

Asymmetric Information and the Law of Servitudes Governing Land

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ABSTRACT

The legal doctrine on servitudes has long been viewed as a Byzantine tangle of doctrine emanating from property law, contract law, and courts of equity. This paper explains the structure of the law governing servitudes on land using key ideas from the economics of information, focusing on easements and covenants and the rules governing their formation and application. We develop a model of land markets that incorporates asymmetric information (adverse selection) and specialization in ownership and use this to offer a rationale for the seemingly ad hoc limits on the use of servitudes. We stress the inability of sellers of land credibly to assure buyers that land is not encumbered by servitudes. Our model explains variations in legal doctrine over time and across jurisdictions, particularly comparing servitudes in the United States and in England.

1. INTRODUCTION

The law of servitudes on land has a reputation for being a Byzantine tangle of doctrine with sources in the law of property and contract and in courts of equity.¹ This doctrinal tangle represents a challenge for law and economics because it appears to be rife with inconsistencies and

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1. It is worth repeating here the famous and overused quote by Rabin (1974, p. 489): “The law in this area is an unspeakable quagmire. The intrepid soul who ventures into this formidable wilderness never emerges unscarred. On looking back they see the trail they thought they broke obscured with foul smelling waters and noxious weeds.”

[*Journal of Legal Studies*, vol. 38 (January 2009)]

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redundancies and because the terminology itself is not transparent. The law of property comprises rules that govern the formation of such servitudes as simple rights-of-way for travel across another's land or rights to use another's land (for example, corridors for pipelines, power lines, or irrigation canals) as well as rules that allocate rights of light and storage, rights to remove assets from the land (for example, minerals, game, or wood), covenants on townhouses and homes in associations, and modern conservation easements.

In this paper, we develop an economic rationale for the structure of servitude law, focusing primarily on explaining observed limits on the use of servitudes and on requirements on the structure of enforceable servitudes.² Contrary to much of the prevailing legal literature that emphasizes chaos and historical accident, we argue that servitude law has an underlying economic structure that is designed to reduce information asymmetry that could otherwise alter incentives and hinder the operation of a market in real property. In our framework, limits on the structure and application of servitudes allow specialization in property rights to enhance the total value of land, but it also recognizes limits resulting from imperfect information, particularly in the context of difficulties in credibly contracting around information asymmetries.

In legal terms, land-use servitudes are "private law devices that create interests running with the land" (see American Law Institute 2000, p. 1). Examples include such common practices as rights-of-way over servient³ land, restrictions on home designs in residential developments, rights to hunt game or harvest timber, and even rights to pews in a church or to use a kitchen, and they commonly arise out of private agreements. All of these legal devices are essentially property rights in the real (estate) property of another (whether a right to cross, to extract, or to limit use) and are methods by which property rights are partitioned into specialized components. We argue that the law of servitudes⁴ actually provides a further illustration of the efficient evolution of property

2. Stake (1998, p. 439) also argues that these are the key questions in understanding servitude doctrine: "The interesting economic issues relate not to why rights in Whiteacre can be subdivided according to usage, but rather why the law fetters the subdivision of rights, and whether there is any current utility to having multiple doctrines with differing rules by which rights are subdivided."

3. The servient land has the obligation attached to it.

4. Henceforth, we understand that "servitude" refers to land use, noting that we do not examine servitudes in labor law or contracts such as the noncompetition covenants common in professional labor contracts.

rights over time, in the sense claimed in other areas of property rights by Demsetz (1967, 2002).

Servitudes on land are a prime example of how the common law supports the fragmentation and specialization of property rights in space, time, and use. The underlying economic rationale for this fragmentation is based on the gain from specialization in the ownership and use of land and the avoidance of high costs in laying in services such as power cables, sewers, or roads or the avoidance of conflict over the resource (Barzel 1997; Ellickson 1993; Stake 1998; Dnes 2005; Lueck and Miceli 2008). For instance, allowing an oil company to own and manage underground hydrocarbons while a farmer manages the soil increases the total value of the land. Similarly, the joint value of two neighboring pieces of land is likely maximized by a locked-in piece buying the right, typically an easement, to use an access route across the property contiguous to the highway. If two neighbors can foresee conflict over their exercise of independent property right entitlements, possibly because one will emit noise, an easement might turn what would otherwise be a nuisance (a negative externality or unpriced spillover effect) into an entitlement. Unlike leases, which are exclusive but time-limited possessory rights, servitudes are nonpossessory rights held by someone other than the fee owner.

Although the basic economic rationale for the existence of servitudes is straightforward, the structure (and evolution) of the doctrine is puzzling and largely unexamined.⁵ Indeed, servitude doctrine is noted as a “quagmire of principles possessing little apparent coherence” (Casner et al. 2004, p. 945). Although there are numerous restrictions to be examined, two doctrines are particularly important. First, the English common law evolved to allow and enforce just four types of negative easements (that is, those restricting the actions of landowners) by the early nineteenth century following concern in the courts over the excessive creation of “novel restrictions.” The English limitation of negative easements has been influential in the United States, which is only slightly less restrictive on negative easements. The second particularly important doctrine is that American common law does not permit, and English

5. Stake (1998) notes the paucity of economics work on servitudes; Lueck and Miceli (2008) note the lack of work on legal doctrines concerning land. Early work by Reichman (1978) notes that touch-and-concern requirements are central to enforcing covenants as though they were easements, are inherent in the definition of an easement, and define specific performance as the context for bargaining. See also Stake (1998) and Gordley (2003).

common law is reluctant to permit, the creation of negative easements by prescription, that is, creation by long use akin to adverse possession (see Dukeminier and Krier 2002, p. 781; Gray and Gray 2005, p. 637). The climate of restriction has modern implications; for example, in the United States, there were early-twentieth-century difficulties over enforcing conservation easements that were eventually solved by statute (Dnes, Lueck, and McDonald 2008).

The “list of four” began with the English case of *Keppell v. Bailey* (2 My. & K. 517, 39 Eng. Rep. 1042), in which enforcement of a covenant to buy limestone from a particular seller and then to transport by the Trevil Railroad was denied. From this beginning there ultimately came to be just four recognized categories of negative easements. Specifically the common law would protect the entitlement only to (1) a flow of water in an artificial stream, (2) a flow of air through a defined route, (3) a quantity of light through windows, and (4) support for a building from a neighbor’s building. In England, you may covenant over other restrictions, for example, the preservation of views or shelter for structures, but not in a way that would “run with the land.”⁶ The general effect of the list of four is to push restrictions on land use out into the marketplace for highly visible periodic contracting or judicial supervision under the law of nuisance. The list of four is influential in American jurisdictions, and American courts have been only a little more generous, as in their recognizing the right to a view, for example, in *Petersen v. Friedman* (328 P.2d 264 [Cal. Ct. App. 1958]).

Our general argument is that because complex divisions of property, such as those defined by servitudes, can often be hard to measure, verify, and enforce contractually, limits on their use can actually clarify rights to land and thus support market transactions.⁷ Much of the legal discussion of servitudes in terms of title clouding can be viewed, in our terms, as the identification of an adverse-selection problem linked to the difficulty of enforcing poorly defined restrictions. Indeed, there is much discussion in English and American cases about the potential devaluation of property through obscuring the true characteristics of land. In addition, in both jurisdictions there appears to be considerable effort ex-

6. For example, in *Phipps v. Pears* ([1965] 1 Q.B. 76), the court refused to recognize a prescriptive easement protecting a wall from exposure that was claimed following the demolition of neighboring property (“The only way . . . to protect . . . is by getting a covenant”).

7. Barzel (1997) is the first to stress this general point that constraints on property rights, in the presence of transaction costs, can serve to clarify rights.

pended by buyers of land in ascertaining its characteristics. Much of servitude doctrine then may be regarded as efforts to control the risk of undermining the market in land owing to the clouding of title by uncertainty over its quality.⁸ We use this asymmetric information (Akerlof 1970; Rothchild and Stiglitz 1976) and measurement costs (Barzel 1982; Holmström and Milgrom 1991) framework to consider distinctions that have been maintained between easements and covenants and various other doctrines, such as appurtenance, “touch and concern,” privity requirements, and modifications of easements and covenants. These doctrinal distinctions make sense in terms of controlling information asymmetry.

There is some recent literature related to the economic structure of servitude law. First, there is the general issue of the *numerus clausus* structure inherent in property law; that is, the tendency to limit the number of permissible property rights fractions so as to preserve property values. Merrill and Smith (2000) argue that such limits on the types of property regimes reflect information and measurement costs. Second, Hansmann and Kraakman (2002) have argued that property law verifies ownership of rights by presuming that they are held by a single owner, subject to the exception that a division is enforceable if there is adequate notice to subsequent owners. Hansmann and Kraakman conclude that because the benefits of fragmented property rights are often low, the high cost of verification encourages courts to limit the number of partial property rights. Third, there is the recent application of the anticommons model to the question of servitude law (Depoorter and Parisi 2003; Parisi, Depoorter, and Schulz 2006).⁹ We believe our approach is gen-

8. Title clouding may also depend on the nature of externalities among neighbors and those holding different sets of rights in a property. An externality might create a complex cost relationship, including the case of a nonseparable externality that is hard to control with a simple pricing rule. A separable externality is one that affects an activity independently of its scale and is therefore easily valued. However, if the impact of the externality depends on the scale of the victim's activity, it is nonseparable and cannot be controlled by a pricing rule, which creates a presumption in favor of the merger of the two activities (Davis and Whinston 1962). Merger could include partial merger, which is the use of an easement or, for limited periods, a covenant.

9. The anticommons literature stems from Heller (1998), who observed empty storefronts in Moscow, which he attributed to excessive layers of rights of exclusion from bodies such as the government and the mafia. Buchanan and Yoon (2000) develop a formal model that is analogous to open-access rent dissipation, with each party choosing price rather than a level of extraction in the traditional model. Lueck and Miceli (2008), however, argue that anticommons is more appropriately viewed as an investment problem with incomplete property rights.

erally consistent with these literatures but more importantly generates testable hypotheses that are consistent with the evolution and variation of servitude law. For instance, there is, in practice, a vast search activity, consistent with a perceived information problem rather than the holdup by successive layers of controlling interests that would reflect the anti-commons thesis. Fourth, our analysis of servitude law is also linked to recent work on land-titling systems,¹⁰ as many American differences, compared with England, reflect the early introduction of title recording in the United States. Note that the emergence of some more permissive servitudes doctrines in England follows the introduction of land registration.¹¹

We begin in Section 2 with a short discussion of the basic structure of servitude law, noting the legal origins emanating from property law, contract law, and courts of equity. In Section 3, we then develop an economic model of the land market under asymmetric information to understand this structure. In Section 4, we test some implications of the model by examining details of the law and some important differences in the law in the United States and England where these provide a natural experiment. Section 5 summarizes the study.

2. THE STRUCTURE OF SERVITUDE LAW

To understand fully the structure of servitude law, one must understand the genealogy and evolution of the doctrine. Figure 1 summarizes these sources and shows that servitude doctrine emanates from the common law of property and contracts as well as from courts of equity. In general, these servitudes arise out of private agreements established either when the land was initially transferred or later.¹² The figure, however, does

10. See Arruñada (2003), who argues that land registration acts as title assurance but reduces the number of permitted fragmentary rights compared with title recording, and Arruñada and Garoupa (2005), who show that an optimal titling system depends on empirical characteristics, is ambiguously defined in theory, and depends partly on issues connected with adverse selection.

11. The *Restatement of the Law (Third) of Property: Servitudes* (American Law Institute 2000) also recommends liberalizing servitude doctrine.

12. See Washburn (1885) for a general discussion. As we note below, easements can be created by grant, implication, prescription (public and private), and dedication. Dedication is voluntary but can be conditioned upon payment of tort damages, as in cases following *Spur Industries, Inc. v. Del E. Webb Development Co.* (49 P.2d 701 [Ariz. Ct. App. 1972]). Historically, there has been a move away from attaching purely personal obligations to landownership, as in the failed attempt in *Keppell v. Bailey* (2 My. & K.

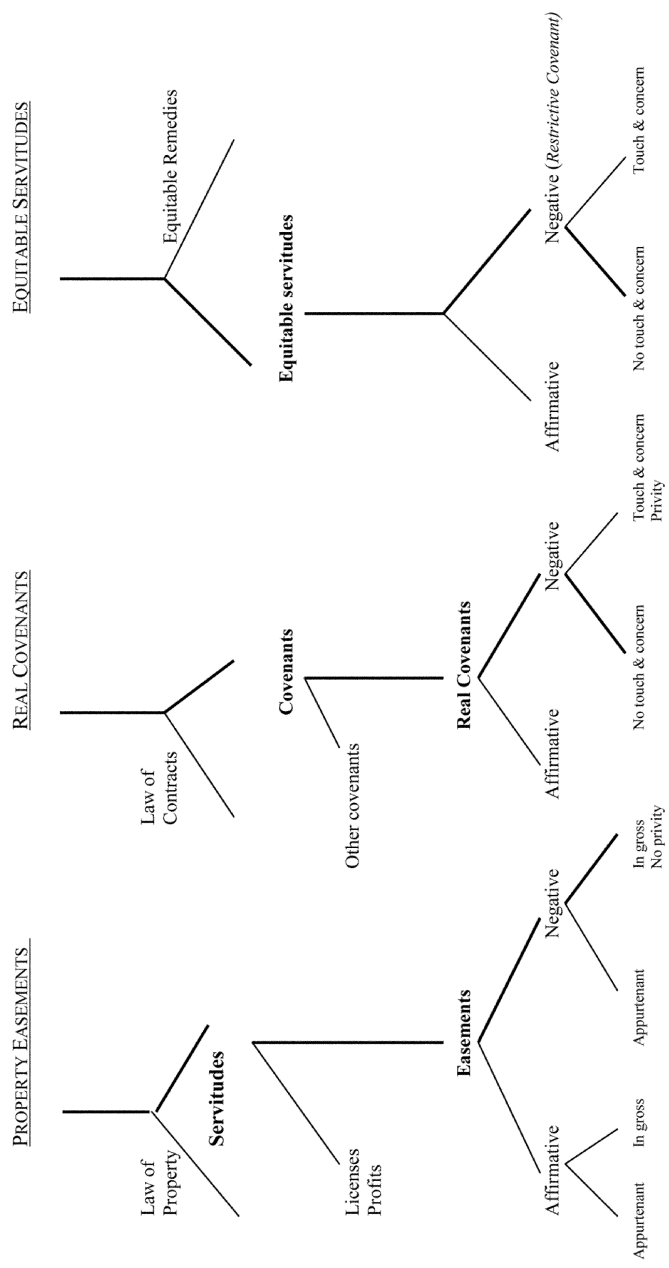


Figure 1. Legal history of servitudes

not show details of these agreements, nor does it show the temporal and topical history of this evolution, and this is what we discuss.

2.1. Easements in Property Law

An easement is defined more formally as “an incorporeal [nonpossessory] hereditament [inheritable right] comprising a positive or negative right of user over the land of another” and may be “appurtenant,” so that the benefit and burden attaches to land, or “in gross, where the benefit is not attached to land” (Gray and Gray 2005, p. 620).¹³ A classic right-of-way through a neighbor’s (servient) land is an example of an easement appurtenant. In the United States, but not in England, the benefit of an easement need not be attached to dominant land and is then said to be in gross, as would be, for example, a typical railroad right-of-way.¹⁴

Easements may be affirmative, where the owner of the dominant estate has a right to do something on the servient estate, or, less commonly, negative, where the right is to restrict activity. Classic affirmative easements comprise rights-of-way, rights of storing goods, rights of establishing advertising billboards, and rights of action that might otherwise be nuisances. For example, in Coase’s (1960) principal case, *Sturges v. Bridgman* ([1879] 11 Ch. D. 852),¹⁵ the (confectioner) defendant unsuccessfully claimed an implied easement to make a noise based on long use. A negative easement gives the holder the right to prevent defined actions on the servient land. Courts traditionally discouraged negative easements, and the English courts, in particular, are widely held to have limited negative easements to four specific appurtenant types (Gray and Gray 2005). Negative easements have been seen as potentially proliferating restrictions. The recent case of *Hunter v. Canary Wharf* shows the persistence of the traditional judicial conservatism in England:

517, 39 Eng. Rep. 1042), where the court saw the intention to restrict supply sources as anticompetitive.

13. We pass over two closely related property servitudes, profits and licenses, which are not central to our purposes. Licenses reflect revocable permission to use another’s property. *Profits à prendre* are nonpossessory but possibly permanent rights to enter and take something (for example, minerals, timber, or game) from another’s land. Profits might be viewed as “easements of removal” and could be in gross (American Law Institute 2000, p. 12).

14. These distinctions are not always clear because appurtenance does not always require parcels to be adjacent geographically, as in an easement for a pew in a nearby church (Washburn 1885). Simpson (1986) notes that after 1868 easements in gross were not allowed in England, and English law distinguishes a *profit à prendre* from an easement.

15. The defense might have succeeded had Bridgman been there a few years longer.

the court refused to recognize a new negative easement that had been claimed, the right to interference-free television reception, following construction work that impeded broadcasted signals (*Hunter v. Canary Wharf Ltd* [1997] A.C. 655).

An easement converts what would otherwise be a nuisance into a minor property right, but neighbors could avoid the costs of establishing an easement by relying on other legal structures. In particular, they could periodically contract over abating some nuisance, creating a personal covenant. Alternatively, they could just rely on the judicial supervision of nuisance, as in *Sturges v. Bridgman*. More temporary modes of restriction would make sense if the impact grows over time with the scale of the business on the servient land.¹⁶

Easements may be terminated by agreement, most simply by merging the dominant and servient estates and thus reestablishing a unified estate.¹⁷ Termination may also occur by express revocation by the dominant landowner, or abandonment, possibly following a buyout by the servient landowner. Courts can condemn or vary an easement under the doctrine of changed circumstances, although there is a traditional resistance to doing this lightly.¹⁸ Variation of access routes is permitted in the United States (American Law Institute 2000), although the case law is mixed, but is still resisted in England, despite calls for it.

2.2. Real Covenants in Contract Law

Servitudes on land also arise in contract law as real covenants. A real covenant is one allowed to run with the land and originates as a personal agreement in which one party (the covenantor) promises another party (the covenantee) to engage in or refrain from specified activities affecting a defined area of land. They were principally developed in the late nineteenth century as landowners tried to circumvent the unwillingness of judges to use negative easements to create restrictions to land use under

16. The growth of the impact in such a manner represents a nonseparable externality, for which there is no simple pricing structure owing to feedback, which suggests nonfragmentation of the property right, or short periods of fragmentation (Davis and Whinston 1962). See also Mahoney (2002), who discusses this problem with application to conservation easements.

17. Washburn (1885, p. 688) summed it up: “[W]henver two estates which have been dominant and servient in other person’s hands become his by a joint absolute ownership and possession, all easements and servitudes previously existing between them are thereby extinguished.”

18. Gray and Gray (2005, p. 659) note the possible usefulness of variation of right-of-way.

property law, following *Pakenham's Case* (Y.B. 42 Ed III. 3, pl. 14 [1369]).¹⁹ In England and in the United States, doctrines developed slowly to allow covenants to run with the land, although in England the burden of a real covenant traditionally can run in a lease contract only. Real covenants are particularly common in modern housing developments and along with zoning regulations make up most modern land use restrictions.

Because a typical contract does not impose obligations on parties not in the original contract, the main issue for enforceable real covenants is what is required to make the covenant bind all others, acting like an easement and allowing the burden to run with the land. First, the contract must be written and show a clear intention that the covenant run with the land. Second, the covenant must touch and concern the land of the covenantee and must not be a purely personal obligation. In terms of economics, it seems that touch and concern implies the existence of a benefit that will increase the total value of the land, regardless of who owns it.²⁰ Although a precise definition of touch and concern is elusive, courts do look for this feature, which is similar to appurtenance in the case of easements.²¹ We return to this issue in our empirical section.

A third requirement for a covenant to run is that there must be privity of estate between the parties. Privity generally means the existence of a mutual or successive relationship in the property so that a requirement of privity before a covenant could run means that the parties to the agreement must have such a current relationship.²² In general, the privity

19. Also known as the *Prior's Case*, in which a covenant requiring a religious order to sing could run with the land.

20. Both the idea and the terminology of touch and concern originate in *Spencer's Case*, 77 Eng. Rep. 72 (K.B. 1583). See Depoorter and Parisi (2003, p. 8).

21. The *Restatement* suggests that easement and covenant law be unified and that the requirement for touch and concern be abandoned (American Law Institute 2000). Reichman (1978) suggests that "touch and concern" defines when the dominant estate can hold out for bargained compensation to abandon the servitude, given that a purely contractual right could be "taken" by the court subject to payment of court-governed money damages. Also, the *Restatement (Third)* replaces the term "negative easement" with "restrictive covenant."

22. The concept of privity, which comes in two forms—horizontal and vertical—is just as elusive, at least in economic terms, as touch and concern. Horizontal privity refers to a relationship between the original parties, and vertical privity refers to a relationship between the original parties and their assignees. Vertical privity requires that the exact estate, in the original agreement, be succeeded (either by conveyance or inheritance) in order for the covenant to run with the land, which may be a device to save the costs of rewriting the contract when the terms are very clear. In England, horizontal privity is satisfied only if the parties have a current landlord-tenant relationship (*Keppell v. Bailey*, 39 Eng. Rep. 1042, ch. 1834) and is not satisfied, for example, by two adjacent landowners, as in U.S. law. For a clear discussion, see Casner et al. (2004, p. 957).

conditions for establishing a real covenant are much wider in the United States than in England, so that real covenants in the United States have much wider application and are easier to enforce.

Covenants may be affirmative (for example, a requirement to maintain a neighbor's fence) or negative (for example, a prohibition on erecting a fence) burdens on the servient estate. Real covenants are typically created by grant but can be created by implication or even, rarely in the United States but not at all in England, by prescription.²³ Typically, prescription is not applicable across the jurisdictions, which might lead us to suppose courts can be more liberal in allowing restrictions compared with easements. A merger of the two estates may terminate real covenants, as can condemnation and the doctrine of changed conditions.²⁴ Real covenants are enforceable as a contract, with a standard remedy for breach being money damages. Unlike negative easements, real covenants are not much restricted in their scope in American law.²⁵ In English law, the scope has remained restricted, following *Keppell* (2 My. & K. 517, 39 Eng. Rep. 1042), in which the then lord chancellor severely criticized "incidents of a novel kind."

2.3. Servitudes in Courts of Equity

The third avenue for servitudes on land has been through courts of equity. In England, property and contract law limited the types of land use restrictions that could be established as property interests, despite the growing demand for these interests. Although the United States developed a substantial law of real covenants, England ultimately developed a similar addition to property law under equity. In 1848, in *Tulk v. Moxhay* ([1848] 41 Eng. Rep. 1143; see also *Whatman v. Gibson* [1838] 59 Eng. Rep. 333), the Court of Chancery created equitable servitudes by using equity principles to enforce what would otherwise have been a real covenant.²⁶ *Tulk* repudiated *Keppell* and allowed restrictions on land to run and to be enforced in equity. The Court of Chancery held it inequitable to allow a landowner purchasing with no-

23. Implication usually arises through the actions of a developer. The *Restatement* (American Law Institute 2000, sec. 2.16) recognizes the (rare) validation of an imperfectly created covenant by a prescriptive period. See Casner et al. (2004, p. 993).

24. French (1982) notes that this doctrine did not emerge until the early twentieth century, and thus its absence may explain law's historical resistance to new servitudes.

25. In *Shelley v. Kraemer* (334 U.S. 1 [1948]), the Supreme Court prohibited racial covenants on constitutional grounds.

26. Indeed, equitable servitudes are often called "restrictive covenants."

tice of a restrictive covenant to sell on (at a higher price) without the covenant. In *Tulk*, both affirmative and negative restrictions were enforced, but the doctrine has evolved to enforce only negative restrictions as equitable servitudes (*Haywood v. Brunswick Permanent Benefit Bldg. Soc.*, 8 Q.B.D. 403 [1881]). Equitable servitudes in the United States have a similar origin (see *Hills v. Miller*, 3 Paige Ch. 254 [N.Y. 1832], a case similar to *Tulk*), but now American courts also will enforce affirmative obligations as equitable servitudes, unlike their English counterparts.²⁷

The development of equitable servitudes in both American and English courts means that restrictive covenants may now run with the land much like an easement. However, it is unusual to see covenants in England or the United States, where the benefit is in gross and the burden runs with the land, as noted by Justice Holmes in *Lincoln v. Burrage* (177 Mass. 378, 59 N.E. 67 [1901]). Equitable servitudes can in fact show many features in common with real covenants.²⁸ They may be created by implication but not by prescription. The requirements for running with the land are also similar to those for real covenants. The restriction must touch and concern the land, but there is no requirement for horizontal privity and only a limited requirement for vertical privity. The focus is on beneficial reliance by the purchaser, rather than on assessing privity issues, although privity may in fact be an indicator of reliance. An equitable servitude can be terminated by merger of the two estates and by the doctrine of changed conditions. An equitable servitude is treated as a right in property and is thus generally enforced by injunction like an easement, although the recommendation in the latest *Restatement* (American Law Institute 2000) is to merge law and equity and allow either injunctive or damages remedies.

3. THE ECONOMIC STRUCTURE OF SERVITUDE LAW

In this section, we use the economics of asymmetric information and transaction costs to fashion an economic theory of servitude law. In particular, we rely on the literature on adverse selection (Akerlof 1970; Rothchild and Stiglitz 1976; see Bolton and Dewatripont [2005] for a

27. See French (1982), arguing there is no modern functional distinction between real covenants and equitable servitudes in modern American courts.

28. Depoorter and Parisi (2003) disagree with this view of similarity, but their analysis is not based on comparisons across American and English common-law jurisdictions.

general treatment of adverse-selection models) and measurement costs (Barzel 1982; Holmström and Milgrom 1991), which together imply that markets may disappear when complex goods have attributes that are difficult to measure and when sellers cannot credibly guarantee the quality of their products to buyers. The large adverse-selection literature examines how asymmetric information can shape markets and related institutions, whereas the much smaller measurement cost literature examines how markets and contracts can be organized to mitigate the costs of measurement. MacLeod (2007, p. 601) notes that both of these literatures have implications for the structure of law, as law is the primary formal enforcement institution in modern societies. Our adverse-selection model illuminates the structure and evolution of servitude law in the English and American common-law jurisdictions and incorporates key measurement cost features. The model and the related analysis are also linked to the literature on incomplete contracts (Hermalin, Katz, and Craswell 2008; MacLeod 2007) in that the structure of the law can plug gaps in contracts and substitute for private negotiation. Given that land is a complex asset, we assume that land servitudes reflect incomplete contracts in the economic sense.

The recurring worry of courts is that servitudes could embody novel restrictions so encumbering land that the market for land would be undermined. Actually, this cannot happen if there is clear information about the restrictions (that is, servitudes), because they would be reflected in market value and sellers would soon learn the extent of their financial loss from high levels of restriction, assuming, for example, that the seller controls the grant of an easement. Also, the problem of individuals overly restricting land at the point of their death, when they might not care so much about financial advantage, is dealt with separately by the rule against perpetuities.²⁹ The key problem of asymmetric information is that restrictions might emerge and be difficult to detect for sellers and, particularly, for buyers and thus limit the market. For example, an easement by implication might emerge soon after a land transaction has occurred and not be anticipated by the buyer or even by the seller. In extreme cases of asymmetric information, where sellers

29. The rule against perpetuities requires property transfers to vest within a reasonable time, commonly defined as the lifetime of someone alive at the time of conveyance (Dukeminier and Krier 2002). This requirement places clear limits on the influence that the dead can have on the welfare of those now living. Other restrictions on whose preferences are to count can be found in family law (adults count for more than children) and in contract law (incapacity).

have full information about a title defect but buyers can assume only a statistical distribution over a known range, adverse selection can result and better quality land can fail to sell.

It is necessary to add the observation that the market for land would not be undermined by information asymmetries if there were a sufficient legal, or extralegal, enforcement framework that allowed sellers credibly to offer guarantees over quality. In such a world, sellers possessing superior information could profitably reassure buyers, as happens in warranty markets, and, in general, the quality of enforcement affects the volume of trade. In reality, court enforcement for land contracts is costly, and in any case the seller might not possess demonstrably reliable information about the precise nature of land quality in a regime allowing the emergence over time of complex servitudes on land use. At any rate, in the model developed below, we assume that the quality of law (MacLeod 2007, p. 601) does not support trade in land when servitudes become difficult to assess and simplify our analysis to the case in which there is a clear asymmetry of information, rather than just uncertainty.

The details of our model are similar to those of Arruñada and Garoupa (2005), who examine adverse selection in the context of asymmetries in knowledge of the likelihood of title forfeiture. MacLeod (2007, p. 601) points out that a moral-hazard perspective is implicit in Akerlof's (1970) seminal paper on adverse selection. Our adverse-selection model of the land market also takes a moral-hazard perspective: sellers choose only the type (quality) of land to offer in the market, but moral hazard is implied because sellers are unable to provide effort in terms of credibly warranting land quality. Our model also emphasizes contractual enforcement issues attached to asymmetric information and the costs generated for the buyer in researching title for the presence of servitudes. In property law, that the buyer must incur information search costs, whereas the seller has full information, is a reasonable fit with reality. Alternatively, a typical adverse-selection model in which the buyer assumes that there is a uniform distribution of likely values and uses an average of these to form a buyer's valuation would be a less reasonable fit. Although mathematically the asymmetry resulting from the buyer's assumptions compared with the seller's knowledge might be convenient, it would mask some important institutional matters of interest in explaining the law of servitudes. What we typically see in markets for land is a great deal of search activity and quality assessment.

For our purposes, we assume that the buyer's expectation of the reduction in the value of the i th piece of land, owing to the existence

of servitudes, is defined as $E_B[S_i]$, distributed over the interval $[0, S]$. The seller has precise information, so that his expectation is $E_S[S_i] = S$, which is the true value. The use of expectations over the change in the value of land following from encumbrances is a convenient formulation in the analysis that follows. We assume land parcels to be standardized apart from the encumbrances. The maximum value of an unencumbered parcel (that is, the fee simple) is S , which is common knowledge. The buyer's knowledge is influenced by search costs, C (encompassing legal research), and by institutional factors. The buyer's valuation is determined by the number of transactions in land (N) and jurisdictional characteristics, or attributes (A). These jurisdictional attributes include the age of the legal system, whether it follows particular legal doctrines, and whether it has land recording or land registration systems in place. A large number of transactions, particularly if relative to a small number of titles, will tend to reveal servitudes over time. Recording and registration systems should enhance the buyer's perception of the true value of S_i , and the known ease of enforcing contractual promises may also align the buyer's valuation with that of the seller. Therefore,

$$E_B[S_i] = f(A, C, N), \quad (1)$$

where $f'(C) \leq 0$, $f'(N) \geq 0$, $f'(A) \geq 0$ and $f''(C) \leq 0$, $f''(N) \leq 0$, $f''(A) \leq 0$, indicating that the expected value will increase with older and more numerous transactions and decrease with additional search costs. Change in legal doctrines or the introduction of land registration or recording systems will affect these parameters.

The buyer always has the option of not searching, in which case the buyer assumes S_i to be uniformly distributed over the interval $[0, S]$, with $E'_B[S_i] = S/2$. The buyer searches to improve information on the i th land transaction when

$$dC_i < E_B[S_i] - S/2. \quad (2)$$

In other words, the search (that is, legal research) strategy is adopted when it costs less than the value of the expected improvement in information. We assume the search strategy dominates for all parcels of land $i = 1, \dots, n$, and the buyer's expectation over the servitude value is given by the application of legal research in a defined legal environment.

Turning now to interactions in the market for land, let buyers and sellers agree on the valuation of a parcel of unencumbered land (that is,

the fee simple without servitudes) as $V_i = V, i = 1 \dots n$.³⁰ The buyer's valuation of encumbered land is therefore $(1 - E_B[S_i])V$, which is offered at a price, P . The seller's valuation is $(1 - S_i)V$.³¹ The seller will sell parcels of encumbered land for which $P - (1 - S_i)V > 0$, which indicates accepting the buyer's offer if $S_i > E_B[S_i]$. Some encumbered land will not be sold, owing to the buyer's inability to assess and offer its true value, given the quality of the surrounding enforcement mechanism affecting the seller's promises, which implies adverse selection if the buyer systematically underestimates the servitude value across the land stock.³²

4. TESTS USING PRINCIPLES FROM CASE LAW

In this section, we examine the structure of servitude law and argue that key legal rules and practices are largely explained by the model. Table 1 summarizes the areas of servitude law we examine in this analysis. The evidence suggests that the structure of the law is generally consistent with wealth-maximizing legal institutions as implied by our model. In particular, the effect of doctrines, especially in relation to titling systems, may be interpreted as embodying attempts to establish the equality $S_i = E_B[S_i]$, so that the buyer's expectation of the value of the servitude becomes its true value. We now examine several rules and practices in turn, beginning with the English court's closure of the list of allowable negative easements. Our information cost arguments are consistent with a more general transactions cost approach to such legal institutions.

4.1. The List of Four

The English court had restricted the list of allowable negative easements by the mid-nineteenth century (Casner et al. 2004, p. 959). The restricted list refers to light, air, building support, and riparian water rights, and in each case there is a precise definition of the scope of the allowable easement. For example, rights to air are described as delimited by a defined channel, and riparian rights are described as naturally occurring flows that are to be left undiminished. The logic behind the restriction

30. The maximum, S , is kept distinct from V , the value agreed by the buyer and seller in the analysis that follows, since the buyer and seller are free to agree to a nonmaximal value for the unencumbered land.

31. If there is no servitude, then $S_i = 0$ and $V = P$.

32. In a standard model of adverse selection, the buyer uses $S/2$ in place of $E_B[S]$, and the higher valued land is excluded from the market. Our model shows the importance of search in producing information and shows that some land transactions will be deterred.

Table 1. Servitude Doctrine and Economic Explanation

Doctrinal Area	Doctrinal Rule	Economic Rationale and Supportive Evidence
Negative easements	List of four: English law allowed negative easements only for air, building support, light, and riparian water; no restrictive list in United States	The U.S. system of title recording reduced the costs of monitoring easements compared with England, which did not have recording or registration 1925
Restrictions on easements	More restrictions on negative than on affirmative easements	Affirmative easements are easier to observe and verify at the start of a land transaction
Partitioning and variation of easements	Partitioning of easements: courts allow usually; variation of easements: courts less likely to allow unless it has become obsolete	Subdivision of a parcel does not alter the relationship between servient and dominant estates, but variation could be claimed opportunistically as a means of altering the easement, possibly resulting in costly adjudication
Prescriptive easements	American rejection of negative easements by prescription	U.S. courts allowed more negative easements than England but limited prescription to avoid relatively high judicial supervision costs
Formation of easements	Must be capable of grant; noninterference with use of servient land	Granting implies a well-defined right and noninterference with servient land use
Formation of real covenants and equitable servitudes	Privity (real covenants) and touch-and-concern requirements (real covenants and equitable servitudes)	Both requirements limit servitudes to cases with stable relationships; privity requirement are lower in the United States, where land title is clearer

is often discussed in relation to the holding in *Keppell v. Bailey*, which was actually a nineteenth-century covenant case in which the court described the unfettered creation of restrictions “of a novel kind” as likely to lead to land becoming worthless and impossible to trade (*Keppell v. Bailey*, 2 My. & K. 517, 39 Eng. Rep. 1042). The court’s anxiety was over the difficulty of dealing with servitudes for which there was no easy point of definitional reference, owing to novelty, and this type of discussion surfaces time and time again, either in property law, in relation to easements and easement-like devices, or in contract law, as covenants on land. A modern case showing the doctrines of restriction still to be good English common law, revealing the court’s anxiety over reducing the value of land, is *Allen v. Greenwood* ([1980] Ch. 119 [H.L.]).³³ The efforts of the English court to keep negative easements easily understood also can be interpreted as keeping bargaining costs low, in Coase’s (1960) terms.

A general system of registering land titles did not develop in England until 1925, which probably reflects the vested interests of landowners worried about questionable older titles. Notably, the English system that emerged in 1925 was one of registration rather than title recording as in the United States. Registration gives ownership finality, defining the first-to-file registrant as the owner, with an insurance system in place to cover for mistakes, although, up to the present day, there remains unregistered land in England.³⁴ As the model implies, the uncertainty over unregistered title in England, before registration and for currently unregistered land, is expected to encourage caution over allowing encumbrances on land titles that might be uncertain in effect or misrepresented at future dates.

In principle, the court in *Keppell v. Bailey* could have been worrying about the range of values affecting servitudes or about the difficulties of assessing servitudes, both of which might suggest a need to simplify the allowed categories to aid the clear identification of restrictions likely to apply, to be watched for in assessing title to property. It is most unlikely that the court was worrying about servitudes in cases in which their value was well known to both parties to a transaction. However burdensome these were, the parties could simply bargain over price, and there would be no barrier to trade in land. The court seems to have

33. Here the court defined the requirement for natural light in relation to the “normal use” of a greenhouse.

34. Today, roughly half of the land in Britain remains unregistered. Registration is most developed in London and surrounding areas.

been mostly concerned with the world in which sellers might hide restrictions and buyers would need to ascertain them. This is the world in which $S_i < E_B[S_i]$.

Contrary to the implications of the anticommons thesis, however, the court did not worry about the sheer number of restrictions or the number of persons holding power through servitudes. The law allows many people to hold restrictive rights, as long as the restrictions are of the permissible class. When modern servitude law requires that the restrictions not completely undermine the use of the servient land (*In Re Ellenborough Park* [1956] Ch. 131), a single servitude could be the cause of undermining. A permitted easement is not exclusive, and one right over servient land could benefit several dominant landowners.³⁵ Covenants could be contracted with many parties and so do not reduce the *numerus clausus* of fragmented rights, at least for periods of time.³⁶ The focus of the courts does not appear to be on the number of holders of fragmentary property rights, as implied by the anticommons thesis. Rather, the focus seems to be on the possible complexity and difficulties in knowing values, consistent with the general importance of measurement, verification, and enforcement costs in a model of adverse selection. The court's focus on developing legal doctrine that facilitates a land market in the presence of asymmetric information also surfaces in its refusal to support the attempted restrictive practice in *Keppell v. Bailey*, which is not a concern if viewed purely in terms of the number of controlling interests but is simply a novel restriction of no welfare benefit.

In Heller's (1998) original version of the anticommons, the corruption endemic in Russia following the fall of the Soviet Union was not connected with common-law instruments such as servitudes on land but, rather, reflected the ability of tiers of local officials or organized criminals to veto development absent a bribe. This lawless rent seeking is a phenomenon distinct from institutions formed in developed legal systems when an underlying technical externality leads to the use of easements, covenants, or nuisance law. Indeed, Heller's anticommons observations in Moscow relate to an underlying pecuniary (distributional) externality (Davis and Whinston 1962). In fact, it is possible to go further and note that Heller's example illustrates a situation that cannot arise when cor-

35. Indeed, it is possible to extend the number of dominant landowners if an existing easement would confer similar benefits to them, comparable with the benefits enjoyed by the existing dominant landowner, without creating costs (Gray and Gray 2005, p. 659).

36. The covenants can be chained to last for very long periods of time.

ruption and extortion are held in check by criminal law.³⁷ The storefronts were boarded up in Heller's observations precisely because unchecked coercion was present, with each of many exploitative agencies believing, as in Mel Brooks's *The Producers*, that it could end up owning 100 percent of the show, or at least enough of the show to make force worthwhile. There was no agency able to say, "enough." Neither coercion nor pecuniary externality is generally present in cases of conflicting use of land in a well-functioning common-law system,³⁸ but problems associated with technical externality—that is, connected to real impacts across production functions, to which servitudes respond—do persist.

In England the resistance to extending the list of four negative easements saves the costs of judicial supervision in a country in which land title can be ancient and easements can be created not only by grant but also by implication and, in particular, by prescription. For affirmative easements, the position is different. By definition, the affirmative easement implies a typical pattern of complementary land uses. Opportunity costs are clearer, and even probably visible, for the right to stack wood or travel across a field. If the owner of the servient land does not like the arrangements, it should be possible to calculate a value and either sell the servient land or buy out the easement.

Negative easements are harder than positive (affirmative) easements to measure and define. Forbearance over actions is harder to measure, and this implies uncertainty over the quality of land and a greater need for judicial supervision. In particular, there may be more scope for the impact of such restrictions on the value of the servient land to grow as the development value of the servient land grows. A negative easement appears to have greater potential for reflecting a nonseparable, or at least a very complex, externality relationship. Suppose, for example, the right is to enjoy a flow of air; the scope for litigation would be very high over the definition and enforcement of this vague property right. Almost any development could be opposed as having some effect on the airflow of neighboring properties. Clearly, some improvement of the

37. It has been argued that corruption may have worsened in the move from communist oppression in the former Soviet Union, as one coordinated corrupt set of officials, representing monopoly corruption and interested in surplus maximization, was replaced by less coordinated, somewhat open-access corruption in which an official tries to exert control, providing there is any return to the control. See the articles in Shleifer and Vishny (1998).

38. Note *Keppell's* eschewing of restrictions on trade, which do reflect pecuniary externality (one producer gains, another loses, but there is no net welfare change, rather as in the traditional view of pure economic loss in tort).

definition is needed, which in practice has been based on a reasonable channel of airflow. The alternative might be not to allow this type of easement but to leave matters to contracting or to the law of nuisance, possibly resulting in a judgment of reasonable user in many cases of conflict.³⁹

Our examination of the list of four suggests that the established negative easements are so defined as to make it unlikely that their impact would grow as the scale of business carried out on servient land grows. Rights of light must be judged sufficient for the normal use of a building and in relation to a defined aperture (Gray and Gray 205, p. 663). Similarly, the flow of air is preserved in a defined channel, water flow is protected in relation to riparian rights and defined in artificial conduits, and there is a right to building support from a neighboring building. Careful examination of these categories indicates that the impact on the servient land is highly unlikely to grow with the use of the servient land or create any other kind of complex effect on costs.

4.2. Partitioning and Variation of Easements

Our model also illuminates the distinction between partitioning and varying (that is, altering) easements in American and English courts. Courts in both jurisdictions are much more receptive to partitioning than to variation. In principle, both possibilities represent changing the nature of the easement.

It is well established that the purchaser of a subdivision of land can expect to enjoy annexed access rights and similar affirmative easements, to the extent that these affect the subdivision and do not alter the burden of the easement.⁴⁰ Negative easements will also continue to affect the subdivision, for it would be odd for the dominant land to lose a benefit just because the servient land is subdivided (Gray and Gray, 2005, p.

39. That appears to be precisely what happened in the English case *Hunter v. Canary Wharf* ([1997] A.C. 655), in which the court held that there was no easement for terrestrial television signals nor an actionable nuisance for their impedance. The individuals affected by the development must buy cable, which seems to be the current cost-effective solution. Note also the anxiety caused in Australia, particularly among western Australian mineral companies, by *Mabo v. The State of Queensland* ([1992] 175 C.L.R. 1). *Mabo* recognized native title as a property fragment that may inhibit economic development judged likely to prevent the carrying out of tribal rituals on certain lands, but the new fragment is not tradable.

40. *Brown v. Voss* (715 P.2d 514 [Wash. 1986]) is a case reflecting the standard view. The rule in *Wheldon v. Burrows* ([1879] 12 Ch.D. 31) is applied throughout the common-law world to transfer the benefits of easements to purchasers of subdivisions.

679; Casner et al. 2004, p. 943). This is entirely consistent with the view that the easements are well defined in such cases, and purchasers should have no difficulty in making appropriate comparisons of value over such dimensions as whether to subdivide and whether the servient and dominant land parcels are worth more, taken together, with the easement than without. In terms of our earlier analysis, subdivision does not undermine the equality $S_i = E_b[S_i]$, providing the partitioning simply redistributes existing benefits to the new owners of the subdivided parcels. Increases in information complexity are costly, but simple increases in the number of holders of unchanged fragmented rights are not.

The variation of easements, however, is routinely resisted by the courts, unless it can clearly be shown that an easement has become obsolete. More generally, English and American courts are highly resistant to arguments emanating from owners of the dominant or servient land requesting variation of the obligation. The courts seem to be very cautious even in the case of an access right-of-way, where economic logic might suggest that rerouting would benefit the servient land without harming the dominant land (French 2003). In England there is outright resistance to such variation, even though the potential benefits of rerouting are well recognized (Gray and Gray 2005, p. 659). In the United States, some courts have allowed rerouting (*Roaring Fork Club v. St. Jude's Co.*, 36 P.3d 1229 [Colo. Sup. Ct. 2001] [en banc], following the approach of the *Restatement [Third]*), and some have not,⁴¹ although the American Law Institute (2000) now recommends permitting rerouting in the *Restatement (Third)*. Caution is warranted because of the danger that an owner of servient land may try to pass off a costly change as a simple change of no consequence to the owner of dominant land. Variation could imply a change in the underlying technical externality. Therefore, it seems better to force the parties to negotiate, possibly in terms of condemning the existing easement and making a new grant.

4.3. The American Rejection of Negative Easements by Prescription

The United States adopted negative easements, along with covenants, by the mid-nineteenth century (Casner et al. 2004, p. 962). American courts drew on English law, but they had the benefit of making a later choice over the exact details of the adoption, and they rejected the pos-

41. *Davis v. Bruk* (411 A.2d 660 [1980]), for example, in which the Supreme Judicial Court of Maine disallowed a unilateral move keeping the same entry and exit points on the basis of avoiding the creation of windfall gains to the owner of servient land.

sibility of negative easements coming into being by prescription. The American courts also became associated with a less restrictive approach to the creation of negative easements and are less tied to the list of four, although this turns out to be a very slight difference in practice, amounting to recognition of an easement of view (*Petersen v. Friedman*, 328 P.2d. 264 [Cal. Ct. App. 1958]) and some established use of conservation easements.

The difference between England and the United States over both the creation of negative easements by prescription and the scope of the restrictive attitude toward negative easements may be explained by differences in conditions in the two countries, which led to differences in search costs. It is notable that American courts could, in principle, afford to be less worried about extending the list of negative easements, given that the United States' abundant stock of land was governed by newer titles. Moreover, a title-recording system for land came into place much sooner in the United States, probably because there were no vested interests to oppose recording, whereas these did hold sway in England, with its ancient and murky titles.⁴² There was therefore much less uncertainty over the quality of land in the United States because notice of value-reducing restrictions would be automatic when land was transferred, whereas in England that notice might not exist under a system in which title must be investigated in depth for each transfer. Failure to receive notice of an easement created in law in England would not negate it. The differences are noticeable but not extensive. Notably, there was not much extension of the list of four in the United States, and the English court does occasionally contemplate the possibility of allowing new easements, as in *Ellenborough Park*.

Allowing negative easements to come into being by prescription could have increased judicial supervision costs in the nineteenth-century United States in a manner not likely to have been a relevant problem in England at the time. This method of creation would have required considerable amounts of judicial supervision because it would tend to generate litigation, with claimants over emerging rights needing to refer disputes back to the courts in major population centers. Although the United States had no problems connected with uncertain ancient titles, it did have long distances and a less densely established court system to con-

42. In the United States, land demarcation is also dominated by the rectangular survey, which has been shown to lead to clearer title compared to the metes and bounds system used in England (Libecap and Lueck 2009).

sider. Under such circumstances, the prohibition on prescriptive negative easements makes sense as one method of reducing title complexity. Otherwise, there would have been only partial clarity in the title-recording system, as disputes would rumble on many miles from where the conflict over land occurred. The marginal impact of allowing prescription in England was much lower: there was no system of title recording to destabilize, and it is easier to settle disputes when courts are less far away.

4.4. The Significance of Rules Governing the Formation of Easements

The standard, evolved rules for forming easements are consistent with principles of minimizing information costs and are principally concerned with the avoidance of unmanageable complexity (see Gray and Gray 2005, p. 621; Casner et al. 2004, p. 894; *In Re Ellenborough Park* [1956] Ch. 131, 140). The requirements focus on clarity and predictability, and, in contrast to the anticommons model, not on limiting the numbers of holders of rights. In particular, an easement does not confer exclusive rights, as one may end up sharing an access right with other grantees, nor does it confer the right to exclude or even co-occupy with the owner of the servient property. Avoiding complexity aids the enforceability of contracts and, in turn, helps align buyer and seller valuations of land at the margin.

The requirement that an easement be capable of grant is mainly one of definiteness. That clearly must relate to predictability in effect, measurability, and delimitation. These are all factors controlling complex cost effects. Most obviously, the requirement that the servient land should suffer no direct financial costs or be subject to any onerous burden of action but that the owner must suffer no more than acts of forbearance strongly indicates the suppression of potentially complex cost effects. Similarly, the need to identify a dominant and servient tenement, not necessarily contiguous, allows forecasting of the effects of the easement. Novelty is not necessarily an objection, but its effects may be.⁴³ The court's traditional resistance to an easement of wandering at will on land for recreational purposes most probably reflects a lack of definiteness in a right to roam.

The easement must not substantially interfere with a significant por-

43. See *Simpson v. Godmanchester Corporation* ([1897] A.C. 696), which allowed the creation of a right to enter on land to operate sluices.

tion of the activities carried out on the servient land.⁴⁴ The clear implication of this requirement is that the activities should either be complements rather than substitutes or be substitutes of predictable and contained effect capable of pricing in at the point of grant or of later assessment by a court under creation by implication or prescription. Either way, the requirement limits complex cost effects, including non-separability, where the impact of the easement might grow with the scale of economic activity on the servient land.

4.5. Rules Governing the Formation of Real Covenants and Equitable Easements

Much of the apparent quagmire underpinning legal studies of covenants concerns the rules allowing covenants to act like easements and run with the land. Ordinarily, covenants are regarded as contract law rather than property law instruments and, therefore, are personal in nature. The broad economic effect of this change is to introduce a property rule so that the servitude may be condemned at a price agreed by the dominant landowner, who is backed by the possibility of an injunction requiring specific performance. If treated as a personal obligation, the servitude is governed by a liability rule and may be bought out subject to court-governed expectations damages (Reichman 1978).

The covenant that remains personal (that is, that does not run with the land) gives the landowners and the courts somewhere to go in the case of an externality that is not suitable for treatment as an easement. Some encumbrances may be desirable for periods of time but need to be pushed out to the market for renegotiation, and courts can usefully govern that process. In yet other circumstances, as noted, simple reliance on the law of nuisance is another alternative. One suggestion is that the creation of an easement or similar device under property law is suitable for externality relations likely to remain stable over time (Posner 2003). The suggestion here is that if something like an access route is likely to remain of similar value over the years, in terms of its effect on the joint value of two parcels, then the effect may as well be capitalized to have a once-and-for-all effect on the sales values and save the transaction costs of periodic renegotiation. This view is consistent with the argument that what matters for the acceptability of an easement is the predictability of the effect on costs across affected land. In the case of covenants,

44. In *London & Blenheim Estates Ltd v. Ladbroke Retail Parks Ltd* ([1992] 1 W.L.R. 1278), the servient owner could not be left with little use of the land.

if, despite contractual origins, they are found to act much like an easement, causing no problems of unpredictability, they may as well be treated as an easement. This principle is discernable in the case law covering touch and concern and privity, for real covenants, and in the quasi-proprietary focus on equitable servitudes.

From a literal perspective, the requirement that a covenant touch and concern the land before it can run with the land is puzzling, as there is an apparent suggestion that public policy should operate for the benefit of land. Touch and concern can be an elusive concept, although the leading cases⁴⁵ have clarified the meaning. As stated earlier, the requirement boils down to requiring an impact on the value of land, regardless of ownership, and it rules out benefits in gross. It is best to regard the economic impact of touch and concern, affecting both real covenants and equitable servitudes, as a test of whether the encumbrance on land is suited to long-term stable existence akin to that of an easement or whether it should be forced out into the market from time to time. The requirement seems to provide the ground from which to assess the value of the encumbrance, and from this stems Reichman's (1978)⁴⁶ observation that the governance impetus changes from a liability rule to a property rule, as the owner of servient land will most likely need to buy out the real covenant or equitable easement.

Privity requirements for real covenants under contract law differ between the United States and England in a way that reflects differences in the history of recording land titles. The origin of privity is in the contractual nature of covenants and the preservation of traditional rules for assigning benefits but not burdens of contracts (*Robson v. Drummond* [1831] 2 B & Ad 303), assuming that the covenant remains personal. Thus the starting point for possibly finding a running covenant was the preservation of the parties in the same contractual positions as the original covenantor and covenantee, which was interpreted as requiring horizontal and vertical privity of contract. Vertical privity re-

45. See *Mayor of Congleton v. Pattison* ([1808] 10 East 130), updated for England by *P&A Swift Investments v. Combined English Stores Group Plc* ([1989] AC 632), which requires that (1) a benefit to the dominant owner terminate with cessation of ownership, (2) there not be an effect on the nature, quality, mode of user, or value of the dominant land, and (3) there be no expression of personal rights. American jurisdictions follow *Congleton* as noted in *Flying Diamond Oil Corp v. Rowe* (776 P.2d 618 [1989]). The origin of this line of cases is *Spencer's Case* (77 Eng. Rep. 72), in which a tenant's obligation to build a wall ran with the assignment of the lease.

46. Reichman really only points to the natural consequence of establishing proprietary status.

quired succession to the estate in land of the covenantor and covenantee, for the burden and benefit, respectively, of the covenant. Horizontal privity requires a property relationship to exist such as that between a landlord and tenant, a grantor and grantee, or a servient owner and easement holder, that is, a current land-use relationship. In England, the courts limited the transmission of the burden of a covenant that touches and concerns the land to leasehold contracts in which horizontal privity is satisfied by a landlord-tenant relationship, following *Keppell v. Bailey*. American courts generally dropped the horizontal privity requirement or held it satisfied by a current conveyance of some kind (*Wheeler v. Shad*, 7 Nev. 204 [1871]), so that the American courts relaxed the prohibition on transmitting in law the burden of a covenant outside of a landlord-tenant relationship.

Why should the English courts show such caution and the American ones more innovation over real covenants? The answer once more seems to lie in the difference in title-recording systems (Casner et al. 2004, p. 995). In England, prior to the Land Registration Act of 1925, there was no mechanism to protect a purchaser of land against legal obligations attached to land, whether or not the purchaser had notice of them (Arriñada and Garoupa 2005). The United States had title-recording systems from early on, and there were therefore fewer opportunities for hidden encumbrances emerging to surprise an unfortunate purchaser. In England, once the registration system was in place, although even now only covering approximately one-half of all land, our model implies that privity restrictions should have been relaxed. Indeed, they have been: sections 56(1) and 78(1) of the Law of Property Act of 1925 removed the common-law restrictions in England too.⁴⁷

It is also notable that the enforcement in courts of equity, as equitable servitudes, of the burden of restrictive covenants judged to touch and concern the land is driven by information considerations. England had no mechanism for judicially supervising the condemnation or modification of covenants but required the agreement of all parties. Once the

47. Note the clarifications in *Beswick v Beswick* ([1966] Ch. 538), which states that a claimant and beneficiary must fit a generic description, and in *Federated Homes Ltd. v. Mill Lodge Properties Ltd* ([1980] 1 WLR 594), which recognizes third-party enforcement of restrictive covenants. In addition, the Law Commission for England and Wales has also proposed relaxing the distinctions between easements and covenants, in just the same way that this has been the modern approach of the American Law Institute. According to our analysis, excessive relaxation of traditional restrictions is misguided if it fails to recognize the information-economizing role that traditional doctrines fulfill.

courts began to recognize the equitable creation of servitudes, it was important to limit them to the categories unlikely to yield complex cost effects that would be difficult to value. Uncertainty was to be avoided at nearly all costs. Under these circumstances two matters are of particular interest. The English courts, after *Tulk v. Moxhay*, limited equitable servitudes to forbearance over negative covenants, refusing to impose positive obligations costing money and rather mirroring the doctrine of no direct burden from easements. The unwary purchaser of land was protected against hidden traps by the doctrine of notice, as a bona fide purchaser without notice of a restrictive covenant took the land free of it.⁴⁸ American jurisdictions have been easier on the use of equitable servitudes, allowing positive obligations to run, but at the same time have a more accommodating approach to modifications (Casner et al. 2004, p. 961).

5. SUMMARY AND CONCLUSIONS

In this paper, we have examined the structure of the law of servitudes on land, showing that this structure is largely explained by the economics of asymmetric information and transaction costs. Servitudes on real property allow for specialization in the ownership and use of a complex asset—land—but in doing so they create potential problems with measurement and enforcement. The law then must be structured to allow this specialized ownership and at the same time mitigate information-based transaction costs. We show that information asymmetry and the possibility of adverse selection inhibiting the operation of the market for land creates an incentive for courts to create legal doctrines that can mitigate this problem by restricting the types of servitudes that can be created. Somewhat paradoxically, by restricting servitudes, the law actually expands the use and efficiency of servitudes by foreclosing possible market-damaging adverse selection. To our knowledge, this is the first paper to show that legal doctrine can be shaped by the potential for adverse selection.

In our empirical analysis, we examine the details of the law on easements, real covenants, and equitable servitudes, focusing on Anglo-American differences and trends over time.⁴⁹ The legal rules over the

48. This is still the case: notice occurs through registration or possibly otherwise on unregistered land.

49. Again, see Table 1 for a summary.

formation and operation of servitudes reflect information considerations in the context of the capability of the surrounding legal system to enforce contracts. Although it is not possible to use econometric and statistical analysis, we are able to show that the structure of the law varies over time and across Anglo-American jurisdictions in a manner consistent with the implications of the model. In particular, we find that there are relatively few restrictions on affirmative easements compared with negative easements and that in England the restriction on negative easements is stronger than in the United States. These differences are explained by the relative ease of measuring and verifying affirmative easements compared with negative easements. The list of four allowable negative easements is a set of relatively easy to define servitudes, and the reduced restrictions in the United States reflect the stronger title system compared with that in England. We also show that the doctrine on partitioning and varying easements reflects differential costs of measurement and enforcement. Similarly, we find that rules on the formation of easements, real covenants, and equitable servitudes work to constrain these specialized rights to be clear and easily enforceable.

The anticommons model is the key alternative approach to understanding servitude law, and throughout the paper we confront the implications from this literature with those of our approach. The information complexity caused by a proliferation of controlling interests in the anticommons model can be viewed as a special case of our analysis. Historical cases that seem to lead to an anticommons result are associated with a lack of legal structure and a failure of the criminal law to reinforce the coercive power of the state in suppressing duress. Proliferating controlling interests are associated with rent seeking and pecuniary externality (that is, distributional effects), whereas the broad thrust of servitudes law is more concerned with the control of real, technical externalities over the use of land that remain a problem under developed legal systems.

The development of servitude law and the expansion of the use of servitudes can be viewed as permitting the efficient evolution of property rights (Demsetz, 1967, 2002; Rose 1998). As the value of land has increased, there have been more gains to specialized rights to land, and as people have sought to create these rights, the structure of the law has also changed to allow it, but in a way that mitigates measurement and enforcement costs. Our work implies that increasing clarity in title via registration or recording should lead to a liberalization of servitude law;

that is, we would expect fewer limitations on how private parties create more specialized rights to land.

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