ARTICLE

QUESTIONING PATENT ALIENABILITY

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ABSTRACT

The standard economic rationale for the alienability of property rights is that it facilitates the flow of resources to those who can put it to the most valuable use, or the "highest utility user." But patents do not come with a right to productively use some social resource—patent rights consist only of a right to stop others from using the claimed invention. The person who is most able to extract rents with a patent's veto power is not necessarily the same as the person who will put an invention to its most socially valuable use. If one simply applied the conventional economic justification for the alienability of property rights onto patents, then having patents flow to the highest rent extractor is not obviously desirable from a social viewpoint. Restricting transfers to predatory users would accordingly seem justified.

If the unrestricted alienability of patents is to be justified on economic grounds, it must be by reference to other reasons, such as an argument that allowing alienability increases the value of a patent and therefore increases ex ante incentives to invent. But such alternative justifications come with their own limits. Alienability is neither the only means to increase ex ante incentives to invent, nor a particularly effective one, given that inventors must share the surplus generated by alienability with the (more sophisticated) transferee. The case for unlimited alienability of patents is therefore an uneasy one.

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I. INTRODUCTION

The proposition that patents should be freely alienable is rarely questioned.[1] At a legalistic level, § 261 of the patent statute provides that "patents shall have the attributes of personal property,"[2] and alienability is regarded as a core characteristic of a property right.[3] At a more normative level, the standard justification given for the alienability of patents is that patents allow intangible and otherwise-nonexcludable information assets to be commoditized and allocated through market mechanisms, thereby facilitating the flow of such information assets to their highest utility users, increasing the productivity of society.[4]

1. *See, e.g.*, Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 288 n.207 (2009) ("A rule prohibiting the free alienability of patents would stymie innovation and undermine efficiency by prohibiting the exploitation of comparative advantage in various functions such as research and development, manufacturing, and marketing.").

2. 35 U.S.C. § 261 (2012 & Supp. V 2018).

3. *See* 1 WILLIAM BLACKSTONE, COMMENTARIES *134 ("The third absolute right, inherent in every Englishman, is that of property[,] which consists in the free use, enjoyment, and *disposal* of all his acquisitions . . . ." (emphasis added)).

4. *See* Peter Lee, *Transcending the Tacit Dimension: Patents, Relationships, and Organizational Integration in Technology Transfer*, 100 CALIF. L. REV. 1503, 1511–12 (2012) ("Patents play a key role in facilitating these market exchanges by 'commodifying' technology, thus allowing it to be bought and sold in markets."). *See generally* Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, *in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 614–15 (1962) (arguing that "[w]ith suitable legal measures, information may become an appropriable commodity," while without such legal protection, information would be confined to the original possessor who "may not be able to exploit it as effectively as others").

All of this is in accord with the treatment of alienability in property law and theory more generally. As Susan Rose-Ackerman has observed, "Inalienability is the stepchild of law and economics."[5] In general, almost everyone seems to regard the free alienability of property rights as a good thing, at least outside of a few morally fraught situations such as markets for babies[6] and human organs.[7] At a legalistic level, alienability is usually regarded as an inherent characteristic of a property right,[8] and the common law strongly disfavors restraints on the alienation of property.[9] At a normative level, economists usually regard restraints on alienation as unnecessary barriers to proper market functioning and as hindering the efficient allocation of assets in society.[10]

The purpose of this Article is to challenge this easy assumption that unrestricted patent alienability is a good thing. As a predicate matter, I should make clear that I am neither contesting the status of patents as personal property, nor am I challenging the proposition that, in most circumstances, the free alienability of property rights is desirable because it facilitates the flow of assets to their highest utility users. Rather, my claim is that patents operate differently from most other types of property rights because patents do not come with the ability to control the productive use of some social resource—patents convey only a right to prevent others from making, using, or selling a product that embodies the claimed invention.[11] In most standard property contexts, a property right generally confers upon the owner the

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5. Susan Rose-Ackerman, *Inalienability and the Theory of Property Rights*, 85 COLUM. L. REV. 931, 931 (1985).

6. *See* Elisabeth M. Landes & Richard A. Posner, *The Economics of the Baby Shortage*, 7 J. LEGAL STUD. 323, 345 (1978).

7. *See* Lloyd R. Cohen, *Increasing the Supply of Transplant Organs: The Virtues of a Futures Market*, 58 GEO. WASH. L. REV. 1, 3, 8–11 (1989).

8. Sexton v. Wheaton, 21 U.S. 229, 242 (1823) ("It would seem to be a consequence of that absolute power which a man possesses over his own property, that he may make any disposition of it which does not interfere with the existing rights of others . . . ."); *see also* Lee Anne Fennell, *Adjusting Alienability*, 122 HARV. L. REV. 1403, 1405 (2009) (describing alienability as "one of the standard incidents of ownership"); Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849, 1851 (1987) ("[P]roperty rights themselves are presumed fully alienable, and inalienable property rights are exceptional and problematic.").

9. *See* 28 AM. JUR. 2D *Estates* § 7 (2011) ("[R]estraints on alienation of property are disfavored as contrary to public policy.").

10. *See* Richard A. Epstein, *Why Restrain Alienation?*, 85 COLUM. L. REV. 970, 971–72 (1985) ("As a first approximation it appears that any restraint upon the power of an owner to alienate his own property should be regarded as impermissible.").

11. *See* 35 U.S.C. § 154 (2012) (stating that a patent confers a "right to exclude others from making, using, offering for sale, or selling the invention throughout the United States").

ability to control the use of a productive asset—a property right over a car usually means that the owner gets to drive the car. Free alienability of the property right then means that the productive asset will flow to the user who is best able to exploit that asset—e.g., the car will be sold to the person who wants it most (as demonstrated by having the highest willingness to pay)—and the effective exploitation of a productive asset enhances the total welfare of society in general.

In patent law, however, the "asset" that is covered by a patent right is not a productive invention. A patent over a car does not give its owner the right or ability to make or use cars, because there are thousands of other patents that each cover an individual part or feature (or combination of parts or features) of a car and give each owner a veto over the productive use of the assembled commercial product. The basic "asset" covered by a patent right—and transferred through alienation—is the *ability to extract economic rents* through the leverage generated by a threat of blocking other people's productive use of an invention.[12] A legal rule of unrestricted alienability such that patent rights flow to the most ruthless exploiter of the ability to extract economic rents is not necessarily conducive to increased social welfare.

To be clear, I am not arguing that patents should be inalienable in all circumstances. Patents work like traditional property in some circumstances, such as in the pharmaceutical industry where there is often a near one-to-one correspondence between a patent portfolio and a commercial product, such that the conveyance of patent rights also conveys control over the productive use of the underlying commercial product. Permitting alienation in such circumstances facilitates the flow of information assets to their most socially valuable use. But modern commercial products usually involve many components and combinations of components, each with their own patent, such that there are often hundreds or thousands of overlapping patents covering a single commercial product.[13] In such circumstances, the allocative efficiency of patent transfers in facilitating the flow of information assets to their most socially valuable use cannot be taken for granted; the most privately profitable strategy for any individual owner of a patent on a single component (who has no ability under the patent to make or sell the multi-component commercial product) may be to engage in predatory holdup of producers of the commercial product after those producers make irreversible fixed

12. *See* Hybritech Inc. v. Abbott Labs., 849 F.2d 1446, 1456 (Fed. Cir. 1988) ("[T]he principal value of a patent is its statutory right to exclude . . . .").

13. *See infra* text accompanying notes 64–67.

investments incorporating the patented component. Prohibiting the transfer of patents to entities that are likely to engage in such predatory use—at a first approximation, nonpracticing entities[14]—is at least potentially a welfare-enhancing move. The easy assumption that patent alienability is an inherently good thing—so deeply entrenched that it is rarely explicitly justified and instead simply goes unquestioned—should be treated with caution.

If the unrestricted—or mostly unrestricted—alienability of patents is to be justified, it must be by reference to something other than a naked assertion that patents are property and the alienability of property facilitates transfers to higher value users. For example, allowing alienability may enhance ex ante incentives to invent, in that initial inventors may not have the resources to meaningfully enforce or exploit their patent rights, rendering the patent reward practically meaningless in many cases if patent ownership is restricted to initial inventors. Alternatively, it may simply not be possible to devise administrable rules to restrict alienability, such that unrestricted patent alienability is simply a default for lack of better options. As I explain in Part IV, my goal in this Article is not to definitively refute these alternative theories. My goal is only to say the standard economic theory for the free alienability of property rights cannot be applied unthinkingly to the patent context, such that the case for unrestricted patent alienability is an uneasy one,[15] requiring much more theoretical and empirical backing than has been devoted to the subject so far. Opening the theoretical space to considering alienability restrictions has the practical payoff of potentially adding a policy tool to ameliorate the patent holdup problem[16]—a problem for which many solutions have been proposed, but which remains stubbornly unsolved. Although alienability restrictions are not necessarily the best or only solution to holdup, they are at least worth considering as part of the conversation. That

14. To be clear, I am not arguing that all nonpracticing entities engage in predatory uses of the patent. I am arguing there is a *correlation* between the two. Tun-Jen Chiang, *Trolls and Orphans*, 96 B.U. L. REV. 691, 699 (2016). A rule that prohibited all transfers to nonpracticing entities would be over-inclusive. Whether the benefits outweigh the over-inclusiveness costs is something that I do not take a definitive position on here. *See* Section IV.B.

15. *Cf.* Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281, 351 (1970) ("[O]ne cannot escape the conclusion that more empirical work and more thoughtful analysis is needed . . . .").

16. *See generally* Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007) (discussing the role of injunction threats and royalty stacking in causing patent holdups).

conversation cannot get off the ground without first challenging the easy assumption in favor of free alienability.

Before proceeding further, a clarification is in order: in discussing patent alienability, I am only referring to transfers of title that carry with it the right to file infringement lawsuits;[17] I am not discussing the grant of licenses.[18] My argument is thus different from Lee Anne Fennell's observation that there is much anxiety about the ability of patent trolls to sell patent licenses at extortionate royalty rates.[19] The economic argument in favor of allowing patents to be licensed is simple and solid—if the initial inventor is not in the best position to commercialize and develop an inventive idea (such as if the inventor is an individual without the capital to invest in factories to make a commercial product), then some kind of licensing regime is the most obvious mechanism through which someone in a better position to commercialize and develop a useful product can acquire the necessary permission. I am not asking why patent law allows the sale of licenses.[20] I am asking why, *in addition* to allowing patentees to grant licenses to use the invention (where the obvious incentive is to license to productive users of the invention), patent law *also* allows patentees to transfer the right to sue on the patent (where one obvious incentive is to transfer the right to the party who is most able to extract rents via lawsuits and the threat of lawsuits).

II. THE LAW AND SCHOLARSHIP ON PATENT ALIENABILITY

A. Alienability in Property Law

Alienability is often regarded as an innate characteristic of property rights, and the justifications for the alienability and inalienability of various property rights are thus rarely given extended consideration in the literature. For example, although

17. Prima Tek II, L.L.C. v. A-Roo Co., 222 F.3d 1372, 1376–77 (Fed. Cir. 2000) (only patentee and successors in title have standing to sue for infringement).

18. *See* Ortho Pharm. Corp. v. Genetics Inst., Inc., 52 F.3d 1026, 1030–31 (Fed. Cir. 1995) (licensee ordinarily has no right to sue for infringement). *But see* Mentor H/S, Inc. v. Med. Device All., Inc., 240 F.3d 1016, 1017 (Fed. Cir. 2001) (stating that an exclusive license conveying all substantial rights under a patent is effectively an assignment and confers standing to sue).

19. Fennell, *supra* note 8, at 1413–15. Although I do not question why it is legal to *license* patents to trolls, I am questioning why it is legal to *assign* patents to trolls. *See infra* text accompanying notes 64–72.

20. I am also not asking why patent law bars the resale of licenses. Troy Iron & Nail Factory v. Corning, 55 U.S. 193, 216 (1852). The rationale here is to facilitate price discrimination—a license to a small manufacturer should be worth less than a license to a big manufacturer, but without a rule barring resale, small manufacturers would resell their licenses.

inalienability is one of the three concepts mentioned in the title of Guido Calabresi and Douglas Melamed's famous article, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*,[21] inalienability is distinctly the neglected stepchild in the triad in the authors' analysis[22] and in subsequent scholarly attention.[23] Richard Posner's *Economic Analysis of Law* begins its discussion of property law by providing dynamic justifications for the creation of property rights (to provide incentives for investment) and static justifications for the creation of property rights (to prevent overuse via a tragedy of the commons).[24] Only after an extended discussion of the economic justifications for creating property rights is there a single paragraph explaining that alienability enhances efficiency by permitting the transfer of resources to higher value users,[25] after which the book reverts to a consideration of problems in the creation and enforcement of property rights without ever returning to alienability as a distinct topic.

When the literature does focus on the alienability of various types of assets, the debate usually takes the form of questioning whether those assets should be considered "property" at all, rather than a debate about whether something acknowledged to be a "property" right should be alienable. For example, the Thirteenth Amendment prohibits slavery, which in some sense is an inalienability rule, but is more commonly understood as denying the existence of any property right in human beings.[26] The sum is that there is a great deal of scholarly attention devoted to questions such as whether a property right does or should exist in various circumstances and pertaining to particular assets, what the parameters and scope of the property right should be, and what mechanisms of enforcement the law should provide. There is comparatively little attention devoted to the question of when and why a property right is or should be alienable or inalienable. The reasons for the alienability of property are treated as so basic and obvious that explicit analysis is not required.

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21. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

22. *See* Michael Abramowicz, *On the Alienability of Legal Claims*, 114 YALE L.J. 697, 727 (2005) (observing that the authors treat inalienability "almost as an afterthought").

23. *Id.*; Fennell, *supra* note 8, at 1404 ("[L]aw and economics scholars have never considered it an equal partner in the triad.").

24. RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 31–32 (7th ed. 2007).

25. *Id.* at 33.

26. *See, e.g.*, Robertson v. Baldwin, 165 U.S. 275, 292 (1897) (Harlan, J., dissenting) ("Slavery exists wherever the law recognizes a right of property in a human being but slavery cannot exist in any form within the United States.").

To the extent that explicit reasons are given, the standard economic rationale for the alienability of property rights is that alienability promotes the transfer of resources to higher value users. As Richard Epstein explains:

> Most voluntary transactions move property from lower to higher value uses. The purchase price is greater than the value of the property to the seller, else he will not part with it. Yet it must be less than the value of the property in use to the buyer, else he will not purchase it . . . . Voluntary exchanges work for the mutual benefit of both sides, and where these are restrained, potential purchasers share in the losses that are held by original owners. To insure that exchanges can go forward, rights of alienation must be vested somewhere, or resources will remain fixed in the hands of those who do not want them. There seems no better place in which to locate exclusive rights of alienation than with the parties already entitled to possession and use.[27]

Because voluntary transfers of property usually enhance efficiency by transferring resources to higher utility users, the law and economics literature typically devotes its attention towards promoting alienability and making transfers easier by reducing transaction costs,[28] not on restricting alienation and transfer. Thus, when law and economics scholars actually go about analyzing restrictions on alienability, it is typically with a skeptical eye, often "dismiss[ing] them as obviously inefficient constraints on market trades."[29]

Although the scholarship on alienability and inalienability tends to be cursory, there have been some more extensive treatments of the topic. The leading work remains Calabresi and Melamed, who argue that inalienability rules may be justified by reference to three types of arguments: moralisms, paternalism, and externalities.[30] Moralisms are arguments based on moral repugnance at certain types of property transfers, such as prostitution and slavery.[31] Paternalism is when certain transfers

27. Epstein, *supra* note 10, at 972.

28. *See, e.g.*, *id.* ("The success in encouraging voluntary transactions therefore lies in the reduction of transaction costs."). *See generally* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 8 (1960) (showing that a result that maximizes the value of production can be reached independent of the initial allocation of rights if transaction costs are zero).

29. Rose-Ackerman, *supra* note 5, at 931; *see also, e.g.*, Cohen, *supra* note 7, at 47–48 (arguing against the inalienability of organs); Robert Cooter, *Towards a Market in Unmatured Tort Claims*, 75 VA. L. REV. 383, 384–85 (1989) (arguing against the inalienability of tort claims); Landes & Posner, *supra* note 6, at 336–38 (arguing against inalienability of parental rights).

30. Calabresi & Melamed, *supra* note 21, at 1111–15.

31. *See id.* at 1111–12.

are prohibited due to beliefs that some individuals are incapable of rationally determining the value of property being purchased or sold, and therefore must be protected against making welfare-reducing transactions that are not in the individual's best interest, such as the contract law rule limiting the ability of minors to buy and sell property.[32] Externalities-based arguments for inalienability occur when the purchaser intends to use the asset in a manner that will impose externalities on third-parties, where prohibiting the transfer will thereby prevent the injurious use and the externality, such as a rule prohibiting polluters from purchasing land because of the effects on neighboring property.[33] Of the three types of arguments that Calabresi and Melamed portray as based on efficiency—they also talk about arguments based on distributional consequences—only the argument based on externalities truly fits with the standard model of economic analysis. It is worth noting here that limiting alienability to prevent an externalities-inducing use is a second-best mechanism: the inalienability rule is serving as a substitute for a more direct prohibition on the use, presumably because a direct prohibition (such as a rule simply prohibiting the polluter from releasing pollutants) is difficult to enforce or has other problems.[34]

Building on Calabresi and Melamed, Rose-Ackerman points out that the logic of alienability restrictions as a second-best mechanism applies more broadly than in contexts of negative externalities and extends to various types of market failures, such as information asymmetries and coordination failures.[35] For example, if the government wants to encourage settlement of new land, it faces a "prisoner's dilemma" problem that no one wants to be the first settler (because it would be highly inconvenient to live in isolation). A rule requiring owners to occupy the land and prohibiting alienation is one possible solution to this coordination problem, and thus "[t]he original Homesteading Acts in nineteenth century America . . . gave people land for a nominal fee after they certified that they had worked the land for five years. The land could not be sold or given away to private individuals during that period."[36] Building further on Rose-Ackerman's work, Lee Anne Fennell notes that inalienability rules may also be justified on efficiency grounds based on their effect on incentives for the

32. *Id.* at 1113–14.

33. *Id.* at 1111.

34. Epstein, *supra* note 10, at 990 ("In essence the restraint on alienation is a substitute for direct remedies for misuse when these are costly and uncertain to administer.").

35. Rose-Ackerman, *supra* note 5, at 938–40.

36. *Id.* at 957–59 (citing Act of May 20, 1862, ch. 75, 12 Stat. 392).

upstream acquisition of property by the potential reseller.[37] For example, a rule prohibiting blackmail victims from paying ransom to obtain the scandalous photos being used for blackmail is a restriction on the alienability of the photos, and in a static analysis it makes both the blackmailer and the victim worse off (because the blackmailer would prefer to get the ransom and the victim would prefer to get the photos), but it increases long run social efficiency because it removes the incentive of potential blackmailers to take similar photos in the future.[38] Assuming that the scandalous photos were taken solely for their value in blackmail, they represent a waste of resources in that they are a contrived threat, and social welfare is therefore increased by deterring the wasteful activity.[39]

Despite occasional skepticism, on the whole, the law and economics literature views free alienability of property rights as generally desirable because "[v]oluntary exchanges work for the mutual benefit of both sides" and "move property from lower to higher value uses."[40] Restrictions on alienability are thus perceived to be based primarily on moralistic or paternalistic arguments disfavored by economists, or as second-best compromises that should only be reluctantly accepted.

B. Alienability in Patent Law

Following the conventional thinking in favor of alienability in property law, § 261 of the patent statute declares patents to be a species of personal property,[41] and accordingly declares them to be freely alienable (subject only to a procedural requirement that assignments must be in writing).[42] And, likewise following from the conventional economic literature on alienability in property law, the patent law literature typically explains the free alienability of patents as promoting the transfer of information resources to higher value uses and users. The leading account of this argument is by Kenneth Arrow:

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37. Fennell, *supra* note 8, at 1451.

38. *See id.* at 1424–25.

39. *See* Einer Elhauge, *Contrived Threats Versus Uncontrived Warnings: A General Solution to the Puzzles of Contractual Duress, Unconstitutional Conditions, and Blackmail*, 83 U. CHI. L. REV. 503, 582 (2016) (arguing for a theory of blackmail based on the contrived nature of the threat); Douglas H. Ginsburg & Paul Shechtman, *Blackmail: An Economic Analysis of the Law*, 141 U. PA. L. REV. 1849, 1860 (1993) (making the same argument).

40. Epstein, *supra* note 10, at 972.

41. 35 U.S.C. § 261 (2012 & Supp. V 2018).

42. *Id.* ("Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing.").

> In the absence of special legal protection, the owner cannot, however, simply sell information on the open market. Any one purchaser can destroy the monopoly, since he can reproduce the information at little or no cost. Thus the only effective monopoly would be the use of the information by the original possessor. This, however, will not only be socially inefficient, but also may not be of much use to the owner of the information either, *since he may not be able to exploit it as effectively as others*.
>
> With suitable legal measures, information may become an appropriable commodity.[43]

Although in the above passage Arrow is vague on the "suitable legal measures" he has in mind, in later sections he focuses on patents as the primary legal measure, describing patents as creating "property rights . . . in the information itself."[44] Thus, patent scholars generally take Arrow to argue that patents "allow[] the creation of a market in information . . . that guides innovative efforts towards inventions society values the most through the use of the price system."[45] Although many scholars—led, in fact, by Arrow—argue that patents are a poor mechanism to promote invention,[46] this argument usually proceeds from the standpoint of arguing for a nonproperty-based alternative that would scrap the patent system entirely, such as for a publicly financed prize or grant system.[47] Within the bounds of having a patent system, the economic function of patents as facilitating the transfer of information goods to higher valued users and the desirability of free alienability in facilitating such transfer is not overtly questioned.[48]

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43. Arrow, *supra* note 4, at 615 (emphasis added).

44. *Id.* at 617 ("The property rights may be in the information itself, through patents and similar legal devices, or in the intangible assets of the firm if the information is retained by the firm and used only to increase its profits.").

45. Laura G. Pedraza-Fariña, *The Social Origins of Innovation Failures*, 70 SMU L. REV. 377, 387–88 (2017); *see also* Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1, 11–12 (1969) ("[T]he practice of creating property rights in information and allowing its sale is not clearly inefficient . . . ."); Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266 (1977) (arguing that the patent system facilitates efficient allocation by placing "management of each prospect . . . in the hands of the entity best equipped to manage it").

46. Arrow, *supra* note 4, at 616–19 ("To sum up, we expect a free enterprise economy to underinvest in invention and research (as compared with an ideal) because it is risky, because the product can be appropriated only to a limited extent, and because of increasing returns in use.").

47. *Id.* at 623 ("The previous discussion leads to the conclusion that for optimal allocation to invention it would be necessary for the government or some other agency not governed by profit-and-loss criteria to finance research and invention.").

48. *Cf.* Neil Netanel, *Alienability Restrictions and the Enhancement of Author*

To be clear, I am not saying that no one ever argues for restricting the alienability of patents. There are in fact various laws that restrict the alienability of patent rights, such as restrictions on employee assignments[49] and antitrust limits on patent transfers between competitors.[50] My claim is that patent alienability restrictions are rarely consciously recognized or debated as such. In a political and legal climate where the deeply embedded and unquestioned general consensus among scholars, judges, and legislators is that the free alienability of patents is an obviously good thing,[51] laws and proposals that in fact have the effect of restricting patent alienability must be characterized in a manner that obscures this effect.

For example, under PTO regulations, an inventor who assigns his patent application to a corporation with more than 500 employees is required to pay higher PTO fees than if the inventor does not make the assignment.[52] This is in effect a restriction on alienability—the law imposes a penalty based on the fact of a transfer to a particular recipient—but it is rarely thought of in this manner. Similarly, proposals for patent reform in Congress that seek to penalize nonpracticing patent plaintiffs often exclude plaintiffs who are original inventors,[53] with the consequential effect that a nonpracticing original inventor who does not assign the patent but files abusive litigation is not subject to the penalties, but a similarly-situated assignee would be, which is in economic terms a restriction on alienability. But these proposals are publicly sold as rules to curb abusive lawsuits, not as rules to curb patent alienability.[54] Other restrictions on alienability are

Autonomy in United States and Continental Copyright Law, 12 CARDOZO ARTS & ENT. L.J. 1, 11 (1994) (stating that "the utilitarian and natural rights models [underlying U.S. copyright law] assume and require the free alienability of copyright").

49. *See, e.g.*, CAL. LAB. CODE § 2870 (2016); MINN. STAT. § 181.78 (2018); WASH. REV. CODE § 49.44.140 (2018).

50. *See* Erik Hovenkamp, *Competition, Inalienability, and the Economic Analysis of Patent Law*, 21 STAN. TECH. L. REV. 33, 36–37 (2018) (arguing that antitrust law often restrains the alienability of patents, but courts do not recognize this fact).

51. *See id.* at 40 ("Most theories that shape our understanding of private conflicts over property rights assume implicitly that there are no noteworthy restraints on alienability.").

52. 37 C.F.R. § 1.27 (2018) (providing 50% fee reduction for a small entity, including an individual inventor "who has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention") (citing 35 U.S.C. § 41(h)(1) (2012)).

53. *See, e.g.*, Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. § 285A (2013).

54. *Id.*

more explicit, but they are so obscure that there is little discussion of them.[55]

III. QUESTIONING PATENT ALIENABILITY

My point in giving examples of various alienability restrictions existing both in current law and in serious proposals is to argue that the case for free patent alienability might not be so easy as its deeply embedded status in the patent canon suggests. This Part will make the argument through more analytical means. To sum up my argument, the economic argument that patent alienability facilitates the transfer of information (specifically, inventions) to its highest valued users is wrong—or, at least, true only given a set of contestable assumptions—because patents do not provide a tradable property right over the use of an invention.[56] Patents only provide a tradable property right over the *right to exclude others* from using an invention.[57] A market exchange mechanism to facilitate the transfer of the right to exclude to the person most able to exploit this right to maximize private profit is not obviously in the public interest, because the most privately profitable method of exploiting the right to exclude may well be socially detrimental.

In most of property law, this separation between the right to exclude and the right to productive use does not regularly occur, and the alienability of property rights therefore enhances social welfare by facilitating transfers to higher value users and uses that are both privately *and socially* beneficial. If Taney is the possessor and owner of Blackacre and can use it to produce $10 worth of crops, while Marshall can use it to produce $15 worth of crops, then with free alienability (and with sufficiently low transaction costs) it would make sense for Taney to sell Blackacre to Marshall for some price between $10 and $15, which not only makes Taney and Marshall better off, but also increases social welfare by $5 in increased crop production. But this only works when the property right over Blackacre confers the ability to use Blackacre productively (in this example, to grow crops). If the sale of the property to Marshall did not give Marshall the ability to use Blackacre productively, but only gave Marshall the right to burn

55. *See, e.g.*, 35 U.S.C. § 202(c)(7)(A) (prohibiting nonprofit contractors of federally funded inventions from assigning patent without approval of funding agency).

56. ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 48–49 (5th ed. 2011) ("Unlike other forms of property . . . [p]atent rights are wholly *negative* rights—rights to stop others from using—not positive rights to use [an] invention.").

57. *See* 35 U.S.C. § 154(a)(1) (stating that patents grant a right to exclude others from making, using, selling, offering, or importing the invention in the United States).

Blackacre down and prevent anyone else from using it, then there would be no increase in crop production and no increase in social welfare from the transfer.[58]

My point here is not to take a position on the longstanding debate between those property scholars who conceptualize property rights as a right to exclude[59] and those property scholars who conceptualize property rights as based on productive use.[60] Even if one conceptualizes property rights as legally defined by a right to exclude, in most circumstances involving tangible property the ownership of a *legal* right to exclude will confer the *practical* ability to control the productive use of an asset.[61] Even if the only judicially-enforceable legal right conferred by ownership of Blackacre is the right to prevent other people from using it, in practice this right to exclude will also secure the ability to use Blackacre because no one else will interfere with the owner's productive use given the known threat of exclusion. When there is a one-to-one correspondence between the legal property right (the *estate* of Blackacre) and the underlying asset (the *physical land* of Blackacre), conferring a legal right to exclude generally translates in practice to conferring a practical ability to control productive use, so that an *alienable* property right denominated in terms of a right to exclude accomplishes the economic function of directing assets to their highest value and most productive users. This type of one-to-one correspondence between the right to exclude and the underlying asset generally holds with respect to tangible property rights: land and other physical assets (such as cars) usually only have one owner who has the right to exclude others from the asset.

The canonical narrative of the patent system also envisions a one-to-one correspondence between the patent right to exclude and the productive use of an underlying asset, such that a particular commercial product is imagined to have only one patent on it.[62] For example, it is common to say that the Wright brothers

58. It is worth mentioning here that, in economic terms, use of land for conservation is still a "productive" use, because it increases happiness. If Marshall gains $15 worth of utility from leaving Blackacre undeveloped and admiring the trees, overall social welfare is still increased, because Marshall's private utility is part of the social welfare function.

59. *See, e.g.*, Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 731 (1998) (arguing "the right to exclude others is a necessary and sufficient condition of identifying the existence of property").

60. *See, e.g.*, Eric R. Claeys, *Labor, Exclusion, and Flourishing in Property Law*, 95 N.C. L. REV. 413, 439 (2017).

61. *See* Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1693 (2012) ("There is no interest in exclusion per se. Instead, exclusion strategies, including the right to exclude, serve the interest in use . . . .").

62. Herbert Hovenkamp et al., *Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719, 1738 (2003) ("The patent system is built on the unstated assumption of this one-to-one correspondence.").

invented the airplane, or that Thomas Edison invented the light bulb, as if they were the only ones with a patent over the product. And if this were true, then the alienability of patents, just like that of tangible property, would be economically justified as facilitating the transfer of information-assets (i.e., inventions) to their highest private and social utility users.[63] If there was only one patent that covered an airplane or a light bulb, then even though legally speaking a patent confers only a right to exclude, the owner of the right to exclude would in practice have the ability to control productive use—because he could exclude everyone else but no one could exclude him. Alienation of the patent right to exclude in such circumstances is substantively equivalent to the transfer of the ability to productively use the underlying asset. In a free market with reasonably low transaction costs, the patent right would be expected to flow to the person most able to productively use the invention in a socially beneficial manner because that person would be willing to pay the most for the right to control the invention's productive use.

In real life, however, such one-to-one correspondence between patent rights and underlying commercial products occurs only very rarely,[64] and it occurred with neither the airplane nor the light bulb.[65] Modern technological products usually involve hundreds or thousands of patents—even a relatively simple product such as a DVD may require permission under hundreds of patents to produce.[66] The owner of any one of these patents has no practical ability to control the production of DVDs, but the owner of any single patent that is essential to making DVDs does have the ability to extract rents from other productive users through holdup threats. In other words, when there is a separation

63. *See* Kitch, *supra* note 45, at 266 (arguing patents facilitate efficient allocation by "awarding exclusive and publicly recorded ownership of a prospect shortly after its discovery"). *But see* Roger L. Beck, *The Prospect Theory of the Patent System and Unproductive Competition, in* 5 RESEARCH IN LAW AND ECONOMICS 193, 205 (Richard O. Zerbe, Jr. ed., 1983) (criticizing Kitch's argument because it assumes "the first inventor has exclusive control of the right to develop a prospect," which patent law does not confer).

64. Hovenkamp et al., *supra* note 62, at 1738 ("In fact, however, such a correspondence is the exception rather than the rule. Machines of even moderate complexity are composed of many different pieces, and each of these components can itself be the subject of one or more patents.").

65. Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709, 722, 725 (2012).

66. *See Patent Reform: The Future of American Innovation: Hearing on S. 1145 Before the S. Comm. on the Judiciary*, 110th Cong. 258 (2007) (statement of Mary E. Doyle, Senior Vice President and General Counsel, Palm, Inc.) ("For example, there are more than 400 patents that have been claimed to be essential to producing a DVD, tens of thousands of patents that may relate to a single microprocessor and perhaps hundreds of thousands of patents that may relate to a personal computer.").

between the legal property right to exclude and the practical ability to control productive use of an underlying asset, there is the possibility that the most privately profitable use of the legal property right might be predatory—to earn ransom by holding up already-existing manufacturers of DVDs with threats to shut down their already-sunk fixed investments.[67] And when the most privately profitable use of a property right is predatory, alienability of the property right facilitates its transfer to the most predatory and socially harmful user—the one who is best at holding productive manufacturers up and can extract the biggest ransom.

In theory, when there are multiple patents on a commercially useful product, with zero (or sufficiently low) transaction costs it would make rational economic sense for private actors to form patent pools or portfolios to aggregate the patent rights, so that there is once again a one-to-one correspondence between the right to exclude (now collected in a patent pool) and the right to productive use. Predatory uses of a patent are, by definition, wealth-destroying, and therefore patent holders collectively would be better off if they did not occur; building a patent pool or portfolio is synergistic.[68] When the number of patents relevant to a product is low and easily found ahead of time, this type of portfolio-building in fact happens. The most prominent example is the pharmaceutical industry,[69] where all the patents relevant to an FDA approved drug are listed in the Orange Book.[70] Because there is effectively a one-to-one correspondence between the commercial product and the patent right—where the "patent right" is the collection of patents listed in the Orange Book—the pharmaceutical industry is characterized by patent owners who

67. To a large extent, the practical payoff of my argument depends on how often holdup occurs, which is a contested empirical question. *Compare, e.g.*, JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 47–54 (2008) (arguing holdup is a significant problem), *with, e.g.*, Jonathan M. Barnett, *Has the Academy Led Patent Law Astray?*, 32 BERKELEY TECH. L.J. 1313, 1345 (2017) ("[A]vailable empirical evidence does not support the view that holdup and stacking effects are significant and persistent in technology markets."). But even if patent holdup occurs only rarely—which I don't think is true—the theoretical point that the status quo in favor of unrestricted patent alienability should be questioned remains.

68. Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 5, 51–52 (2005) ("[F]or patents, *the whole is greater than the sum of its parts*.").

69. Janet Freilich, *The Paradox of Legal Equivalents and Scientific Equivalence: Reconciling Patent Law's Doctrine of Equivalents with the FDA's Bioequivalence Requirement*, 66 SMU L. REV. 59, 102 (2013) ("[P]harmaceutical companies do not operate on a one-product-one-patent model, but rather on a patent portfolio model.").

70. 21 U.S.C. § 355(b)(1), (c)(2) (2012); Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 29.

are productive users of their inventions.[71] The economics of pharmaceutical patents seem to operate in the way that traditional economic theories of property would posit, facilitating transfers of productive assets to their highest private and social utility users and avoiding market failures such as holdup.[72]

But the pooling strategy works only if *all* the patents relevant to a product are collected into the pool ahead of time. A single missed patent creates essentially the same holdup opportunity as a thousand missed patents.[73] Unrestricted alienability of the omitted patents (whatever their number) will then maximize the damage of holdup because market incentives will drive those patents into the hands of the most effective predators. It is precisely this market phenomenon that drove the rise of nonpracticing patent enforcement entities—colloquially known as "patent trolls"—that specialize in the extraction of patent rents from productive manufacturers. And, empirically speaking, it seems that in most industries transaction costs are sufficiently high to prevent the pooling strategy from neutralizing the holdup threat. Pharmaceuticals, and to a lesser extent biotechnology, seem to be the exception and not the rule.[74] And without the correspondence between patent rights and the ability to control productive use of an underlying asset, the alienability of a patent right to exclude by itself runs the risk of promoting predatory uses of the right to exclude rather than productive uses of an underlying asset.

To be clear, I am not claiming that, in the absence of a one-to-one correlation between the patent right and an underlying commercial product, *all* transfers of patent ownership are socially harmful or that all patent enforcement is holdup. Even when a patent is only one among many covering a particular commercial product, such that the patent confers only a legal right to exclude but no practical ability to control the productive use of the product, the patent property right may serve a socially valuable function in

71. Lemley, *supra* note 70, at 29 ("Virtually all patent owners in the [pharmaceutical] industry are market competitors . . . .").

72. *Id.* at 23–24, 29 ("There is, to be fair, one industry in which the patent system does bear some resemblance to the world of my thought experiment: the pharmaceutical industry."). *But see* Robin Feldman & W. Nicholson Price II, *Patent Trolling: Why Bio & Pharmaceuticals Are at Risk*, 17 STAN. TECH. L. REV. 773, 776–78 (2014) (arguing that university-owned patents could be used to hold up pharmaceutical inventions).

73. Tun-Jen Chiang, *The Reciprocity of Search*, 66 VAND. L. REV. 1, 23 (2013) ("[P]roducers face essentially the *same* holdup threat if they miss even a single patent as they do if they miss thousands.").

74. *See generally* BESSEN & MEURER, *supra* note 67, at 130–44 (showing that in most industries outside of biotechnology and pharmaceuticals, litigation costs induced by the patent system exceed the research and development generated).

facilitating the dissemination of information.[75] For example, an individual inventor who comes up with the idea of putting a notch on smartphones (to increase screen space) has no practical ability to actually commercialize that idea or productively use it—he would require licenses to thousands of other patents covering various features of smartphones and factories to actually make the phones. Moreover, without patent or similar legal protection he could not disseminate the idea to smartphone manufacturers such as Apple or Samsung because of Arrow's information paradox—no manufacturer would be willing to pay for the idea without first knowing what it is and being able to assess its value, but as soon as the idea is disclosed there is no further incentive to pay for it.[76] Separate and apart from the incentive to invent, patents facilitate dissemination of information and increase social welfare by providing a solution to this paradox.[77]

Because the patent right to exclude by itself can increase social welfare by facilitating dissemination, alienability of the right to exclude by itself can also increase social welfare by placing the right to exclude in the hands of the most capable disseminator. For example, a no-name individual inventor with a patent on the idea of putting notches on smartphones may not be able to gain the attention of Apple or Samsung—if he writes an unsolicited letter containing a patent to the company headquarters he is likely to be simply ignored.[78] A technology transfer office at a major university is more likely to be able to both identify potential users who might be interested in an idea, such as Apple or Samsung, and also be able to gain their attention and find the right people to discuss the idea. Allowing transfer of the patent right from the individual no-name inventor to the university therefore makes the

75. *See* Jason Rantanen, *Peripheral Disclosure*, 74 U. PITT. L. REV. 1, 7 (2012) ("[M]any inventors *want* to share information about their inventions and the patent system facilitates this in ways that would not be possible in its absence.").

76. Arrow, *supra* note 4, at 615 ("[T]here is a fundamental paradox in the determination of demand for information; its value for the purchaser is not known until he has the information, but then he has in effect acquired it without cost.").

77. *See* Robert P. Merges, *A Transactional View of Property Rights*, 20 BERKELEY TECH. L.J. 1477, 1503 (2005) (arguing that patents make an owner "more likely to pursue deals, making necessary disclosures along the way"). *See generally* Paul J. Heald, *A Transaction Costs Theory of Patent Law*, 66 OHIO ST. L.J. 473, 505 (2005) ("As a descriptive matter, incentive theories do a poor job of explaining important aspects of patentee behavior. An emphasis instead on the relationship between patenting and transaction costs provides a better explanation for the flourishing of the patent form."); Kitch, *supra* note 45, at 278 ("This private incentive to disseminate information . . . should be distinguished from the reward for disclosure theory traditionally discussed.").

78. *See* Lemley, *supra* note 70, at 21 ("[R]esearchers and companies in component industries simply ignore patents. Virtually everyone does it. They do it at all stages of endeavor.").

dissemination function of patents more effective.[79] And, as long as the idea is communicated to the potential user *before* the user independently recreates it, the dissemination is socially beneficial and not harmful because it saves the user from wasteful duplication of research effort.[80]

A naked patent right to exclude—without the ability to control productive use of an underlying commercial product—therefore has the nature of a "dual-use" problem: the right to exclude can be used in a socially beneficial manner to facilitate the dissemination of ideas, and it can be used in a socially harmful manner to prey on unwitting independent inventors by holding up their fixed investments after the fact. The alienability of the right to exclude exacerbates the effectiveness of whichever strategy is in fact pursued: alienability can place the patent in the hands of the most effective disseminator; it can also place the patent in the hands of the most predatory hostage-taker.

In this sense the problem is basically a variant of Calabresi and Melamed's observation that some uses of property impose negative externalities, and restricting alienability may help curb these negative externalities.[81] For example, guns have some socially beneficial uses (e.g., self-defense, recreation) but also some socially harmful uses (e.g., crime). Despite all the debate about gun rights and the Second Amendment, few would argue against restricting the alienability of guns to convicted felons, even though the guns are the property of their owners.[82] This is because convicted felons are believed to be very likely to put the gun to socially harmful uses and not to socially beneficial ones. By the same logic, there should be a valid argument for restricting the sale of patents to purchasers who are likely to use the patent in socially harmful ways. Yet, unlike routine laws barring the transfer of guns to felons, there are no laws barring the transfer of patents to likely misusers. Instead, the unrestricted alienability of

79. *See* Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 629 (2008) ("One of the differences between universities and private licensing shops is that universities are, by and large, not engaged in hiding the ball, waiting until people have developed an industry and then popping up and demanding a disproportionate share of royalties based on irreversible investments.").

80. Kitch, *supra* note 45, at 278 ("Once a patent has been issued, other firms can learn of the innovative work of the patent holder and redirect their work so as not to duplicate work already done.").

81. Calabresi & Melamed, *supra* note 21, at 1111.

82. *See* 18 U.S.C. § 922(d)(1) (2012) ("It shall be unlawful for any person to sell or otherwise dispose of any firearm or ammunition to any person knowing or having reasonable cause to believe that such person . . . is under indictment for, or has been convicted in any court of, a crime punishable by imprisonment for a term exceeding one year[.]").

patents is believed to follow inherently from its status as property. But unrestricted patent alienability can be justified by the fact that patents are property no more than unrestricted gun alienability can be justified by the fact that guns are property.

To be clear, I am only questioning the case for *unrestricted* patent alienability. As discussed above, there is clearly a good rationale to allow *some* patent alienability, even if patents confer only a right to exclude and not the ability to control productive use, such as in circumstances of an individual inventor transferring a patent to a university for the purpose of furthering dissemination of the underlying inventive idea. At the same time, there also seems to be a good rationale to restrict patent alienability when the recipient is likely to use the patent in predatory ways. As a matter of casual empirical observation, it seems that the predatory strategy happens more than the dissemination strategy.[83] At the very least, the predatory strategy happens sufficiently often that it is worth worrying about. Saying that patent alienability can be justified in some circumstances, but could be restricted in others, is a much more cautious proposition than the current legal and political consensus, which treats unrestricted patent alienability as an unquestioned background principle.[84] My claim is that this background principle rests on much shakier foundations than initially meets the eye.

IV. ALTERNATIVE JUSTIFICATIONS

If the rationale that voluntary exchanges will facilitate the flow of assets to their highest utility users cannot justify unrestricted patent alienability (because the highest private utility use of a right to exclude may be a predatory one), then perhaps unrestricted patent alienability can be justified on some other ground. This Part will consider two potential alternative justifications: the benefits of alienability on ex ante incentives to invent, and the difficulty of administering any alienability restrictions.

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83. *See* Christopher A. Cotropia & Mark A. Lemley, *Copying in Patent Law*, 87 N.C. L. REV. 1421, 1424–26 (2009) (arguing that copying—as opposed to independent creation—by infringement defendants is rare, except in pharmaceuticals). *But see* Lisa Larrimore Ouellette, *Who Reads Patents?*, 35 NATURE BIOTECHNOLOGY 421, 422 (2017) (presenting survey evidence that researchers do read patents).

84. *See* Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEX. L. REV. 961, 1024 (2005) ("The fact that the invention may have been assigned by the inventor to a third party does not suggest that the right to enforce the patent should be diminished.").

A. Ex Ante Incentives

As Lee Anne Fennell has pointed out, restrictions on alienability have upstream effects in reducing incentives for the initial acquisition of property.[85] Fennell was mostly making this point in the context of undesirable initial acquisitions—acquisitions of blackmail material and the like—and as an argument in favor of alienability restrictions,[86] but it holds true as a general point. In the patent context, having inventors doing the inventing and disclosing necessary to initially secure the patent right is considered a desirable thing. Prohibiting initial inventors from selling the patent after they acquire it would diminish the value of the right, because the inventor would have to personally find licensees or personally practice the invention (which would also require securing licenses to any blocking patents on the agglomerated commercial product), when they may not have much expertise in either of those endeavors. It follows that a rule of unrestricted alienability increases ex ante incentives, compared to a rule of restricted alienability or total inalienability.[87]

Increasing ex ante incentives to invent and disclose, however, serves as a poor rationale for allowing the transfer of patents to predatory users who will use the resulting patent in socially harmful ways. There are many ways to increase ex ante incentives, ranging from longer patents to broader patents to monetary subsidies.[88] There are of course costs associated with each of these alternatives, such as the increased deadweight loss from increased patent protection or taxes needed to finance the subsidies. But a rule of unrestricted patent alienability also has costs when alienability leads to transfers that place patent rights in the hands of more effective predatory users. There has been no rigorous comparison of the costs of each of these alternative methods of increasing ex ante incentives, but there is no a priori reason to assume that unrestricted alienability is the least costly one.

The benefits of unrestricted alienability as a method of increasing ex ante incentives for invention and disclosure are also

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85. Fennell, *supra* note 8, at 1411–12.

86. *Id.* at 1424–27.

87. *See* Clark D. Asay, *Ex Post Incentives and IP in* Garcia v. Google *and Beyond*, 67 STAN. L. REV. ONLINE 37, 43 (2014), https://www.stanfordlawreview.org/online/ex-post-incentives-and-ip-in-garcia-v-google-and-beyond/ [https://perma.cc/UML5-G2PY] ("[T]he ex ante possibility of patent rights—including the ability to sell them at a later date—may inform their decision to pursue the innovative activity in the first place.").

88. *See generally* Daniel J. Hemel & Lisa Larrimore Ouellette, *Beyond the Patents-Prizes Debate*, 92 TEX. L. REV. 303 (2013) (discussing various mechanisms by which the government can incentivize research).

questionable, at least in comparison to other alternative methods. A direct monetary subsidy (such as reducing PTO filing fees or giving NIH grants) will increase returns to inventors by the full amount of the monetary subsidy. Allowing the patent to be sold to a patent troll in order to engage in predatory holdup increases returns to the initial inventor only by the expected amount of the holdup rents, which has to be discounted by the fact that the rents are uncertain at the time of the sale, and that the rents have to be divided between the inventor and the troll (with the troll being an entity that specializes in maximizing its take in bilateral monopoly negotiations).[89] Again, there has been no rigorous comparison between unrestricted alienability and other methods of increasing ex ante incentives, but there is no reason to simply assume that unrestricted alienability is the most cost-benefit effective one.

Moreover, it is worth emphasizing that I am not trying to make a case for the total inalienability of patents; I am only suggesting that we should consider restricting alienability to recipients who are likely to put the patent to predatory uses. It is therefore not as if inventors will be stuck with the choice of only practicing the patent themselves or finding (and suing) potential manufacturers to license; they can still sell their patent rights to nonpredatory users. Those nonpredatory users may either be productive manufacturers of a commercial product or entities that will disseminate the patented information in a socially beneficial manner (by preventing wasteful duplication). My proposal is only about restricting the flow of patents to trolls who lie in wait and prey on independent inventors. To take an analogy, although society generally would like to increase the incentives to produce cars, we do not incentivize the ex ante manufacture of cars by encouraging their transfer to unlicensed drivers.[90] By the same token, although we generally would like to incentivize the production of new, useful, and nonobvious inventions, it does not follow that we must implement this incentive through the means of allowing patents to be sold to likely predators.

B. Difficulties in Administration

If my argument is not for total inalienability but only to restrict transfer to some subset of recipients, then one obvious

89. *See id.* at 343 ("[I]f one believes that the social discount rate is lower than the private discount rate, grants and credits (i.e., transfers today) will be more efficient than prizes and patents (i.e., transfers in the future).").

90. *See, e.g.*, Mundy v. Pirie-Slaughter Motor Co., 206 S.W.2d 587, 590–91 (Tex. 1947) (finding a valid claim of negligence per se for entrusting an unlicensed driver with an automobile).

practical difficulty lies in delineating the categories where alienability should be restricted. An abstract principle that transfers to predatory users (or, to borrow the more common term, patent trolls) should be prohibited runs into several difficulties if one seeks to implement the principle in a concrete way on the ground. First, there is no well-accepted concrete definition of who is and is not a patent troll.[91] Second, the ultimate problem sought to be addressed by the prohibition is the underlying predatory *use*,[92] not the identity of the *user*, and so an alienability restriction—which necessarily targets the recipient of a transfer and not a particular instance of use—must make imperfect generalizations about use based on the characteristics of the person. Third, and related to the second point, if the ultimate problem is the underlying predatory use, then it is possible for the law to address the underlying problem directly by prohibiting the predatory use, such as by denying injunctions or rendering the patent unenforceable for misuse.[93] An alienability restriction is a second-best mechanism that may be unnecessary if a direct solution is feasible and adequate.

There is some merit to these objections, but I have two responses. The first is that I think these practical difficulties are somewhat overstated. There is no well-accepted definition of who is and is not a patent troll, but this is largely because the problem of patent trolls is a problem of the use and not the user: the ultimate question is not whether various entities are patent trolls, but whether uses of patents by these entities are predatory.[94] And there is a reasonably concrete core definition of predatory patent holdup, which distinguishes between finding producers before they have independently invented the same technology (so that the patent disseminates knowledge and avoids wasteful replication of effort), and waiting until after an independent inventor makes fixed investments to extract rents from the fixed investments, with

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91. Chiang, *supra* note 14, at 698 ("In all discussion of patent trolls, an antecedent difficulty that arises is that there is no consensus definition of what constitutes a patent troll and no agreed-upon account of why (or even if) such entities are harmful.").

92. *Id.* at 700 ("Such holdup is not strictly confined to nonpracticing entities, nor to entities that acquire their patents through purchase. However, in practice, nonpracticing patent holders are much more likely to be able to engage in holdup than practicing patent holders.").

93. *See* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396–97 (2006) (Kennedy, J., concurring) (suggesting injunctions be denied when patents are used "not as a basis for producing and selling goods but, instead, . . . as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent").

94. *See* Lemley, *supra* note 79, at 612 ("What we ought to do is abandon the search for a group of individual companies to define as bad actors . . . . Instead of singling out bad actors, we should focus on the bad acts . . . .").

the latter being the paradigmatic case of predatory use of a patent right. Because not every nonpracticing patent owner engages in predatory holdup,[95] and because some practicing patent owners do engage in predatory holdup, a definition of a patent troll based on characteristics of the person (such as whether they practice), instead of the use, will necessarily be imperfect, which leads to controversy in the definition and also under- and over-inclusiveness in an alienability restriction vis-à-vis the ultimate problem sought to be addressed. This imperfection does not mean that alienability restrictions are necessarily unjustified: not every convicted felon will use a gun to commit crimes, and people without prior criminal records can also use guns to commit crimes—it still makes eminent sense to prohibit the transfer of guns to convicted criminals. A blunt rule prohibiting transfers to nonpracticing entities,[96] for example, is likely to pose little practical administrative difficulty. The problem is not that we cannot come up with a practically administrable alienability restriction rule—we can—but whether the benefits of such a rule outweigh its over- and under-inclusiveness costs, a question that has not been rigorously answered. One cannot begin to answer that question without first challenging the establishment consensus in favor of patent alienability.

As for the availability of direct solutions such as denial of injunctions and compulsory licensing, the fact that there are direct mechanisms to address the underlying problem does not necessarily mean that indirect solutions should not *also* be adopted, as long as the indirect solutions have greater benefits than costs. We have direct prohibitions on using guns to commit crimes such as robbery or murder. The law nonetheless still restricts the alienability of guns to convicted criminals on the belief that those users are likely to use guns to commit crimes. Moreover, direct solutions also have their own costs and downsides; for example, denying injunctions require courts to assess compulsory license royalties, which contravenes a central underlying premise of the patent system that courts lack the capacity to make such assessments.[97] Thus, while direct solutions

95. *See, e.g.*, *id.* at 629 (arguing that "universities are, by and large, not engaged in" patent holdup, despite being nonpracticing entities).

96. Defined, for example, as an entity that derives more than 80% of its revenues from patent licenses, settlements, or judgments. *Cf. How LOT Works*, LOT NETWORK, https://lotnet.com/how-lot-works/ [https://perma.cc/TUR9-BVQF] (last visited Aug. 23, 2019) (defining a patent assertion entity as an entity that derives more than half its revenues from patent assertion activities).

97. Tun-Jen Chiang, *The Paradox of IP*, 30 HARV. J.L. & TECH. (SPECIAL SYMP.) 9, 9 (2017) ("A central assumption in the theory of intellectual property is that no government actor calibrates IP rewards.").

may look attractive when viewed within the confines of idealized assumptions, the comparative pros and cons are more complex in reality and have not been adequately studied.[98] I do not claim that alienability restrictions are necessarily more effective than compulsory licenses; all I need for my argument to work is that nobody else has shown that compulsory licenses are *so* effective, or alienability restrictions *so* terrible, that the latter needs not even be *considered* as a *supplemental* policy option.[99] My argument for now is only that the status quo of mostly unrestricted patent alienability should be questioned, that alienability restrictions are worth considering as a patent policy tool, and the literature has not given this policy option adequate thought.

Which leads to my second, more fundamental, response: Whether the practical difficulties in coming up with a workable legal rule to restrict patent alienability against likely predatory users are surmountable depends on empirical questions—such as the degree of correlation between nonpracticing patent owners and actual predatory assertions of patents against independent inventors, as well as the costs of direct solutions versus alienability restrictions—that have not been rigorously answered. But I will be satisfied for now if I can convince the reader that restrictions on patent alienability are *in principle* worth considering. Saying that unrestricted patent alienability is the rule simply because we cannot come up with a practically workable set of restrictions, or because the empirical evidence is inconclusive, is very different from saying that free alienability is a built-in structural principle of patent law emanating from the logic that patents are property.[100] Defeating the latter proposition is sufficient to make the case for patent alienability uneasy.

V. CONCLUSION

This Article does not—and does not aim to—prove that restrictions on alienability are necessarily justified. My goal is more modest: it is to demote patent alienability from a structural principle to a debatable policy choice. Unrestricted patent alienability should not be regarded as logically following from the fact that patents are property rights or as necessarily placing

98. *See* Demsetz, *supra* note 45, at 1 (arguing for "a *comparative institution* approach in which the relevant choice is between alternative real institutional arrangements").

99. Another indirect policy solution in the same vein would be a use requirement. *See generally* Oskar Liivak & Eduardo M. Peñalver, *The Right Not to Use in Property and Patent Law*, 98 CORNELL L. REV. 1437, 1438 (2013) (arguing for recognition of "an obligation to use in patents").

100. *See* 8 DONALD S. CHISUM, CHISUM ON PATENTS § 22.01 (2017) ("Patents are subject to general legal rules on the ownership and transfer of property.").

resources in the hands of higher value users. Patents do not operate like other types of property, and the standard economic justifications for free alienability with respect to other types of property do not apply with equal force to patents. In particular, the highest private value use of a patent may be predatory, and in such circumstances free alienability will not promote social welfare, but will instead exacerbate the downsides of patent protection.

Whether patents should or should not be freely alienable depends on empirical assessments that will vary over time and by industry. Viewing patent alienability as a debatable choice, and not as an inviolable principle, opens up the conversation and allows the empirical questions to be studied. Without firmer empirical support, the current rule of unrestricted alienability rests on unproven and shaky foundations.