground that generate any costs, then we would be in a zero transaction cost world anytime bargaining was shut down by some external factor like a governmental prohibition on trades, as well as anytime parties became too discouraged by the prospects of transacting to even give it a try. This is not the zero transaction cost world Coase meant to reference.⁸⁶ Zero transaction costs must, therefore, mean not just a literal absence of costs associated with transacting, but rather an ability to costlessly complete transactions.

By the same token, positive transaction costs exist not only when we actually observe them being incurred (“realized transaction costs”) but also when incurring such costs would be necessary to complete a given

⁸² Coase, *supra* note 1, at 16.

⁸³ See, e.g., Thráinn Eggertsson, *Analyzing Institutional Successes and Failures: A Millennium of Common Mountain Pastures in Iceland*, 12 *INTERNAT’L REV. OF L. & ECON.* 423, 425 (1992) (treating “costs of exclusion and internal governance” as transaction costs).

⁸⁴ CHEUNG, *supra* note 68, at 34.

⁸⁵ See Allen, *supra* note 5.

⁸⁶ *Id.* (explaining that “transaction costs” may, on a broad definition, “occur in the total absence of market transactions or even where property rights are not transferable.”). *But cf.* Driesen & Ghosh, *supra* note 31 at 99 (pairing an assertion that transaction costs can be “too low” with an example in which prohibitively high expected transaction costs discourage the parties from undertaking expenditures on transactions).

transaction through the market (“latent transaction costs”⁸⁷)—even if the entitlement in question is never transferred or is transferred using some nonmarket means. Positive transaction costs are a condition that, much like gravity, exists in the background even when arrangements exist to counter or eliminate its immediate effects. A zero-gravity chamber can be created on Earth, but every detail of its construction and operation is a product of the force it is fighting to overcome. Likewise, the costs of transactions are a latent and shaping presence even in contexts where observable transaction costs, and even transactions themselves, are absent.⁸⁸

A central way in which latent transaction costs manifest themselves in abstentia is through the formulation of property rights, which avoid the need for certain kinds of transactions and lower the costs of others, but also carry costs of their own. The implications of this point are interesting for property scholars. Suppose a particular configuration of property rights, such as liability rule protection that allows for unilateral transfers of entitlements, makes transactions unnecessary. This in no way implies we have reached a zero transaction cost world; rather, it is quite consistent with a world in which (latent) transaction costs are high, even though the liability rule regime keeps anyone from having to experience them. The same might be said about ownership structures that encompass a variety of disparate enterprises in order to control transaction costs. Indeed, property rule protected entitlements in general, which substitute a simple *in rem* regime for private deals with every would-be encroacher, have been cast as mechanisms for economizing on transaction costs.⁸⁹

At this point, the reader will detect a troubling unraveling effect. Coase assumed the existence of property rights, but if property rights are really just a manifestation of latent transaction costs, why would they (how could they) even exist in a zero transaction cost world?⁹⁰ On the other hand, it is hard to conceptualize what a “transaction” would mean in a world without any property rights—what would there be to transact over?⁹¹ Indeed,

⁸⁷ The term “latent transaction costs” has been used by scholars previously in a variety of ways. David Driesen & Shubha Ghosh use the term “phantom transaction costs” in a similar manner. See Driesen & Ghosh, *supra* note 31 at 82-84.

⁸⁸ CHEUNG, *supra* note 68, at 34. I am not advancing a principle of conservation here. Transaction costs (and those costs they occasion) can clearly drop in absolute terms, whether through technological or legal innovation.

⁸⁹ Chang & Smith, *supra* note 3, at 22 (arguing that “property is a law of things ... for transaction cost reasons”).

⁹⁰ One answer is simply that property rights would be unnecessary in a zero transaction cost world. See *id.* at 23, n.58; see also CHEUNG, *supra* note 68, at 37 “[W]e discover that the *assumption of private property rights can be dropped* without in the least negating the Coase Theorem! That is . . . in the absence of transaction costs the allocation of resources would be the same regardless of the nature of property rights or regardless of the operative economic institution” (emphasis in original); COASE, *supra* note 47, at 14-15 (“Cheung has even argued that, if transaction costs are zero, ‘the assumption of private property rights can be dropped without in the least negating the Coase Theorem,’ and he is no doubt right.”).

⁹¹ See Allen, *supra* note 2, at 898. Scholars who maintain that “property” refers to a set of entitlements with certain core institutional features might answer that if transaction costs were zero, individuals could transact over

imagining the conditions under which no *latent* transaction costs would be present requires stripping away not only property rights, but also all forms of government, transportation, communication, education, monetary systems, firms, households, and so on. The notion of a zero transaction cost world quickly becomes a metaphysical sinkhole, lending credence to Coase's suggestion that "[i]t would not seem worthwhile to spend much time investigating the properties of such a world."⁹² So let us step back from the abyss and make some observations.

Positive transaction costs might be understood to produce three effects in the real world: 1) the realized costs associated with actual transactions that we can observe on the ground; 2) prohibitive, unincurred transaction costs that manifest themselves latently in thing-misallocation, and 3) unincurred transaction costs that manifest themselves latently in other costly resource access structures, such as property entitlements, legal institutions, firms, norms, and various forms of self-help. When transaction costs are of the latent variety, we observe not the cost of the (untaken) transaction but some other costly result that, as a first cut, we might assume to be cheaper than that untaken transaction would have been: Demsetz's efficiently unshipped shipment. Perhaps the costs of completing the transaction could be cost-effectively reduced by incurring further costs of the #3 variety, but perhaps the reverse is true and we should have fewer #3 costs and more #1 and #2 costs. Any observed combination of the three effects may be efficient; the question is whether there is any way to reduce any of these costs without increasing the others by an offsetting or larger amount.

The three effects above can unwind the "chicken and egg" nature of transaction costs and property rights. Imagine that the world starts in a state of nature dominated by effect #2, where resources are widely misallocated because transactions are prohibitively expensive. It will be impossible to move from this world to a world of realized transaction costs without first laying some sort of institutional groundwork to enable transactions. That is, only after we see a certain amount of effect #3 (including the formation of property rights) does it become possible for effect #1 (the costs of actual, realized transactions) to be observed. Thus, transaction cost expenditures of the latent variety can logically precede property rights even if transactions themselves realistically cannot. Yet because transaction costs also persist even after private property rights and other ways of structuring access to resources are in place, it is easy to identify them with the costs of market

bare use privileges and their own labor inputs on a moment-by-moment basis—all without ever using the institution of "property" as such. See Lee & Smith, *supra* note 3, at 147-48 (discussing the possibility that "ultra-thin" entitlements might be traded, but for prohibitive transaction costs). Although this approach would allow for transactions without property (simply by narrowly defining the term property) it would not wholly succeed in stopping the unraveling effect noted in the text. Even the barest entitlement, and even the idea of an entitlement, is a mechanism for delivering a stream of benefits in a sensible way where transaction costs are not zero.

⁹² COASE, *supra* note 47, at 15.

transactions (effect #1) and lament their contribution to thing-misallocation (effect #2) without revisiting their latent role in the institutions and practices surrounding resource access (effect #3).

The awkwardness of thinking in terms of latent transaction costs suggests that the transaction cost category suffers from boundary problems that run deeper than a list of terminological quibbles. There is a reason why transaction costs are so hard to define: the movement of entitlements is entwined with a set of costs relating to property ownership, yet ownership sits uneasily in the transaction cost framework, either relegated to the sidelines, partly in and partly out of the game, or swallowed up by it in ways that make its relevance unclear. There is a better way of thinking about the relationships among property entitlements, transaction costs, and the efficient allocation of resources.

II. RESOURCE ACCESS COSTS

Let us start over from a somewhat different place by reframing the problem to which legal innovations and interventions must respond. People derive value from the use of resources. The total amount of value gleaned from the enjoyment and deployment of resources depends on the specific ways (how and when and by whom and in what combinations) those resources are accessed. Thus, the law must find ways to structure access to resources. Property rights represent a way of structuring access by designating an owner who has a specified set of rights and enjoys a residual claim on the asset. Markets, backed by legal rules that permit alienability, are also a way of structuring access, one that generally presupposes the existence of property rights (or other de jure or de facto entitlements to use a resource). Politics also form part of the overall resource access arrangement; the law specifies the circumstances in which votes can override the resource access decisions of both owners and markets. Likewise, courts and agencies may reassign entitlements or otherwise reroute access.⁹³

All resource access arrangements have costs. That is, resources must be used and deployed to structure access to other resources. Our problem is not a lack of transactions, but rather a larger set of impediments to optimal patterns of resource access, in a world where resources must be consumed to create and maintain those patterns. We can start our analysis by seeing how and why high-valuing users might get separated from resources.

⁹³ See Guido Calabresi & Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1090-92 (1972) (observing that the state must decide both who shall hold an entitlement and how that entitlement will be protected).

A. *How Things Get Separated From High Valuers*

High-valuing users⁹⁴ can be separated from things in two basic ways: through transfers that occur, and through transfers that do not occur.⁹⁵ Of course, these are the same two ways that high-valuing users get (or keep) access to resources. Table 1 lays out the possibilities.

Table 1: Transfers and Nontransfers

Current Possessor	No Transfer Occurs	Transfer Occurs
High Valuer	A [Good Keep]	C [Bad Shift]
Low Valuer	B [Bad Keep]	D [Good Shift]

In the first column, we have two situations in which a transfer does not occur. In Cell A, this is good thing;⁹⁶ the high valuer keeps the resource. In Cell B, we have the unhappy result in which the high valuer does not gain access to the resource. This may be due to strategic or emotional behavior in the bargaining process on the part of one or both parties (blocking by the owner or walking away by the would-be purchaser). Or it could instead be the result of parties' failure to locate each other and work through the necessary coordinating steps to complete the transfer. Third parties, including governmental actors, might also block worthwhile transfers, where they control a needed input (such as liquidity or a necessary permit). These blockades, too, could either be strategic or the product of failed coordination, or they might (as in the case of some governmental impediments) stem from other normative commitments.⁹⁷

⁹⁴ A high-valuing user might be understood as one who possesses human inputs that are complementary to the resource in question, and, when combined with them, will maximize the value that can be derived from that resource. This could be through simple consumption or through the act of combining multiple resources to which one has access; I am the high valuer of the berry if my input of eating the berry or mixing it into a pie will cause it to produce greater value than it would in some alternative use. As discussed in Part IV.C.2, *infra*, it is the fact that these human inputs are nontransferable that makes resource access the crucial variable for legal analysis. Significantly, the institutional structures that provide access to resources also must be designed to elicit the human inputs that will make that access valuable. If the value of the human input is by its own nature fully internalized, as it is quite literally through berry consumption, no issue arises, but if value is created for consumption by others (as through making berry pies for resale) property and contract principles may become necessary to induce the relevant human inputs.

⁹⁵ Under some property regimes, these problems become interwoven. For example, where resources are held in common, other commoners can block resources from being used by others, or may misappropriate resources that would be more valuable if left in place. A similar story can be told where resources are held not in common but in agency relationships: the agent may misappropriate resources of the principal or block the optimal use of the agent's own human capital, via shirking.

⁹⁶ The terms "good" and "bad" in Table 1 are accurate only insofar as all other costs are held constant. As emphasized below, the normative desirability of these shifts and keeps depends not only on whether they give the high valuer access to the resource in question, but also on how much it costs to achieve this result.

⁹⁷ See, e.g., Calabresi & Melamed, *supra* note 93, at 1111-15 (discussing inalienability rules and their

The second column contains completed transfers. Cell C represents transfers that go to a lower valuer, a bad thing. Such transfers may involve the misappropriation of a resource by a lower valuer or the foisting of an asset upon a lower valuer through a value-reducing exchange. Alternatively, a Cell C transfer may happen inadvertently, as when a resource is transferred to a lower valuer as a result of mistake on the part of one or both parties—a kind of fumble.⁹⁸ Cell D reflects shifts to higher valuers. Governmental transfers can fall into either Cell C or D.

It would be tempting, but wrong, to automatically associate Cells A and D with efficiency, and Cells B and C with inefficiency. Whether the transfers or nontransfers reflected in these cells are efficient or inefficient depends not only on whether they get or keep the resource in the hands of a high valuer, but also on the resources expended to produce that result. To put it another way, the resource under discussion in the chart (whether a chunk of land, a chattel, or a particular use right) is never the only resource in the story. We must also think about the other resources that must be expended to complete or stop each transfer. Thus, we should think of Cells A and D as containing goods that we must pay for in some manner. Likewise, Cells B and C contain bads that we must pay to avoid. Framing things in this way makes it clear that we as a society can make the mistake of purchasing too many Cell A retentions and too many Cell D transfers, and that we can also pay too much to avoid Cell B and C outcomes. The costs involved may be institutional or transactional in nature or may take the form of self-help or wrangling of various sorts, as the next section explains.

B. Guarding, Invading, and Fighting

The two basic ways that high valuers get separated from their resources—transfers and nontransfers—are not the end of the story. Parties can engage in a wide variety of defensive and reactive moves in an effort to stop transfers, or to carry them out. For example, an owner can protect her property by building fences, adding locks, or procuring watchdogs. A would-be invader can invest in ladders, lockpicks, and meaty bribes, spurring counter-investments in higher fences, better locks, bribe-proof dogs, and so on. Similarly, a commoner might respond to another commoner's conflicting claim on a resource with violence or harsh looks, or might attempt to forestall such conflicting claims by, say, camping out by the berry patch with an automatic weapon at hand.

rationales).

⁹⁸ Market-based foisting and fumbling may be fortuitously dampened by high transaction costs. See Driesen & Ghosh, *supra* note 31, at 87.

Defensive and reactive dissipation of value may produce suboptimal use of the primary resource under consideration, if the resource is destroyed or damaged in the fray or sits fallow during the dispute. But it also involves the suboptimal use of other resources—time and expenditures devoted to guarding, fighting, invading, and so on. Costly defenses and reactions may be undertaken not only by high-valuers of the target resource but also by low-valuers who wish either to fend off thieves or to overcome the fending-off in order to act as thieves themselves. These sources of dissipation explain why theft is not governed by a liability rule that would enable a higher valuer to simply take and pay.⁹⁹ The thief may be the higher valuer of the thing in question but, by circumventing the law's "transaction structure,"¹⁰⁰ she triggers wasteful deployments of other resources by the possessor. In Table 1's classification scheme, a move to a higher valuing thief looks like a "good shift," but it is not normatively desirable (even from an efficiency perspective) because of the costs involved in bringing it about.

The costs of defending and reacting to defenses can also explain why a commons featuring a fixed quantity of a given resource may generate tragedy, even though it would seem to be a zero-sum game that implicates only matters of distribution. In fact, there is always a linked resource-gathering commons that may be subject to tragedy, even if the underlying resource is not.¹⁰¹ Likewise, we can extend our understanding of defensive and reactive dissipation to encompass a wide variety of moves that may be made within the context of actual and prospective market transactions to gain more surplus from a given transaction. Strategic holdout problems can emerge where monopoly power is present, and free riding maneuvers may crop up when public goods are on offer.¹⁰² Even when private and relatively fungible goods are involved, consumers may still expend effort attempting to wring surplus from small increments of heterogeneity in identically priced items.¹⁰³

C. Institutional Arrangements

Although the discussion above abstracted away from institutional detail, societal arrangements for resource access can make it easier or harder for

⁹⁹ See, e.g., Richard L. Hasen & Richard H. McAdams, *The Surprisingly Complex Case Against Theft*, 17 INT'L REV. L. & ECON. 367 (1997); Fred S. McChesney, *Boxed in: Economists and Benefits from Crime*, 13 INT'L REV. L. & ECON. 225, 227–28 (1993); Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies, and Theft*, 5 W. ECON. J. 224, 228–30 (1967).

¹⁰⁰ See Alvin K. Klevorick, *On the Economic Theory of Crime*, in *Nomos XXVII: Criminal Justice* 289, 301–03 (J. Roland Pennock & John W. Chapman eds., 1985).

¹⁰¹ Fennell, *supra* note 52, at 922–24.

¹⁰² See, e.g., Cohen, *supra* note 52.

¹⁰³ See Yoram Barzel, *Transaction Costs: Are They Just Costs?* 141 J. INTERNATIONAL & THEORETICAL ECON. 4, 8–10 (1985). Barzel observes that the seller is effectively "placing in the public domain his right over the differential between the more valuable units and the price charged." *Id.* at 9.

parties to complete or resist transfers. It is intuitive to think of property as an institutional arrangement directed at resisting transfers, and markets as an institutional arrangement directed at completing transfers. But of course transfers can also occur within the envelope of property ownership; internal governance can also structure access to resources. Indeed, transaction cost analysis has examined in great detail when it is cheaper to manage resource access outside of markets and within the structure of a firm.¹⁰⁴

Analysis similar to that which has been applied to the question of firm organization can also be applied to more fundamental questions of property rights configuration. How permanent and exclusive should the pathways be that link users and resources? Who gets to sever relationships between resources and their users, or reroute resources to other users, and under what circumstances? When and how can packages of entitlements be split up and transferred separately, or aggregated together and moved as a unit? Considering these questions reveals that the law is involved not only in structuring access to resources, but also in structuring control over the institutional features that structure access to resources.¹⁰⁵ Here it becomes helpful to speak functionally about the core institutional elements in play.

Property rights operate to simultaneously grant and deny access to resources by identifying those who will be given a privileged relationship to a given resource.¹⁰⁶ Encoded into these entitlements are rules about how one's relationship with the entitlement may be altered or maintained over time. Following the distinction between exclusion and governance,¹⁰⁷ we can distinguish between institutional elements that do the work of providing resource access by walling others out, and those that do their work by giving individuals access to resources in more fine-grained ways.

Alienable property rights premised on boundary exclusion represent a gated wall that keeps the uninvited out, and allows insiders continual access to the resources within the wall.¹⁰⁸ Walls are not the only way to manage resource access, however. For example, a home's co-owner might have a prioritized relationship to a particular part of the house, even if she cannot wall out her co-owners. Likewise, a commoner's right to draw berries from a common supply under a complex rotation scheme tethers those resources

¹⁰⁴ See sources cited *supra* note 22; see also Raghuram G. Rajan & Luigi Zingales, *Power in a Theory of the Firm*, 113 Q.J. ECON. 387 (1998) (examining how access, in the absence of property rights, can produce incentives for investment).

¹⁰⁵ Cf. Calabresi & Melamed, *supra* note 93, at 1090-92 (observing that a decision must not only be made about who to entitle, but also about how to protect the entitlement).

¹⁰⁶ This section's analysis owes a debt to ARNOLD M. FADEN, *ECONOMICS OF SPACE AND TIME* 215-17 (1977) (discussing a set of broad-spectrum "barrier" technologies including "walls," "brakes," and "bindings" and explaining that "[t]he entire institution of private property may be construed as a system of selective barriers, denying access to all except those authorized by the owner of the property or those having special access rights").

¹⁰⁷ See Henry E. Smith, *Exclusion Versus Governance: Two Strategies for Delineating Property Rights*, 31 J. LEGAL STUD. S453 (2002).

¹⁰⁸ FADEN, *supra* note 106, at 215-16 (using the analogy of walls to discuss property); J.E. Penner, *The "Bundle of Rights" Picture of Property*, 43 UCLA L. REV. 711, 744 (1996) (characterizing property as a "gate").

to her conceptually, even though she does not harbor them within a private walled garden. Property ownership often combines complex resource tethering within the walls with blunt exclusion of those outside.¹⁰⁹ Where multiple activities are being undertaken simultaneously on differently scales, wall placement becomes an interesting and important problem.¹¹⁰

Strong property rights protection (walls) are often conceptually paired with markets, a kind of chute for voluntarily moving resources to other parties. It is standard to assume that in a low transaction cost world, property and markets, or walls and chutes, are all we need. But the walls and chutes themselves help to construct the transaction cost environment in which they will operate,¹¹¹ and are themselves costly to construct and maintain.¹¹² Further, some resources resist walling, whether because it is infeasible to subdivide a given resource system, or because a resource system has external effects that cannot be brought fully within the scope of any one owner. Chutes may also be ineffective conduits if the parties to a potential transfer fail to cooperate with each other, whether by strategically holding out for a better deal or attempting to free-ride on transfers to others.

In addition to institutional arrangements for stopping and moving entitlements around, we have institutional mechanisms for aggregating and disaggregating sets of entitlements—various sorts of bindings and slicers. Consider first bindings.¹¹³ The economic analysis of law has been faulted for not paying sufficient attention to the optimal bundling of property rights.¹¹⁴ Getting the right elements together in one place (in anyone's hands) is as much a challenge for efficiency as getting particular entitlements into the right party's hands. If property is configured in a way that puts together complementary elements (like access to the land and the right to farm it) then transactions to put these elements together will be unnecessary; instead, the entire useful chunk can be transacted over at one time.¹¹⁵ In fact, property law tends to group together certain entitlements in ways that may be intentionally resistant to unbundling. An anti-fragmentation rationale has been invoked to explain a variety of doctrines, including minimum lot sizes and the rule against perpetuities.¹¹⁶

The flip side of bindings are slicing mechanisms that can divide up

¹⁰⁹ See Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 144 (1998) (describing "limited common property" as "property on the outside, commons on the inside").

¹¹⁰ See Ellickson, *supra* note 23, at 1332 ("Decisions on where to set land boundaries are fiendishly complex because most tracts of land are suited to multiple uses for which scale efficiencies vary").

¹¹¹ See, e.g., Dari-Mattiacci, *supra* note 4.

¹¹² See Demsetz, *supra* note 23.

¹¹³ See FADEN, *supra* note 106, at 216 (describing bindings as "mechanisms that prevent or limit the relative motion of different things").

¹¹⁴ See, e.g., Merrill & Smith, *supra* note 69.

¹¹⁵ See *id.* at S89.

¹¹⁶ See, e.g., Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163, 1173-82 (1999).

different elements of particular resource bundles. Just as property bundles may be suboptimally thin, they may also be suboptimally thick and include elements that would be more valuably held by others.¹¹⁷ The subdivision of entitlements can effectively create new property interests, as where an access easement is carved out of a fee simple estate, or rights to pollute are parceled out in particular ways. If optimal bundles of property are contingent on particular social, economic, and technological conditions, then bundling and unbundling will be necessary as time goes by, however well-calibrated the default bundles with which parties begin.

Another question that property institutions address is when and why and how parties' access to resources ends and begins. An access change might occur voluntarily through gifts, markets, abandonment, or destruction, or through sharing, loaning, delegating, and so on. Parties may also hold the power to involuntarily sever access channels between other people and the resources to which they are attached. Viewed broadly, much of what law does can be understood in terms of controlling who holds the power to slice and who has the power to resist it. One of the most important powers in this vein involves splitting up the surplus associated with changes in resource access. If nobody has the unilateral power to divide the surplus definitively, each of two (or more) transacting parties holds an effective veto over the change in the resource's ownership, use, or configuration. Sometimes the law will step in and do the surplus-slicing itself, or designate who will be entitled to perform it within the context of a given deal. Thus, the entire family of liability rules can be understood as specialized slicers.

Costly walls, bindings, slicers, and chutes appear in a variety of institutional combinations. They grapple, with varying degrees of success, with the core problems of unwanted transfers and nontransfers, and with the defensive and reactive moves that those problems prompt. And they introduce costs of their own, some of which are publicly borne, and some of which are privately borne.¹¹⁸ Recognizing that institutional features introduce as well as control costs is central to a taxonomic approach that captures all that is costly about completing and resisting resource transfers.¹¹⁹

Law and economics scholars seem to be quite conscious of how institutional structures raise or lower the costs of giving high valuers access to resources. An equally important point is that we should not expend too many resources in structuring access to resources. This means that

¹¹⁷ See Fennell, *supra* note 67, at 13-14 (explaining that property rights often comprise blocks of control that are suboptimally extensive).

¹¹⁸ For example, governments must incur costs to regulate markets and run police departments and courts, and private parties must incur costs to keep track of ownership interests, to alter holdings, or to end their involvement with a given entitlement.

¹¹⁹ Cf. CALABRESI, *supra* note 41 (noting relevance of prevention costs and administrative costs as well as accident costs).

institutional arrangements that make transactions cheaper may or may not be worthwhile. Taking a page from Coase, the government should not intervene to reduce transaction costs (just as it should not intervene to internalize externalities) unless we think that the market will underproduce the relevant product (transaction cost reductions, or cost internalization). Following Demsetz, we cannot infer from the persistence of prohibitively high transaction costs, nor from the persistence of externalities, that the market has failed. Some externalities should remain uninternalized (internalizing them costs too much), and some transaction costs should remain prohibitively high (lowering them costs too much).

Legal scholars have skipped over this point for two reasons. First is the tendency to focus on the costs of thing-misallocation and to ignore the costs that are saved by leaving those misallocations alone. Second, there is really no doubt that transaction cost reductions (and reductions in other transfer and transfer avoidance costs) would be underproduced by markets and private actors working alone, so that *some* legal interventions are plainly warranted. Yet this should not cause us to lose sight of the fact that transaction cost reductions are products like any other, ones that can become too expensive for society to purchase.¹²⁰ Nor should we ignore the fact that problems of suboptimal resource access are heterogeneous and differentially responsive to legal interventions. The next Part examines how attending to these points can produce payoffs for legal scholars.

III. FROM TRANSACTION COSTS TO ACCESS IMPROVEMENTS

The umbrella category of “resource access costs” offers a starting point for a new analytic approach. It addresses the problem of underinclusiveness associated with transaction costs by taking into account all of the costs of transferring resources and of keeping them where they are, as well as the losses that are sustained when either of these costs becomes too large to bear. Constructing this category is only a first step, however. On its own, it is too all-encompassing to be helpful in informing entitlement design or decisions about legal interventions. For the same reason, it is not sufficient to simply expand the definition of transaction costs to encompass every element that grants, withholds, or regulates access to resources. Applying a cost minimization function to all of civil society is not a tractable task.¹²¹

¹²⁰There are further questions about *how* society should buy these reductions. For example, mobile phones, computers, and speedy laser printers have dramatically reduced transaction costs. Although the law played a role in their development, this was through general support for innovation, not through measures directed at reducing transaction costs.

¹²¹This point highlights a baseline issue that lurks in transaction cost analysis. The Coasean baseline is, implicitly, a “perfect” resource allocation in which all things are with their highest valuers. Transaction costs disrupt this pristine world. Broadening our focus to all resource access costs does not on its own alter this baseline, though it does make clearer its artificiality: we now must conceptualize a baseline world in which no

Instead, it is necessary to identify with precision the resource access improvements that particular changes or interventions can buy us, and trace the costs of these moves.

This Part makes a start on that project. Subpart A focuses on a distinction crucial to entitlement design: the degree to which the resource access costs in question stem from efforts to wrest something (including surplus) from another party, rather than efforts to coordinate with another party in the transfer or nontransfer of an entitlement.¹²² Subpart B identifies a subset of costs that are not products of unsolved collective action problems, and that the law is therefore not well-positioned to cost-effectively address. In so doing, it addresses the overinclusiveness problem in the transaction cost category. Subpart C shows how these distinctions, and the resource access cost approach more generally, generates a set of insights about efforts to reduce, counter, or circumvent the costs of completing transactions.

A. *Conflict and Coordination Costs*

As the earlier discussion emphasized, the owner (or current possessor) of a resource may or may not be the high valuer. When a nonowner comes along, the two parties may or may not agree with each other on whether a transfer should occur, or they may agree on the fact of the transfer but disagree on the price. In competitive markets where prices are nonnegotiable, it is entirely possible for both parties to be in full agreement on transacting at a given price; their only problem lies in coordinating the transaction. In many other cases, the absence of established prices means that parties who both desire a transfer may nonetheless disagree about how the surplus from that event should be divided.¹²³

Thus, sometimes interactions over resources involve only coordination, sometimes they involve only conflict, and in most cases of interest to legal scholars, they involve both. Entitlement design must, therefore, grapple

property or other institutional elements exist, but in which all resources are nonetheless with their highest valuers.

¹²² The distinction between conflict and coordination (as well as the way in which the two blend together) can be seen in game theoretic formulations. See e.g., Richard H. McAdams, *Beyond the Prisoners' Dilemma: Coordination, Game Theory, and Law*, 82 S. CAL. L. REV. 209 (2009) (emphasizing the significance of coordination games in modeling legal problems); see also Robert Ahdieh, *Beyond Individualism in Law and Economics*, 91 B.U.L. REV. 43, 62-65 (2011) (observing how conflict enters into coordination games).

¹²³ It would also be possible for both parties to wish a nontransfer of the underlying resource but for them to disagree about how the surplus from that nonevent should be divided. I am omitting this possibility from the table for simplicity since the law usually specifies the division of surplus in that case in rather strong terms: the owner or prior occupier gets to keep the surplus associated with the nontransfer. Nonowner attempts to extract surplus for a nontransfer (by, say, taking a person or chattel hostage and demanding a ransom) tend to be criminally punished. That situation is quite different from one in which a party already owns a particular right (such as to make noise, locate a stable, or exclude a crane from the airspace) and attempts to obtain a large amount of surplus from its transfer; this scenario fits easily into the center square of Table 2. See Larissa M. Katz, *A Principle of Abuse of Property Right*, YALE L.J. (forthcoming), draft available at <http://ssrn.com/abstract=1417955>; Daniel B. Kelly, *Strategic Spillovers*, 111 COLUM. L. REV. 1641 (2011).

with both types of resource access costs. Carol Rose made just this point in distinguishing Type I and Type II transaction costs, where the former represent what I here call coordination costs, and the latter represent conflict costs.¹²⁴ I extend her typology to include not only the costs involved in moving entitlements, but also the costs in keeping them in place. Table 2 lays out the possibilities. The cells with x's in them are incoherent.

Table 2: Conflict and Coordination

Nonowner Owner	Wants Transfer (Without Negotiation)	Wants Transfer (Surplus Division)	Wants Nontransfer
Wants Transfer (Without Negotiation)	Coordination	X	Conflict
Wants Transfer (Surplus Division)	X	Coordination and Conflict	X
Wants Nontransfer	Conflict	X	Coordination

Much of the confusion surrounding transaction costs goes to whether the term refers just to the costs of using markets to facilitate trade between willing buyers and sellers at set prices—that is, the costs incurred by parties whose interactions place them in the upper left “coordination square.” As Table 2 suggests, this is only one possible type of interaction, and it does not describe many of the contexts that are most interesting to legal scholars.

In contexts where set prices are not found and the parties must decide on their own how to divide the surplus (the center square in Table 2), both conflict and coordination costs are usually strongly implicated. For example, if I want to buy a car from you,¹²⁵ we must find each other, decide when and where to meet, incur the costs of getting there, and bear the costs of the necessary paperwork to complete the transaction (I must write a check, you must sign over the title). These are all coordination costs. Before the transfer can take place, I must also gather quite a bit of

¹²⁴ See Rose, *supra* note 17, at 2184-88; see also Langlois, *supra* note 17 (drawing a parallel distinction).

¹²⁵ Robert Cooter also uses a car-buying example to distinguish what he terms “transaction costs” from strategic behavior. See Cooter, *supra* note 44, at 17.

information about the car and about the price you are willing to accept. Otherwise, I cannot be certain that the trade is one advantageous to me. Likewise, you must gather information from me about the price I am willing to pay to be sure that the trade will be advantageous to you.

This information-gathering still involves coordination between us because of our common interest in completing a worthwhile deal, but the specter of conflict is beginning to loom. The deal, if it is worth doing, will produce at least some surplus. That raises the question of how the surplus will be divided, and here our interests conflict.¹²⁶ We may strategically misrepresent our reservation prices in an effort to gain more of the available surplus. If your car is unique and my desire for it is unquenchable, and if I am the only buyer within range and your need for cash is pressing, we may find ourselves locked in a bilateral monopoly situation. We incur conflict costs as we wrangle over how low or high each of us will go.

There are other conflict costs in this story as well. I will worry that you are misrepresenting some of the attributes of the car in an effort to either gain more of the surplus, or indeed to generate a transfer in your own favor under circumstances that will leave me worse off. Whether or not you are actually engaging in misrepresentations or covering over the car's defects, I will likely incur defensive costs to try to verify its attributes, as by running a Carfax check on it, or taking it to a mechanic of my own before buying it. You may react to my defensive moves by expending greater resources to fool me (and Carfax, and my mechanic). Conversely, you will worry that when I take the car for a test drive I will simply make off with it. You will incur defensive costs to try to determine if I'm a good type before handing over the keys. You might require me to show you my driver's license, and perhaps hand over the keys to my own car as a "hostage." If I am in fact bent on making off with the car, I might incur costs to thwart your defensive moves, causing you to be even more cautious.

Once we recognize how the potential for conflict infects the transaction process, it also becomes apparent that even some of the costs we earlier identified as "coordination costs" occur in the shadow of conflict and are shaped by the potential for conflict.¹²⁷ For example, we may incur extra costs (in waiting or transportation) to meet in broad daylight in a public place rather than in the nearest dark alleyway at night—and these costs would be unnecessary if we fully trusted each other. Similarly, you might demand a cashier's check from me rather than a personal check if you are not sure I am good for the purchase price, and this will cause me to make an extra trip to the bank. More fundamentally, the signing over of title is

¹²⁶ *See id.*

¹²⁷ To put the point a little differently, conflict costs must be controlled in certain ways before the prospect of cooperation even becomes possible. The property rights literature emphasizes the role of secure rights in facilitating trade.

necessary only in a world where disputes might arise over who is to be granted access to the resource.

A similar blending of coordination costs and conflict costs can be found in many other situations. Consider the familiar polluting factory that creates misery for nearby residents far in excess of the value that the factory creates. When high transaction costs are cited as a reason why an inefficient outcome could persist, legal scholars mean more than just that it is logistically difficult for the residents to communicate with each other and coordinate a buyout, although they do mean that. The transaction cannot occur without resolving conflicts that arise among the residents over who should contribute and in what amounts (free rider problems) and conflicts between the factory and the residents as a whole over the division of surplus.

Despite the fact that conflict costs and coordination costs are often blended, it is useful to distinguish them conceptually. In some settings, either conflict or coordination costs will dominate while the other category of costs is absent or trivial. Notably, conflict costs do not produce much difficulty when a transaction is conducted in a competitive market backed by strong protections against force and fraud. Haggling is entirely absent because the surplus division is fixed in advance; the price is set at marginal cost. Transactions are costly (at the margin) in this context only if the cost of coordinating is high relative to the available surplus. Very often this is the case. For example, I buy fewer pairs of shoes than I would if transacting over them was costless. The shoe market is highly competitive, and I have no fear of shoe fraudsters. It is just really a hassle to bother with shopping for them. I am not acting inefficiently when I forgo a purchase that, were it costless, I would have made.¹²⁸ This is Demsetz's point.

In other contexts, conflict costs dominate and coordination costs are trivial. For example, suppose I plan to build a high privacy fence and my next door neighbor would rather I didn't. Assume the law is clear on my right to build, but my neighbor will lose more than I will gain if I go through with it. In theory, he could pay me some amount not to build. We would have no trouble finding each other, communicating with each other, or traveling to transact with each other; we already live next door, and no third parties (let us assume) are affected. If we cannot come to terms, it is because one or both of us wants more surplus (pecuniary or nonpecuniary) from the transaction than the other is willing to cede.

Conflict costs and coordination costs also come into play in various mixtures where resource access is structured without the use of market transactions. Conflict costs, along with defensive and reactive behavior in response to it, are incurred whenever parties resort to force or fraud to

¹²⁸ Here, I set aside the (likely) possibility that my failure to do more shoe shopping inflicts harm on others.

allocate resources to themselves outside of approved channels. Similarly, conflict costs are incurred when parties shirk or overappropriate in a commons, or react to such actions in kind or through other defensive or reactive moves. Organizational structures that give a single owner authority over a range of uses and decisions may avoid the need for transactions, but will typically also produce conflict costs when agents try for larger shares of surplus and principals respond to those attempts. Coordination costs will be incurred in many of these nonmarket settings as well. Even the most faithful agent must be directed, and this takes time and effort. Likewise, even commoners who have no thought of taking advantage of each other must spend time and energy devising a workable system for sharing access to resources.

Finally, coordination costs dominate when both parties desire a *nontransfer*, as shown in Table 2's lower right corner. This is a ubiquitous state of affairs. Most people, most of the time, have no desire to take resources from each other by encroaching on property rights. Yet, as Henry Smith and Tom Merrill have argued, steering clear of property violations (inadvertent transfers) requires that both owners and nonowners use information.¹²⁹ The way in which property rights are configured and protected will affect the content and legibility of that information, and hence will impact the costs of coordination that the parties incur in avoiding unwanted transfers.¹³⁰

Property design choices can be used to influence both conflict and coordination costs. However, features that have a salutary effect on some subset of these costs may have either no impact or a countervailing impact on other costs. The question that entitlement designers must confront is whether a given feature saves more in net conflict or coordination costs, and in the associated improvements in resource access, than it costs. Table 3 presents again the conflict and coordination costs we saw in Table 2, but with bracketed indications of the types of entitlement features that would be conducive to overcoming them.

¹²⁹ See Merrill & Smith, *supra* note 139.

¹³⁰ Merrill and Smith make this point when discussing the role of the *numerus clausus* in controlling information costs. *See id.*

Table 3: Conflict, Coordination, and Design Features

Nonowner Owner	Wants Transfer (Without Negotiation)	Wants Transfer (Surplus Division)	Wants Nontransfer
Wants Transfer (Without Negotiation)	Coordination [Transactability]	X	Conflict [Veto]
Wants Transfer (Surplus Division)	X	Coordination and Conflict [Surplus Dividing]	X
Wants Nontransfer	Conflict [Veto]	X	Coordination [Legibility]

Much of the disagreement about entitlement design comes down to a debate between those who focus on the upper left square, where transactability features are key, and those who focus on the center square, where surplus-dividing features play a primary role.¹³¹ Each group claims to be talking about reducing transaction costs, but they are talking about different things—different facets of the overall enterprise of minimizing resource allocation costs. While scholars concerned with coordination costs have emphasized the importance of transactability features, scholars concerned with conflict costs have emphasized mechanisms (notably liability rules) that control struggles over surplus. Recognizing that these two very different strategies address different sets of problems represents an important prerequisite to examining the tradeoffs involved in designing property rights.¹³²

As Table 3 illustrates and as this essay has emphasized, however, we must be concerned not only with market transactions but also with other

¹³¹ It is true that the coordination element in the center square could also make transactability features relevant, but there are two complications that make this unclear. First, surplus-dividing features often take the form of transaction substitutes, like liability rules, that render some or all of the transactability features moot. Second, easier transactability may actually exacerbate the problems associated with strategic behavior. See Cooter, *supra* note 44, at 28. Thus, it is not clear that a well-defined and highly transactable property package will actually produce more efficient results than a more cumbersome one, where the real impediment is strategic behavior.

¹³² See Rose, *supra* note 17, at 2184-88.

sorts of transfers and with efforts to keep transfers from occurring. The counterpart of transactability for parties who are both trying *not* to engage in a transfer is rendered here as legibility. Thus, clearly marked boundary lines and clear systems of titling would help owners and nonowners to coordinate in ways that avoid unwanted (by both parties) transfers from the former to the latter. The ability of an owner to resist a transfer to a nonowner who desires one, and the ability of a nonowner to resist a transfer from an owner who wants one can both be addressed by giving parties veto rights. These veto rights, in turn, contribute to the strategic interactions in the center square when both parties wish a transaction but disagree on the surplus division.

Some standard features of property entitlements, such as well-defined exclusionary edges, can advance more than one goal at once. Transactability features may double as aids to legibility, by making it easier for other parties to steer clear. The genius of property lies in precisely this double-sided accomplishment: stopping resource movement while at the same time facilitating it. State-enforced exclusion rights not only facilitate coordination over nontransfers, they also address conflicts that take the form of misappropriation. However, not all of the familiar characteristics of property entitlements reduce all of the costs in the table. Significantly, transactability features are not designed to, and generally do not, ease fights over surplus. They might even make things worse.¹³³ By the same token, some legal interventions are designed to address conflict costs (liability rules, which cut through fights over surplus, are a good example) but do not reduce coordination costs and might increase them.¹³⁴

This analysis shows that private property arrangements solve certain kinds of resource access problems very well. Transactability and legibility facilitate voluntary transfers and nontransfers, respectively, where coordination is the relevant obstacle. Private property rights also handle certain kinds of conflict well, by giving owners and nonowners alike a veto over transfers that are not mutually desired. But these property entitlements embed another source of conflict, one that inheres in the conscious choice to leave unassigned the division of surplus upon transfer. This embedded incompleteness follows from the choice to make the owner the residual claimant, a position granted to the party whose inputs are the hardest to measure and who therefore needs some other way of being incentivized to invest optimally.¹³⁵ Here, the incentive takes the form of property rule protection, which grants the owner the right to collect the returns that are generated unless and until she gets a price she likes.

¹³³ See Cooter, *supra* note 44, at 28.

¹³⁴ See Rose, *supra* note 17, at 2187-88.

¹³⁵ See Smith, *supra* note 159, at 1795-97; see also YORAM BARZEL, ECONOMIC ANALYSIS OF PROPERTY RIGHTS 78-79 (2d ed., 1997) (discussing property holders as residual claimants).

The relevance of investment incentives flows in turn from the owner's ownership of her own human capital and control over her other assets, which must be voluntarily shifted to a given endeavor. This is a form of conflict between the interests of the individual and the interests of society. In a world of zero transaction costs, appropriate contracts could be written to provide for all imaginable contingencies. There would be no need to grant anyone a residual claim over anything, and rewards for desired investments could be set using the information that would be costlessly available in such a world.¹³⁶ Property rights would become unnecessary, and with it, the problem of dividing surplus.

Here we see again how property can be understood as both a response to and a cause of positive transaction costs. The more important observation, however, is that all property arrangements involve costs. As such, we must examine what various design features buy us (in, say, transactability and the unblocking of human capital), and what we have to give up (in the potential blocking of resources that follows from leaving surplus from future transfers unassigned). Matching design features to resource access impediments offers a clearer way of making these sorts of tradeoffs.

B. Identifying Uncaptured Surplus

Another way of subdividing the umbrella category of resource access costs is to distinguish those costs that the product of unsolved collective action problems from those that are not. An unsolved collective action problem is not a sufficient condition for legal intervention, as we will see, but it is a necessary condition. Unless there is some uncaptured surplus on the table that the law can help parties obtain, there is no room for improvement (at least along efficiency lines) in resource access. Directing more resources towards completing or resisting transfers in the absence of untapped surplus can only lead to an inefficient overproduction of transfers or of transfer resistance, relative to other goods and services.

Recognizing this point addresses the overinclusiveness built into the concept of transaction costs. It is standard for legal scholars (including myself) to reflexively equate thing-misallocation with uncaptured surplus. After all, the resource could be used more efficiently by someone else. But there is no surplus available to be captured if fixing the misallocation will cost more than it is worth. This will be the case only if the impediments to the thing's efficient allocation embed inefficiencies themselves. And there will only be a justification for legal intervention if these are inefficiencies that the law is in a good position to (further) address. This will not always be the case.

¹³⁶ See CHEUNG, *supra* note 68, at 37.

Consider the following set of costs: the length of time it takes a human being to read a paragraph of text, the cost (in time and gasoline and automobile wear and tear) to travel to a meeting, the cost of printing out a contract, the ease with which a phone call can be made, the cost to treat a nose broken in a trespass dispute, the price of barbed wire. In an important sense, these costs are "blunt" insofar as they do not differ in kind from the costs of producing other goods and services, or of carrying out other activities.

Blunt costs are not immutable. On the contrary, many of them are highly amenable to reduction through technological advances. Nor is it correct to say that these costs have nothing to do with law. There are many things that law and social policy do at a broad level of generality that influence such costs. Governmental bodies provide transportation infrastructure and public education, and they determine city layouts and speed limits. The law broadly supports private innovation, which can lead to such transaction-relevant innovations as better mobile phones, faster laser printers, or better fencing. Still other inputs into transactions (like paper) are the product of competitive market forces and general laws that govern the manufacture and sale of products.¹³⁷

The point, then, is not that these costs are impervious to governmental influence, but rather that these influences represent *existing solutions* to collective action problems that operate at a broad level of generality. Those solutions may be quite imperfect, and it is entirely fitting that legal (and other) scholars should revisit them. But because of the level of generality at which these solutions operate, further alterations would at least presumptively apply broadly as well, rather than be uniquely targeted at completing or resisting transfers as such. For example, the law would be concerned about distortions in the paper market caused by paper mill pollution, whether the paper in question is used to write a contract, make a paper airplane, or draft a novel. Likewise, innovation policy does not distinguish between mobile phone advances that make it easier to call a sick friend or to close a major deal. Public education is valued not only because it lets people transact more easily, but also because it makes people better voters and citizens, and prepares them to work in a wide variety of jobs—including jobs producing goods and services other than transactions. There is no reason to expect a transfer-specific legal intervention to be an appropriate counter to blunt transaction costs, absent some additional, unsolved collective action problem that uniquely plagues transfers or transfer resistance.

¹³⁷ For example, their manufacture, like that of any other product, may impose externalities. This reinforces Demsetz's point that transactions are products like any other. If making widgets creates smoke that makes us consider the entitlement status of air quality surrounding the widget factory, so too should we be on the lookout for externalities produced in the course of making transactions, or making their inputs.

Blunt factors cannot be dismissed entirely, however, because they interact with factors that are highly amenable to targeted legal interventions. Even if the inherent costliness of factors like phone calls or fencing is determined by a combination of market forces and broad-based features of the legal and social context, their prevalence in ordering resource access can be directly affected by transaction-specific legal rules and entitlement design features. For example, if the law's requirements as to titling and bills of sale shorten or lengthen the meeting or alter the amount of text that has to be read or written to finish a trade, the blunt costs associated with the deal would be influenced accordingly.

Even more significantly, legal rules and assignment protocols influence the need to engage in transactions in the first place, which determines whether costs, including blunt ones, will be incurred at all. Thus, *in rem* rights avoid many separate transactions with nonowners (saving countless pieces of paper, phone calls, and so on), while other features like standardized property forms or property registries, are thought to reduce the amount of time spent reading and researching. The same points might be made about transfer resistance. Some design features, such as strong exclusion rights, stand in for self-help and may, for instance, allow owners to get by with clear property markers rather than unscaleable walls. Similarly, certain organizational forms that the law might encourage or discourage can reduce the total amount of transfer resistance necessary within a particular realm.¹³⁸

In all these instances and many more, we should be on the lookout for some kind of collective action problem that stands unsolved which law would be in a position to address (or to address better, if the existing law produces suboptimal results). Often such a problem does exist. Parties may have difficulty coordinating if property rights are ill-defined or insufficiently standardized.¹³⁹ Or they may have trouble reaching agreement due to holdout or free-rider problems. Collective action problems in the political process may also produce suboptimal transfer requirements—as well as suboptimal transfers. Or outdated entitlement systems may stick in place because there is no good mechanism to alter them, and no market incentive for anyone to devise such a mechanism. There might be a new entitlement form that would benefit many millions of people that cannot get off the ground because of coordination difficulties, or an unnecessary transfer requirement that parties cannot get rid of without governmental assistance. Or many uncoordinated instances of private self help (organized

¹³⁸ The point here is similar to the geometric one often made about fencing and the thermodynamic one often made about gloves versus mittens. Similarly, if property holdings can be expanded, it is no longer necessary to separately fence off smaller operations and resist transfers between them. See Ellickson, *supra* note 23, at 1332.

¹³⁹ See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1 (2000).

within private residential communities, for example) may have reduced the value that people can derive from their larger communities.

Although blunt costs and costs that are amenable to targeted interventions intermingle and interact in practice, the distinction between them is important. The reason goes back to Demsetz's critique. If only blunt resource access costs are in the picture, then targeted legal interventions are not called for, nor is there any reason to lament the existence of the costs themselves. This will be the case in many categories of market exchange where there is no feasible prospect of altering allocation protocols so as to obviate the need for the transactions altogether, and few ways in which entitlement design interacts with the blunt costs of transacting. Shoe shopping is again a good example. There is no feasible way to simply assign me the shoes that I value most highly, and all of the impediments in the picture (the distance I must travel to and from the store, and the time it takes to identify likely shoes, obtain versions of them in likely sizes, try them on, make a selection, wait in line, and complete the purchase) are ones that targeted legal interventions can do relatively little to influence. This makes the case for context-specific interventions a weak one, despite the abiding presence of prohibitively high transaction costs.

Legal scholars' conventional focus on transaction costs has in some ways been too narrow, but this analysis shows that it has also been in another way too broad. Some costs that fall under the heading of transaction costs do not make out a good case for legal intervention or even sustained scholarly attention. Yet we presently lack a good vocabulary for distinguishing the shoe case from instances in which transaction costs are highly amenable to reduction through legal innovation. The absence of an unsolved collective action problem offers a useful basis for ruling out legally irrelevant transaction costs.

The fact that an unsolved collective action problem is in the picture does not always argue for legal intervention, however. Perhaps the problem cannot be cost-effectively solved through law, or (to put it another way) cannot be solved without producing larger negative impacts on other things that are connected to the problem at hand.¹⁴⁰ In particular, we must be mindful of how attempts to solve one collective action problem can undermine existing arrangements that address other collective action problems.¹⁴¹ The next section further refines the conditions for intervention by reframing transaction cost reductions as societal purchases.¹⁴²

¹⁴⁰ See Schlag, *supra* note 8, at 1688-89 (discussing the role of indivisibilities in addressing transaction costs); COASE, *supra* note 47, at 25-26 (recognizing this point in the context of contract formalities).

¹⁴¹ This is the essential lesson contained in Rose's examination of Type I and Type II transaction costs. Rose, *supra* note 17, at 2184-88. She critiques Ayres and Talley for not appreciating the way in which addressing Type II costs can run up Type I costs by partly dismantling a property system that goes a great distance to control (what I here call) coordination costs. See *id.*

¹⁴² We might make a similar set of points about purchasing transfer resistance cost reductions. I focus only

C. Purchasing Transaction Cost Reductions

Demsetz has usefully suggested that we view transactions as products like any other.¹⁴³ It costs something to produce them, and their production should not be undertaken unless it generates benefits in excess of those costs. In other words, the resources that might be used to make a transaction might be better employed making something else, like a widget. For this reason, the mere existence of high transaction costs does not in itself bespeak inefficiency, much less make out a case for legal intervention. It should, however, push us to ask two questions: (1) under what conditions can the market be expected to undersupply (or oversupply) transactions? and (2) are other methods of accomplishing the ends of transactions (getting or keeping resources in the hands of a high-valuing user) being underprovided or overprovided relative to the cost savings they produce?

The first question goes to whether collective action problems or market failures make some inputs into transactions unduly expensive, or cause some positive externalities of transactions to go uninternalized. The second question examines the case for legal interventions that would render certain classes of transactions unnecessary (or more necessary). Both questions can be more easily approached by taking the Demsetzian point one step further and viewing transaction cost *reductions* as products that the law can purchase, whether by reducing the cost of inputs, increasing the internalized benefits of transactions, or making the need for the transaction moot through the use of a substitute. Whether it is worth purchasing those reductions depends on what they cost and what they do for us. And this inquiry requires that we be precise about which impediments to efficient resource allocation certain transaction cost reductions are capable of addressing.

We must first confront an ambiguity in what we mean by transaction cost reductions. We might mean that individual transactions are *subsidized* so that their private cost falls even though their social cost remains unchanged. Or we might instead mean that individual transactions are *streamlined* in real terms, as through a legal rule that removes a procedural requirement, or some form of standardization that makes transacting easier. Or we might mean that entire classes of potential transaction costs are *sidestepped* because transactions are no longer necessary to bring actors together with (or keep them together with) the resources for which they are the high valuers. Each of these approaches will have its own sets of costs.

on transaction cost reductions in the interest of space, and because of their prevalence in law and economics analysis.

¹⁴³ DEMSETZ, *supra* note 7, at 109-10.

1. Subsidizing

A naive response to the reality that transaction costs can separate high valuers from resources might be to simply subsidize transactions. Suppose that after misreading Coase, the government decided to start a “transaction cost counterpunch” initiative in which individuals could get their transaction costs rebated from a central fund. Citizens would be invited to turn in records on the time and money spent transacting, in the same way workers turn in receipts to an employer for reimbursement. Even assuming the scheme could be perfectly enforced and all efforts at fraud deterred, this would not be a good idea. Just as reimbursing for transportation costs would lead people to overuse transportation inputs to the exclusion of cheaper alternatives, reimbursing for transactions would lead to too many, and too costly, transactions. High-valuers might be united with “things” more frequently as a result, but the subsidized transactions themselves would pull resources away from higher-valued uses at an even greater rate, generating net losses. Getting rid of (private, realized) transaction costs would be a recipe for inefficiency, not efficiency.

If an across-the-board transaction subsidy scheme seems suspect, what about a more tailored approach that subsidizes certain kinds of transactions? We might start by asking whether there is any reason to think that the transactions in question are being underproduced by the private market. This might be the case where transactions generate significant positive externalities.¹⁴⁴ A subsidy in such a context would be a standard Pigouvian move. A recent example is found in the idea of “agglomeration bonuses” offered to owners of contiguous land parcels who simultaneously agree to retire their lands.¹⁴⁵ In this case, the sweetener for private agreement is added onto an existing subsidy scheme in recognition of the larger public benefits accruing from contiguous rather than scattered habitat. But the

¹⁴⁴ Transactions might also be underproduced if the government is already taxing or otherwise burdening them. In such an instance, the subsidy might address the artificial suppression of demand and restore matters to the pre-burden baseline. An obvious question is why it would ever be more cost effective to counteract the initial burden than to eliminate it. This might be the case if the burdens on the transaction came in the form of incentives for appropriate action within the context of the transaction. For example, Nuno Garoupa and Chris Sanchirico point out that certain ways of structuring legal rules can act as transaction taxes by reducing joint surplus. See Nuno Garoupa and Chris William Sanchirico, *Decoupling as Transaction Taxes*, 39 J. LEGAL STUD. 469 (2010). An invariant inducement to enter into such a transaction could counter the distortive effects of the incentive scheme without undoing the scheme itself. *But see id.* at 486-87 (noting problems with this approach).

¹⁴⁵ See Gregory M. Parkhurst et al., *Agglomeration Bonus: An Incentive Mechanism to Reunite Fragmented Habitat for Biodiversity Conservation*, 41 ECOL. ECON. 305 (2002); see also Todd G. Olson et al., *The Habitat Transaction Method: A Proposal for Creating Tradable Credits in Endangered Species Habitat*, in BUILDING ECONOMIC INCENTIVES INTO THE ENDANGERED SPECIES ACT 27, 28-30 (Hank Fischer & Wendy Hudson, eds., 1994) (describing and depicting the “habitat transaction method,” which adjusts the value assigned to a given “habitat patch” based on its degree of contiguity and configuration); Jonathan Remy Nash, *Trading Species, A New Direction for Habitat Trading Programs*, 32 COLUM. J. ENVTL. L. 1, 20-29 (2007) (discussing and critiquing the “habitat transaction method” and variations on it).

existence of externalities does not always provide definitive guidance. This is because we must ask a further question, following Demsetz: whether the transactions necessary to internalize the externality in question are *themselves* subject to private underproduction. Underproduction of such internalizing transactions cannot be inferred from the mere persistence of an externality, since externalities cost something to internalize and may not be worth internalizing in a given instance.

This becomes apparent when we recognize that private owners may choose to leave goods in the commons, even when there are no collective action problems that stand in the way of defining and enforcing property at a finer grain. Demsetz gives the example of a parking lot adjacent to a shopping area.¹⁴⁶ It would be possible to propertize the parking spots and charge a fee for their use; indeed, this happens all the time in urban areas. This will mean fewer parking spaces (because people overconsume a zero-priced commodity) and thus fewer costs involved in creating parking lots. But it will also mean higher transaction costs because people have to pay each time they park. As Demsetz explains, “while we have reduced the resources committed to constructing parking spaces, we have increased resources devoted to market exchange. We may end up allocating more resources to the provision and control of parking than had we allowed free parking because of the resources needed to conduct transactions.”¹⁴⁷ In short, creating and enforcing short-term property interests in the individual spaces may not be worth it to anyone.¹⁴⁸ The same point holds when we move outside the ownership envelope of a single owner.

Even if we feel quite certain that a given kind of transaction is being underproduced, a subsidy may not be helpful. We would need to know *why* it is being underproduced. A subsidy might work quite well to cushion the costs of coordination between willing buyers and sellers (paying them for the time it takes to meet, for instance), but not at all well to address the costs of conflict (the desire to extract disproportionate surplus from a deal). As Cooter has noted, reducing certain kinds of transaction costs can actually have a pernicious effect where strategic holdout behavior is at issue.¹⁴⁹ The cheaper it is to transact, the lower the opportunity cost of wrangling over

¹⁴⁶ Harold Demsetz, *The Exchange and Enforcement of Property Rights*, 7 J.L. & ECON. 11, 14-15 (1964).

¹⁴⁷ *Id.* at 14.

¹⁴⁸ Put into the terms introduced above, the costs that stand in the way of reducing parking privileges to entitlements are blunt ones, insofar as the law already has devised a basic framework that would allow for the enforcement of private rights to the spaces. If these blunt costs are not worth paying, that suggests no inefficiency. Of course, the fact that they are not worth paying today does not mean they will not be worth paying tomorrow, if technology, demand, or other factors should change in ways that make metering the parking less costly. See Eirik Furubotn & Svetozar Pejovich, *Property Rights and Economic Theory, A Survey of Recent Literature*, 10 J. ECON. LIT. 1137, 1145 (1972) (observing that parking meters would reduce the costs of transacting over rights to individual parking spaces).

¹⁴⁹ Cooter, *supra* note 44, at 28 (“In fact, it is cheaper to engage in strategic behavior when communication is inexpensive.”).

surplus, and hence the more of it we are likely to see.

2. Streamlining

If subsidies seem like an often unhelpful approach to the problem of high transaction costs, we might turn our attention to more broad-based measures and expenditures that have the effect of making market coordination less expensive. Consider again government investments in transportation and communication infrastructure, the public education system, the legal system, and the currency system. Property rights comprise an especially interesting and important category of such transaction-cost-lowering technologies. By creating a tradable commodity, a property entitlement, the cost of coordinating a transaction is diminished. Within the broad category of property rights lie a number of specific “transactability features,” from land registries to standardization protocols to antifragmentation doctrines. All of these things help reduce coordination costs.

In each instance, we would want to make sure that the returns to investments are worth their cost—that is, capable of facilitating new transactions that will generate more surplus than was expended in the process. We do have reason to suspect that the private market would undersupply many of the things that globally reduce transaction costs, to the extent those things take the form of public goods or goods with large network effects or spillovers. But streamlining costs something, and the fact that the charges are disbursed across the population should, if anything, make us more vigilant in comparing what we are getting with what we are giving up.¹⁵⁰

Not all streamlining takes the form of advances in infrastructure or institutions. It might instead involve simply rolling back the formal requirements associated with transactions. Coase mentions one example: easing the requirements for completing a contract.¹⁵¹ For example, land transactions would be cheaper to accomplish were it not for the Statute of Frauds, which requires certain formalities, including the use of a written document. Likewise, various consumer transactions could be completed more quickly if merchants did not have to comply with disclosure requirements, offer “cool down” periods, and so on.

Coase rightly questions whether a given change in the contractual rule is worth it, when considered across the full run of cases to which it would

¹⁵⁰ An insight of public choice theory is that scattered impacts may elicit a muted political response relative to those concentrated on a small cohesive group. *See, e.g.*, DANIEL A. FARBER & PHILIP P. FRICKEY, LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION 12-37 (1991) (discussing the role of interest groups in the political process).

¹⁵¹ COASE, *supra* note 47, at 25-26.

apply.¹⁵² These formalities add to the costs of transactions, but are also thought to produce benefits.¹⁵³ Many of these formalities are meant to keep consumers from unwittingly engaging in inefficient transactions—ones that leave them worse off—or to keep fraudsters from accessing resources outside of voluntary channels of trade. Against transaction cost savings, then, we must weigh the losses from value-reducing trades or misappropriations as well as associated forms of defensive, reactive, and institutional dissipation. Put another way, we cannot analyze the effects on the costs of transfers without considering the effects on transfer resistance costs.

3. Sidestepping

Neither subsidies nor streamlining get rid of market transactions; they simply make market mechanisms less expensive for willing participants to use. Such approaches generally address only coordination costs; they are simply not designed to deal with strategic behavior or other kinds of conflict costs. A great deal of legal attention has focused on ways to bypass transactions altogether, primarily through liability rules. Liability rules, in Calabresi and Melamed's schema, permit transfers to occur on the unilateral initiative of one party upon payment of a stipulated amount to another party.¹⁵⁴ These substitutes for transactions¹⁵⁵ can avoid not only the coordination costs associated with transacting, but also strategic impediments to transacting—a type of conflict costs. More specifically, liability rules avoid struggles over surplus by setting a price. But, like every other approach to structuring resource access, liability rules have costs of their own.

One set of concerns has been strongly associated with liability rules in the existing literature: the possibility that they will undercompensate, and the associated risk that they will transfer resources to low valuers and thereby discourage *ex ante* investments. These possibilities represent costly resource misallocations. But there are other costs associated with liability rules, ones that apply even when they achieve their goal of moving resources to a higher valuer. In addition to the cost of setting up and running the liability rule regime, defensive and reactive dissipation may occur as parties attempt to protect their property against unilateral, undercompensated appropriation (or, alternatively, attract overcompensated

¹⁵² *See id.*

¹⁵³ *See id.*; *see also* Driesen & Ghosh, *supra* note 31, at 87.

¹⁵⁴ Calabresi & Melamed, *supra* note 93, 1092, 1107.

¹⁵⁵ *See* Calabresi, *supra* note 41, at 69. Liability rules do not produce true transactions because they do not involve the voluntary participation of two or more parties, but instead allow one party to override the veto power of the other.

appropriation) through rent-seeking or otherwise.

Liability rules are not the only substitutes for transactions. In addition to outright theft, there are a variety of legally approved transfers without compensation, such as adverse possession, prescription, and regulations that fall short of compensable takings. Here too we see how avoiding transactions introduces other conflict costs (defensive and reactive moves following invasion or the threat of invasion).¹⁵⁶ To the risk of value-reducing transfers (bad shifts) we must add costs that apply regardless of whether the transfer goes to a lower or higher valuing user. An especially interesting set of such costs is political in nature and relates to literatures on transition relief,¹⁵⁷ as well as to Frank Michelman's notion of "demoralization costs."¹⁵⁸

All of these costs become implicated in entitlement design choices, including those choices that are justified by reference to transaction costs. For example, property regimes that grant owners a robust veto power across a wide range of dimensions allow owners to toggle among a wide variety of possible activities without having to transact with anyone first.¹⁵⁹ But that same breadth of choice, which constrains the options left open to others, may lead to more conflicts than would a more constrained set of ownership vetoes. In the absence of any incentive or mechanism for owners to head off future trouble,¹⁶⁰ the ensuing clashes may well require coercive governmental intervention. To the claimed benefits of such large and blocky sets of rights, then, we must add the potentially greater need for coercive interventions to address the problems that such rights create. And to this we must also add the political fallout from that coercion, as well as any costs that are incurred to reduce that fallout to acceptable levels.

There are at least two other ways to sidestep transactions. One is for the law to simply assign resources to their high valuers, through court judgments or otherwise.¹⁶¹ The other is to create organizational structures that eliminate the need for transactions with others. Both of these possibilities have been extensively addressed in the existing transaction cost

¹⁵⁶ This includes defensive moves that are the product of errors, or that represent overreactions. See *Jacque v. Steenberg Homes*, 563 N.W.2d 154 (Wis. 1997) (homeowners refused to allow parties delivering a mobile home to cross their land to avoid dangerous conditions on an alternate route, based on an earlier experience of losing land to adverse possession).

¹⁵⁷ See, e.g., Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 517 (1986); Jonathan S. Masur & Jonathan Remy Nash, *The Institutional Dynamics of Transition Relief*, 85 N.Y.U. L. REV. 391 (2010).

¹⁵⁸ Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law*, 80 HARV. L. REV. 1165, 1214-18 (1967).

¹⁵⁹ See generally Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719 (2004).

¹⁶⁰ Fennell, *supra* note 67 offers a proposal along these lines, whereby owners could receive a payment for alienating options on certain aspects of their property holdings, thus effectively downgrading certain aspects of their bundle to liability rule protection.

¹⁶¹ This point connects to the one above about political costs, to the extent that the assignment disrupts expectations about entitlements.

literature. I will mention just two points in this connection.

First, property law plays an often unsung role in assigning resources to parties who are likely to be high valuers. One way it does so is by creating durable sets of rights that extend forward indefinitely in time and run against all outsiders. Were it not for these features, a possessor could maintain possession moment to moment only by constantly paying everyone else to stay away, or engaging in more costly “transaction substitutes,” like violence or guarding. We can thus see embedded in the durable structure of property a rebuttable presumption that possession today is complementary with possession tomorrow, and that if the current possessor is the high valuer today, she is most likely to be the high valuer tomorrow, and tomorrow, and tomorrow.¹⁶² Following this essay’s analysis, however, the durability of property rights should not be taken as a given simply because it eliminates the need for certain kinds of transactions; its overall impact on systems for providing access to resources must be assessed. Durability reduces societal flexibility, and it does so in a way that may not be appropriately priced.¹⁶³

The second point is that choices about organizational structure or, analogously, the size and scope of property holdings, may not incorporate full social costs and benefits. This is because there is a discontinuity in responsibility that occurs at the property line, with governance inside largely falling on private parties and governance outside largely falling on public entities. Parties can sidestep transactions by expanding their holdings, but this means giving up some in-kind subsidies, especially with respect to transfer resistance. The result may be unwitting legal encouragement of particular organizational forms or spatial configurations, at least in the absence of countermeasures. This point has received much less attention from legal scholars than has the potential impact of current configuration choices on later transactions.¹⁶⁴

IV. OBJECTIONS AND EXTENSIONS

There are several objections that might be raised to the approach taken here. Answering these objections suggests some ways in which the analysis might be extended.

¹⁶² This relates to property’s trait of “persistence.” See Henry E. Smith, *Property as a Law of Things*, 125 HARV. L. REV. 1691, 1711-12 (2012). We can find instances where the opposite presumption of non-persistence applies (think of vacation campsites, public restroom stalls, or seats on a thrill ride). In these cases, it is assumed that value is maximized by rotating possession rather than leaving it perpetually with one person—but these are thinner slices of possession than many people would identify with property rights.

¹⁶³ See, e.g., T. Nicolaus Tideman, *Integrating Land-Value Taxation with the Internalization of Spatial Externalities*, 66 LAND ECON. 341, 347 (1990) (suggesting that landowners withdraw flexibility from a social fund, and suggesting a tax on the right to remain as a possible solution).

¹⁶⁴ See, e.g., Heller, *supra* note 9.

A. *Didn't We Know All This Already?*

The discussion above has been abstract and conceptual, and it is fair to ask how, or if, adopting a resource access costs approach would change the way legal scholars think and write about resource problems. More to the point, does the analysis here tell us anything we didn't already know? The answer is both yes and no. I do not claim to have discovered entirely new ground in advocating a resource access cost approach, and as the citations above indicate, greater minds than mine have collectively recognized the various points worked through here. But the current way of framing the problem runs counter to identifying useful solutions. Whatever knowledge may be theoretically available in scattered places throughout the literature has not been brought together in a way that legal scholars can use.

The approach here adds analytic clarity in a manner analogous to other significant theoretical advances. Quite simply, it is possible to do an inefficiently *good* job of getting entitlements (“things”) to higher valuing users, or keeping them there. The idea of an inefficiently high level of law enforcement has been well-accepted since Gary Becker’s work on crime and punishment.¹⁶⁵ Similarly, Guido Calabresi made the possibility of an inefficiently low level of accidents part of the standard operating equipment for the economic analysis of tort law.¹⁶⁶ There should be a similar level of familiarity with the possibility of too many efficient thing-transfers, where this achievement draws too many resources into the resource-structuring process. Subsuming transaction costs into a broader inquiry into optimality in resource access helps to make this point intuitive.

A resource access approach also emphasizes a basic parity among costs that is undermined by designating some subset of costs as “transaction costs” worthy of special attention. The costs of moving resources to new owners are no more and no less problematic than the costs of keeping them in place when they should not be moved, or of altering them in ways that make them less useful. Consider the metaphor of an ice block that melts in transit, which economists often use to illustrate transportation or transaction costs.¹⁶⁷ Suppose we can reduce melt by loading a resource into a speedy

¹⁶⁵ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 170 (1968) (observing that the question of optimal enforcement can be “put equivalently, although more strangely, [as] how many offenses should be permitted and how many offenders should go unpunished?”).

¹⁶⁶ See CALABRESI, *supra* note 41.

¹⁶⁷ See, e.g., Langlois, *supra* note 17, at 1390 (discussing Paul Samuelson’s “famous iceberg model of transportation costs” in which “a certain amount of the iceberg melts away as it is transported—or, we might add, as it waits around while being exchanged”) [citing Paul A. Samuelson, *The Transfer Problem and Transport Costs, II: Analysis of Effects of Trade Impediments*, 64 ECON. J. 264 (1954)] The caveat about the resource “waiting” to be exchanged can be extended: a resource capable of throwing off a stream of value greater than that which its present possessor can capture has some of its value melt away if it is not transferred. Additionally, guarding and other efforts to preserve the resource represent other sources of melt.

transport vehicle or slotting it into well-engineered chutes—that is, through intelligent entitlement design and market facilitation. We have made the resource easier to move, but we may not have improved resource access. For example, if we must chop resource units into blocks of standard size to ready them for transit, we may end up with resource transfers that look artificially cheap (in melt) if we forget to notice what they cost up front (in chop). We might have been better off with less chop and more melt. We might have been better off forgoing both chop and melt, if the surplus associated with the resource's rearrangement is outstripped by the cheaper of these alternatives.

This metaphor relates to a number of current debates in property, including choices between property rules and liability rules, and the degree to which property should come in standardized packages. We should be willing to accept less useful property rights in order to make them easier to handle—but only if when we gain more than we lose. Appreciating this point turns transaction cost savings from a trump card into a conversation starter. Ditching the term transaction costs to focus instead on meaningful subsets of cost will make the resulting conversations clearer and more useful.

B. Why Maximize Value?

The analysis in this paper tries to improve how we think and talk about the efficiency of resource access. We would do better to speak more precisely about how property arrangements impede or facilitate access by high valuers to resources. But it is also possible to read this paper as a first step toward a more radical rethinking of resource access questions. By making clear that the real issue is not who shall own which entitlements, but rather who shall have access to which resources, the paper invites a deeper questioning of the efficiency inquiry's reliance on willingness to pay.

The focus on transaction costs has led to a way of thinking about efficiency that uses market transactions as the elusive ideal, and suggests that other ways of accomplishing transfers merely stand in for those transactions when they become too costly. The goal is to mimic the outcomes we would get if transactions were not so expensive to produce, and those outcomes would be determined by willingness to pay. Once we stop thinking about transactions as the prototype and instead examine how to optimally arrange access to resources, the question arises of why value (interpreted in terms of willingness to pay) should be the right metric.

The question is a larger one than I can take up here. But it is interesting that simply moving one step away from a focus on transaction costs

highlights the distributively conservative character of that focus. Indeed, we can view the need to use money as a marker as yet another bit of fallout from our positive transaction cost world—a stopgap measure that fills in as best it can, and at some positive social cost, for the world we would achieve if parties could transact based upon utility.

To put the point a different way, we might follow Pierre Schlag's lead and consider an alternative to the Coase Theorem that starts with the counterfactual assumption of perfect, costless governmental allocations.¹⁶⁸ If governmental allocations were costless, it would be possible to directly pursue social welfare maximization rather than rely on market allocations. If we then introduced governmental costs into such a world—information costs, political costs, and so on—we might find that using markets ended up being a reasonable second-best solution for allocating many resources. But we would count it as a cost of the system, and not a benefit, that its method of aggregating information through the price system directed resources to high valuers rather than to those who would derive the greatest welfare improvements from the resource.¹⁶⁹

C. Why Stop at Access?

I have centered my attention on resource access. This focus might seem to replicate in some ways the problems I identify with a focus on transactions. Just as transactions are only one way (and an imperfect and costly way) to structure access to resources, so too is resource access merely instrumental to the ultimate aim of resource use. Is something of consequence to legal scholars lost by focusing on resource access rather than resource use?

The question, too, deserves more attention than I can give it here, but a few points are worth emphasizing. We can start with the empirical connection between optimizing access to resources and optimizing resource use. There are two facets to this connection: the degree to which access is a necessary precondition to optimal resource use, and the degree to which access is sufficient to induce optimal resource use.

Access is sometimes necessary to optimal resource use in a rather visceral and clear-cut way. If a given berry is best used as nutrition for Jed, it will be impossible for it to be deployed in that way without getting the berry into Jed's stomach, which requires giving Jed access to the berry. In other cases access is a practical necessity because the costs of arranging

¹⁶⁸ See Schlag, *supra* note 8, at 1693-97.

¹⁶⁹ Schlag makes a related point when he observes that focusing on a costless market transaction "is really an invitation to look at certain forms of information that a market produces such as prices, payments, outputs, etc." and "to disregard other types of information—notably the kind that the government obtains such as votes, protests, expertise, etc." *Id.* at 1695.

optimal resource use in its absence are too high. Lloyd Cohen gives the example of a department store developer who would not need to worry about a holdout retaining ownership (or, presumably, physical possession) of what would be a corner of the store, if it were feasible to contract over the property's optimal use—here, as a seamlessly attached segment of the store.¹⁷⁰ These two examples together suggest that access by high valuing end users is essential to optimal resource use, but access by parties involved in producing value for end users is only instrumental to that goal. Whether to grant producers of value something less than physical access to inputs or something more (such as formal property rights) is thus an open and contingent question.

Further, it is clear that access will not always be sufficient to ensure optimal resource use, either in production or consumption. The step from resource access to resource use requires the essential ingredients of human effort and choice. By and large, the law can only structure access to resources and set up incentive systems; it cannot directly compel uses. The law can grant Jed access to a berry patch, but he must decide to pick the berries; it can grant him a bowl of berries, or a voucher for berries, but he must take additional steps to wring nutrition out of this arrangement.¹⁷¹ Even when the government "itself" engages in a use, like using land for a highway, it is really only structuring access to the land, the paving equipment, and so on, and giving its human agents incentives to use these resources in a particular way. It is not without justification, then, for law to focus on access, the tractable margin, rather than on inputs that it cannot directly control.

Nonetheless, the gap between access and use is an interesting one for law, and it should not be neglected in examining how entitlement structures and other incentive systems operate. One of the goals of this paper has been to view transactions instrumentally, and to see them as part of a larger set of resource access structures that includes, but is not limited to, private property rights. Access, in turn, may be viewed instrumentally as well. As Raghuram Rajan and Luigi Zingales have shown, access can be used to elicit optimal investments in the absence of property rights, and sometimes this arrangement can dominate the residual rights associated with ownership.¹⁷² Here, access to production factors creates incentives that, ultimately, improve access to consumption items by end-users. But end-users too may require encouragement to use resources optimally.

Informal or nonpecuniary methods of persuasion or coercion may become important in translating access into use. For example, rather than

¹⁷⁰ Cohen, *supra* note 52, at 353.

¹⁷¹ See Noah Zatz, *Poverty Unmodified? Critical Reflections on the Deserving/Undeserving Distinction*, 50 UCLA L. REV. 550, 573-74 (2012) (discussing what it means for a resource like bread to be "available").

¹⁷² Rajan & Zingales, *supra* note 104.

regulate access to water directly, the law might try to convince people that using too much water is shameful. This would be an indirect method of trying to secure access to water for other users, or later versions of the same users. Likewise, providing access to healthy foods or opportunities for exercise may be accompanied by exhortations to make use of these resources. Here the beneficiaries might be the individual's family, or the individual's future selves. Viewing access instrumentally thus opens up new lines of inquiry. For example, we might fruitfully investigate how certain access structures demand additional norms creation work to achieve the ultimate end of optimizing use, and the extent to which these norms, and their supporting structures, produce costs or benefits for society.¹⁷³

CONCLUSION

Regardless of exactly how the term is understood, “transaction costs” does a poor job of focusing legal scholars’ attention in all, and only, the right places. If transaction costs are worthy of special attention from legal scholars, it must be because they relate in some important way to legal processes, structures, entitlements, or institutions—dials that the law can twist. But if that is our criterion for paying special attention—legal remediability or tractability—then our attention must extend not just to the cost of transactions (however defined) but also to the costs of doing things through law that make transactions less costly or less necessary. Rather than taking center stage on their own, then, transaction costs are one of several cost factors implicated by resource access arrangements, and transactions are only one of several ways of structuring resource access. At the same time, there is no reason to focus attention on costs that cannot be cost-effectively reduced through the law’s dial-twisting, or to twist dials that are disconnected from the real problems at hand.

To address the problems of underinclusion, overinclusion, and insufficient specification that have plagued the use of the transaction cost category, it is first necessary to widen our lens to take in all the costs of structuring access to resources. The next step is to usefully subdivide this set of costs to home in on places where targeted legal interventions can improve resource access. Emphasizing the distinction between conflict and coordination costs better frames the tradeoffs in entitlement design. Likewise, the distinction between blunt and costs and those produced by collective action problems helps to focus attention on the improvements for which property design has a comparative advantage.

¹⁷³*Cf.* Gregg P. Macey, *Coasean Blind Spots*, 98 GEO. L.J. 863 (2010) (critiquing the “incomplete institutionalism” of law and economics and urging greater attention to the internal responses of firms to transaction costs).

Instead of reading Coase's analysis as a directive to "use the law to lubricate private bargaining,"¹⁷⁴ property scholars should be concerned with improving access to resources—including those resources that must be used to structure access to other resources. With the approach presented here, I hope to have made a start toward that goal.

¹⁷⁴ Cooter, *supra* note 44, at 14.

Readers with comments should address them to:

Professor Lee Anne Fennell
University of Chicago Law School
1111 East 60th Street
Chicago, IL 60637
lfennell@uchicago.edu

Chicago Working Papers in Law and Economics
(Second Series)

For a listing of papers 1–550 please go to Working Papers at <http://www.law.uchicago.edu/Lawecon/index.html>

551. Douglas G. Baird, Car Trouble, May 2011
552. Omri Ben-Shahar, Fixing Unfair Contracts, May 2011
553. Saul Levmore and Ariel Porat, Bargaining with Double Jeopardy, May 2011
554. Adam B. Cox and Richard T. Holden, Reconsidering Racial and Partisan Gerrymandering, May 2011
555. David S. Evans, The Antitrust Economics of Free, May 2011
556. Lee Anne Fennell, Property and Precaution, June 2011
557. Omri Ben-Shahar and Anu Bradford, Reversible Rewards, June 2011, revised November 2011
558. Alon Harel and Ariel Porat, Commensurability and Agency: Two Yet-to-Be-Met Challenges for Law and Economics, June 2011
559. Randal C. Picker, After Google Book Search: Rebooting the Digital Library, June 2011
560. Julie A. Roin, Privatization and the Sale of Tax Revenues, July 2011
561. Joseph Issenbergh, Last Chance, America, July 2011
562. Richard H. McAdams, Present Bias and Criminal Law, July 2011
563. David Weisbach, Is Knowledge of the Tax Law Socially Desirable?, July 2011
564. Louis Kaplow and David Weisbach, Discount Rates, Judgments, Individuals' Risk Preferences, and Uncertainty, July 2011
565. Louis Kaplow, Elisabeth Moyer and David A. Weisbach, The Social Evaluation of Intergenerational Policies and Its Application to Integrated Assessment Models of Climate Change, July 2011
566. David A. Weisbach, Carbon Taxation in Europe: Expanding the EU Carbon Price, July 2011
567. Nuno Garoupa and Tom Ginsburg, Hybrid Judicial Career Structures: Reputation v. Legal Tradition, August 2011
568. Richard A. Epstein, F. Scott Kieff, and Daniel F. Spulber, The FTC's Proposal for Regulation IP through SSOs Would Replace Private Coordination with Government Holdups, August 2011
569. Dhammika Dharmapala, Nuno Garoupa, and Richard McAdams, Do Exclusionary Rules Convict the Innocent? August, 2011
570. Andres Sawicki, Better Mistakes in Patent Law, August 2011
571. Jonathan S. Masur and Eric A. Posner, Regulation, Unemployment, and Cost-Benefit Analysis, August 2011
572. Adam B. Cox and Eric A. Posner, Delegation in Immigration Law, September 2011
573. Joseph Bankman and David Weisbach, A Critical Look at a Critical Look—Reply to Sanchirico, September 2011
574. M. Todd Henderson and Frederick Tung, Pay for Regulator Performance, September 2011
575. William H. J. Hubbard, The Problem of Measuring Legal Change, with Application to *Bell Atlantic v. Twombly*, September 2011
576. Adam M. Samaha, Regulation for the Sake of Appearance, October 2011
577. Ward Farnsworth, Dustin Guzior, and Anup Malani, Implicit Bias in Legal Interpretation, October 2011
578. Anup Malani and Julian Reif, Accounting for Anticipation Effects: An Application to Medical Malpractice Tort Reform, October 2011
579. Scott A. Baker and Anup Malani, Does Accuracy Improve the Information Value of Trials? October 2011
580. Anup Malani, Oliver Bombom and Mark van der Laan, Improving the FDA Approval Process, October 2011
581. Brian Leiter, The Boundaries of the Moral (and Legal) Community, October 2011
582. David S. Evans, Governing Bad Behavior by Users of Multi-Sided Platforms, October 2011
583. Stephen J. Choi, Mitu Gulati and Eric A. Posner, Political Risk and Sovereign Debt Contracts, November 2011
584. Lee Fennell, Ostrom's Law: Property Rights in the Commons, November 2011
585. Lee Fennell, Lumpy Property, January 2012

586. David A. Weisbach, Should Environmental Taxes Be Precautionary? January 2012
587. Ariel Porat and Eric A. Posner, Aggregation and Law, January 2012
588. Oren Bar-Gill and Ariel Porat, Beneficial Victims, February 2012
589. Eric A. Posner and E. Glen Weyl, An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to Twenty-First-Century Financial Markets, February 2012
590. Bernard E. Harcourt, On the American Paradox of *Laissez Faire* and Mass Incarceration, March 2012
591. Bernard E. Harcourt, Fantasies and Illusions: On Liberty, Order and Free Markets, March 2012
592. Saul Levmore and Ariel Porat, Asymmetries and Incentives in Evidence Production, March 2012
593. Omri Ben-Shahar and Kyle D. Logue, Outsourcing Regulation: How Insurance Reduces Moral Hazard, April 2012
594. Eric A. Posner and E. Glen Weyl, A Proposal for Limiting Speculation on Derivatives: An FDA for Financial Innovation, March 2012
595. Lee Anne Fennell, Picturing Takings, April 2012
596. David Fagundes and Jonathan S. Masur, Costly Intellectual Property, April 2012
597. Eric A. Posner, The Questionable Basis of the Common European Sales Law: The Role of an Optional Instrument in Jurisdictional Competition, May 2012
598. Oren Bar-Gill and Omri Ben-Shahar, Regulatory Techniques in Consumer Protection: A Critique of European Consumer Contact Law, May 2012
599. Bernard E. Harcourt, Punitive Preventive Justice: A Critique, May 2012
600. Joshua Elliott, Ian Foster, Sam Kortum, Gita Khun Jush, Todd Munson, and David Weisbach, Unilateral Carbon Taxes, Border Tax Adjustments, and Carbon Leakage, June 2012
601. David A. Weisbach, Should Environmental Taxes Be Precautionary? June 2012
602. Saul Levmore, Harmonization, Preferences, and the Calculus of Consent in Commercial and Other Law, June 2012
603. David S. Evans, Excessive Litigation by Business Users of Free Platform Services, June 2012
604. Ariel Porat, Mistake under the Common European Sales Law, June 2012
605. Stephen J. Choi, Mitu Gulati, and Eric A. Posner, The Dynamics of Contrat Evolution, June 2012
606. Eric A. Posner and David Weisbach, International Paretianism: A Defense, July 2012
607. Eric A. Posner, The Institutional Structure of Immigration Law, July 2012
608. Lior Jacob Strahilevitz, Absolute Preferences *and* Relative Preferences in Property Law, July 2012
609. Eric A. Posner and Alan O. Sykes, International Law and the Limits of Macroeconomic Cooperation, July 2012
610. M. Todd Henderson and Frederick Tung, Reverse Regulatory Arbitrage: An Auction Approach to Regulatory Assignments, August 2012
611. Joseph Isenbergh, Cliff Schmiff, August 2012
612. Tom Ginsburg and James Melton, Does De Jure Judicial Independence Really Matter? A Reevaluation of Explanations for Judicial Independence, August 2012
613. M. Todd Henderson, Voice versus Exit in Health Care Policy, October 2012
614. Gary Becker, François Ewald, and Bernard Harcourt, "Becker on Ewald on Foucault on Becker" American Neoliberalism and Michel Foucault's 1979 *Birth of Biopolitics* Lectures, October 2012
615. William H. J. Hubbard, Another Look at the Eurobarometer Surveys, October 2012
616. Lee Anne Fennell, Resource Access Costs, October 2012