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ORIGINAL ARTICLE

Conceptions of property rights and norms

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Abstract The social norm literature in law and economics fails to account for the differences between the two major conceptions of property rights. The differences between the two conceptions affect people's utility function by affecting how increases in property rights are perceived. This paper discusses how the modern, *in rem*, conception evolved from an older, *in personam*, conception; it also discusses how economics has absorbed the modern, *in rem*, conception. The paper demonstrates that if people do not perceive the benefits of modern property rights, they will follow their social norms if the government or planner imposes modern property rights on them. In the end, this allows one to make a fuller discussion of why norms economize information. This discussion has various consequences ranging from developmental economics to financial market economics and cannot be ignored.

Keywords Property rights · Social norms · Law and economics · Legal history

JEL Classifications K00 · K11

What has happened to property rights in law and economics?[1] The economics profession would argue that nothing has happened to property rights. We discuss property rights and possess a notion of how they are allocated and what the term means. However, if you posed that question to a legal scholar the answer may be quite different. It is from these different answers that law and economics, in their

[1] All apologies to Merrill and Smith for borrowing the title of their 2001 *Yale Law Journal* article to motivate the discussion here.

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study of social norms, has overlooked a competing property rights tradition and has confined itself into an analytical corner.

As economists, we hold a view of property rights that is compatible with the 20th century view of property rights that have emerged in common law countries. The profession understands property rights as being a ''bundle of sticks''. We understand that all interests in a thing can be bought and sold in the market. The profession concedes that a person may have a right to farm their land and that they may sell that right to a cattle rancher. The farmer sells, not an interest in physical land (i.e., property ownership in the soil does not change hands), but an interest in the ability to farm or not farm on a specified portion. To the economics profession, dividing up ownership among income rights, possessory rights, use rights, and other rights is not uncommon. We assume the world actually behaves this way and that people possess this notion of property.

The legal scholar, in contrast, understands that historically there exist two distinct traditions of property rights. The two traditions are the *in rem* and *in personam* traditions. The *in personam* tradition conceives of property the way the economist does, as a bundle of rights to a thing. The *in rem* tradition is far older than the *in personam* tradition and conceives of property as a right to a thing; a right that one cannot dichotomize and a right that one holds in its entirety (see generally, Merrill & Smith, 2001).

This paper will engage in a discussion of the substantive difference between *in rem* and *in personam* property rights. The paper will briefly review the social norm literature in law and economics. A model will be constructed that will demonstrate that as information costs increase, due to increased partitioning of property interests, people will tend to follow *in rem* norms, *ceteris paribus*. The paper will apply the model to several studies of norms that affect property. Finally, the paper will discuss the further applications of the *in rem* and *in personam* dichotomy.

1 Property rights: in rem v. in personam[2]

Thomas W. Merrill and Henry E. Smith explore the origins of the two different property rights conceptions in their 2001 Yale Law Review article, ''What Happened to Property in Law and Economics''. As a dichotomy exists between common law and civil law's trial system, there also exists a similar dichotomy in their view of property. This dichotomy is between *in rem* property rights and *in personam* property rights. The modern common law views property as ''simply a 'bundle of rights,' and that any distribution of rights and privileges among persons with respect to things can be dignified with the (almost meaningless) label 'property''' (Merrill & Smith, 2001, p. 357). The *in personam* approach to property argues that property exists as merely a right to a particular facet of that object; these rights usually include an ownership right, a right of possession, a right to distribute and etc (*Ibid*, p. 360). The *in personam* approach distinguishes itself from the *in rem*

[2] For a more in depth discussion, see Merrill, T. W. and Henry E. Smith. (2001) ''What Happened to Property in Law and Economics?'' *Yale Law Journal* 111: 357–398.

approach to property. The *in rem* approach to property treats property as a ''particular relationship to some things and confer on those persons the right to exclude a large and indefinite class of other persons (''the world'') from the thing'' (*Ibid*, p. 360).[3]

This dichotomy was not always so apparent. Until the middle of the 18th century, *in rem* property concepts existed as a part of the common law. Early common law commentators ''recognized the role of the *in rem* nature of property rights'', one such commentator was William Blackstone (*Ibid*, p. 360). Blackstone's second volume of his *Commentaries on the Laws of England* begins by stating, ''There is nothing which so generally strikes the imagination, and engages the affections of mankind, as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe'' (Blackstone, 1766/1979, p. 2). This passage demonstrates that Blackstone believed that property rights included an *in rem* concept of being owned to the exclusion of the entire world (Merrill & Smith, 2001, p. 361).[4] Given Blackstone's influential status among English common law scholars and American common law scholars of that time, this suggests that the common law recognized and held a place for the *in rem* nature of property.[5] Blackstone's *in rem* conception of property coincided with his underlying beliefs for the existence of property rights (*Ibid*). Blackstone makes the argument that property rights needed to exist because as the earth grew in population people needed to create *ex ante* rules that will be abided by with regards to use and possession of land and its fruits (Blackstone, 1766/1979, p. 7). Blackstone argues that this need for stable expectations was necessary because as more people began to populate the Earth, land and chattel became increasingly scarce. *Ex ante* expectations with regards to use needed to be established given the increased likelihood of meeting another person who did not know that certain land or chattel were yours (Merrill & Smith, 2001, p. 362). Otherwise, without the foundation of ownership in property, Blackstone believed that mankind would be no better than animals that fought constantly over domain and chattel (*Ibid*).[6] Also, Blackstone did discuss establishing a bundle of rights to create *ex ante* rules but he based his reasoning on an absolute binary system of ownership or non-ownership of the thing in its entirety.

Over time, the *in rem* approach to property rights in the common law began to erode and evolve. An early sign of this erosion and evolution occurs in Oliver Wendell Holmes's *The Common Law* in his lecture on possession. Holmes correctly describes the *in rem* position when he writes, ''the Roman law recognized as

[3] As usually stated in most property law courses, ''it is the right to a thing that is good against all the world.''

[4] It should be noted that Carol M. Rose makes the argument that perhaps Blackstone did not actually hold to the strong interpretation of his passage. She argued that Blackstone expressed a certain anxiety regarding the distributional foundations of existing property rights within his exclusivity argument of property (Rose, 1998).

[5] A stronger proposition would be that the common law, at this time, was still within the *in rem* tradition and had not significantly migrated towards *in personam* rights.

[6] Merrill and Smith also argue that this position was held by Adam Smith and Jeremy Bentham (Merrill & Smith, 2001, pp. 362–363).

possessor only the owner, or one holding as owner...'' because the *in rem* approach focuses on the thing and not the person (Holmes, 1881/1963, p. 165). Holmes thought that this was foolish and that the common law had evolved and discarded such foolishness. Holmes writes, ''the English law has always had *the good sense* to allow title to be set up in defense to a possessory action. [emphasis added]'' (*Ibid*, p. 166). Holmes argues that the English common law had evolved its way out of the possession problem created by the *in rem* approach because it allows people to establish bailments and ownership claims by title and not by physical possession (pp. 166–167). Holmes argued that the new issues developed in property law and the common law evolved towards an *in personam* approach to adapt to new needs. Holmes's characterization begins to demonstrate the belief that someone ''who believe[s] that property is a right to a thing is assumed to suffer from a childlike lack of sophistication—or worse'' (Merrill & Smith, 2001, p. 358).

This erosion and evolution continued under the legal realist movement.[7] The legal realists considered property rights less of an absolute right in a thing but more as a bundle of rights (*Ibid*, p. 365). The legal realists based their position on their conception that the common law (and law in general) is merely a social construct and that the ''common law could not be regarded as a natural or unchosen baseline'' (Sunstein, 1993, pp. 50–51). Cass Sunstein, in *The Partial Constitution*, argues that the law must consider the starting point of each case, the initial bargaining conditions, and property rights because those conditions are constructs of the law. Scholars credit this position to legal realists like Robert Hale and Morris Cohen. This notion of law embodied the belief that laws were ''social creations that allocated certain rights to some people and denied them to others'' (*Ibid*, p. 52). They also held the view that the law coerced people insofar as they ''prohibited people from engaging in desired activities'' (*Ibid*). The new view of law believed that law created conflict between those of power and those without (*Ibid*, p. 59). They believed that people should use the law to correct for the unjust outcomes in the market. In order to allow the state to redistribute property and wealth, legal realists needed a different conception of property. Emphasizing the bundle of rights approach facilitated this because the state could change what constituted a property right to correct for the conflict of the parties at hand (Merrill & Smith, 2001, p. 365). The legal realists helped bring the evolution of property rights into legal discourse.

The law and economics movement also adopted the *in personam* approach (*Ibid*, p. 366). This movement may have aided the *in personam* approach to eclipse the *in rem* tradition in the common law and create this current dichotomy in thought and substance. Ronald Coase's seminal piece ''The Problem of Social Cost'' demonstrates the law and economics' adoption of the *in personam* approach. Coase writes that ''A system in which the rights of individuals were unlimited would be one in which there was no rights to acquire... but what the land-owner in fact possesses is the right to carry out a circumscribed list of actions'' (Coase, 1988, p. 44). This demonstrates that Coase believed and endorsed the *in personam* approach and not the *in rem* approach to property (Merrill & Smith, 2001, p. 367).

[7] Some consider Holmes either a precursor to the legal realist movement or a *de facto* member of the movement.

One of the Coase Theorem's main assumptions is that property rights must be well defined in order to obtain the efficient result (Coase, 1988, p. 8). However, he does not discuss what precisely constitutes a property right/rule. One can conclude that the ''substantive content of those rules is irrelevant'' because Coase only cares that the property rules are clearly assigned (Merrill & Smith, 2001, 368). Coase also alludes to an *in personam* approach because if his hypothetical operated in an *in rem* world, the actual possession of the thing would clearly define property rights. Coase's need to state that property rights must be clearly defined suggests that Coase considers property as a bundle of rights because they appear more nebulous and harder to clearly determine.

The bulk of the law and economics tradition carry on with this approach to property rights (*Ibid*, pp. 375–383). The *in personam* approach to property is diffusing itself through law schools by the influence of law and economics. One of the more ''highly successful'' casebooks is Dukeminier & Krier's casebook on property (Ellickson, 1989, p. 30). The Dukeminier casebook ''self-consciously applied economic analysis in a pervasive fashion'' (*Ibid*).[8] Given the popularity of the casebook, one can conclude that the American legal profession is breeding a generation of *in personam* property rights legal professionals.

2 Social norm literature in law and economics

The social norm literature in the law and economics field ignores the existence of the dichotomy in their work. Edna Ullmann-Margalit's, *The Emergence of Norms*, can be considered one of the first works that discusses social norms from the more formal approach of game theory (Ullmann-Margalit, 1977, p. 6). However, her work does not address any legal aspects that affect social norms and whether the legal aspects affect how the players view the game.[9]

Robert Ellickson's 1986 *Stanford Law Review*, article ''Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County'', where he discusses how people follow a norm instead of the *de jure* law in Shasta County, and his book, *Order Without Law: How Neighbors Settle Dispute*, fail to address the existence of the *in rem* and *in personam* distinction. Both works merely discuss the existence of well working norms in Shasta County and elsewhere but they do not enrich their discussion with the affect different conceptions of property rights might have. He merely states that people tend to economize on transaction costs but he fails to explicitly explain why the norm exists other than it has a lower transaction cost. That lower transaction cost may be an unintended consequence of the people's notion of property rights.

[8] It should be noted that the second edition did not expand upon the law and economics work it did however include work critical of law and economics (Ellickson, 1989, p. 30). The third edition also contains much of the law and economics influence but also provides criticism of the law and economics approach to property (See generally Dukeminier and Krier (1993)).

[9] Ullmann-Margalit did not engage in a law and economics approach therefore this probably explains the absence of such a discussion.

More recently, Ellickson has been engaged in researching the role of the norm entrepreneur in the vast world of social norms (See generally, Ellickson, 2001a, pp. 35–75 and Ellickson, 2001b, pp. 1–49). Again, his concern was with the mechanism of norm focality instead of with actual norm creation due to property right conceptions. He only assumes that the rights exist in some form but fails to discuss them.

Robert Cooter discusses how internalized values matter and that the ''law must ... [i]nstead of promoting civic virtue directly, the state must align law with social norms'' (Cooter, 2000, p. 1577). Cooter's work differs from that of Ellickson's in that Cooter approaches the issue from a more rigorous game theoretic approach (*Ibid*). However, Cooter does not discuss exactly of what the alignment process consists. Cooter's assertion is correct that it may be favorable to align law with norms given differences in property conceptions may exist, but he fails to take the discussion any further.

In her 1993 *Southern California Interdisciplinary Law Journal* article, ''Social Norms and Default Rules Analysis'', Lisa Bernstein argues that social norms are important for examining ''gap filling and DRA [default rules analysis]'' (Bernstein, 1993, p. 61). In a recent 2001 article, ''Private Commercial Law in the Cotton Industry: Creating Cooperation Through Rules, Norms, and Institutions'', Bernstein discusses how groups can establish private legal systems (Bernstein, 2001, p. 1788). She also does not discuss how property conceptions matter. Instead she discusses the application of social norms to various problems and ignores that property right conceptions may matter in creating those norms.

Cass Sunstein, in his 1996 article in the*University of Pennsylvania Law Review*, argues that law functions as an expressive mechanism in addition to ''controlling behavior directly'' and interacts with norms (Sunstein, 1996b, p. 2024). Sunstein only makes the case that law merely expresses the pre-existing norm within society and attempts to reinforce it; the law/government does not create the norm (*Ibid*, p. 2027). In another 1996 law review article, Sunstein argued that one can use the law to shape preferences (Sunstein, 1996a, p. 968).[10] Sunstein's work only appears to care about whether government created norms and whether government can use them to shape preferences. He does not engage in the discussion of whether norms arise because people conceive of property rights differently from the *de jure* law.

This lack of property right consideration is also seen in the work of Richard McAdams, Kaushik Basu, and Eric Posner. McAdams analyzes norms from the approach of esteem theory (see McAdams, 1997, 1995). Basu distinguishes between three different types of norms and merges his approach to law and economics with his work on social norms. In his 2000 book, *Law and Social Norms*, Eric Posner makes the argument for a more systematic approach to analyze social norms (Posner, 2000, p. 5). He spends the entire book discussing his three-part model of understanding social norms and applies them to various areas. Again, none of these authors begin to discuss whether a conception of property rights matters in

[10] Sunstein dislikes using the term preferences. He would prefer to say the one can use law to affect choices (Sunstein, 1996a, p. 967).

determining norms or law. They fail to address this finer point of comparative legal philosophy.

3 The model

The paper will attempt to model Merrill and Smith's argument of how the *in rem* and *in personam* dichotomy affect social norms. The model will begin with the individual actor in society and explain his motives. The model assumes the actor is a self-interested utility maximizer.

If given the choice, people would rather own more property than less. Following this proposition, people would also prefer to own more interests in property than less. To keep up with the changes in demand for property, the law evolves to create new property interests; the law's movement from *in rem* to *in personam* property conceptions demonstrates this point.

The paper uses an underlying model based on a simple utility function. A person derives utility from owning more property (whether it is ownership of the thing or ownership in some interest in a thing). The property a person can own is a function of *in rem* and *in personam* property conceptions because they determine how many different interests can be owned in a jurisdiction.[11]

However, holding property entails some cost.[12] A person faces transaction costs of determining which ''parties... may wish to exchange or modify property rights [and] the number of parties who will have to enter into the contract in order to make it effective'' (Merrill, 1985, p. 22).[13] This transaction cost is a function of *in rem* and *in personam* conceptions given they determine how dichotomized property ownership has become in a jurisdiction. The model assumes that as the number of property rights increase, transaction costs increase as different ownership interests become possible.[14]

The property holder also faces the cost of enforcing one's right to property. The property owner incurs the enforcement cost when he must protect and secure his property rights against others who might encroach upon them. Embedded within this is an entitlement-determination cost. This is the cost one spends on establishing ''who has the property right that is the subject of exchange'' (*Ibid*, p. 23). This cost is also a function of *in rem* and *in personam* conception of rights because as property interests increase a person has more property interests to protect from encroachment. Also, as property interests increase, people must spend more resources to determine who has proper ownership rights either for exchange purposes or legitimate defense purposes.

[11] It is possible to hold both positions the way early American common law during the late 19th century.

[12] This paper will use Merrill's transaction cost and entitlement-determination cost as the basis for analysis (Merrill, 1985, pp. 22–23).

[13] This can also be viewed as an information cost. The paper will use transaction costs and information costs interchangeably.

[14] ''The more difficult it is to identify the parties to the exchange, the higher the search costs that must be incurred before entering into a contract'' (*Ibid*).

The intuition behind the model is that as one increases the number of property interests that legally exist, the benefits will increase as will the costs. Based on this, intuition suggests that on the margin a person will equate the benefits of having more property (via the creation of more property) with the costs incurred by having to gather information of ownership and enforcing one's interest. Formally, this is represented by:

$$U = P(r,s) - [T(r,s) + E(r,s)] \tag{1}$$

where P = Amount of property recognized by law; T = Transaction costs; E = Enforcement costs; r = in rem rights enforced; s = in personum rights enforced.

The first order conditions are characterized by:

$$\max : \frac{\partial U}{\partial s} = \frac{\partial P}{\partial s} - \left[\frac{\partial T}{\partial s} + \frac{\partial E}{\partial s}\right] \tag{2}$$

$$\frac{\partial P}{\partial s} = \left[\frac{\partial T}{\partial s} + \frac{\partial E}{\partial s}\right] \tag{3}$$

and

$$\max : \frac{\partial U}{\partial r} = \frac{\partial P}{\partial r} - \left[\frac{\partial T}{\partial r} + \frac{\partial E}{\partial r}\right] \tag{4}$$

$$\frac{\partial P}{\partial r} = \left[\frac{\partial T}{\partial r} + \frac{\partial E}{\partial r}\right] \tag{5}$$

The first order conditions demonstrate that whether maximizing utility with respects to either *in rem* rights or *in personam* rights leads to an optimal amount of property rights that maximize utility. This demonstrates the typical story of people equating marginal cost and benefit with regards to property rights.[15]

If one changes the assumptions in the model, the result will differ greatly. The above model assumed that the people in that economy have a conception of *in personam* rights and can act upon them by buying and selling the newly created intangible rights. The history of property rights has shown that people may not conceive of property rights as extending beyond the right to a thing. What happens in that world when a government or planner thrusts *in personam* rights upon people who only follow *in rem* rights?

To address that question the model must address how increasing *in personam* rights affect the actors in this legal jurisdiction. The new model is characterized by:

$$U = P(r) - [T(r,s) + E(r,s)] \tag{6}$$

The first order condition with respects to *in personam* rights is:

[15] The paper assumes that the second order conditions are well behaved and that they demonstrate diminishing marginal utility to property rights ownership.

$$\max : \frac{\partial U}{\partial s} = -\left[\frac{\partial T}{\partial s} + \frac{\partial E}{\partial s}\right] \tag{7}$$

$$0 = -\left[\frac{\partial T}{\partial s} + \frac{\partial E}{\partial s}\right] \tag{8}$$

This shows that as *in personam* rights increase, one fails to achieve an increase in the marginal benefit to the people in this society because they do not recognize the existence of *in personam* rights. An increase in *in personam* rights only increases the marginal cost of acting in this property scheme. People now find it more costly to figure out who owns what. They also find it more costly to enforce any new intangible rights. This demonstrates that an imposed *in personam* institution upon a society that only has a conception of *in rem* property rights only increases the cost of using the *de jure* property system. Given this result, people will tend to follow their original *in rem* scheme. This scheme is usually called a social norm by Ellickson.[16] Therefore, given this model, the society will follow their *in rem* norm and not the *de jure* law.

This helps explain why certain developing countries tend to exhibit a dichotomy between their *de facto* and *de jure* law. If the *de jure* institution possesses a concept that is outside of the realm of possibility for the indigenous people, then it makes sense that they will follow their own ''law''. The people will follow their own ''law'' because it economizes on information and enforcement costs, while the foreign system appears only as an increase in cost.

The question arises whether better enforcement via titling will bring the *de jure* law in alignment with the *de facto* norm. To demonstrate this effect, the model will assume that the government pays the enforcement costs by fully subsidizing titling. The modified utility function is:

$$\text{g= government spending} \quad U = P(r) - [T(r,s) + E(g)] \tag{9}$$

The first order condition with respects to s is:

$$\max : \frac{\partial U}{\partial s} = -\frac{\partial T}{\partial s} \tag{10}$$

$$0 = -\frac{\partial T}{\partial s} \tag{11}$$

Again, even if government pays for enforcement via titling, it does not affect the lack of any marginal benefit. Also, the complete subsidy on enforcement does not affect the increase in transaction/information costs because a person will still need to discover ownership via a title search (this may involve multiple searches for multiple owners). People will still follow their *de facto* norm and not follow the *de jure* property law.

[16] Merrill and Smith (2001) briefly address Ellickson's Shasta County norm as being one based on *in rem* property instead of *in personam* rights. They also argue that this is an issue that social norm scholars in law and economics need to consider.

While a person who values *in personam* and *in rem* rights will find the optimal amount of rights that maximizes their utility, a person without a conception of *in personam* rights only incurs a cost as the number of *in personam* rights increase. This means that a person, in the later position, will tend to follow an *in rem* norm instead of the *in personam* law. The model also predicts that a person still follows the norm even if the government fully subsidizes a titling system.

This model also helps support Kaushik Basu's core theorem of law and economics. Basu presents his core theorem of law and economics as: ''Whatever behavior and outcome in society are legally enforceable are also enforceable through social norms'' (Basu, 2000, p. 117). He breaks up this theorem into two corollaries. The first corollary is: ''What can be achieved through the law can, in principle, also be achieved without the law'' (*Ibid*). The second corollary is: ''If a certain outcome is not an equilibrium of the economy, then no law can implement it'' (*Ibid*).

The paper's model of *in personam* and *in rem* property rights supports Basu's theorem. As the model has shown, *in personam* property rights imposed on an *in rem* property society will induce people to leave the *de jure* market and adopt *de facto* property rights. This supports Basu because a mixture of *in personam*, or pure *in personam*, property rights are not an equilibrium outcome in an *in rem* world. In this world, people will obey their *in rem* norms since that outcome is an equilibrium outcome. Therefore, applying Basu to the model, indicates that an *in personam* outcome cannot be enforced because it is a non-equilibrium solution. To enforce it, would only create unintended consequences.

4 Applications of the model

Merrill and Smith apply the *in rem* and *in personam* approach to the law and economics discussion of social norms. They discuss Ellickson's Shasta County case study. In their paper, Merrill and Smith discuss why Shasta County followed the fencing-in-norm (Merrill & Smith, 2001, p. 388). Shasta County followed a general norm of ''an owner of livestock is responsible for the acts of his animals'' and the people of Shasta County lacked ''a complete working knowledge of the formal trespass rules'' (Ellickson, 1986, p. 673, 668). One can interpret this to mean that the people know that the *in personam* law exists and imposes a cost but they do not consider the *in personam* law as conferring a benefit upon them. Merrill and Smith argue that people follow that norm because it provides a bright-line rule (Merrill & Smith, 2001, p. 389). The Shasta County norm is a bright-line rule because of its *in rem* nature (*Ibid*, p. 390). The *in rem* nature ''conserves on information costs'' and will have an ''information-cost advantage'' over other norms (*Ibid*, p. 391). Merrill and Smith's conclusion coincides with what would be predicted under the formalized version of their model; a group that does not have a conception of *in personam* property rights, only knows that following those *de jure* rights imposes a cost without a matching increase in benefit.

The model can also be applied to other norm case studies. Harold Demsetz, in his article, ''Toward a Theory of Property Rights'' discusses how property rights emerged in the region surrounding Quebec in colonial times (Demsetz, 1967,

p. 351). Demsetz shows that property rights emerged in order to ''encourage the husbanding of fur-bearing animals'' (*Ibid*, p. 352). The Native-Americans evolved from a system that lacked property rights in land and evolved to a system that established territorial hunting (*Ibid*). Demsetz's story lacks an explanation of why those particular norms evolved. He discusses how these property rights internalize negative externalities but he fails to discuss why an *in rem* territory system evolved instead of an *in personam* system.[17] The model predicts that an *in rem* system would evolve. In this case, bright-line rules are needed to keep information costs regarding ownership low. The Native-Americans realized that they could benefit from the creation of property rights. They also realized that they needed a rule that economized on information, given the frontier nature of the Quebec region at that time. Dichotomizing property rights between the land and animals would increase information costs because a person would need to determine if the potential interloper had permission to be on the land and also had permission to kill the animal. The Native-Americans established *in rem* ownership of property because it economized on information given a person only needed to determine if they were on another party's land. This case supports the model and the prediction that in given situations, *in rem* norms will be followed instead of *in personam* norms or law.

The model may also help explain the norms that existed in the whaling industry. Ellickson argues that whalers would ''tend to prefer... bright-line rules to fuzzy standards'' (Ellickson, 1991, p. 195). He finds that whalers tended to follow one of three different norms. The first was the ''the fast-fish, loose fish rule''. This norm stated that a person owns a whale if the whale was physically connected to that person's boat (*Ibid*, p. 197). If the whale became loose then it was ''up for grabs'' (*Ibid*, p. 198). The second norm was the ''iron-hold-the-whale-rule''. This means that exclusive ownership rights belonged to the person who ''first affixed a harpoon, lance, or other whaling weapon to the body of the whale'' and the weapon did not have to be fixed to a ship (*Ibid*, p. 198).[18] The third whaling norm were ''split ownership rules''. This meant that the harpooning whaler and the eventual taker of the whale split the whale fifty-fifty (*Ibid*, p. 201).[19]

Ellickson found that parties rarely litigated over whale carcass rights. The model predicts this result if the *de jure law* possessed an *in personam* nature and if it did not provide an appreciable benefit to the whalers. Given this assumption, the whalers would have economized on their information costs and enforcement costs and relied upon the *in rem* norm. Of the three norms, the first two possessed an *in rem* nature while the third possessed more of an *in personam* quality since the

[17] Demsetz defines property rights in the language of torts when he writes, ''property rights convey the right to benefit or harm oneself or others'' (Demsetz, 1967, p. 347). His position appears at odds with the real property definition of territory that evolved in his example. An *in rem* property system evolved and territory (and fur bearing animals) were owned by a person against all the world, yet he does not discuss the apparent dichotomy in his story.

[18] There was a termination point to make a claim. One had to remain in ''fresh pursuit of the iron bearing animal'' (Ellickson, 1991, p. 198).

[19] American courts modified the rule to one where the ultimate taker received a ''reasonable reward'' (*Ibid, p. 203*).

parties obtained different rights to the overall whale.[20] Ellickson found that the American whalers increasingly adopted the ''iron-holds-the-whale rule''. This tends to support the prediction that in a world where the parties do not perceive an appreciable benefit from the *in personam* property rights, they will agree to follow *in rem* norms. The whalers also followed an *in rem* approach with regards to *where* these norms would be followed. The whalers's norms varied by geographic location and not by species. Their following of *in rem* norms by an *in rem* conception of geographic boundary further supports the fact that whalers used *in rem* norms instead of using the *in personam* law.

The model also predicts the result seen in the norms involving academic photocopying. Copyright law is based entirely on an *in personam* conception of property because the different rights to the written work can be allocated to different parties.[21] The Copyright Act of 1976 provides an education exception in the Fair Use clause (17 U.S.C§107). However, the exception is usually construed quite strictly; the copied work cannot be longer than 2,500 words, the copy must be spontaneously made, and one cannot copy the same work for each subsequent term (Ellickson, 1991, p. 259). The statute also states that when a copyright holder proves an intentional violation the court may award a judgment upwards to $100,000 plus attorney fees (17 U.S.C. §§504(c)(2), 505).

One can meet the intentional violation standard easily because universities provide professors and instructors with copies of the copyright guidelines.[22] Publishers have litigated cases of copyright infringement against universities and commercial copy centers.[23] Though cases are brought, Ellickson notes that professors follow a norm that permits ''the unconsented copying for class use, year after year, of articles and minor portions of books'' (Ellickson, 1991, p. 260). He argues that professors tend to follow this norm over the Copyright Act of 1976. Ellickson argues that the norm lowers transaction costs because the professors do not need to understand the Fair Use Doctrine and do not need to determine whom they need to receive permission from to copy an article (Ellickson, 1991, pp. 260–261). Ellickson also argues that the marginal benefit of enforcing one's copyright is not very large (*Ibid*, p. 261).[24] Ellickson's explanation is on point with the model but the model provides a more precise answer why one expects professors to follow their norm.

The model, as does Ellickson, predicts that the norm has lower transaction costs (information and enforcement costs). The difference between the model and Ellickson's explanation is that the model states why this is so. Ellickson merely

[20] In this particular example, the norm evolved before the development of actual whaling law. However, one should note that when the law did adopt a rule, it adopted the rule with *in personam* characteristics and did not either of the *in rem* norms (See *Ghen v. Rich* 8 F. 159 (D. Mass. 1881)).

[21] For example, the right to distribute can reside with the record company, the right to perform can reside with the artist, and the right to make derivative works can also reside with the artist.

[22] In some cases universities unleash mountains of copyright guidelines upon instructors in the hopes that out of the several that pass one's department mailbox, the instructor reads the guidelines at least once.

[23] See generally, *Addison-Wesley Publishing v. New York University* 82 Civ. 8333 (S.D.N.Y. April 7, 1983) and *Basic Books, Inc., et.al. v. Kinko's Graphics Corporation* 89 Civ. 2807 (CBM).

[24] He argues that royalties and the like do not generate many incentives (if any) to academic writers.

states that professors do not need to know the law nor do they need to find the copyright holders if they follow their norm. He does not explicitly state why this is so. He does not state how the norm is philosophically different from the law except that it possesses lower transaction costs. The model explicitly states that the norm will have lower transaction costs because it is an *in rem* norm where a property interest is an all-or-nothing right.

Ellickson also argues that the norm persists because professors are a close knit group and do not sue each other over copyright infringement because they can use informal enforcement techniques to avoid the copying of entire books. Nonetheless, the publishers will sue commercial copying centers for copyright violations. Ellickson hypothesizes that the phenomena exist because the level of privity that exists between publishers and copying centers is too remote to allow for informal enforcement mechanisms (*Ibid*, pp. 263–264). The lack of privity creates a sufficient condition for the publisher to litigate against the copy centers (*Ibid*). The model also explains this phenomenon. The professors do not litigate against each other because of their *in rem* conception of property rights. The *in rem* baseline establishes the notion that he who owns the book (physically) should have the right to do what they want with it (provided they do not copy the entire work). In rem property rights support this position because there is no dichotomy between physical ownership and a right to reproduce. Arguably, the publishers also recognize the *in rem* treatment given by the professors because the publishers do not (or rarely) litigate against professors. The publishers do not tolerate a copy center engaging in copying given the copy center does not have *any* property interest in the work; they are merely an intermediary for copying. This lack of any property interest might make the copy centers' violation appear more egregious and increase the publishers's willingness to litigate.

James M. Acheson notes that lobstermen of Maine follow a self-imposed norm of territoriality (Acheson, 1988/2002, pp. 129–130). He notes that different harbor gangs fish different territories and claim to ''own'' these territories while the state does not recognize such ownership interests (Acheson, 1988/2002, p. 130). The lobstermen enforce their territorial interests from interlopers by ''purposeful destruction of [the interloper's] gear'' (*Ibid*). The lobstermen do not possess a fixed rule regarding retribution for territorial violations. Usually, they respond with a verbal warning on an initial violation and then escalate the response if the interloper continues to violate the territory (*Ibid*.). Acheson continues to argue how these self-enforced territories help mitigate the harm of the common ownership of the ocean.

Acheson fails to ask the interesting question, ''Why are the property rights territorial?'' The property rights could have been in the actual lobsters the gangs catch. The lobstermen could have imposed a self-enforced catch limit and allow fishing in any geographical location. Acheson's story lacks an explanation of why the lobstermen followed *in rem* rights instead of *in personam* rights. This paper can explain this choice based on the rational actor methodology. The lobstermen chose territory because it possesses lower enforcement costs and involves lower information costs to determine ownership. If the lobstermen followed *in personam* rights, (i.e., the world owns the ocean but a lobsterman is allowed to exercise property rights in X limit of lobsters) how would the lobstermen know how many

lobsters their peers have caught? Even if they could know that, how do they enforce a right when the violating lobsterman claims a property interest in the lobster? The lobstermen chose the *in rem* norms of territory because it economized on information. The paper's model demonstrates that one should expect to see an *in rem* norm.

The cases above demonstrate that many authors have engaged in case studies regarding norms and have determined that the followed norm lowers transaction costs. What the authors failed to address is *why* norms have lower transaction costs. They merely state that territorial rights have lower transaction costs but do not relate that back to why that exists nor do they address how people conceive of property in their lines of inquiry. The cases show that the *in rem* and *in personam* model explains the phenomena the authors witness and also explains why people follow those norms. They follow those norms because the norms are more efficient given their conception of property.

5 Further implications and paths of research

The different conceptions of *in rem* and *in personam* property rights have consequences in different areas of economics. The first area of research where the different conceptions may have an impact is in the development literature. Hernando De Soto argues that developing countries face the problem of a *de jure* and *de facto* dichotomy in their application of property law. He does not discuss why the dichotomy exists. De Soto only brings it to the reader's attention and continues with a discussion of how titling will help avoid this dichotomy.[25] This paper attempts to answer De Soto's query by showing that if a nation adopts *in personam* property law and the people only have a conception of *in rem* property rights, the people will follow an *in rem* norm because it economizes on information and allows the actors to better utility maximize. The model also demonstrates that titling, per se, does not solve this dichotomy because it merely removes the enforcement cost but the information cost problems remain intact.[26] Taking account of the dichotomy will help economists determine which institutions are lacking and will give a more precise way of understanding how institutions affect the people and development (See Subrick, 2002).

Another avenue for research is to help create a fuller understanding of norms in law and economics. The *in rem* and *in personam* dichotomy will allow law and economics scholars to have a deeper understanding of law and how the actors they model actually behave. It will also help clarify the murkiness created by Coase's dual causation notion. It helps clarify the question, ''Coase claims that causation flows in both directions yet we only tend to see it flow in one direction in reality,

[25] See generally, Hernando De Soto (2000).

[26] This was demonstrated when the model assumed that enforcement costs were completely subsidized by the government.

why?''[27] Given that, on some level, people still rely on *in rem* norms to economize on information (because the marginal benefit of *in personam* rights are overwhelmed by the cost) this may explain why people do not act as if Coase's dual causation exists. This explains why people view the trumpet player in the apartment beneath them as an annoyance when he plays at 2 o'clock in the morning and not that they are a nuisance to the trumpet player.

Another field of inquiry opened by the *in rem* and *in personam* dichotomy is the development of financial markets. The dichotomy may explain how the US migrated away from the *in rem* conception of rights as the need for property rights in intangibles increased in demand. The basic argument is that financial markets can only develop fully under an *in personam* rights system given stockownership is not as concrete as ownership in real property. However, to get to the state where *in personam* rights develop, the population needs to evolve to the state where those rights become necessary.

6 Conclusion

The social norm literature in law and economics fails to account for the differences between an *in rem* and *in personam* conception of property rights. The differences between the two conceptions are fundamental and affect each actor's utility function by affecting the way in which they perceive the benefits from having increased and varied property rights. This paper explained how the *in personam* conception evolved out of the *in rem* conception of rights and how the *in personam* conception has been absorbed fully into economics and law and economics. The model built shows how a group of people who do not perceive of the benefits of *in personam* rights will follow *in rem* norms if the government or planner imposes *in personam* rights upon them. In the end, this line of inquiry allows one to make a fuller and richer discussion of *why* norms economize on information and does so by accounting for legal history and tradition. This discussion has various consequences in economics ranging from developmental economics to financial market economics and cannot be ignored.

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[27] Gordon Tullock posed this question to me in his office. My feeble response was that norms dictate how we allocate causation. Tullock saw through the emptiness of that answer and pressed on by asking why norms matter. The differences in *in rem* and *in personam* rights may clearly answer Tullock's question without the hand waving.

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