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Patent Challenges and Royalty Inflation

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INTRODUCTION

Eliminating bad patents is supposed to be a good thing, and so federal law allows any interested party to challenge a patent's validity at almost any time. But the law goes a step further than merely conferring broad challenge rights. It also makes them nearly impossible to contract away. Instead, federal law voids any agreement[1] not to challenge a patent. While a contract ordinarily signifies a final resolution of all issues covered by its terms, no such peace exists in patent licensing.

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    1. This rule has one exception: postlitigation settlement agreements will usually be enforced. *See infra* note 15.

This inalienability of patent challenge rights comes at a cost, which is borne by many patent licensees and their downstream customers. Patent holders quite rationally increase the royalties licensees must pay to offset their costs if the patent is challenged, including litigation costs and loss of royalties if the patent is invalidated. Licensees, it follows, might seek a lower price by agreeing not to challenge the licensed patent, but the law will not allow them to do so.

The result is royalty inflation; the policy favoring elimination of bad patents costs every licensee by providing an inalienable challenge right that might never be exercised.[2] This cost is a tax of sorts,[3] what this Article calls the "patent-challenge tax." In addition to inflated royalties, the tax causes trickle-down costs to consumers and disincentives to create and license patented technology.

These social costs offset the social benefits created by encouraging patent challenges. Few have recognized these costs and no one has examined them with an economic model. This Article develops a model that dissects the components of the patent-challenge tax, examines each component's consequences, and informs the effectiveness of various strategies that might be used to reduce the tax.

This Article thus offers three advantages over prior efforts. First, the model allows for a rigorous analysis of whether and how each tax-reduction strategy will work. Second, rigorous analysis reveals interactions between the model's different components. For example, conventional wisdom implies that licenses for weak patents will have the highest tax,[4] but this effect is offset by the lower royalties at stake for such licenses. Third, these interactions lead to some surprising results, such as patentees with strong patents being more likely to charge a higher premium if they have multiple licensees.

Therefore, the model illuminates important policy considerations that have been ignored by advocates of eliminating bad patents. One such consideration is that licensees of strong patents are the least likely to challenge and thus should pay the *lowest* tax, while the model shows that they may actually pay the *highest* tax. Proponents of the challenge right should consider this anomaly and other perverse effects. For example, licensees might benefit greatly by being allowed to agree not to challenge a patent that has already been found valid by a court.

Part I of this Article explains the policy at the core of the patent-challenge tax model: no patent license is ever final, allowing any licensee to sue to void the license at any time. First, any contract that purports to license an invalid or noninfringed patent is

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2. *See* Richard Craswell, *Passing On the Costs of Legal Rules: Efficiency and Distribution in Buyer-Seller Relationships*, 43 STAN. L. REV. 361, 362–63 (1991) (potential liability from buyers to sellers results in costs that are passed on to buyers in the form of higher prices); Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 567 (2003) (judicial redistribution of agreed benefits causes social costs).

3. *Cf.* Mark F. Grady & Jay I. Alexander, *Patent Law and Rent Dissipation*, 78 VA. L. REV. 305, 349 (1992) ("This 'rule,' if we may call it that, reduces overall rent dissipation. It also imposes a kind of tax on research and development. Inventors of elegant solutions, unlike many of their competitors, must forfeit the monopoly rent they might otherwise earn.").

4. *See Legal Doctrines that Affect the Value and Licensing of Patents: Hearing on "The Evolving I.P. Marketplace" Before the Fed. Trade Comm'n*, 5 (2008) (statement of Joseph Scott Miller, Professor, Lewis & Clark Law School) [hereinafter Miller].

void, cutting off the obligation to pay royalties.[5] Second, any contract provision purporting to bar a challenge to a patent's validity is void.[6] Third, any patent licensee may seek declaratory relief to avoid a license while still paying royalties under that license.[7] As a result, every licensee can either sue to void a contract or renegotiate by threatening suit.[8]

Part II introduces and explores the patent-challenge tax and its role in royalty inflation, and Appendix I fully derives the model. The tax is caused by the patentee's postlicense risk of both litigation costs and ultimate loss of the royalty stream in case the licensee decides to challenge the license. Patentees are unconcerned with the social benefits of patent challenges—eliminating bad patents—because they cannot capture any value associated with those benefits; indeed, patentee profit goes down as more patent challenges are mounted. Furthermore, this risk is asymmetric: the challenging licensee does not risk a damages award while it simultaneously sues and pays royalties.[9]

While patentees may still be willing to license their patents in the face of this risk,[10] as with any tax some of the perceived costs will be passed on to licensees through higher royalties or modified royalty structures, which in turn can increase the price consumers pay for patented goods. As a result, licensees, consumers, and even owners

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5.   Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 135 (1969); Brulotte v. Thys Co., 379 U.S. 29, 29 (1964); John W. Schlicher, *Patent Licensing, What To Do After* MedImmune v. Genentech, 89 J. PAT. & TRADEMARK OFF. SOC'Y 364, 373–74 (2007).

6.   1 JAY DRATLER, JR., LICENSING INTELLECTUAL PROPERTY, § 2.02[1][a][i] (2008) ("Thus, *Lear* [*v. Adkins,* 395 U.S. 653 (1969)] gives a patent licensee a supervening right under federal law to stop payment and contest the validity of the licensed patent at any time, whether or not the license contains a no-contest clause."); Schlicher, *supra* note 5, at 387–88 (citing several cases that hold no-challenge clauses to be unenforceable).

7.   MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 128–29 (2007).

8.   This Article primarily discusses challenges to patent validity, but the discussion applies to noninfringement challenges as well. Thus, "challenging the patent" should include any challenge to the requirement of paying royalties under the patent.

9.   This risk is even more lopsided, as an invalidity finding will result in loss of every other license agreement as well, whereas the patentee must prove infringement against each opponent (and even against each accused product). Others have recognized the risk. *See, e.g.*, Ronald A. Bleeker & Michael V. O'Shaughnessy, *One Year After* MedImmune—*The Impact On Patent Licensing & Negotiation*, 17 FED. CIR. B.J. 401 (2008); Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning* Lear*? Incentives To Innovate After* MedImmune, 24 BERKELEY TECH. L.J. 971 (2009); Toshihiro Kuwahara & Warren G. Lavey, *Drafting Strategies for Licensing Agreements After* MedImmune *Decision*, *in* JOSEPH YANG & IRA J. LEVY, ADVANCED LICENSING AGREEMENTS 2008, at 141 (PLI Intellectual Prop., Course Handbook Series No. G-927, 2008); Sean M. O'Connor, *Using Stock and Stock Options To Minimize Patent Royalty Payment Risks After* MedImmune v. Genentech, 3 N.Y.U. J. L. & BUS. 381 (2007); Schlicher, *supra* note 5, at 374 (positing that the patentee will charge more for licenses to offset the risk, but the analysis does not consider many of the nuances associated with probabilistic outcomes and equilibrium pricing).

10.   Because potential licensees are also potential infringement defendants, and thus have standing to challenge a patent's validity at any time, patentees may prefer a royalty stream today and litigation risk tomorrow to just litigation risk today and tomorrow. *See* Peter Jay, Note, *Removing Incentives for Technology Transfer:* MedImmune v. Genentech, 5 BUFFALO INTELL. PROP. L.J. 69, 80 (2007).

of strong, valid patents shoulder much of the costs which are generating the social benefits associated with challenging invalid patents.

Royalty inflation gives patentees and licensees who do desire peace[11] an incentive to agree not to challenge the patent[12]—an agreement that is foreclosed by law. Because licensees cannot credibly agree to abstain from challenges, they must find some other way to reduce the tax by signaling they will not sue to void the license.

Such signaling has two primary benefits. For the licensee, signals can reduce the price of the patent license by minimizing the risk of future litigation perceived by the patentee.[13] It follows that signals also help the patentee determine which potential licensees might intend to challenge.

Part III analyzes a variety of licensing signal strategies and considers each strategy's effectiveness, legality, and practicality.[14] Of course, simply lifting the ban on promises not to challenge would eliminate the need for more complex strategies, but until that time parties must labor under current law. Thus, an effective option must be binding but collateral to the no-challenge promise that the parties really want.

Potential strategies are grouped into five categories. Litigation strategies seek to take advantage of litigation res judicata finality. Up-front payment strategies might limit challenges because a prepaid licensee has little to gain where no royalties are outstanding. No-challenge strategies most directly attempt to ban patent challenges by either barring such challenges outright or by terminating a license if the licensee challenges. Royalty escalation, cost, and damages strategies create disincentives to challenge by making challenges more expensive for the licensee. Dispute-resolution strategies attempt to reduce the tax by reducing litigation costs, as well as limiting the risk that the patentee will lose royalties associated with its other, nonlitigating licensees.

This Article concludes that many of these strategies will either be ineffective or impractical, revealing a quandary. The most effective ways to reduce the patent-challenge tax are also the most likely to be unenforceable. Further, clauses that are surely legal, like venue selection, are the least likely to be effective.

However, fee- and cost- shifting mechanisms, such as attorneys' fee shifting and royalty escalation upon an unsuccessful challenge, may be the most effective and practical of the enforceable strategies to reduce the patent-challenge tax.

Patentees might still prefer royalty escalation and fee shifting to a terminate-on-challenge clause, legality and deterrent effectiveness being equal,[15] for three reasons.

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11. Kuwahara & Lavey, *supra* note 9, at 149–52 (discussing importance of licensing in wireless telecommunications).

12. John W. Schlicher, *A* Lear v. Adkins *Allegory*, 68 J. PAT & TRADEMARK OFF. SOC'Y 427, 438–40 (1986) (noting that some licensees support legality of termination on challenge because litigation risk increased licensing rates); Christian Chadd Taylor, Note, *No-Challenge Termination Clauses: Incorporating Innovation Policy and Risk Allocation into Patent Licensing Law*, 69 IND. L.J. 215, 215–16 (1993).

13. This risk cannot be completely eliminated, as others may challenge the patent. Thus, license pricing will always have some litigation risk component.

14. Appendix II provides sample clauses that implement the discussed strategies. This appendix was first presented to the San Francisco Bay Area Intellectual Property Inns of Court in 2007.

15. Patentees might seek treble damages or an injunction if the license is terminated. 35

First, the patentee would still have the benefit of other license provisions, such as use restrictions. Second, the patentee would not need to prove a damages amount, which can be costly. Third, the increased royalty would have more certainty in the amount of damages.

Licensees might prefer such clauses for the same reason: they would still have the benefit of a license (rather than injunction risk) and the increased payments resulting from a failed challenge would be certain, even if undesired. Accordingly, these strategies are mutually beneficial and desirable to decrease the patent-challenge tax.

The Article concludes by highlighting some of the broader policy issues associated with the tax and its components. While eliminating bad patents is an admirable goal, there is a real cost to preempting private ordering. Future consideration of challenge rights should take the model proposed in this Article into account, such that challenges are targeted in such a way to incentivize technology innovation and licensing.

I. INALIENABLE PATENT CHALLENGE RIGHTS

Federal patent licensing policy, which preempts state contract law, leads to a surprising rule: no prelitigation patent license is final, leaving licensees free to potentially avoid royalties at any time.[16] Three Supreme Court cases[17] and their progeny allow the licensee the option to challenge, and thus escape, enforcement of a license. Uncontradicted Supreme Court and courts of appeals opinions support this proposition yet, surprisingly, many continue to view it as unsettled or even untrue.[18] This Part examines the case law at issue and refutes arguments that the law is unsettled.

A. The Unfettered Right to Challenge

The first case is *Brulotte v. Thys Co.*, which held that a patent license covering an expired patent is void.[19] The *Brulotte* Court made clear that "any attempted reservation or continuation in the patentee or those claiming under him of the patent monopoly, after the patent expires, whatever the legal device employed, runs counter to the policy and purpose of the patent laws."[20] This rationale has been applied to void licenses to any invalid patent, whether or not it was the licensee that challenged the patent.[21]

U.S.C. § 284. As a result, equal deterrent effectiveness means that these additional remedies are offset by lower chances of winning such remedies.

16.   Postlitigation settlement agreements may be considered res judicata and in some cases cannot be challenged by the settling licensee. *See* Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1368 (Fed. Cir. 2001); Interdynamics, Inc. v. Firma Wolf, 653 F.2d 93, 96–97 (3d Cir. 1981) (en banc); Wallace Clark & Co. v. Acheson Indus., Inc., 532 F.2d 846, 849 (2d Cir. 1976); Marine Travelift, Inc. v. Acme Marine Hoist, Inc., 211 U.S.P.Q. 293, 294 (E.D.N.Y. 1980); Diematic Mfg. Corp. v. Packaging Indus., Inc., 412 F. Supp. 1367, 1369–71 (S.D.N.Y. 1976).

17.   *See* Medimmune, Inc. v. Genentech, Inc., 549 U.S. 118 (2007); Lear v. Adkins, 395 U.S. 100 (1969); Brulotte v. Thys Co., 379 U.S. 29 (1964).

18.   *See, e.g.*, M. Natalie Alfaro, Comment, *Barring Validity Challenges Through No-Challenge Clauses and Consent Judgments:* MedImmune*'s Revival of the* Lear *Progeny*, 45 HOUS. L. REV. 1277, 1283 (2008) ("[T]his Comment suggests history holds the answers to these unsettled issues."). This Article uses "no-challenge" and "no-contest" interchangeably.

19.   379 U.S. at 29.

20.   *Id.* at 31 (quoting Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 256 (1945)).

21.   *See* Lear v. Adkins, 395 U.S. 653, 667 (1969). Indeed, this was the law in at least one

Brulotte was extended in *Zenith Radio Corp. v. Hazeltine Research, Inc.*[22] to cover noninfringed patents: "the patentee [may not] seek to extend the monopoly of his patent to derive a benefit not attributable to use of the patent's teachings."[23] These cases mean that licensees need not pay royalties if the patent under license is invalid or not infringed.

The second case is *Lear v. Adkins*, which held that entering into a license agreement does not estop the licensee from challenging patent validity.[24] Prior to *Lear*, state contract law held that a licensee could not simultaneously claim that a patent was invalid, yet contract for its use.[25] The Court, however, held that invalidating bad patents is too important a goal to limit validity challenges in this manner, especially where the licensee is often the only party with economic incentive to challenge the patent.[26] Thus, *Lear* set forth a policy that licensees should be "unmuzzled" by their contracts and given every incentive to challenge the patent.[27]

In the years after its issuance, regional circuits extended *Lear* to hold that any impediment to a patent challenge is void.[28] Several cases, for example, hold that a licensee's covenant not to challenge a patent is unenforceable.[29]

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circuit long before *Lear*. *See* Drackett Chem. Co. v. Chamberlain Co., 63 F.2d 853 (6th Cir. 1933).

22. 395 U.S. 100 (1969).

23. *Id.* at 136.

24. *Lear*, 395 U.S. at 670.

25. *See id.* at 668.

26. *Id.* at 670. For a critique of *Lear*, see Rochelle Cooper Dreyfuss, *Dethroning* Lear*: Licensee Estoppel and the Incentive to Innovate*, 72 VA. L. REV. 677 (1986).

27. *Lear*, 395 U.S. at 670–71 ("Licensees may often be the only individuals with enough economic incentive to challenge the patentability of an inventor's discovery. If they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification. We think it plain that the technical requirements of contract doctrine must give way before the demands of the public interest . . . ."). Rochelle Dreyfuss points out that holding licensees to their agreements would create an even larger incentive to challenge patents early because the alternative is being stuck with royalty payments for the life of the patent. Dreyfuss, *supra* note 26, at 755–56; *see also* Dreyfuss & Pope, *supra* note 9, at 990 ("[W]hen the licensee's freedom to challenge the patent is curtailed, the public exchanges the benefit of an unmuzzled licensee for a different benefit—encouraging licensees to examine the strength of the patents they license at the time they negotiate their agreements.").

28. *See* Timely Prods., Inc. v. Costanzo, 465 F. Supp. 91, 96 (D. Conn. 1979) (holding that a fifty percent royalty reduction is insufficient incentive to challenge a patent even if tied to trade secrets: "[O]nce a patent issues, *Lear* precludes enforcement of any contract provision that eliminates the licensee's incentive to challenge the patent's validity."); *see also* Dreyfuss, *supra* note 26, at 700 (analyzing how certain courts are interpreting and expanding *Lear*); c*f.* Zila, Inc. v. Tinnell, 502 F.3d 1014, 1021 (9th Cir. 2007) ("[A] contract that provides for royalties either when a patent expires or when it fails to issue cannot be upheld unless it provides a discount from the alternative, patent-protected rate.").

29. *See, e.g.*, Crane Co. v. Aeroquip Corp., 504 F.2d 1086, 1092–93 (7th Cir. 1974); Panther Pumps & Equip. Co. v. Hydrocraft, Inc., 468 F.2d 225, 230–32 (7th Cir. 1972), *vacated*, 566 F.2d 8 (7th Cir. 1977); Massillon-Cleveland-Akron Sign Co. v. Golden State Adver. Co., 444 F.2d 425, 427 (9th Cir. 1971); Bus. Forms Finishing Serv., Inc. v. Carson, 452 F.2d 70, 75 (7th Cir. 1971); Bayer AG v. Housey Pharms., Inc. 228 F. Supp. 2d 467, 473–74 (D. Del. 2002); Robintech, Inc. v. Chemidus Wavin, Ltd., 450 F. Supp. 817, 821 (D.D.C. 1978); Wallace Clark & Co. v. Acheson Indus., Inc. v. Armstrong Cork Co., 366 F. Supp. 220, 232–34

Despite the extension of *Lear* by regional circuits, the Federal Circuit[30] recently created an important limitation on *Lear*-based prohibitions.[31] It instituted the "reasonable apprehension" test, which barred licensees from challenging patent validity unless they had a reasonable apprehension they would be sued by the patentee.[32] The rule's practical result was that licensees were forced to breach their license agreements by stopping royalty payments before suing to invalidate a patent.[33] Breaching the license put licensees at risk for patent infringement damages, including willful-infringement enhancements and attorneys' fees awards.

Licensee objections to the reasonable-apprehension test led to the third key Supreme Court case, *MedImmune v. Genentech*, which held that patentees need not have a reasonable apprehension, and thus need not breach the license agreement to challenge the licensed patent.[34] The *MedImmune* Court ruled that a licensee's claim that contract royalties should cease is a sufficient controversy to warrant federal declaratory relief jurisdiction even if the licensee continues to pay royalties during the pendency of the litigation.[35]

In *MedImmune*, the licensee sought declaratory relief that no royalties were owed on two grounds: (1) no royalty was due on invalid patents, and (2) no royalty was due on noninfringing products.[36] The Court ruled, quite simply, that because MedImmune faced the threat of an infringement action if it stopped paying royalties in accordance with its claimed rights, the controversy supported declaratory-relief jurisdiction in federal court.[37] The *MedImmune* ruling means that a licensee can always challenge the

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(E.D. Pa. 1973), *aff'd*, 510 F.2d 334 (3d Cir. 1975); Blohm-Voss AG v. Prudential-Grace Lines, Inc., 346 F. Supp. 1116, 1141 (D. Md. 1972), *rev'd on other grounds*, 489 F.2d 231 (4th Cir. 1973); Kraly v. Nat'l Distillers & Chem. Corp., 319 F. Supp. 1349, 1352 (N.D. Ill. 1970), *aff'd*, 502 F.2d 1366 (7th Cir. 1974); Plastic Contact Lens Co. v. W. R. S. Contact Lens Labs., Inc., 330 F. Supp. 441, 43 (S.D.N.Y. 1970) ("Each such defendant likewise violated the no-contest covenant of the respective license agreements, but that covenant does not estop defendants from challenging the patent's validity."); Rialto Prods., Inc. v. Raytex Corp., 166 U.S.P.Q. 222, 222 (N.Y. Sup. Ct. 1970).

30. The Federal Circuit was created in 1982 to hear all patent appeals. 28 U.S.C. § 1295(a)(4)(A) (2006); Christianson v. Colt Indus. Operating Corp., 486 U.S. 800, 820 (1988). While contract issues are technically not appealable to the Federal Circuit, they often wind up there because they are pendant with patent-infringement issues. *Id.* § 1338(a).

31. SanDisk Corp. v. STMicroelectronics, Inc., 480 F.3d 1372 (Fed. Cir. 2007); *see* O'Connor, *supra* note 9, at 423–24.

32. *SanDisk*, 480 F.3d at 1379 (explaining that prior to *MedImmune* a two-part test was used that "first considers whether conduct by the patentee creates a reasonable apprehension on the part of the declaratory judgment plaintiff that it will face an infringement suit, and second examines whether conduct by the declaratory judgment plaintiff amounts to infringing activity or demonstrates concrete steps taken with the intent to conduct such activity").

33. Gen-Probe Inc. v. Vysis, Inc., 359 F.3d 1376, 1380 (Fed. Cir. 2004). *Lear* left this question open, as the licensee there had in fact breached its agreement. Lear v. Adkins, 395 U.S. 653, 659 (1969).

34. *MedImmune*, 549 U.S. 118, 137 (2007).

35. *Id.* at 134. The Federal Circuit now merely requires a "definite and concrete" dispute as set forth in 28 U.S.C. § 2201(a) (2006). Sony Elecs., Inc. v. Guardian Media Techs., Ltd., 497 F.3d 1271, 1283 (Fed. Cir. 2007). For a critique of *MedImmune*, see O'Connor, supra note 9, at 429–43.

36. 549 U.S. at 123.

37. *Id.* at 134.

license by arguing invalidity or noninfringement, and the patentee who disagrees is subject to the court's jurisdiction to determine who is right.[38]

The practical consequence of these three cases is that a company threatened with an infringement action can: (1) enter into a license agreement to avoid being sued for infringement, (2) sue the patentee to void the license,[39] and (3) simultaneously pay royalties to avoid being sued for infringement during (and after) the challenge. This combination of rules allows the licensee to eliminate damage and injunction risk even while it challenges the patent.[40]

B. Arguments that the Challenge Right Is Unsettled

1. Arguments that No-Challenge Clauses are Enforceable

Some might argue that it is unsettled whether a no-challenge clause is void under current law.[41] For example, many licenses include no-contest provisions.[42] Even if true as a matter of practice, this belief appears to be unsupported legally.[43] Cases in several circuits make clear that no-contest clauses are void.[44] Those opinions rely not only on *Lear* (which does not actually hold that such clauses are void), but also on several prior Supreme Court decisions, including an 1892 decision that explicitly held a no-contest clause void.[45]

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38. *See* Dreyfuss & Pope, *supra* note 9, at 971–73 ("By arguably opening the federal courts to patent challenges by licensees—indeed, by anyone with a substantial investment in the technology covered by the patent—*MedImmune* appears to create new avenues for courts to police the implementation of patent law . . . . As such, it extends the rationale of *Lear* . . . ." (footnote omitted)).

39. A licensee can also seek declaratory judgment that it does not practice the patent and thus is not liable for royalties. *But see* Dreyfuss & Pope, *supra* note 9, at 981 ("[T]he [post-*MedImmune* Federal Circuit] has been able to protect patent holders from abusive practices.").

40. Of course, the licensee continues to pay royalties for the "right" to avoid this risk. However, to the extent those royalties must be put in escrow or refunded by the patentee from the date of the challenge (as discussed below), then any such payment is illusory.

41. *See, e.g.*, Alfaro, *supra* note 18, at 1283.

42. *Id.* at 1304 ("Moreover, if courts choose to follow the Federal Circuit's understanding of no-challenge clauses, patentees will likely invoke contractual estoppel despite the policies of *Lear* and *MedImmune*.").

43. Kuwahara & Lavey, *supra* note 9, at 156–58 (noting the unenforceability of no-challenge clauses, and arguing that such clauses are barred under free trade agreements as well); Miller, *supra* note 4, at 3–4.

44. *See supra* note 29.

45. Edward Katzinger Co. v. Chicago Metallic Mfg. Co., 329 U.S. 394, 402 (1947) (stating that a no-challenge provision "can no more override congressional policy than can an implied estoppel"); Pope Mfg. Co. v. Gormully, 144 U.S. 224, 233–34 (1892). *But see* Steiner Sales Co. v. Schwartz Co., 98 F.2d 999, 1009–10 (10th Cir. 1938) (distinguishing *Pope* and stating that no-challenge provisions are enforceable); Eskimo Pie Corp. v. Nat'l Ice Cream Co., 26 F.2d 901, 902 (6th Cir. 1928) (stating (in a pre-*Lear* case) that "[t]here is no occasion to doubt that a licensee may lawfully agree not to contest the patent at any time during its term, or that, even after such a license had been terminated by the licensor for the licensee's default, the rights which the licensee had acquired by the contract would have been a valid consideration for this unlimited agreement not to contest . . . ").

It is unclear where the belief that the law is unsettled originates, but there are a couple of possibilities. First, the cases striking such clauses are for the most part more than twenty-five years old, predating the Federal Circuit. Few cases since 1982 address the issue,[46] and most of those cases are limited to a very particular circumstance—whether no-contest clauses are void as part of consent judgments or settlement agreements that terminate litigation.[47] No court considering an ordinary license has upheld such a provision.

The potential argument about the rule's age is also affected by the Federal Circuit, which now decides most of these questions and largely ignores regional circuit law on the subject.[48] The Federal Circuit has not directly addressed the issue of whether no-challenge clauses are unenforceable.

In any event, recent developments in jurisdictional rules make it less likely that the Federal Circuit will hear cases and apply its own law to no-challenge clauses. Declaratory-relief actions pleaded as contract disputes may not be appealable to the Federal Circuit.[49] Indeed, they may not even need to be brought in federal court at all because contractual issues are considered state-law issues.[50] As a result, licensees

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46. *See, e.g.*, Bayer AG v. Housey Pharms., 228 F. Supp. 2d 467, 773 (D. Del. 2002).

47. *See* Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1368 (Fed. Cir. 2001); Foster v. Hallco Mfg. Co., Inc., 947 F.2d 469, 475 (Fed. Cir. 1991); *see also* J. Thomas McCarthy, *"Unmuzzling" the Patent Licensee: Chaos in the Wake of* Lear v. Adkins, 45 GEO. WASH. L. REV. 429, 486 (1977); Alfaro, *supra* note 18, at 1281–82; *cf.* Idaho Potato Comm'n v. M & M Produce Farm & Sales, 335 F.3d 130, 135–36 (2d Cir. 2003) (discussing patent history in context of trademark consent judgment).

48. *Flex-Foot*, 238 F.3d at 1365 (applying Federal Circuit law to contract issues). *Compare id.* at 1370 ("Upholding the terms of settlement agreements encourages patent owners to agree to settlements and promotes judicial economy."), *with* Massillon-Cleveland-Akron Sign Co. v. Golden State Adver. Co., 444 F.2d 425, 427 (9th Cir. 1971) ("We think it unimportant that in our case the covenant is part of a settlement agreement rather than of a typical patent licensing agreement.").

49. Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 830 (2002) (suit for trade dress infringement not appealable to Federal Circuit and counterclaim for patent infringement does not confer jurisdiction); Christianson v. Colt Indus. Operating Corp., 486 U.S. 800, 809 (1988) ("Thus, a case raising a federal patent-law defense does not, for that reason alone, 'arise under' patent law, 'even if the defense is anticipated in the plaintiff's complaint, and even if both parties admit that the defense is the only question truly at issue in the case.'") (quoting Franchise Tax Bd. of Cal. Constr. Laborors Vacation Trust, 463 U.S. 1, 14 (1983)); Wang Labs, Inc. v. Applied Computer Scis., Inc., 926 F.2d 92, 93 n.3 (1st Cir. 1991); Boggild v. Kenner Prods., 853 F.2d 465, 468 (6th Cir. 1988) (Federal Circuit did not have exclusive jurisdiction of appeal in breach of licensing agreement suit); George C. Best, *Licensee Estoppel Revisited*, INTELL. PROP. L. NEWSL. (ABA Section of Intellectual Property Law), Spring 2007, at 1, 27–28; Christopher A. Cotropia, *"Arising Under" Jurisdiction and Uniformity in Patent Law*, 9 MICH. TELECOMM. & TECH. L. REV. 253, 298–99 (2003).

50. Consider that *Lear* was an appeal from the California Supreme Court. Lear, Inc. v. Adkins, 395 U.S. 653, 655–56 (1969); *see also* Luckett v. Delpark, Inc., 270 U.S. 496, 502 (1926); RCA Corp. v. Data Gen. Corp., 887 F.2d 1056, 1064 (Fed. Cir. 1989) ("Nor does [*Lear*] deal with a licensor's right to terminate or rescind a license agreement, or dictate what *must* be held a breach of contract, or what damages *must* be awarded for a breach, or under what circumstances, if any, a licensee can recover royalties paid. Those questions continue to be matters dependent on particular fact situations, contract provisions and state contract law, albeit

wishing to avoid Federal Circuit law might seek declaratory judgment that no royalties are owed under the contract, making the matter contractual.[51]

A second possible basis for the belief that the law is unsettled is a brief passage in *MedImmune* that implies that contracts may govern if a no-challenge clause or settlement agreement were explicitly negotiated.[52] After all, there are other areas where the law will enforce no-challenge provisions, such as no contest provisions in wills.[53] Indeed, criminal defendants are held to their agreements to waive appeals of plea bargain agreements, despite the fundamental constitutional rights that may be waived.[54]

Nonetheless, while the Court currently appears to favor private ordering,[55] given Supreme Court precedent (and a lack of a circuit split) on the question, *MedImmune*'s dicta will likely not change well-settled law in the near future even if such a change might be socially optimal.[56] The Court has long held that certain patent policies

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they must be resolved in harmony with general principles discernible from *Lear*."); Carding Specialists (Canada), Ltd. v. Gunter & Cooke, Inc., 214 S.E.2d 233, 236 (N.C. Ct. App. 1975) (state court ruling on enforceability of contract and patent validity); Cotropia, *supra*, note 49, at, 299–300; Dreyfuss & Pope, *supra* note 9, at 1004 ("For instance, if the license continues, the patent holder can characterize the case as a contract dispute, and bring the action in state (rather than federal) court."); Alfaro, *supra* note 18, at 1286 n.56.

51. *Cf.* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 123–24 (2007) (holding that declaratory-relief action relates to contractual rights and obligations, not "freestanding patent invalidity"). While a contract may require payment of royalties until a patent is declared invalid by a court, an action need not be for invalidity, but instead for declaratory relief that no royalties are owed. If a state court must declare the patent invalid to reach that result, then it has jurisdiction to do so. While a contract might condition royalties on a declaration of invalidity by a federal court, contracts cannot dictate subject matter jurisdiction.

52. *Id.* at 135 ("Promising to pay royalties on patents that have not been held invalid does not amount to a promise *not to seek* a holding of their invalidity."); *see also* Dreyfuss & Pope, *supra* note 9, at 976 ("Moreover, by specifically noting that 'it is not clear where [in the contract] the prohibition against challenging the validity of patents is found,' the Court implied that if it had found a no-contest provision, it would have enforced it." (quoting *MedImmune*, 549 U.S. at 135) (alteration in original)); Schlicher, *supra* note 5, at 388.

53. Jonathan G. Blattmachr, *Reducing Estate and Trust Litigation Through Disclosure, In Terrorem Clauses, Mediation and Arbitration*, 9 CARDOZO J. CONFLICT RESOL. 237, 246 (2008) ("Some states, such as California and New York, enforce [no-contest clauses] without limitation. In general, states that have adopted the Uniform Probate Code, enforce disinheritance provisions only if the objectant did not have a reasonable basis to object to the admission of the Will to probate. Other states, such as Florida, do not enforce them." (footnote omitted)).

54. FED R. CRIM. P. 11(b)(1)(N); Derek Teeter, Comment, *A Contracts Analysis of Waivers of the Right to Appeal in Criminal Plea Bargains*, 53 U. KAN. L. REV. 727, 738 (2005) ("[E]very federal circuit court has held [appeal] waivers theoretically valid.").

55. *See* Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109, 2122 (2008) (implying that patent exhaustion might not apply if license agreement forbade downstream sales); *see also* Taylor, *supra* note 12, at 238–39 (criticizing cases that bar no-challenge clauses as giving insufficient weight to the importance of contracts). *But see id.* at 2122 n.7 ("[W]e express no opinion on whether contract damages might be available even though exhaustion operates to eliminate patent damages.").

56. For an analysis of the state of the law after *MedImmune*, see Alfaro, *supra* note 18, at 1283 ("The *MedImmune* ruling effectively returns the law to the state it was in between the *Lear* decision in 1969 and the creation of the Federal Circuit in 1982."). *But see* Dreyfuss & Pope, *supra* note 9, at 976 ("Thus, while *Lear* is understood as prohibiting the enforcement of any

preempt state contractual law;[57] even probate and criminal laws impose some limits on no challenge agreements despite being generally upheld.

2. Arguments That One May Not Simultaneously Pay Royalties and Challenge a Patent

Alternatively, some might argue that a party must stop paying royalties to challenge validity, *MedImmune* notwithstanding,[58] such that a licensee may not challenge a patent while receiving the license's protection.

While the common law rule was that one may not challenge a contract while simultaneously obtaining its benefits,[59] that rule lacks strong legal support under current law.[60] It is true that one Federal Circuit case, *Studiengesellschaft Kohle, M.B.H. v. Shell Oil Co.*, appeared to apply the common law rule.[61] However, reading *Shell Oil* as limiting the right to challenge after *MedImmune* is a bit optimistic for a few reasons.

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contract provision that reduces the licensee's incentive to challenge validity, *MedImmune* can be interpreted as permitting patent holders to bargain for such restrictions." (footnote omitted)).

57. Brulotte v. Thys Co., 379 U.S. 29, 33 (1964).

58. *See* Bleeker & O'Shaughnessy, *supra* note 9, at 426–27; *see also MedImmune*, 549 U.S. at 124 ("We express no opinion on whether a *nonrepudiating licensee* is similarly relieved of its contract obligation during a successful challenge to a patent's validity—that is, on the applicability of licensee estoppel under these circumstances. Cf. *Studiengesellschaft Kohle, m. b. H. v. Shell Oil Co.*, 112 F.3d 1561, 1568 (CA Fed. 1997) . . . ." (emphasis in original)); *id.* at 136 ("In short, Article III jurisdiction has nothing to do with this 'insurance-policy' contention.").

59. *See, e.g.*, Victory Bottle Capping Mach. Co. v. O. & J. Mach. Co., 280 F. 753, 761 (1st Cir. 1922); Jones v. Burnham, 67 Me. 93 (1877). *But see* Freeman v. Altvater, 129 F.2d 494, 497 (8th Cir. 1942) (license termination based on invalidity affirmed despite payment of royalties under protest), *rev'd in part*, 319 U.S. 359, 364–66 (1943) (royalties paid "under protest" under challenged license agreement and injunction did not bar invalidity challenge on jurisdictional grounds) *on remand*, 138 F.2d 854, 856 (8th Cir. 1943) (affirming district court finding of invalidity, despite payments under protest).

60. Kuwahara & Lavey, *supra* note 9, at 157.

> In *MedImmune*, the Supreme Court did not decide whether a non-repudiating licensee would be subject to licensee estoppel, but clearly did not intend to reverse or narrow *Pope* or *Lear*. Since the Supreme Court noted that a licensee's promise "to pay royalties on patents that have not been held invalid does not amount to a promise not to seek a holding of their invalidity," it is likely that non-repudiating licensees would not be subject to licensee estoppel.

Id. (citation omitted).

On remand, the district court in *MedImmune* came to the same conclusion and allowed the nonrepudiating licensee to challenge the patent: "The distinction that MedImmune is a nonrepudiating licensee is insufficient to depart from *Lear's* analysis." MedImmune, Inc. v. Genentech, Inc., 535 F. Supp. 2d 1000, 1018 (C.D, Cal. 2008). *But see* Hull v. Brunswick Corp., 704 F.2d 1195, 1203 (10th Cir. 1983) (requiring royalty cessation during pendency creates social value by forcing patentee to not stall adjudication).

61. 112 F.3d 1561, 1568 (Fed. Cir. 1997) ("However, a licensee, such as Shell, cannot invoke the protection of the *Lear* doctrine until it (i) actually ceases payment of royalties, and (ii) provides notice to the licensor that the reason for ceasing payment of royalties is because it has deemed the relevant claims to be invalid.").

First, *Shell Oil* is a precursor to the "reasonable apprehension" cases reversed in *MedImmune*.[62] Thus, any further reliance on it will require untangling the "reasonable apprehension" aspects of the analysis from the "right to challenge" aspects.

Second, *Shell Oil* is about when royalty obligations cease after a challenge, not about a requirement to stop paying royalties before a challenge.[63] When the Court ruled that licensees could challenge, *Lear* considered when the challenger's duty to pay royalties stopped; it held that a court could not require a licensee to pay royalties after a successful validity challenge.[64] It left the lower courts to determine *when* royalties should terminate on a successful challenge.[65]

In turn, the circuits are nearly unanimous post-*Lear*, including the very cases cited in *Shell Oil*, that royalty obligations cease upon "clear notice"[66] of an "early adjudication of validity"[67] by a nonrepudiating licensee. Ceasing obligations at the time of such clear notice gives an incentive for early challenges, but it is not enough. These cases hold that it is the notice—*not* royalty cessation—that triggers the right to challenge a patent.[68]

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62. *MedImmune*, 549 U.S. at 134. *Gen-Probe*, which was reversed by *MedImmune*, held that a patent license "unless materially breached, obliterated any reasonable apprehension of a lawsuit," thus barring declaratory-relief jurisdiction. Gen-Probe Inc. v. Vysis, Inc., 359 F.3d 1376, 1381 (Fed. Cir. 2004).

63. *See Shell Oil*, 112 F.3d at 1562.

64. Lear, Inc. v. Adkins, 395 U.S. 653, 674 (1969) ("[E]nforcing this contractual provision would undermine the strong federal policy favoring the full and free use of ideas in the public domain. For all these reasons, we hold that Lear must be permitted to avoid the payment of all royalties accruing after Adkins' 1960 patent issued if Lear can prove patent invalidity.").

65. *Id.* at 674–75.

66. *See, e.g.*, Rite-Nail Packaging Corp. v. Berryfast, Inc., 706 F.2d 933, 937 (9th Cir. 1983) ("The licensee must clearly notify the licensor that the licensee is challenging the patent's validity.").

67. *See, e.g.*, PPG Indus., Inc. v. Westwood Chem., Inc., 530 F.2d 700, 706 (6th Cir. 1976) ("Something more than mere nonpayment is required to '*encourage* an early adjudication of invalidity.'" (quoting Troxel Mfg. Co. v. Schwinn Bicycle Co. 465 F.2d 1253, 1257 (6th Cir. 1972)) (emphasis in original)).

68. *Rite-Nail Packaging*, 706 F.2d at 936 ("[A] licensee under an invalid patent may not be required to pay royalties which accrue under the license agreement after the licensee 'takes an affirmative step that would prompt the early adjudication of the validity of the patent, such as filing an action contesting the patent's validity *or* notifying the licensor that the payments were being stopped because the patent was believed to be invalid.'" (quoting Bristol Locknut Co. v. SPS Techs, 677 F.2d 1277, 1283 (9th Cir. 1982)) (emphasis added)); Warner-Jenkinson Co. v. Allied Chem. Corp., 567 F.2d 184, 187 (2d Cir. 1977) ("Addressing the question whether a patent licensee must actually withhold royalty payments before he can challenge validity, we conclude as have most courts who have considered the issue that such repudiation of the licensing agreement should not be precondition to suit."); *see also* Hull v. Brunswick Corp., 704 F.2d 1195, 1204 (10th Cir. 1983) ("Limiting the royalties licensees can avoid to those accruing after the licensees effectively notify the licensors that they question the validity of the licensed patents prevents the rule in *Lear* from being used to frustrate the policies enunciated there."); Bristol Locknut Co. v. SPS Techs., Inc., 677 F.2d 1277, 1283 (9th Cir. 1982); *PPG Indus., Inc.*, 530 F.2d at 706; Am. Sterilizer Co. v. Sybron Corp., 526 F.2d 542, 543 (3d Cir. 1975) (holding that a licensee need not terminate license to challenge patent and may also cease paying royalties); Kraly v. Nat'l Distillers & Chem. Corp., 502 F.2d 1366, 1372 (7th Cir. 1974).

While the Federal Circuit applies its own law on this question rather than following regional circuits,[69] prior Federal Circuit law adopted the view that validity could be challenged without repudiating the license.[70] *Shell Oil* does not purport to overrule these prior cases.

In fact, like its regional counterparts, the Federal Circuit in *Shell Oil* was faced with the very issue left to it by *Lear*: a licensee failed to pay royalties, but did not challenge the patent until years later, after the patentee sued for breach of contract.[71] Like prior cases, *Shell Oil* discussed the importance of "early challenge" as the trigger for when the licensee's duty to pay royalties ends.[72] Even though the licensee stopped paying royalties, the Court held that the licensee owed back royalties until the date of challenge because it did not make an early challenge.[73] Therefore, the *Shell Oil* court decided the date the duty to pay royalties ceased for failure to challenge; it did not decide when the *right* to challenge accrued.

As a result, *Shell Oil* represents only weak dicta that a licensee cannot challenge a patent while continuing to pay royalties. Instead, its holding is more in line with every other court to consider the matter: the duty to pay royalties on an invalid patent ceases at the time of a challenge.

The most that could be argued post-*MedImmune* is that nonrepudiating challenging licensees need not pay royalties during the pendency of the challenge. For example, a nonrepudiating licensee might argue that royalties should be put in escrow at the time of lawsuit[74] or that the patentee must return to the licensee all royalties paid after

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69. Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1365 (Fed. Cir. 2001); *Shell Oil*, 112 F.3d at 1567–68. The Federal Circuit's refusal to apply regional circuit law is another reason that one should not put too much stock in its rulings on this subject, because regional circuits may begin hearing more appeals. *See, e.g.*, Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 830 (2002) (ruling that patent-related counterclaims do not necessitate appeal to the Federal Circuit).

70. *See* Cordis Corp. v. Medtronic, Inc., 780 F.2d 991, 994–96 (Fed. Cir. 1985) (holding that licensee may cease paying royalties at its option and risk infringement counterclaim, but court cannot force payment of fees into escrow); C.R. Bard, Inc. v. Schwartz, 716 F.2d 874, 880 (Fed. Cir. 1983) ("To always require the termination of a license agreement as a precondition to suit would mean that a licensee must then bear the risk of liability of infringement. This would discourage licensees from contesting patent validity and would be contrary to the policies expressed in *Lear*.").

71. *Shell Oil*, 112 F.3d at 1561.

72. *Id.* at 1568 ("Just as important, however, Shell's apparent breach of its duty to notify under the agreement is itself more likely to frustrate federal patent policy than enforcement of the contract."); *see also* MedImmune, Inc. v. Genentech, Inc., 535 F. Supp. 2d 1000, 1018 (C.D. Cal. 2008) (describing *Shell Oil* as relating to date of first challenge, rather than about requirement of ceasing royalties).

73. *Shell Oil*, 112 F.3d at 1568 ("[T]his court detects no significant frustration of federal patent policy by enforcing the 1987 license agreement between Shell and SGK, to the extent of allowing SGK to recover royalties until the date Shell first challenged the validity of the claims . . . . By abrogating its notification duty, Shell delayed a timely challenge to the validity of the '698 patent and postponed the public's full and free use of the invention of the '698 patent.").

74. *See* Hull v. Brunswick Corp., 704 F.2d 1195, 1203 (10th Cir. 1983) (requiring royalty cessation during pendency creates social value by forcing patentee to not stall adjudication); Am. Sterilizer Co. v. Sybron Corp., 526 F.2d 542, 547–48 (3d Cir. 1975) (licensee need not

initiation of the challenge if the licensee wins.[75] Each of these scenarios is consistent with *Shell Oil*: the licensee's duty ceases at the time of challenge, though legal cessation is contingent on actually winning the challenge.

In any event, uncertainty about the right to challenge, as well as the possibility that fees may be escrowed, is incorporated into the economic model and the discussion that follows.

3. Arguments That Licenses Covering Invalid and Noninfringing Patents Are Still Enforceable

Some argue that *MedImmune*'s limited holding implies that patent licenses that do not explicitly condition royalties on validity or infringement might still be enforceable.[76] To be sure, *MedImmune* does focus on the contractual disagreement, giving hope to the optimistic that perhaps the Court will enforce contracts that do not limit themselves to valid and infringed patents: "All we need determine is whether petitioner has alleged a contractual dispute. It has done so."[77] It is possible that the Court will reverse course in the future, but the law is currently settled that a patent may not be enforced if it is invalid and noninfringed, regardless of contract language.[78] The

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terminate license to challenge patent and may also cease paying royalties); Atlas Chem. Indus., Inc. v. Moraine Prods., 509 F.2d 1, 4–7 (6th Cir. 1974) (affirming payment of royalties into escrow); Dreyfuss & Pope, *supra* note 9, at 983 ("Some practitioners have suggested that royalties be paid into an escrow account . . . ."); *cf.* O'Connor, *supra* note 9, at 446 (discussing how nonrepudiating licensees might only be liable for royalties arising between the time a patent is challenged and final adjudication, if they lose a challenge).

   75. *See* Warner-Jenkinson Co. v. Allied Chem. Corp., 567 F.2d 184, 188 (2d Cir. 1977) (denying licensee request to escrow, but noting that royalties may have to be refunded if licensee wins challenge).

   76. *See* Schlicher, *supra* note 5, at 371 ("Therefore, patent owners should not be subject to a *MedImmune* declaratory judgment action, if they used a definition of royalty-bearing products that did not refer to validity."). Schlicher even recommends that parties remove all provisions in their licenses that make royalty obligations dependent on patent validity. *Id.* at 385; *see also* Dreyfuss & Pope, *supra* note 9, at 987–89 (arguing that modern antitrust jurisprudence implies that *Brulotte* and *Lear* have less applicability today and may be overruled).

   77. MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 125 (2007). *But see id.* at 123 ("At the outset, we address a disagreement concerning the nature of the dispute at issue here— whether it involves only a freestanding claim of patent invalidity or rather a claim that, both because of patent invalidity and because of noninfringement, no royalties are owing under the license agreement. That probably makes no difference to the ultimate issue of subject-matter jurisdiction, but it is well to be clear about the nature of the case before us.").

   78. *See* Lear v. Adkins, 395 U.S. 653, 673 (1969) ("Thus, it may be suggested that although Lear must be allowed to raise the question of patent validity in the present lawsuit, it must also be required to comply with its contract and continue to pay royalties until its claim is finally vindicated in the courts. The parties' contract, however, is no more controlling on this issue than is the State's doctrine of estoppel, which is also rooted in contract principles. The decisive question is whether overriding federal policies would be significantly frustrated if licensees could be required to continue to pay royalties during the time they are challenging patent validity in the courts. It seems to us that such a requirement would be inconsistent with the aims of federal patent policy."). *But see* Schlicher, *supra* note 5, at 372 (arguing that *Lear* only voids a contract if third parties challenge a patent). While creative, Schlicher's argument is unsupported by any subsequent decision and contradicted by many. *See, e.g.*, Hemstreet v.

reason so many contracts include language that terminates royalties on an invalidity or noninfringement finding is that attempting to enforce such a void contract is also considered patent misuse and potentially even an antitrust infraction.[79]

It is unlikely that *MedImmune* will be limited to contract disputes. The declaratory judgment statute is clear that any controversy can trigger jurisdiction,[80] and a licensee's claim that a license is void for patent misuse is sufficient. Indeed, the Federal Circuit has already applied the rule to noncontract-related declaratory relief.[81] Thus, attempting to avoid the risks discussed here by eliminating contract language about validity and infringement will likely have no effect on the risks of challenge.

II. THE PATENT-CHALLENGE TAX AND ROYALTY INFLATION

This Part explores the economic model that is fully developed in Appendix I. It begins with a description of what negotiated royalties might look like if patent licenses were final. Next, it describes the patent-challenge tax and provides the variables that might increase or decrease the tax. The discussion ends with some comments on how the tax affects social welfare and who winds up paying the tax.

A. Rational Patent Pricing

In addition to market-based factors,[82] rational patent-licensing fees will incorporate potential litigation risks. The royalty rate will include some discounting from dangers that might be obtained in court because patentees will want to avoid prelicense litigation. Stronger patents will be discounted less because litigation relief is more likely.[83] License fees should incorporate the avoidance of litigation costs such as attorneys' and expert fees.[84] The royalty may reflect other discounts from a litigation result, such as the licensee's avoidance of potential enhancements like willful

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Spiegel, Inc., 851 F.2d 348, 350 (Fed. Cir. 1988) (settlement agreement enforceable even though patent determined unenforceable in a case involving a different party); *Atlas*, 509 F.2d at 4–7 (discussing purpose of *Lear* to allow licensees to challenge patents, not just third parties).

79. Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 135 (1969); Handgards, Inc. v. Ethicon, Inc., 601 F.2d 986, 993 (9th Cir. 1979) (stating that knowingly attempting to enforce invalid patent can be antitrust violation); Transitron Elec. Corp. v. Hughes Aircraft Co., 487 F. Supp. 885, 893 (D. Mass. 1980) (attempting to enforce invalid patent is misuse).

80. 28 U.S.C. § 2201(a) (2006); *see also* Kuwahara & Lavey, *supra* note 9, at 156 (discussing effect of *MedImmune* on existing license agreements).

81. *See* Cat Tech LLC v. TubeMaster, Inc., 528 F.3d 871, 878–83 (Fed. Cir. 2008).

82. In addition to market factors, holdup issues may affect royalty rates. Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2002–03 (2007). *But see* Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535 (2008).

83. Schlicher, *supra* note 5, at 373. *But see* Lemley & Shapiro, *supra* note 82, at 2001 (arguing that weaker patents have less litigation discount).

84. Lemley & Shapiro, *supra* note 82, at 2001 (firms will litigate when costs are low but redesign costs are high). *But see* Ranganath Sudarshan, *Nuisance-Value Patent Suits: An Economic Model and Proposal*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 171 (2008) ("According to first principles, a patent's value ought not be controlled by the auxiliary metric of how much it costs to defend against it in an infringement suit.").

infringement damages or attorneys' fee-shifting awards.[85] This "baseline" license fee is the present value of a royalty stream.[86]

Allowing the licensee to challenge the patent may help invalidate bad patents,[87] but it does not necessarily help all licensees. Some licensees, for example, prefer peace to litigation even if they believe the patent might be invalid.[88] Other licensees may believe that the patent is valid, and want to avoid the risk of treble damages and attorneys' fees if the matter were litigated.

If a licensee and patentee could legally agree not to litigate, the properly priced royalty would incorporate the costs and benefits of avoiding litigation given the strength of the patent or the likelihood that the licensee would be found infringing. Assuming each party has perfect information, risk-neutral patentees would agree to a royalty that is at least equal to the expected value of litigation, including costs.[89]

B. The Patent-Challenge Tax

However, licensees cannot agree not to litigate; while they may communicate their intentions, they cannot legally bind themselves not to challenge the patent after the license is executed. Thus, the patentee will always perceive a chance, however small, that the licensee will challenge the patent.[90] This chance decreases the expected value

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85. Lemley & Shapiro, *supra* note 82, at 2001. *But see* Sudarshan, *supra* note 84, at 161 (arguing that deep discounting is an indication of a nuisance license).

86. *See infra* App. I, equation 2. Formal proof of the equations set forth in this Part appears *infra* App. I.

87. The benefit of allowing licensee challenges is likely overstated. To be sure, licensees have the largest incentive to seek invalidity, but if no other party has such incentive, then the primary benefits would be limited to the single licensee. As discussed in the text, the licensee pays for the right to challenge the patent, negating some, if not all, of those benefits. Further, licensees may sue in order to renegotiate the royalty, which is a transfer of wealth that generates transactions costs with no corresponding social benefit. Finally, patents will often remain in effect after litigation. Dreyfuss & Pope, *supra* note 9, at 974 (If the parties settle a challenge, "the patent will remain in force. Accordingly, society will not gain free access to the invention.").

88. Dreyfuss, *supra* note 26, at 703 ("Indeed, so long as the patentee does not extract all the extra profit the licensee can charge, a licensee will almost always have as strong an interest as the patentee in avoiding a patent challenge and will therefore not function in the public interest."); Murray Fulton & Amalia Yiannaka, *Strategic Licensing of Product Innovations* 3 (Am. Agric. Econ. Ass'n, Selected Paper 174930, 2007), *available at* http://purl.umn.edu/9757 (licensing can maximize joint profits).

89. This Article uses probabilistic cost and benefit calculations. Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. Econ. Persp., Spring 2005, at 75, 88–89 (2005) (discussing probabilistic nature of patent licensing and challenge decisions).

90. The chance of challenge appears to be relatively small; there are no reports of widespread patent challenges. The reason for this is unclear, but there are at least three possible explanations. First, most licensees may really prefer peace, which makes credible signaling of finality more important. Second, most existing royalties are less inflated because they were negotiated before *MedImmune*. Thus, one might expect that royalties on weak patents are based on litigation avoidance only. If the royalty is the same as, or just lower, than the cost of litigation then licensees will be indifferent between paying royalties or suing. Because *MedImmune* is relatively recent, the technology covered by post-*MedImmune* licenses may not

of any royalty stream by imposing additional costs on the patentee, including potential attorneys' fees and other litigation costs, potential loss of royalties, and interference with other licenses if the patent is invalidated.[91]

These costs are essentially an excise tax on each patent license—a patent-challenge tax.[92] The tax effect is not eliminated because of its probabilistic nature, because patentees and licensees consider potential outcomes.[93] The costs of a patent challenge are no less real to the patentee simply because there is a chance the challenge will not occur. The true perceived costs seem especially concrete where the patentee holds either many patents or many licenses because the patentee would consider the expected results of many events before determining whether to enter one more license that could cause the loss of all the others.

The patent-challenge tax is based on the following variables: s is the chance that a licensee will sue; w is the chance that the patentee will win; r is the present value royalties associated with the license; w' is the chance that the patentee's other licenses are undisturbed (for example, a finding of validity but noninfringement); r' is the present value associated with other licenses; e' represents the extra royalties that the patentee might demand upon winning (e.g., due to having a stronger patent);[94] and c represents litigation costs such as attorneys' fees and expert costs.

Examining the effect of these variables on the patentee reveals some intuitive results. For example, the tax will grow as the chance of challenge (s) and the patentee's cost of that challenge (c) increase. The tax also increases as royalties (r and r') go up because the patentee has more to lose in case of challenge. However, it decreases as the patentee's chances of winning the lawsuit (w and w') go up because it is more likely that the patentee can retain royalties, and the patentee may even get a bonus by winning ($w'e'$) because a patent surviving a challenge will command more royalties from future licensees.

A formal economic model for the tax is fully derived in Appendix I. The model yields a tax that is the probability of a challenge (s) times the sum of: probable lost royalties on the particular license ($(1 - w)r$),[95] probable lost royalties on other

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be sufficiently developed to warrant challenges yet. If so, then the number of challenges would be expected to increase in the future. Third, because challenges are a public good, there will always be fewer of them than one might predict. *See infra* note 109 and accompanying text.

91. Litigation costs may not be the only costs. For example, some cases allow the challenging licensee to pay royalty payments in escrow rather than pay the patentee during the course of litigation. *See* Dreyfuss, *supra* note 26, at 743 ("Because *Lear* prohibits [a patentee] from shifting certain business risks vertically, he must discount his expected income stream by the probability that the licensee will avoid royalty payments by successfully challenging the patent."); Dreyfuss & Pope, *supra* note 9, at 973 ("The licensee can now seek a new arrangement any time it can mount a credible contract dispute. Furthermore, it can do so without taking any real risk, for if the patent is upheld, the licensee can continue to rely on the license."); Taylor, *supra* note 12, at 240; *see, e.g.*, Crane Co. v. Aeroquip Corp., 356 F. Supp. 733 (N.D. Ill. 1973), *modified on other grounds*, 504 F.2d 1086 (7th Cir. 1974).

92. The tax terminology is primarily for ease of reference. Whether one calls this a tax or not, the results are the same.

93. Lemley & Shapiro, *supra* note 89, at 88–89; *cf.* Craswell, *supra* note 2, at 366–72 (discussing effect of probabilistic costs such as product liability and warranty costs).

94. O'Connor, *supra* note 9, at 445–46.

95. If w is the chance of winning, then $1 - w$ is the chance of losing.

licenses if the patent is invalid ($(1 - w')r'$), and anticipated litigation costs (c).[96] The tax is decreased, however, by the chance of challenge and a win by the patentee, to the extent that a win brings in additional royalties in future licenses ($-w'e'$). The formula is:

$$s[(1 - w)r + (1 - w')r' - w'e' + c].[97]$$

The result of the tax is that the patentee's benefit from receiving any given license is lower[98] than it would be in the absence of challenge rights.[99] As compared to the world before *MedImmune*, fewer licenses will be available for any given fee paid by the licensee.[100] This leads to a deadweight loss that is no different than any other tax imposed on the supply side of the market.[101] A patentee will refuse to license when the licensee's offered royalty minus the tax is less than the patentee's litigation outcome or other minimum royalty (perhaps associated with the value of internal development). Without the tax, the offered royalty would be above the patentee's minimum.[102]

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96. Also considered is the patentee's inability to seek enhanced damages (for example, treble damages) that are no longer available in a patent challenge because the challenger has a license. This opportunity cost (*swe*) will be discussed in more detail with respect to licensing strategies, but does not appear in this equation because the patentee presumably gives up the right to seek such damages just by entering the license in the first place. Thus, the tax does not include this opportunity cost.

97. *See infra* App. I, equation 29. This model could theoretically be empirically tested, though doing so might be difficult at present due to the anecdotal nature of licensing negotiation data, the confidential nature of many licenses, and the short time since *MedImmune* was decided. An empirical test could be achieved by gathering licensing data before and after both *MedImmune* and *Lear*. The tests could hold licensing terms constant and observe changes in royalties or it could hold royalties constant and observe changes in terms. A lack of observed changes would still be a useful result. Because the costs unquestionably exist, unchanged royalty and license terms would provide information about elasticity (or lack thereof) of supply and demand, bounded rationality, and transactions costs. *See, e.g.*, Craswell, *supra* note 2, at 367 (showing how different demand curves will lead to different price effects).

98. This assertion is technically not true all the time. It is possible that the potential enhancement to royalties upon winning a challenge ($w'e'$) is so large that patentees are actually better off if the patent is challenged. This scenario is unlikely, however, because patentees facing such an upside would likely litigate rather than accept licenses. *See infra* App. I, equation 37.

99. Existing licenses are also less valuable, but in most cases they cannot be repriced, either legally or practically. *Cf.* Daryl Martin & David C. Drews, *Intellectual Property Valuation Techniques*, 26 LICENSING J., Oct. 2006, at 15, 19–20 (stating one way to value a patent is to total royalties received on it).

100. *Cf.* Youngjun Kim, *Market Structure and Technology Licensing: Evidence from U.S. Manufacturing*, 11 APPLIED ECON. LETTERS 631, 635 (2004) (finding that simply having a pool of patents does not mean that they will be licensed).

101. *See* Craswell, *supra* note 2, at 366–67 (describing deadweight loss associated with costs imposed on sellers); Schwartz & Scott, *supra* note 2, at 567 ("[T]he anticipation of [a court's redistribution of the benefits of a contract] can destroy the parties' incentive scheme for producing efficient specialized products. Further, the resources involved in negotiating the modification or guarding against it constitute a deadweight loss that reduces the parties' joint gain from the contract."). For a relatively clear explanation of tax-based deadweight loss, with helpful graphs, see Thayer Watkins, The Impact of an Excise Tax or Subsidy on Price, http://www.sjsu.edu/faculty/watkins/taximpact.htm.

102. *See* Dreyfuss & Pope, *supra* note 9, at 974 ("[F]ewer deals will likely be made and

These costs are different than a traditional tax because the direct costs imposed on patentees are not paid to a central authority, nor are they distributed to society at large; instead, they are transferred in part to licensees of that very same patentee as a subsidy.[103] For example, the patentee's potentially lost royalties are the licensee's potentially avoided royalty payments.[104] Transferring wealth from the patentee to infringers should have the effect of reducing the deadweight loss because potential infringers will be more willing to become licensees, thus increasing demand.[105] Distributionally, even with this demand shift not all licensees will be better off; only those licensees that value the right to challenge more than the increase in royalties will be better off.[106]

It is unlikely that the demand shift will offset the deadweight loss completely. First, some licensees may still license and challenge. Second, not all of the tax is paid to licensees. For example, the patentee's litigation costs are not paid to any of the parties, though they could be a subsidy paid to attorneys.

To further offset the deadweight loss, the challenge arguably provides a positive externality in the form of social benefits created by invalidating bad patents; in theory, saved royalties can be used for better investment than bad patents, whose innovation need not be incentivized.[107] By extension, to the extent that the reduction in patents and available patent licenses means that there are fewer bad patents on the market, the deadweight loss might be offset by sufficient benefits. Further, the ability to challenge while retaining a license may provide a social benefit by eliminating the ability of patentees to use the risk of an injunction to inflate royalties.[108] The actual size of these benefits, if any, is unknown.

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fewer inventions will be put to socially-beneficial uses."); Jay, *supra* note 10, at 80 (challenge right increases transactions costs, chilling technology transfer); Schlicher, *supra* note 5, at 381 ("The law prevents licensing that should have occurred.").

103.   Contract law is replete with similar subsidizing legal rules, such as implied warranties. *See generally* Craswell, *supra* note 2.

104.   Whether the loss to the patentee equals the gain to the licensee is a complicated question. Because *each* license carries the risk of negating *all* sources of license revenue, each new license bears a high cost to the patentee but a smaller benefit to the licensee.

105.   Craswell, *supra* note 2, at 368 ("An implied warranty, however, would normally make a product more attractive to consumers, thereby causing consumer demand (as well as seller's costs) to increase."); Stevan D. Porter, Jr., *Estimating Hypothetically Negotiated Royalty Rates After* MedImmune, Inc. v. Genentech, Inc., et al., J. LEGAL ECON., Mar. 2008, at 43, 46 ("At a macro level, it is expected that potential licensees will be generally more willing to enter into license agreements; firms will be less discriminating in the patents to which they take licenses.").

106.   Craswell, *supra* note 2, at 375–76 ("The marginal consumers themselves gain or lose depending on whether they value the warranty more or less than the cost of the warranty to sellers . . . .").

107.   Joseph Farrell & Robert J. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help*, 19 BERKELEY TECH. L.J. 943, 946 (2004) ("However, an improper patent is typically an unwarranted burden on consumers and on other innovation."). *But see* Dreyfuss & Pope, *supra* note 9, at 974 (stating that challenge will often not lead to actual invalidation, negating positive externalities while simultaneously decreasing the incentive to innovate).

108.   Lemley & Shapiro, *supra* note 82, at 2001 (injunction risk allows weak patents to garner more royalties than their value implies). *But see* Elhauge, *supra* note 82.

Even if the benefits could be calculated, they may be mitigated if the challenge right does not generate sufficient challenges. If invalidation of bad patents is a public good, then one would expect fewer challenges than are socially optimal, because the challenger faces all of the cost and risk but only reaps some of the benefits.[109] Viewed this way, then the subsidy to the licensee is insufficient to achieve sufficient patent challenges even though it encourages more challenges than might exist without the subsidy.

Thus, the tax may be justified if patent-challenge benefits are high enough, but it becomes socially costly if it causes the supply of licensed patented innovations to decrease more than the value of challenging bad patents.[110] Varying the challenge right to consider both social costs and benefits[111] would be more optimal because the social value of challenging strong patents is less than the value of challenging weak patents, and the costs of challenging strong patents may also be higher. Further, considering the costs and benefits of various licensees may provide more distributional justice to those licensees who do not wish to challenge.[112]

However, determining the value of patent challenges and reshaping challenge policy is outside the scope of this Article; the analysis presented takes judicial pronouncements that licensees may challenge patents at any time as a given.

C. Who Pays the Tax?

Like any tax, the burden will be shared in part by the licensee in the form of higher royalties;[113] the licensee will not be the beneficiary of the entire value associated with

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109. Dreyfuss & Pope, *supra* note 9, at 1001 n.121 ("[Nonmutual collateral estoppel can] discourage[] suit because it puts the challenger at a competitive disadvantage with respect to everyone else in the field of the invention: that party must pay the full litigation cost of invalidating the patent while its competitors enjoy the outcome for free. As a result, there is an incentive to hold back, to wait and see whether someone else will do the hard work of putting the invention into the public domain."); Farrell & Merges, *supra* note 107, at 952–53 (noting the public good problem and noting that higher royalties are passed through to consumers, further reducing incentives to challenge); Lemley & Shapiro, *supra* note 89, at 88; Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 687–88 (2004); John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. ILL. L. REV. 305, 333–36.

110. *See, e.g.*, Dreyfuss, *supra* note 26, at 697 ("Once the role of contract law in encouraging innovation is appreciated, several flaws in *Lear*'s reasoning are exposed."). Dreyfuss also points out that loss of control in licensing can cause inventors to avoid the patent system altogether, creating a different type of social cost. *Id.* at 739–40.

111. For example, one might bar challenges for licenses that have been in effect for a longer time period.

112. Craswell, *supra* note 2, at 376 ("If it is inappropriate to sacrifice the welfare of consumers to benefit sellers, why is it more appropriate to sacrifice the welfare of some consumers to benefit others [sic] consumers?").

113. The amount of the increase depends on basic economics—the shapes of the supply and demand curves—with the patentee bearing the burden of any portion that is not passed on to the licensee. Craswell, *supra* note 2, at 367 ("Because demand is somewhat elastic, however, the increase in price . . . is less than the increase in seller's costs . . . . Thus, less than 100 percent of the cost increase has been passed on."); Porter, *supra* note 105, at 46; *see also supra* note 101.

its ability to challenge the patent.[114] Because weak patents lead to a higher likelihood of challenge (higher s) and a higher chance of loss (higher $1 - w$) one might expect licenses for weaker patents to generate a higher tax than those for strong patents. Therefore, perhaps counterintuitively, licensees pay the highest premium for the right to challenge the weakest patents.[115]

This result is somewhat mitigated because the chance of winning and the royalty effects may offset each other somewhat. Weak patents will likely garner lower royalties from the outset. Likewise, as the patent grows stronger the chance of winning increases, but so do the royalties, with each having an opposite effect on the tax. Thus, a patentee with a low chance of losing large royalties may be subject to costs roughly equivalent to a patentee with a higher chance of losing small royalties.

Thus, the fortuitous patentee that obtains high royalties on a weak patent would have the most to lose, and thus would likely impose the highest tax. As a result, nuisance demands that incorporate the tax would almost always seem excessive in comparison to the value of the patent at issue. Despite the stigma attached to nuisance settlements, licensees would certainly prefer that nuisance royalties be as low as possible and would likely prefer not to spend additional money challenging a patent when the whole point of a nuisance payment is avoiding litigation.[116]

Regardless of patent strength, because a challenge by one of many licensees puts all of a patentee's current and future royalties at risk, the tax for any given license includes more than just the benefit the challenging licensee might receive. Thus, the tax on each license's royalty would increase as the patentee's total revenues increase; the greater the patentee's revenues, the more the patentee would have to lose in a challenge.[117] Consequently, licensees would have to pay more for the right to challenge heavily

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Schlicher argues that no licensing will occur for a certain subset of patents, but this assumes that the licensee pays all of the costs associated with patent challenges. Schlicher, *supra* note 5, at 374. Depending on the supply and demand in a particular market, the licensee may wind up paying much less of the tax than Schlicher assumes.

114. *See* Jennifer L. Collins & Michael A. Cicero, *The Impact of* MedImmune *upon Both Licensing and Litigation*, 89 J. PAT. & TRADEMARK OFF. SOC'Y 748, 753–54 (2007) (patentees should raise royalties to offset additional risk). The patentee will bear more of the costs if the licensee can renegotiate the royalty without a lawsuit. *See* Dreyfuss & Pope, *supra* note 9, at 974 ("At the time of a challenge, the risk that the patent will be invalidated could lead the patent holder to settle on highly unfavorable terms . . . . The patent holder will, however, lose revenue, leading to an impairment of patent value and a decrease in incentives to invent."). The patentee will also bear more of the cost if it has no injunction leverage. *See* Lemley & Shapiro, *supra* note 82, at 2001 (injunction risk causes royalty premium in weaker patents). However, the challenge right will shift demand such that licensees may be willing to pay more of the tax. Porter, *supra* note 105, at 46.

115. Miller, *supra* note 4, at 5.

116. Sudarshan, *supra* note 84, at 170 ("A low-cost settlement can be far more attractive than a prolonged legal battle, despite the defendant's meritorious arguments of an invalid or impermissibly broad patent.").

117. *Cf.* Kim, *supra* note 100, at 635 (finding that firms with a larger market share also have more licenses). *But see* O'Connor, *supra* note 9, at 446 (arguing that royalties are lowest during the prechallenge period, because licensees will not challenge a patent until the time that it is sure the technology will yield revenues). If the question is expected value, however, then the license fee would compensate for expected timing of the revenues.

licensed patents because the royalty would incorporate the cost of losing all licenses, not just one.

As a result of these two external pressures that increase the tax, the licensee's increased royalty might exceed any potential benefit to it from the right to challenge the patent.

III. STRATEGIES FOR REDUCING THE TAX

Insofar as any portion of the tax is passed on—and especially if that portion is greater than the benefits of the challenge right—the licensee may want the same contract language that decreases the probability of a patent challenge that patentees would seek. Because no-challenge agreements are forbidden, parties might seek proxies that signal the desire for "peace."[118] This Part discusses some of the possible strategies for reducing the tax, and their effectiveness, practicality, and legality.

A. Measuring Effectiveness

1. Effectiveness Is Measured from the Patentee's Viewpoint

Many of the proposed clauses increase the costs to the licensee in case of a challenge, and thus signal that the licensee prefers peace[119] rather than a challenge (lowering s in the patentee's view). These clauses increase the potential costs from the licensee's perspective, even if conditional on losing a challenge or even just initiating one. However, the costs only increase for the licensee *if the licensee intends to challenge*. For licensees that do not intend to challenge ex ante, such promises are essentially costless gifts to the patentee in exchange for a lower royalty.

If, however, the licensee intends to challenge or even if the licensee wants to retain the possibility of challenge, then the licensee will view these provisions as potential costs and the licensee may not agree to one or more of these provisions in addition to the royalties the patentee seeks—royalties that are inflated because the patentee perceives a challenge risk due to the licensee's refusal to accept such provisions.

Thus, the focus is on the patentee's perception. Because the patentee does not know with certainty whether the licensee will challenge, the patentee will consider the effect of all signals, including a licensee's unwillingness to accept terms that should be costless if the licensee does not plan a challenge. All other things equal, the license fee should be the lowest where the contract includes the highest challenge costs to the licensee and the lowest potential losses to the patentee upon a challenge.

2. The Tax Is Never Zero

There is an important caveat, however: none of these provisions, not even the no-challenge provision, can completely eliminate the premium associated with the patentee's inability to collect royalties on an invalid license. This is because a third

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118. Miller, *supra* note 4, at 4.
119. Such clauses might also imply a licensee's lack of bargaining power rather than preferences, but the result is the same—the patentee will perceive less chance of challenge.

party—whether a prior licensee not subject to such clauses or a potential infringer that seeks declaratory relief—can always invalidate the patent.[120] Once the patent is invalidated by anyone, all licenses become voidable, and the patentee loses the respective royalty streams.

However, this possibility existed before the *MedImmune* case—instead, the establishment of nonmutual collateral estoppel in 1971 created this risk for patentees.[121] Thus, the discussed contract provisions only affect the prospective challenge risk associated with licensee's challenge and not collateral attacks from nonlicensees or other parties that are not subject to any challenge restrictions.

Further, as discussed in more detail below, uncertainty about the legality of any provision will likely prevent complete elimination of the tax. Uncertainty can be mitigated if any combination of contractual strategies is coupled with a severability clause.[122] Severance allows each clause to operate independently and redundantly, in case a court rules that any other provisions are void as a matter of law.

B. Litigation Strategies

1. Filing a Complaint

Some have suggested that the best way to ensure a final agreement is to sue the potential licensee and settle the case, because patent licenses resulting from litigation are unchallengeable res judicata.[123] This theory is facially appealing. It should lower the chance of challenge (s) to zero. It may also make the patent appear stronger, thus increasing the possibility of higher royalties on future licenses (e').[124] Both would lower and potentially eliminate the tax.

However, litigation is not without problems. First, if the licensee does not agree to have a suit filed, it may decide to proceed with litigation and challenge the patent.[125] This will be especially true if the patentee sues without even notifying the licensee of the possibility of agreement, which it might do in order to obtain a litigation advantage

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120. Porter, *supra* note 105, at 47.

121. Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found., 402 U.S. 313 (1971) (applying nonmutual collateral estoppel against the patentee).

122. Bleeker & O'Shaughnessy, *supra* note 9; Kuwahara & Lavey, *supra* note 9, at 160–61, at 435. Sample language appears *infra* App. II.5.A.

123. *E.g.*, Foster v. Hallco Mfg. Co., 947 F.2d 469, 475 (Fed. Cir. 1991); Am. Equip. Corp. v. Wikomi Mfg. Co., 630 F.2d 544, 547–48 (7th Cir. 1980); Aro Corp. v. Allied Witan Co., 531 F.2d 1368, 1374 (6th Cir. 1976); Schlegel Mfg. Co. v. USM Corp., 525 F.2d 775, 780–81 (6th Cir. 1975); Broadview Chem. Corp. v. Loctite Corp., 474 F.2d 1391, 1394–95 (2d Cir. 1973); Best, *supra* note 49, at 27; Dreyfuss & Pope, *supra* note 9, at 982. Bleeker and O'Shaughnessy suggest that patentees file a complaint without serving to preserve plaintiff status and venue. Bleeker & O'Shaughnessy, *supra* note 9, at 431–32. This would likely have little effect on the tax because one must serve within a relatively short period of time—well before most disputes would arise. *See id.*

124. There should be no effect on the chance of winning future challenges (w') because nonmutual collateral estoppel would limit the results of any litigation with respect to other potential licensees.

125. The patentee could choose to continue as well. *See* Dreyfuss & Pope, *supra* note 9, at 979–80.

or to avoid false signals, as discussed below.[126] This means that the likelihood of challenge (s) is not zero and may actually be higher than it would have been if the parties had agreed without the unexpected litigation.

Second, if the licensee does agree to litigation with the intention of entering into a settlement, then the dispute may not be justiciable under Article III's case or controversy requirement.[127] This leads to two problems. One problem is that a settlement by consent judgment would not be enforceable, as subject-matter challenges are never waived[128]—making the judgment voidable at any time. The second problem is that a settlement by agreement might not be given sufficient res judicata effect to bar a subsequent patent challenge—especially where the parties agreed to file suit and did not obtain court rulings on any issue.[129] However, to the extent that agreeing to litigate sends a signal that there will be no challenge, (s) may be lowered even without res judicata.

Third, the signals may be strategically false to gain a litigation advantage. A party may suggest bringing a declaratory-relief action to challenge validity to maximize the res judicata effect; this transforms a potential defendant into a plaintiff. Similarly, either party might agree to a lawsuit to gain a venue advantage. Even if both parties eventually behave honorably, the potential for gaming increases the patentee's perceived likelihood of challenge (s).

Even if an agreed litigation might be given res judicata force, any possibility of challenge will lead to some tax, in addition to whatever litigation costs might be incurred. The effect of any uncertainty in (s) on the tax may be low, depending on

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126.   For example, see Complaint at 15, Priest v. Google, Inc., No. 1:08-CV12056-DPW (D. Mass. filed Dec. 11 2008) *available at* http://docs.justia.com/cases/federal/district-courts/massachusetts/madce/1:2008cv12056/119292/1/ ("[T]he plaintiffs prefer reaching this fair settlement through friendly appreciation and negotiation. In any event, we encourage defendant to not view this complaint as 'litigious behavior' and to view it in respective good faith and action."). *See also* Eric Goldman, Patent Lawsuit Filed Over Google Reader—Priest v. Google, http://blog.ericgoldman.org/ archives/2008/12/patent_lawsuit.htm (Dec. 11, 2008, 14:45 EST).

127.   Dreyfuss & Pope, *supra* note 9, at 998 ("Moreover, while *MedImmune* took a liberal attitude toward the availability of declaratory judgment actions in patent cases, it did not abolish all standing and ripeness requirements.").

128.   U.S. Catholic Conf. v. Abortion Rights Mobilization, 487 U.S. 72, 77 (1988) (stating that orders of court issued without subject-matter jurisdiction may be challenged, even by third parties).

129.   Warner-Jenkinson Co. v. Allied Chem. Corp., 567 F.2d 184, 188 (2d Cir. 1977) (settlement shortly after litigation does not bar challenge); Kraly v. Nat'l Distillers & Chem. Corp., 502 F.2d 1366, 1369 (7th Cir. 1974); Bus. Forms Finishing Serv., Inc. v. Carson, 452 F.2d 70, 73 (7th Cir. 1971); Addressograph-Multigraph Corp. v. Cooper, 156 F.2d 483, 484–85 (2d Cir. 1946) (stating that court must consider issues actually decided); Dreyfuss & Pope, *supra* note 9, at 998 ("[T]he ability to actually use discovery and proceed before the court is what distinguishes the proceedings from sham litigation and gives legitimacy to the consent decree."); *see also* Freeman v. Altvater, 129 F.2d 494, 499 (8th Cir. 1942) (stating that there was no res judicata on invalidity issue from prior lawsuit), *rev'd in part*, 319 U.S. 359, 360–61 (1943) (allowing invalidity challenge to go forward where prior invalidity challenge was not determined on the merits). *But see* Hemstreet v. Spiegel, Inc., 851 F.2d 348, 349–50 (Fed. Cir. 1988) (settlement shortly after litigation still bars challenge).

whether the royalty is set before or after the lawsuit is filed. If the royalty is set before, then it will take the increased (s) into account, and the tax will be higher. If the royalty is set after filing, then it should have little or no effect—the parties will know with certainty whether the litigation is a real challenge at the time of the settlement decision.

Even if the royalty is not affected, an increased (s) will have another effect. As discussed in Appendix I, Equation 18, when the chance of a patent challenge increases, patentees will be more likely to litigate rather than settle. Thus, to the extent that filing a lawsuit increases the chance that the result will be continued litigation rather than settlement, patentees may also favor proceeding with litigation. Even if settlement is still a possibility, the decision to commit to litigation may change the relationship between the parties, as well as the probabilities and costs, all of which will impact the final royalty paid by the potential licensee.

2. Settlement Agreements

A less risky alternative is to emphasize that the license agreement is actually a settlement of threatened litigation.[130] However, on its own, such language would not lower the tax much, as *Lear* and its progeny make clear: a settlement without litigation is insufficient to invoke licensee estoppel.[131] While *MedImmune* contains dicta implying that the Court was not deciding whether a settlement agreement might bar a challenge by a nonrepudiating licensee,[132] such a ruling would require the Court's overruling of unanimous circuit law, which is unlikely to happen anytime soon. Further, *MedImmune* is clear that litigation will proceed in all events,[133] meaning that the patentee will always be at risk for some litigation costs.

Thus, settlement language would have to be coupled with litigation.[134] As a result, "settlement agreements" are unlikely to reduce the challenge tax much.

In sum, litigation strategies are legal, but not terribly practical or effective.

C. Up-Front Payment Strategies

A licensee might signal that it will not challenge a patent by making up-front payments.[135] Two types of up-front payments are the prepaid license fee and the ownership interest.

A prepaid fee requires the licensee to pay the entire license fee at the time of contract execution. This payment has two signaling effects. First, it reduces future royalties (r) to zero, reducing the tax because the patentee has nothing to lose.[136] This

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130. Schlicher, *supra* note 5, at 391. Sample contract language appears *infra* App. II.1.A.

131. Massillon-Cleveland Akron Sign Co. v. Golden State Adver. Co., 444 F.2d 425, 427 (9th Cir. 1971).

132. MedImmune v. Genentech, Inc., 549 U.S. 118, 134–35 (2007) (leaving open the question about whether a settlement agreement might be enforceable).

133. *Id.*

134. *See infra* Part III.B.1.

135. *See* Collins & Cicero, *supra* note 114, at 754; Schlicher, *supra* note 5, at 390–91 (suggesting shift of royalties to "pre-challenge" period).

136. Kuwahara & Lavey, *supra* note 9, at 159 ("[A] higher nonrefundable upfront license fee may discourage a licensee from challenging the licensed patents because it limits the benefits to

reduction alone would not eliminate the tax, as a patent challenge might negate future royalties from other potential and actual licensees. However, because the licensee would have little or nothing at stake the likelihood of a challenge (*s*) would also be reduced, further lowering the tax.

Problems with the prepaid fee are practical and legal. Practically, licensees may not want—or may not be able to afford—a prepayment of the entire license fee because they have yet to develop a product.[137] Additionally, patentees may not want to surrender the possibility of large revenues if the licensed product is extremely successful.[138] Also, it may be impossible to estimate the net present value of royalty payments with sufficient detail to calculate a payment,[139] and even if such an estimate can be made, the patentee would have to discount that fee even further to offset the licensee's risk that the patent will not yield a marketable product.[140]

Thus, a fully prepaid license may be available only in limited circumstances. A more common option would be a partially prepaid, partially royalty-bearing license. This type of license provides some of the signaling benefits of a fully prepaid license; but, a royalty stream means that the more successful a product is, the more likely there will be a challenge and the more the patentee has to lose. Thus, there will likely be some tax component, with the size dependent on the licensed product's expected success.

Legally, a fully paid patent license may not be sufficient to bar future challenges. To the extent that federal policy favors challenges, such a policy might require a refund of the "unused" portion of any fully paid fee.[141] Furthermore, payment through financing or a negotiable instrument may be considered a royalty stream and thus barred once a patent is found invalid.[142] Of course, prepayment could easily have the opposite

the licensee from such a challenge.").

137. Dreyfuss & Pope, *supra* note 9, at 992–93 (discussing problems with upfront payments, but also suggesting that a negotiable instrument could be used rather than cash); O'Connor, *supra* note 9, at 446, 451–52.

138. Dreyfuss & Pope, *supra* note 9, at 992 ("Depending on the size of the lump sum payment, the patent holder will still run considerable risk that compensation for the invention will fall short of the benefit it confers on the licensee.").

139. O'Connor, *supra* note 9, at 452. Note that this is a transaction cost barrier to the negotiation of such fees. Despite this cost, the underlying assumption that patentees can guess the range of potential future royalties sufficiently to estimate the challenge tax likely still holds. Internal estimates for future returns, even if hopeful, are sufficient for planning even if they are not sufficient for price negotiation.

140. Dreyfuss & Pope, *supra* note 9, at 994 ("The discount would likely be considerable: not only would the licensee have paid for an unnecessary license under an invalid patent but it would be at an economic disadvantage compared to its competitors in the licensed field who had not paid such a lump sum and therefore do not need to recover it in their sales price.").

141. *See* Dreyfuss & Pope, *supra* note 9 at 994 ("[A] paid-up license could be viewed as frustrating the 'private attorney general' policy underlying *Lear.* After all, once the licensee has paid for the right to practice the invention, it is less likely to challenge the patent."). *But see* Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 138–39 (1969) ("The Court also said in *Automatic Radio* [*Mfg. Co. v. Hazeltine*, 339 U.S. 827 (1950)] that if the licensee . . . agrees to a lump sum or a percentage-of-total-sales royalty, he cannot escape payment on this basis by demonstrating that he is no longer using the invention disclosed by the patent. We [do not] disagree.").

142. Dreyfuss & Pope, *supra* note 9, at 995 ("Nonetheless, the approaches that use

effect—potential licensees faced with a lump-sum fee are more likely to challenge a patent earlier than those who can both pay and challenge later.[143]

Another approach is the use of corporate stock and stock options to emulate a royalty stream.[144] Under this method, equity would be fully paid at license execution, such that it would not be refundable upon a successful challenge.[145] However, the stock's value would be contingent on the success of the company licensing the patent— the more sales, the more stock value, which is similar to a royalty stream for the same sales.[146] This plan would have an effect on the tax similar to a fully paid license. The future royalties at risk (r) would be zero, and stock payments would theoretically reduce the risk of challenge (s) as well.

There are a few practical problems with this proposal. First, the proposal would likely be possible only for newly started, single-technology companies.[147] Second, even in this special case, it is not clear that stock value would accurately reflect product success.[148] Third, the plan would likely work best with exclusive licenses only, because nonexclusive licenses mean more competition in the marketplace. As a result, the stock proxy might be effective but only for a small fraction of patent licenses.

A suggested solution to some of these problems is to set a stock option vesting schedule based on product sales, ideally in a separate agreement.[149] While this solution would better tie value to the licensed product, vested stock looks more like a royalty paid in stock options rather than cash. Courts may view such a transaction as form over substance, and bar all future vesting upon a successful patent challenge, just as they would bar future royalties. Even if such vesting were not voided, such transactions would still be limited, and it would still be difficult to tie future vested stock value to product sales.

To the extent that courts would not require a refund, prepaid licenses are likely to be highly effective and legal, but they are not terribly practical.

D. No-Contest Strategies

1. No-Contest Clause

Licensees might agree not to sue or otherwise challenge a patent.[150] As discussed in Part I, such an agreement would be void in most cases.[151] However, if courts were to

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negotiable instruments or installments may appear particularly vulnerable to a *Brulotte* challenge because in those cases, it is evident that payments will continue even if the patent is invalidated by a third party."). *But see* Ransburg Electro-Coating Corp. v. Spiller & Spiller, Inc., 489 F.2d 974, 977 (7th Cir. 1973) (stating that installment payments are enforceable after invalidation of patent).

143.   Dreyfuss & Pope, *supra* note 9, at 994.

144.   O'Connor, *supra* note 9, at 453–54, 459–60.

145.   *Id.* at 453–54.

146.   *Id.* at 462.

147.   These are the companies that O'Connor is most concerned with, as they are the least likely to be able to fully pay a license. *See* O'Connor, *supra* note 9, at 451–52.

148.   *Id.* at 462. This includes stock illiquidity. *See id.* at 461.

149.   *Id.* at 464.

150.   Collins & Cicero, *supra* note 114, at 752; Kuwahara & Lavey, *supra* note 9, at 157. Dreyfuss argues that such a clause should be enforceable. Dreyfuss, *supra* note 26, at 723–24.

start allowing such clauses, this would be the cheapest and easiest way to eliminate the patent-challenge tax. It would lower the likelihood of a challenge (s) to nearly zero. Of course, parties can always sue, even if they lose, so the likelihood would not be zero, though if such clauses were enforced on a motion to dismiss, then litigation costs (c) would be low and the challenge tax would likely be as small as it will ever be.

However, any uncertainty about effective enforcement of a no-challenge provision will likely not have much effect on the tax depending on the stakes.[152] Because the chance of challenge (s) is based on the patentee's perception, patentees—especially risk-averse patentees—may give little weight to the possibility that the clause will be enforceable. They will also not want to wait until the end of an expensive litigation (large c) to vindicate the no-challenge right. Where there is uncertainty about enforceability, the licensee may offer up large liquidated damages and payment of attorneys' fees if a covenant not to sue is breached,[153] but the effects of such clauses are limited because the patentee still has the risk of losing future royalties.

This is not to say that an unenforceable no-contest clause would not lower the tax some. To the extent the patentee believes the licensee will be bound by the moral obligation imposed by the clause, or that the licensee does not believe that the clause is void (a distinct possibility given the discussion in Part I.B), the patentee will perceive a lower possibility of challenge (s) and a commensurately lower tax.

2. Terminate-on-Challenge Clauses

An alternative to the no-contest provision is a terminate-on-challenge provision.[154] This provision would be effectuated by treating the finality of the license as a condition, such that any lawsuit by the licensee terminates the contract.[155] This provision differs from a no-contest provision because it allows the licensee to freely challenge the patent at any time.

The terminate-on-challenge clause affects the tax in two ways. First, it lowers the likelihood of challenge because a challenge becomes more costly to the licensee—it can no longer challenge and use the licensed patent at the same time. As the value of the licensed product increases, the licensee's cost of termination increases.

Dreyfuss and Pope argue that *MedImmune* makes such clauses legal. Dreyfuss & Pope, *supra* note 9, at 1005–06. Lewis R. Clayton makes the creative argument that such provisions should be enforceable for all patents whose validity has been upheld, even in litigation with others. Lewis R. Clayton, *'MedImmune' Ruling*, NAT'L L.J. 13, Feb. 19, 2007. Sample language appears *infra* App. II.1.B.

151. *See supra* Part I.

152. *See* Dreyfuss, *supra* note 26, at 745–46 (stating that uncertainty about patent validity may reduce expected profit, decreasing incentive to innovate).

153. For sample language see *infra* App. II.1.C.

154. Bleeker & O'Shaughnessy, *supra* note 9, at 433; Collins & Cicero, *supra* note 114, at 752–53; Dreyfuss & Pope, *supra* note 9, at 1003–05; Kuwahara & Lavey, *supra* note 9, at 159; Schlicher, *supra* note 5, at 388–89. Schlicher also suggests the alternatives of termination as of the effective date of the license—essentially rescission—as well as termination only upon a failed challenge. Schlicher, *supra* note 5, at 388–89. Dreyfuss and Pope suggest that the clause be as broad as possible, providing the option to terminate if the licensee provides aid to a third-party challenge, challenges a foreign patent, or initiates any official proceeding, such as a reexamination. Dreyfuss & Pope, *supra* note 9, at 1004.

155. For sample language see *infra* App. II.2.A.

Second, a termination-on-challenge provision allows the patentee to obtain damages that are larger than the royalty if the patentee countersues for infringement and then wins in litigation. Enhanced damages eliminate some of the asymmetric costs associated with agreeing to a license and reduces the patent tax by the chance of winning damages if there is a challenge (*swe*).[156] Potential treble damages, attorneys' fee recoveries, and injunctions are likely to make expected damages large. Thus, the ability of this provision to reduce the tax will depend on whether the value of the licensee's product is large enough to offset these potential damages, something that is difficult to know at the time of license execution, but that each party hopes will be true for its own reasons.

However, this provision's ability to lower the tax might be mitigated for a few reasons. First, such a provision's enforceability is unsettled.[157] Termination clauses, if used at all, were rarely tested because prior to *MedImmune*, licensees were required to repudiate the license to challenge.[158] Some courts have upheld such provisions,[159] while another appears to favor termination,[160] but these cases were decided before *MedImmune*, when the effects of termination were no different than the required repudiation. It also appears that international law would allow such clauses,[161] perhaps making them more acceptable in the United States.

The argument against termination provisions is that they increase licensee challenge costs, an effect directly contrary to the policy of *Lear* and several follow-on cases.[162]

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156. As discussed in Appendix I, *e* represents the amount of damages a patentee might win in excess of what a negotiated royalty might be, so *swe* represents the expected damages associated with a challenge—if there is one, and if the patentee wins.

157. Kuwahara & Lavey, *supra* note 9, at 159.

158. Dreyfuss & Pope, *supra* note 9, at 1004–05 ("The *MedImmune* and *Lear* Courts did not consider the issue because until *MedImmune* was decided in 2007, no such clause was considered necessary.").

159. Neb. Engineering Corp. v. Shivvers, 557 F.2d 1257, 1260 (8th Cir. 1977) (denying injunction barring exercise of termination clause); Bayer AG v. Housey Pharms., Inc., 228 F. Supp. 2d 467, 773–74 (D. Del. 2002) (voiding a royalty payment provision, but not voiding a termination provision); *cf.* Hull v. Brunswick Corp., 704 F.2d 1195, 1200 n.6 (10th Cir. 1983) ("The existence of a termination clause does not itself eliminate the illegal nature of an oppressive license agreement. But when the agreement is legal and enforceable, its termination provisions provide a viable method for a dissatisfied party to end the relationship." (citation omitted)).

160. Cordis Corp. v. Medtronic, Inc., 780 F.2d 991, 995 (Fed. Cir. 1985) ("[W]e find no authority in *Lear* for . . . preliminarily enjoining a licensor from cancelling the license agreement and, thus, from counterclaiming for patent infringement when this material breach of the license occurs.").

161. *See* Bleeker & O'Shaughnessy, *supra* note 9, at 433 (citing Commission Regulation 772/04, 2004 O.J. (L 123) 11 (EU)); Dreyfuss & Pope, *supra* note 9, at 1003 ("Indeed, in Europe, where there are no standing requirements for bringing actions to nullify a patent, termination-on-challenge clauses are routinely used to protect licensors from legal actions on the part of licensees."); Kuwahara & Lavey, *supra* note 9, at 159 (noting that such clauses are acceptable under Japanese law and under free trade agreements).

162. *See* Timely Prods., Inc. v. Constanzo, 465 F. Supp. 91, 96 (D. Conn. 1979) (stating that a fifty percent reduction on successful challenge eliminates incentive to challenge and is void); Crane Co. v. Aeroquip Corp., 356 F. Supp. 733, 738–39 (N.D. Ill. 1973) ("[J]ust as the imposition of the doctrine of licensee estoppel would have a chilling effect on meritorious

These cases seem to hold that any provision that makes it more costly to challenge a patent is void. At the same time, cases that extend *Lear* beyond a no-challenge bar may not have the reach that they did thirty years ago.[163]

For example, the Federal Circuit might not object to a termination provision because its law; if one believes that *Shell Oil* is a substantive bar, holds that one must repudiate a license to challenge a patent even after *MedImmune*.[164] If so, then there should be no objection to the termination of the license agreement upon challenge.

As noted above, though, any uncertainty in the law is unlikely to lead to a large reduction in the patent tax, so the arguments on each side of this issue may be enough to eliminate much of this signal's value, at least until legality is tested and established.

On the other hand, a licensee's agreement to license termination might be a sufficient signal to persuade the patentee that there is unlikely to be a challenge, and certainly not one in the short run. Further, the licensee's incentives to challenge in the long run would be decreased because losing a license associated with a valuable product would potentially lead to higher litigation damages or even an injunction. This effect might still be limited, however, because the injunction risk might lead to inflation of the royalty due to holdup pressure.[165] Thus, some might argue that the tax is likely minimized most where the terminate-on-challenge clause also bars injunctive relief.[166]

A second mitigating factor applies to exclusive licenses. Termination of exclusive licenses may lead to a loss of royalty stream that is larger than the reduction in tax. In the extreme, the loss of working capital during the litigation can put the patentee/licensor out of business. Even if the license becomes nonexclusive upon challenge, ongoing litigation will diminish the value of future licenses if one can be secured at all during or after a challenge.[167]

However, concern about exclusive licenses may be overstated. First, if the business risk is greatest for exclusive licenses, then the commensurate royalty will also be highest, but not because of the challenge tax. Instead, the exclusive royalty will incorporate the business risk associated with losing the license, and it would still be worthwhile for a licensee to reduce the tax through one of the strategies discussed here.[168] Second, patentees can always avoid the risk by licensing to multiple parties,

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challenges to patents . . . so would the threat of termination of the license have a similar effect. If raising the defense of validity were sufficient grounds for terminating a license, then licensees might hesitate to challenge a patent because of the potential sanction in doing so."), *modified on other grounds*, 504 F.2d 1086 (7th Cir. 1974) (holding termination clause invalid); Best, *supra* note 49, at 27; Dreyfuss, *supra* note 26, at 700.

163. *See* Dreyfuss & Pope, *supra* note 9 at 1005.

164. MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 128 (2007). For a discussion of this view of *Shell Oil* and its viability, see *supra* Part I.B.

165. *But see* Lemley & Shapiro, *supra* note 82, at 2001–02 (stating that injunction risk causes patent premium).

166. Of course, if there is a license and a low-challenge risk, then the holdup pressure will be less.

167. O'Connor, *supra* note 9, at 446–48. O'Connor argues that this cost is greatest for universities and research centers—entities that provide social benefits through research and exclusive licensing. However, the university experience is not much different than nonexclusive licensing, where patent invalidity can jeopardize every license, not just the one being litigated. *Id.* at 448 n.236.

168. For a formal proof for the proposition that the tax for a single exclusive license is no

foregoing the exclusive license. Third, any terminate-on-challenge provision can include a clause that gives the patentee the option to terminate.[169] This option might disincentivize a challenge while retaining the patentee's potential value.[170] Fourth, if the licensee is allowed to escrow payments upon challenge, then the termination right adds no marginal harm to the patentee. If the royalty stream will dry up in any event, even if only during litigation, then it would be better to reduce the likelihood of challenge and to allow for infringement damages if possible.

3. Patentee's Covenant Not To Sue

The patentee might agree not to sue the licensee for patent infringement, even upon a challenge or breach of the license.[171] This covenant not to sue might reduce the chance of challenge (*s*) by eliminating any controversy between the parties, thus divesting the courts of jurisdiction.[172]

One potential concern is that this covenant would limit the patentee's potential damages associated with terminate-on-challenge clauses, decreasing their effectiveness in reducing the tax. This concern is easily mitigated by tying each party's covenant not to sue to a single condition, such that a terminate-on-challenge provision also terminates the patentee's covenant not to sue.[173] This would leave the patentee free to seek damages if the patent is challenged.

A bigger problem with these provisions is that they likely would not achieve their goal of eliminating justiciable controversies. The covenant not to sue is similar to the settlement agreements discussed above[174]—they do not make no-contest provisions

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different than the tax for a single nonexclusive license for any given royalty rate, and that the tax is even greater if there are multiple licenses, see *infra* App. I, equation 32.

169.   Dreyfuss & Pope, *supra* note 9, at 1002 ("[A termination provision] should not provide for automatic termination, but, rather, for an option to terminate."). For sample contract language see *infra* App. I, equation 32.

170.   *Cf*. Schlicher, *supra* note 5, at 389 (stating that an option to terminate is more valuable to patentee than requiring licensee to terminate prior to challenge.).

171.   Benitec Austl., Ltd. v. Nucleonics, Inc., 495 F.3d 1340, 1347–48 (Fed. Cir. 2007) (holding that a covenant not to sue eliminates controversy); Teva Pharm. USA, Inc. v. Novartis Pharm. Corp., 482 F.3d 1330, 1343 (Fed. Cir. 2007); Super Sack Mfg. Corp. v. Chase Packaging Corp, 57 F.3d 1054 (Fed. Cir. 1995); Bleeker & O'Shaughnessy, *supra* note 9, at 423. For sample language, see *infra* App. II.1.B. An effective *detente* might be achieved noncontractually (and with current licenses) by simply not answering any demands for clarification by the licensee. Schlicher, *supra* note 5, at 384–85. However, failure to respond may be a sufficient indication of nonagreement to warrant a controversy. *See* SanDisk Corp. v. STMicroelectronics, Inc., 480 F.3d 1372, 1383 (Fed. Cir. 2007) (finding declaratory relief jurisdiction despite no specific threat of suit); Bleeker & O'Shaughnessy, *supra* note 9, at 411, 423 n.183; *cf.* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 134 n.12 (holding that declaratory relief jurisdiction still exists even if the patentee has not overtly threatened litigation prior to licensing). *But see* Prasco, LLC v. Medicis Pharm. Corp., 537 F.3d 1329, 1341 (Fed. Cir. 2008) (holding that a patentee's refusal to sign covenant not to sue does not alone create controversy).

172.   O'Connor, *supra* note 9, at 432–33. *MedImmune* leaves this question open. 549 U.S. at 134–35.

173.   For sample language, see *infra* App. II.2.A.

174.   *See infra* Part III.B.2.

suddenly enforceable. Because a licensee can always seek patent invalidity as a way to avoid royalties, a controversy is present so long as the patentee asks for payment in accordance with the license.[175] That the patentee has promised not to sue for infringement does not make the license any less coercive in its attempt to extract money from the licensee; the patentee would still sue for breach of contract. This is especially true if the covenant ends upon a challenge, because the licensee would then be at risk of being sued for infringement.[176] As such, the licensee can always claim that there is a justiciable dispute between the parties.

Of the no-challenge strategies, a terminate-on-challenge clause at the patentee's option is the most likely to be legal, practical, and effective.

E. Royalty Escalation, Cost, and Damages Strategies

The challenge tax might be reduced by implementing clauses that either make it more expensive for the licensee to challenge or compensate the patentee for the challenge.

1. Royalty Continuation

Although the general rule is that royalties must be paid until the time of a challenge,[177] the parties might make this more certain by agreeing that any challenge will only affect future royalties.[178] The effect on the tax would depend on the patentee's trust in the general rule.

A more aggressive approach would be for the parties to agree that royalties shall only cease upon an actual final ruling of invalidity, and that any royalties prior to that time are nonrefundable.[179] This approach would decrease the future royalties (r) at stake, reducing the tax. To the extent that such a rule might give the patentee an incentive to take all appeals, higher litigation costs (c) might create a countervailing increase in the tax. This offset would likely be small, however, because without this clause, potential lost royalties (r) would be higher and other contract revenues (r') would also be at stake, providing the same incentive to fully litigate.

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175. *Cf.* Caraco Pharm. Labs., Ltd. v. Forest Labs., Inc., 527 F.3d 1278, 1295 (Fed. Cir. 2008) (any injury sufficient to create a controversy).

176. Revolution Eyewear, Inc. v. Aspex Eyewear, Inc., No. 2009-1443, 2009 WL 2921314 (Fed. Cir. Sept. 11, 2009) (holding that a covenant that does not apply to future products does not divest jurisdiction); Honeywell Int'l Inc. v. Universal Avionics Sys. Corp., 488 F.3d 982, 995–96 (Fed. Cir. 2007) (stating that withdrawal of some claims but not others leads to controversy for entire patent); Sierra Applied Sci., Inc. v. Advanced Energy Indus., 363 F.3d 1361, 1375 (Fed. Cir. 2004); FieldTurf USA, Inc. v. Sports Constr. Group, LLC, 507 F. Supp. 2d 801, 808 (N.D. Ohio 2007) (holding that a conditional covenant does not eliminate controversy); Bleeker & O'Shaughnessy, *supra* note 9, at 424; O'Connor, *supra* note 9, at 433. *But see* Furminator, Inc. v. Ontel Prods. Corp., 246 F.R.D. 579, 589 (E.D. Mo. 2007) (holding that covenant not to sue on current but not future products still divests court of jurisdiction), *aff'd without opinion*, 214 F. App'x 982 (Fed. Cir. 2007).

177. *See* Lear, Inc. v. Adkins, 395 U.S. 653, 674 (1969).

178. Collins & Cicero, *supra* note 114, at 755. For sample language, see *supra* App. II.5.B.

179. Collins & Cicero, *supra* note 114, at 755; Kuwahara & Lavey, *supra* note 9, at 159–60. For sample language, see *infra* App. II.5.C.

The continuing royalty provision might be difficult to enforce. Courts have found a requirement to pay nonrefundable royalties until an invalidity finding unenforceable.[180] However, such decisions were based on repudiation. Where a licensee desires the protection of a license during a challenge, courts have been more willing to require payment of royalties during litigation.[181] Even so, the patentee would likely be required to refund royalties on a successful challenge.[182]

A slightly less aggressive approach would be a no-escrow clause.[183] The licensee would agree that in the case of a challenge it would not seek to escrow fees during the litigation's pendency. A no-escrow provision would be especially important for patentees that rely on the royalty stream to do business, such as in exclusive licenses or for patentees with little capitalization.[184] Where the parties are well capitalized, however, this provision would have little effect, as the royalties would have to be returned by the patentee upon a loss. This clause is likely enforceable, as escrows have already been frowned on by many courts.[185]

Finally, the parties might agree to one last hope—that the courts will reverse themselves. Thus, the license would state that, if in the future royalties can be collected on invalid or noninfringed patents, then royalties will recommence.[186] This would decrease the tax in two ways. First, it would increase the possibility for future royalties to the patentee even in the event of a loss. Second, it would increase the cost of a challenge, thus reducing the likelihood of one. This provision might very well be valid, but its utility is limited by patent terms; any given patent might well expire before such an unlikely ruling were ever made.[187]

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180.   Cordis Corp. v. Medtronic, Inc., 780 F.2d 991, 995 (Fed. Cir. 1985) ("The holding of *Lear* . . . prevents the affirmative enforcement by the licensor of the royalty payment provisions of the license agreement while the patent's validity is being challenged by the licensee."); Bayer AG v. Housey Pharms., Inc., 228 F. Supp. 2d 467, 474 (D. Del. 2002) (voiding a clause that explicitly requires royalty payment during a challenge); *see also* Timely Prods., Inc. v. Constanzo, 465 F. Supp. 91, 96 (D. Conn. 1979) (holding that royalty reduction of only fifty percent on patent invalidity is unenforceable).

181.   *Medtronic*, 780 F.2d at 995 ("[W]e find no authority in *Lear* for establishing an escrow account for royalties due *pendente lite* . . . ."); Warner-Jenkinson Co. v. Allied Chem. Corp. 567 F.2d 184, 188 (2d Cir. 1977) (denying licensee request to escrow, but noting that royalties may have to be refunded if licensee wins challenge).

182.   *Warner-Jenkinson*, 567 F.2d at 188. *But see* Collins & Cicero, *supra* note 114, at 755 (arguing that *MedImmune* implies that no-refund provision might still be enforceable).

183.   For sample language, see *infra* App. II.5.D.

184.   Dreyfuss & Pope, *supra* note 9, at 975 ("[T]he participants are likely to be in poor positions to deal with either risk or cash-flow problems: the patent holders in emerging sectors are likely to be small companies that are highly dependent on their patent revenues, or universities, which rely on licensing income to fund their technology transfer operations.").

185.   *See supra* note 181.

186.   For sample language, see *infra* App. II.5.E.

187.   Given that recent moves favor patent challenges, it is unlikely that such a ruling will ever happen.

2. Royalty Escalation

A licensee might signal that it will not challenge a patent by agreeing to pay more royalties in case of a patent challenge.[188] Such an escalation clause might come in two forms: (1) escalation upon filing of suit, and (2) escalation upon losing a suit.[189] Obviously, the earlier the escalation, the higher the potential fees paid by the licensee in case of challenge.

Escalation reduces the tax in two ways. First, by increasing the licensee's cost, the likelihood of challenge (s) is decreased.[190] Second, the patentee stands to gain more if it wins the challenge, similar to the termination right. This gain reduces the tax by the probability of winning the challenge if there is one multiplied by the escalation (swe). Of course, to the extent that patentees can gain more from a challenge, they might spend more defending the patent. This spending would increase litigation costs (c), offsetting some benefit of the escalation.

Royalties that escalate if the challenger loses should be enforceable because the licensee avoids the escalated royalties if it wins the challenge, thus leaving the incentive to challenge.[191] Another argument in favor of escalation is that a patentee

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188. Bleeker & O'Shaughnessy, *supra* note 9, at 433; Dreyfuss & Pope, *supra* note 9, at 1001 ("One approach is to . . . provide for an increase in the royalty rate should the challenge be unsuccessful."); Kuwahara & Lavey, *supra* note 9, at 159; Schlicher, *supra* note 5, at 390. Schlicher also suggests that the patentee charge even more and then rebate royalties if there is no challenge. Schlicher, *supra* note 5, at 389–90. This is similar to a "reverse escalation" but may be less palatable to licensees because of up-front costs and risk of patentee insolvency. Then again, it may be more palatable from a legal standpoint, as there is no explicit penalty for challenge. Bleeker and O'Shaughnessy suggest a royalty declination upon a successful challenge but, as they note, such a provision is likely unenforceable so long as the law does not allow any enforcement of an invalid patent. Bleeker & O'Shaughnessy, *supra* note 9, at 433–35.

189. Collins & Cicero, *supra* note 114, at 754; Dreyfuss & Pope, *supra* note 9, at 1001 ("A second idea is to establish a three-tier system, with the rate increasing once a challenge is mounted, and providing for an even higher royalty if the challenge is not successful."); Kuwahara & Lavey, *supra* note 9, at 159; O'Connor, *supra* note 9, at 446 ("In the extreme, one might imagine a licensor structuring a license to require only a 'discounted' royalty rate for unchallenged patents, but then increasing that rate after successfully defending the validity of her patent . . . ."); Schlicher, *supra* note 5, at 390. For sample language, see *infra* App. II.2.B.

190. *Cf.* Farrell & Merges, *supra* note 107, at 954–55 ("Patentees can also charge differential royalties in a way that penalizes holdout firms who do not settle early. This hardball behavior by the patentee strengthens the infringer's incentive to win if it brings a challenge, but further weakens the infringer's incentive to challenge in the first place rather than quietly pay up.").

191. Bleeker & O'Shaughnessy, *supra* note 9, at 434 ("Presumably, if the licensee *fails* to prove invalidity (or non-infringement), then the licensee has breached the license agreement without good cause and might arguably be subject to penalties specified in the agreement." (emphasis in original)); Dreyfuss & Pope, *supra* note 9, at 1002 ("Furthermore, the different rate does not entirely eliminate the incentive to challenge: if the challenge is successful, the licensee will terminate the license and escape the obligation to pay royalties."); Kuwahara & Lavey, *supra* note 9, at 159 ("The Supreme Court is likely to allow some increase in royalty rate under these conditions unless such an increase is unjustly large that could effectively eliminate the licensee's right to challenge the validity of licensed patent without loss of the benefit of the license."). *But see* Schlicher, *supra* note 5, at 390 n.48 (arguing that escalation clauses are no different than no-challenge clauses, and thus likely to be found unenforceable).

may charge whatever it likes, so long as the patent is valid.[192] Furthermore, because no injunction is available against a nonrepudiating licensee, a royalty escalation is an agreed upon reasonable royalty imposed on the losing licensee.[193]

The reasonable-royalty argument is doubly important because any escalation clause will likely have to satisfy traditional liquidated damages requirements. Penalty damages are generally outlawed.[194] Instead, contractually prescribed damages must bear a reasonable relationship to the potential harm caused by a breach.[195]

As a result, escalation clauses should bear some relation to damages the patentee might sustain. The question of damages is complicated, however, as the "damages" are not for a breach of a covenant not to challenge because such covenants cannot be enforced. It is unlikely that a court will uphold "damages" for a nonbreaching challenge. Thus, escalation clauses should not be styled as liquidated damages provisions; they should, however, still avoid the imprimatur of penalty, so that courts will not invalidate them under liquidated-damages principles.

The tax would be minimized even further if the patentee could collect and retain escalated royalties commencing with the challenge and regardless of outcome (*swe* becomes *se* because winning is no longer a condition), but such a result is unlikely. Even if royalties are not escrowed pending litigation, the licensee's obligation to pay—assuming a successful challenge—ceases at the filing of the lawsuit.[196] Although it

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192. *See* Cordis Corp. v. Medtronic, Inc., 780 F.2d 991, 995 (Fed. Cir. 1985) ("This public policy statement [in *Lear*] *does* permit a licensee to cease payments due under a contract while challenging the validity of a patent. It *does not* permit the licensees to avoid facing the consequences that such an action would bring." (emphasis in original)); *In re* Yarn Processing Patent Validity Litig., 541 F.2d 1127, 1140 (5th Cir. 1976) ("In [*Brulotte*] the collection of use royalties was deemed illegal only after the expiration of the last patent. Here the royalties are collected under unexpired double heater patents. Normally, a patent holder may charge whatever it likes for a license."); Wallace Clark & Co. v. Acheson Indus., Inc., 401 F. Supp. 637, 639–40 (S.D.N.Y. 1975) (stating that a minimum royalty provision not void under *Lear* because licensee may still challenge validity), *aff'd* 532 F.2d 846 (2d Cir. 1976); Am. Photocopy Equip. Co. v. Rovico, Inc., 257 F. Supp. 192, 199 (N.D. Ill. 1966) ("[I]t is not a violation of the anti-trust laws for a patentee to grant a license under his patent *for any royalty* or upon any condition the performance of which is reasonably within the reward which the patentee by the grant of the patent is entitled to secure. This, of course, is not to say that the patentee is free to expand his statutory monopoly, as where royalties are to be paid after the patent has expired." (emphasis in original)).

193. *See* Bleeker & O'Shaughnessy, *supra* note 9, at 434; Dreyfuss & Pope, *supra* note 9, at 1001–02 ("Although the increase in the rate creates a disincentive and may seem inconsistent with *Lear*, patents that have survived a challenge are generally perceived by the business community as more valuable than untested patents."); *cf.* Aronson v. Quick Point Pencil Co., 440 U.S. 257, 263 (1979) (approving license that reflects economics of relationship); Paice LLC v. Toyota Motor Corp., 504 F.3d 1293, 1315 (Fed. Cir. 2007) ("In most cases, where the district court determines that a permanent injunction is not warranted, the district court may wish to allow the parties to negotiate a license amongst themselves regarding future use of a patented invention before imposing an ongoing royalty.").

194. Ira Jay Levy, *Litigation Planning for Licensing Lawyers*, *in* 2 JOSEPH YANG & IRA JAY LEVY, ADVANCED LICENSING AGREEMENTS 2009 235, 257 (PLI Intellectual Prop., Course Handbook Series No. 961, 2009).

195. *Id.*

196. Lear, Inc. v. Adkins, 395 U.S. 653, 673–74 (1969).

might appear that payment during pendency aids the patentee in defending the challenge,[197] this benefit is illusory if the patentee loses, as the amount received will have to be refunded[198]—the same result could be achieved with a loan. To avoid this problem, the patentee might argue that the escalation is necessary, win or lose, to pay for costs and fees.[199] A practical problem with this argument is that it undercuts any fee-shifting clauses, which are discussed below. A patentee would ideally want both escalation and fee shifting instead of just one of them.

The license also might include language that says nonrefundable royalties must be paid until final determination, as suggested in Appendix II.5.C.[200] Subpart 1, above, addresses the likely nonefficacy of this approach. If it were effective, however, the tax would be lower.

If legal gambits to keep escalated royalties that accrue after the date of challenge fail, the patentee will only be able to keep the incremental royalties if it wins the challenge. Further, any uncertainty about timing will likely reduce the value of the clause as a signal. The parties likely need not implement a two-tiered escalation like that in Appendix II; a single rate going into effect at the time of challenge will provide the maximum impact.

Thus, the tax effect will be proportional to the patentee's likelihood of winning, which is necessarily smaller than a guaranteed royalty escalation. This leads to a curious result: escalated royalties will have little effect on the tax associated with a weak patent because patentees will likely never retain the increased royalty.

This surprisingly means that licensees facing weak patents can theoretically only reduce their nuisance fee by also agreeing to much higher royalties if they challenge the patent—the weaker the patent, the higher the escalation required.[201] This is directly contrary to the suggestion that licensees should counter escalation proposals with requests for refunds if the patent is found invalid.[202] Instead of demanding royalty refunds (which will only drive the tax higher), licensees who do not want a challenge should instead agree to significant royalty escalation.

Patentees might prefer these strategies to a terminate-on-challenge clause—legality and deterrent effectiveness being equal—for four reasons. First, the patentee would still have the benefit of other license provisions, such as use restrictions. Second, the

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197. Collins & Cicero, *supra* note 114, at 754 ("Now, after *MedImmune*, licensors are arguably more financially equipped to defend a patent challenge because licensees will continue to pay royalties during the challenge, thus giving the licensor funds to pay the litigation costs."); Dreyfuss & Pope, *supra* note 9, at 1002 ("Imposing an increased royalty during the period of challenge defrays the additional economic burden defending such a challenge imposes on the patent holder.").

198. Warner-Jenkinson Co. v. Allied Chem. Corp., 567 F.2d 184, 188 (2d Cir.1977) ("Ultimately, all royalties paid after the filing of the complaint may have to be returned to the plaintiffs.").

199. For sample language, see *infra* App. II.2.B.

200. Kuwahara & Lavey, *supra* note 9, at 159–60.

201. *Cf.* Dreyfuss & Pope, *supra* note 9, at 1003 ("In fact, the greater differential between the two licensing rates—that is, the more the royalty is reduced for those licensees who are willing to forgo a challenge—the more credible the argument that there is a social benefit to the arrangement.").

202. *See, e.g.*, Collins & Cicero, *supra* note 114, at 754 (suggesting that licensees will likely not accept escalation clauses unless they can get a refund as well if they win a challenge).

patentee would not need to prove-up damages. Third, the increased royalty would provide more certainty in the amount of damages. Fourth, weak patents have little chance of garnering higher damages if a patent is challenged, such that the preset royalty is the maximum amount the patent will earn.[203]

Licensees might prefer such clauses for the same reason: they would still have the benefit of a license (rather than injunction risk) and the increased payments resulting from a failed challenge would be more certain. Furthermore, the lack of injunction risk gives the patentee less holdup leverage to negotiate royalties—even escalated royalties.

3. Combination Licenses

A common licensing suggestion is to couple patent licenses with trade secret licenses to overcome the rule that one may not license invalid patents, or to otherwise apply royalties to value other than patents.[204] The theory is that even if the patent is invalid, royalties must still be paid for the use of trade secrets.[205] This is the general rule for multiple patents, which may be combined for a single royalty even if one patent is later invalidated.[206] The theory manifests itself in the model two ways. First, the benefits of challenge to licensees are reduced, which reduces the likelihood they will bring challenges (s). Second, if there is a challenge, the patentee stands to lose fewer royalties (r). Both effects reduce the tax.

The benefits of such coupling are limited, though. Courts have made clear that license fees must be decreased when a patent is found invalid;[207] they treat a trade secret license as less valuable than a combination patent and trade secret license.[208]

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203. The *MedImmune* decision may have helped weak patentees by encouraging licensees to continue with their agreements rather than breaching.

204. Collins & Cicero, *supra* note 114, at 754; Schlicher, *supra* note 5, at 385–86, 391. For sample language, see *infra* App. II.

205. *See* Aronson v. Quick Point Pencil Co., 440 U.S. 257, 261–62 (1979) (finding a license for a patent which failed to issue still valid); Lear, Inc. v. Adkins, 395 U.S. 653, 675 (1969) (refusing to void license to patent application prior to issuance, and leaving the question to state courts).

206. *See* Hull v. Brunswick Corp., 704 F.2d 1195, 1200 (10th Cir. 1983) (holding that escalation of royalties under one patent after expiration of a second patent is enforceable).

207. Zila, Inc. v. Tinnell, 502 F.3d 1014, 1021 (9th Cir. 2007) ("[A] contract that provides for royalties either when a patent expires or when it fails to issue cannot be upheld unless it provides a discount from the alternative, patent-protected rate."); *see* Meehan v. PPG Indus., Inc., 802 F.2d 881, 883–84 (7th Cir. 1986); Boggild v. Kenner Prods., 776 F.2d 1315, 1319–20 (6th Cir. 1985) (stating that a license must distinguish between patent and nonpatent royalties); Pitney Bowes, Inc. v. Mestre, 701 F.2d 1365, 1372–74 (11th Cir. 1983); Span-Deck, Inc. v. Fab-Con, Inc., 677 F.2d 1237, 1247 (8th Cir. 1982) (hybrid license must differentiate between patent and nonpatent consideration); *cf.* Aronson v. Quick Point Pencil Co., 440 U.S. 257, 262 (1979) (holding that a royalty that decreases where a patent does not issue is enforceable); American Sec. Co. v. Shatterproof Glass Corp., 268 F.2d 769 (3d Cir. 1959) (package patent licensing is misuse if it is a sham).

208. *But see Zila*, 502 F.3d at 1021–22 ("This understanding, however, may well overread both *Brulotte* and *Aronson*, by glossing over the unique and onerous contractual restrictions at issue in *Brulotte* and relying on a sentence in *Aronson* that is really only dicta . . . . In short, were we writing on a clean slate, we might be inclined to read the dicta in *Aronson* as

Unlike licenses for multiple patents, trade secret licenses may not be combined with potentially invalid patents, at least not at the same royalty rate.[209] Instead, patentees are required to assign some defensible value on the patent license that is distinct from the combined royalty, and the patentee loses that portion of the royalty upon a successful challenge.

Additionally, only royalties for the current licenses would be saved. Other licenses (r') might still be lost if they were not joint licenses. Of course, if other licenses do include a trade secret component, then only a portion of other royalties would be lost.

Despite these limitations, saving some of the license fee without the patent is better than saving none, so joint licenses do more good than harm with respect to the tax. If, however, licensees view the separate trade secret license as distinct from a "simple" patent license, then it may not differentiate the tax from a premium for an unnecessary trade secret license, making a successful negotiation more difficult.

4. Fee Shifting

Licenses that include fee-shifting provisions[210] would reduce the tax. As with many of these suggestions, traditional fee shifting potentially increases the cost to the licensee, thus making a challenge less likely (s). It also decreases the potential litigation costs borne by the patentee if the challenge is unsuccessful. The decrease is conditional, however, because the fees would only be recoverable if the patentee wins (reducing the tax by swc).[211]

The tax could be reduced even more by uncommon but aggressive fee shifting. The most aggressive provision would require the licensee to pay all of the patentee's attorneys' fees and costs[212] from the time of challenge, win or lose.[213] Such an agreement would exert the most pressure not to challenge (s) and would also unconditionally eliminate the patentee's litigation costs (reducing the tax by sc). Any incremental fee-shifting arrangement between traditional fee shifting and the aggressive shifting proposed here would have a commensurate incremental effect.

Traditional fee shifting is likely to be legal; many contracts, including patent licenses, include fee shifting against losing parties.[214] Further, traditional fee shifting is unlikely to be found unenforceable as a barrier to challenges under *Lear* because a

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nonbinding in light of what appears on its face to be a very limited holding in *Brulotte*. By doing so, we would largely avoid attributing to the Supreme Court in *Brulotte* and *Aronson* the lack of economic logic laid at its feet.").

209. *Zila*, 502 F.3d at 1021.

210. *See* Bleeker & O'Shaughnessy, *supra* note 9, at 433; Collins & Cicero, *supra* note 114, at 754; Kuwahara & Lavey, *supra* note 9, at160; Schlicher, *supra* note 5, at 391. For sample language, see *infra* App. II.2.C–D.

211. Some states, such as California, require fee shifting to be mutual. CAL. CIV. CODE § 1717 (2009). Mutual fee shifting would decrease the impact of such a clause, especially for weak patents.

212. This includes nontaxable costs, such as expert fees. 28 U.S.C. § 1920 (2006).

213. Collins & Cicero, *supra* note 114, at 755 (suggesting a hybrid whereby fees shift if *any* of the challenged claims are upheld).

214. *See* Allan Block Corp. v. County Materials Corp., 512 F.3d 912, 920 (7th Cir. 2008); Kelly Casey Mullally, Gregory Castanias & Franklin E. Gibbs, MedImmune v. Genentech, 4 J. BUS. & TECH. L. 59, 77 (2009).

failed patent challenge does not create the social benefit of invalidating bad patents.[215] While good challenges should be encouraged, bad challenges should be discouraged because they create unwarranted social costs. Shifting litigation costs to the winner of litigation may be preferable to royalty escalation because escalation is untested.

Patentees must be careful, however, to ensure that fee shifting is available; perhaps they are currently not so careful, as there appear to be no published cases granting either party fees in a patent invalidity or infringement challenge action. This may be for two reasons. First, the clause must be clear that a challenge will give rise to fee shifting.[216] For example, a declaratory-relief action might not be considered an action on the contract,[217] so any clause must be sure to include that option. Second, and more important, if the patentee exercises a termination right then the fee-shifting provision may no longer be in effect. A simple solution would be to ensure that fee-shifting provisions survive termination of the license. In any event, unclear fee-shifting clauses decrease the risk of challenge for licensees, which in turn makes challenge more likely, partially offsetting the effects of a fee-shifting clause.

Fee shifting not based on the outcome is more likely to be an unenforceable impediment to patent challenges. The theory is that fee shifting will remove the incentive to challenge if the licensee must pay win or lose.[218] However, cases that imply that *any* disincentive to challenge is void can be distinguished. In *Timely Products, Inc. v. Constanzo*, for example, the "impediment" was that the licensee had to pay royalties even if the patent were invalid.[219] With fee shifting, the impediment is present whether or not the challenge is successful, but it does not create a continuing royalty obligation if the challenge is successful. Patentees might argue that a onetime cost to challenge is an acceptable contract provision; after all, licensees must bear their own litigation costs—they cannot argue that litigation costs generally are an unreasonable impediment to challenge.

If legal, mandatory fee- and cost-shifting clauses might be a license's most persuasive signals, especially with respect to weak patents (nuisance licenses). As discussed above, if a patentee assumes it will lose in litigation, then royalty escalation will have little effect because the patentee expects it will never see those royalties.

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215. Schlicher, *supra* note 5, at 391.

216. *See, e.g.*, Allan Block Corp. v. County Materials Corp., 512 F.3d at 920–21 (holding that "collection" fee-shifting clause does not warrant shifting in patent licensing dispute).

217. Digital Angel Corp. v. Allflex USA, Inc., No. 04-4545ADMAJB, 2005 WL 2464942, at *2 (D. Minn. Oct. 6, 2005) (holding that infringement claim does not fall under contract for fee-shifting clause). Licensees will have tough choices to make—they may want to allege a contract action for jurisdiction/forum-selection reasons, but doing so may bring them within contractual fee-shifting provisions.

218. Span-Deck, Inc. v. Fab-Con, Inc., 677 F.2d 1237, 1247 n.12 (8th Cir. 1982) ("If [royalties were] held enforceable despite patent validity, such an agreement would prevent the 'unmuzzling' of royalties to aid the licensee in the expense of challenging patent validity, which achieves a result directly contradictory to that sought in *Lear*."); Warner-Jenkinson Co. v. Allied Chem. Corp. 567 F.2d 184, 187–88 (2d Cir. 1977) (holding that a licensee need not terminate a license to challenge a patent, as that would reduce incentive to challenge); Timely Prods., Inc. v. Constanzo, 465 F. Supp. 91, 96 (D. Conn. 1979) (stating that any provision that removes incentives to challenge are void).

219. *Timely Prods.*, 465 F. Supp. at 96.

Thus, the risk of litigation costs becomes the most variable portion of the tax; patentees do not want to lose their patent *and* pay high costs doing so.

Negating litigation costs by both reducing the chance and costs of challenge can have a much larger percentage effect on the tax. Like escalated royalties, a licensee that has determined a nuisance fee is the best way to settle a matter can pay the lowest guaranteed fee by promising to pay the highest litigation costs. In fact, combining fee shifting with escalated royalties would likely best minimize the tax.

As discussed above, royalty escalation and fee shifting are likely to be the best and most palatable patent-tax reduction strategies for all parties.

F. Dispute-Resolution Strategies

1. Venue Selection

An agreement to bring any challenge in a local jurisdiction[220] or in a defensible "patent-friendly" jurisdiction affects the challenge tax in a few ways. First, if the licensee is not local, it increases the costs of a challenge, thus decreasing the likelihood of a challenge (s). Second, such a provision would minimize the patentee's litigation costs (c). Third, the patentee might perceive a higher chance of winning (either by hometown effect or by a "patent-friendly" venue), which would decrease the potential lost revenue ($(1-w)r$). If the venue is remote but patent friendly, one would expect a decrease in tax only if the effect on revenues outweighs the costs associated with litigating in a foreign venue; because revenues are contingent on winning the challenge but costs are certain win or lose, the effect is ambiguous.

A venue provision illustrates the logical difficulties associated with interpreting *Lear* to void all contract provisions that reduce incentives to challenge. Surely a venue provision makes it more costly to challenge, but just as surely such a provision is enforceable as a reasonably negotiated license term.[221] This apparent paradox illustrates the limits of *Lear*—at some point "patent policy" must give way to private ordering. Exactly where that line should be drawn, of course, is subject to much debate.

2. Arbitration Clauses

Licensees might agree to arbitrate any disputes to lower the tax.[222] The tax will be lowered to the extent the patentee believes the licensee is less likely to win a challenge in arbitration.[223] If so, arbitration would lower the chance of lost royalties ($(1 - w)r$). Also, if licensees perceive the same shift in chances, it would make them less likely to challenge (s).[224]

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220. Bleeker & O'Shaughnessy, *supra* note 9, at 433; Collins & Cicero, *supra* note 114, at 755–56; Kuwahara & Lavey, *supra* note 9, at 160; For sample language see *infra* App. II.3.A.

221. Monsanto Co. v. McFarling, 302 F.3d 1291, 1294–95 (Fed. Cir. 2002).

222. Collins & Cicero, *supra* note 114, at 755; Dreyfuss & Pope, *supra* note 9, at 999–1001; Schlicher, *supra* note 5, at 392. For sample language, see *infra* App. II.3.B.

223. *Cf.* Dreyfuss & Pope, *supra* note 9, at 1000 ("For the licensee, the problem is that the arbitrator may be more deferential to the PTO than judges, making it less likely that a challenge to the patent will win.").

224. *But see* Dreyfuss & Pope, *supra* note 9, at 1000 ("Accordingly, there is a risk that the

More important, even if chances of winning in arbitration were identical to those of winning a lawsuit, two other considerations might lower the tax. First, to the extent that arbitration is faster and cheaper the cost of a challenge (*c*) would be reduced, especially if the parties agree to streamlined procedures.[225] Second, if an arbitration award could be kept confidential, the patentee's potential losses would be truncated because the patentee would not lose revenue associated with other licenses (($1-w'$)r').[226]

Arbitration clauses might not have the desired effects, however. First, patentees might not believe they will do as well in arbitration such that the chance of winning is actually lower, and thus the expected lost revenue is higher. Second, arbitration may not be cheaper than litigation, depending on the particular terms, such that costs (*c*) are higher rather than lower. Third, secrecy cuts both ways; a confidential win by the patentee means that the patentee cannot seek enhanced royalties from future licensees from a stronger patent ($w'e'$). Fourth, the lack of a thorough appellate procedure increases the patentee's uncertainty about the above variables, which has the effect of raising the tax, especially for risk averse patentees.

Use of an arbitration clause in this way may have a couple legal impediments as well. First, the likelihood of actually keeping the ruling confidential is low, in part because arbitration awards, *including a copy of the award*, must be reported to the Patent and Trademark Office (PTO) to be included in the file for the patent at issue.[227] Additionally, any challenge to the arbitration award will cause publication of the award through the docket, if not as part of the opinion.[228] Lack of secrecy does mean, however, that a winning patentee can seek higher royalties from future licensees, which would decrease the tax.

To be sure, the award is not enforceable unless it is filed with the PTO,[229] but it is difficult to imagine a winning licensee not filing such an award.[230] Additionally, while an award "shall have no force or effect on any other person,"[231] nonmutual collateral estoppel will make an invalidity finding binding on the patentee,[232] which is presumably why awards must be filed with the PTO in the first place. Thus, the only

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reduced cost will make the licensee too ready to challenge the patent.").

225.   *See* P. Jean Baker, *Patent Litigation: A Radically Changed Environment for Licensors and Licensees*, INTELL. PROP. & TECH. L.J., Feb. 2008, at 12, 15; Dreyfuss & Pope, *supra* note 9, at 1000 ("For example, if the parties are concerned about resources, they could limit discovery and the overall length of the proceeding.").

226.   Dreyfuss & Pope, *supra* note 9, at 999–1000 ("So long as the parties agree to keep the record of the arbitration—including any evidence presented and any arguments made to the tribunal—confidential, then even a successful challenge will not invalidate the patent or even provide information to other licensees, potential licensees, or possible challengers.").

227.   35 U.S.C. § 294(d) (2006); 37 C.F.R. § 1.335(b) (2009).

228.   *See, e.g.*, Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1364 (Fed. Cir. 2001).

229.   Baker, *supra* note 225, at 15.

230.   Arguably the contract could bar such action, but attempts to do so are likely unenforceable given the specific statutory mandate.

231.   35 U.S.C. § 294(c).

232.   Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found., 402 U.S. 313 (1971) (finding nonmutual collateral estoppel against the patentee); *see also* Cobra N. Am., LLC v. Cold Cut Sys. Svenska AB, No. 08-cv-00873-DME-CBS, 2008 WL 5216290, at *6 (D. Colo. Dec. 11, 2008) (stating that an arbitration award sheds light on argument made in separate litigation); Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 149 F. Supp. 2d 610, 613 (S.D. Ind. 2001) (holding that an award is binding on parties and those in privity with them).

way to keep the basis for an award secret would be to request that the arbitrator just issue a decision in favor of each party with no explanation. Such an option will hardly be palatable for patentees and licensees alike.[233]

Second, even if the award were secret, patentees seeking to license patents adjudicated to be invalid (in any venue) face risks. Such licensing would be considered patent misuse and might even be considered an antitrust violation.[234] This might render the patent unenforceable at best and subject the patentee to damages at worst. Thus, patentees might be hesitant to continue licensing a patent adjudicated invalid in a secret arbitration proceeding.[235]

Dispute-resolution strategies are certainly legal and may even be practical, but they are unlikely to be effective in reducing the tax.

Conclusion

While many believe that the patent-challenge right is unsettled, this Article shows that no court since *Lear* has upheld a covenant not to challenge a patent, and that such provisions have been disfavored by the Supreme Court for more than one hundred years. It is possible that courts may begin to respect the finality of patent licenses, but there is no strong indication that they will do so any time soon.

Licensee ability to obtain protection from infringement claims while simultaneously attacking the patent decreases the expected benefits patentees receive from any agreement. Thus, the challenge right imposes a form of tax on patentees which is passed through to licensees and consumers. This tax may be worthwhile if it generates sufficient social benefit, but at the individual transaction level, licensees who do not plan to challenge the patent might want to reduce the tax by agreeing to terms that make challenge less likely.

The terms that are most likely to be effective—other than the explicit promise to challenge which is now unenforceable—are those that most increase the cost to the licensee in case of challenge. For example agreeing to pay nonrefundable escalated royalties during the pendency of the challenge or agreeing to pay, win or lose, for all the patentee's attorneys' fees are likely to have the most impact on the challenge tax. Unfortunately, these highly effective methods are also most likely to be void.

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233. Among other things, such an award would have no basis for challenge in court, no matter how wrong the arbitrator might be. *See* 9 U.S.C. § 10(a) (2006) (delineating narrow areas for overturning arbitration awards).

234. *See* Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 135 (1969); United States v. U.S. Gypsum Co., 333 U.S. 364, 387 (1948); Handgards, Inc. v. Ethicon, Inc., 601 F.2d 986, 993 (9th Cir. 1979) (holding that knowingly attempting to enforce an invalid patent can be an antitrust violation); Transitron Elec. Corp. v. Hughes Aircraft Co., 487 F. Supp. 885, 893 (D. Mass. 1980) (attempting to enforce an invalid patent is misuse); Lawrence Schlam, *Compulsory Royalty-Free Licensing as an Antitrust Remedy for Patent Fraud: Law, Policy and the Patent-Antitrust Interface Revisited*, 7 CORNELL J.L. & PUB. POL'Y 467, 493 (1998).

235. Even secret awards would likely be discoverable in later proceedings. *Cf.* Coca-Cola Bottling Co. v. Coca-Cola Co., 107 F.R.D. 288, 290 (D. Del. 1985) ("Except for a few privileged matters, nothing is sacred in civil litigation; even the legendary barriers erected by The Coca-Cola Company to keep its formulae from the world must fall if the formulae are needed to allow plaintiffs and the Court to determine the truth in these disputes.").

The difficulty is identifying those methods which are both effective and legal. This Article suggests that the best alternatives also increase costs through escalating royalties and fee shifting, but only do so when the licensee loses the challenge. These strategies have the benefit of lowering the patentee's expected cost, but they are also likely legal because they only increase the licensee's costs if the challenge is unsuccessful. These choices are also likely to be more palatable to both parties than terminate-on-challenge provisions.

There are a three broader policy issues identified in this Article. First, courts and many commentators have given too little attention to the social costs of policies that encourage invalidation of bad patents. To be sure, licensees just might be society's best hope for invalidating patents, but this is not a costless proposition.

Second, given social costs, it may be optimal to allow at least some licensees to promise not to challenge patents. Doing so would reduce the deadweight loss associated with the tax, while not significantly affecting the number of patent challenges because agreeing licensees will usually not want to challenge in the first place.[236] Allowing no-challenge clauses may not advance the goal of invalidating every bad patent, but so long as parties can seek other ways of limiting challenges and so long as licensees were not going to challenge anyway, then little is lost. Of course, licensees might want the option to challenge later, in which case they should not agree to a no-challenge provision and pay the increase royalty associated with the challenge tax. Alternatively, they could agree to pay escalated royalties if they lose, and then challenge only if there is significant value in doing so.

Third, varying the right to challenge depending on context might be an appropriate middle ground that can reduce social costs. For example, no-challenge provisions could be binding if the licensed patent has survived challenge in the past. Additionally, courts could impose mandatory fee shifting for failed challenges. Alternatively, arbitration clauses could be given nonpreclusive effect as to other licensees. These and other policies might encourage challenges where the benefits exceed the costs, but discourage challenges where the costs exceed the benefits.

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236. Some might eventually want to challenge, or else such agreements would never have been tested in court.

APPENDIX I: A SIMPLE LICENSING/LITIGATION MODEL

This licensing/litigation model outlines basic probabilistic choices facing a potential patentee/licensor and, by extension, a licensee. The model makes several simplifying assumptions, including among others: (1) that the patentee can make some reasonable estimate of probabilities and damages; (2) that the potential costs and damages are fixed ex ante; (3) that choices are single play, such that a single-percentage chance rather than a probability distribution represents expected value; (4) that the choice is between licensing and litigation;[237] and (5) that the parties are risk neutral.

These assumptions could be adjusted in different ways, resulting in a much more complex model. Because the general conclusions are driven primarily by the choices facing the patentee, additional complexity should not vary the conclusions of the model.

A. Licensing Outcome

The licensing outcome (R) is the result of a negotiated agreement, represented by:

(1) $R = r$

where r = the present value of a royalty stream for the license.[238] Here r is generally a function of four factors:

(2) $r = f(w, d, c, m)$

where w equals the probability of winning in litigation,[239] d equals the damages associated with winning,[240] m equals market-based factors, and c equals the cost of litigation with a particular licensee.[241] The litigation cost also includes losses associated with the challenger's potential right to pay royalties into escrow during the pendency of the lawsuit, which might range from loss of interest on the royalties during the pendency of litigation to the entire value of the business if the loss of royalty stream puts the company out of business.

To be sure, there are many market factors that can affect rates, such as the patentee's opportunity costs,[242] comparable licenses and industry standards,[243]

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237. Many patentees may choose not to take any action, including licensing, where odds of winning are low and litigation costs are high. This discussion assumes that such is not the case, but the model is easily extended to include "no action" choices.

238. All values discussed throughout are present value.

239. In turn, $w = i * v$, where i is the probability that the accused product infringes and v is the probability that the patent at issue is valid. These two probabilities can vary independently, but where i and v are both low the likelihood of winning is lowest.

240. *See* Lemley & Shapiro, *supra* note 82, at 2000 (stating that a baseline royalty based on reasonable royalty courts might apply).

241. *See* Schlicher, *supra* note 5, at 373.

242. *See id.* at 375.

243. O'Connor, *supra* note 9, at 452.

negotiating skills,[244] proxies for strength of the patent,[245] and technology alternatives.[246] However, even these are derived over time from the potential value of the patent and the potential damages in litigation. After all, a reasonable royalty in litigation may be the industry-standard royalty.[247]

The exact function will differ, but the important proposition is that any royalty will already be discounted for litigation risk.[248] Thus, one would expect r to be lower when the likelihood of winning is lower, the possible damages are lower, and the costs of litigation are higher.

B. Litigation Outcome

The alternative to a licensed outcome R is litigation. In litigation, the patentee can win damages:

$$(3)\ d = r + e$$

where e is some enhancement above the licensed outcome. Here e consists of two parts. First, it includes full compensatory damages, such as lost profits or reasonable royalties, instead of the discounted amount that a patentee might agree to in order to avoid litigation. Second, it includes possible damage enhancements, such treble damages for willful infringement or attorneys' fees. Thus, e is likely bimodal: it will be largest where w is low and thus r is most discounted and also where w is high and thus larger damages are available.

The litigation outcome (L) that patentees face is:

$$(4)\ L = wd - c = w(r + e) - c = wr + we - c$$

In plain language, the litigation outcome is the chance of winning times the potential damages (probability adjusted/expected damages) less the costs associated with litigation.[249]

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244. F. Russell Denton & Paul J. Heald, *Random Walks, Non-Cooperative Games, and the Complex Mathematics of Patent Pricing*, 55 RUTGERS L. REV. 1175, 1281 (2003) (discussing effect of negotiating tactics on pricing).

245. John R. Allison, Mark A. Lemley, Kimberly A. Moore & R. Derek Trunkey, *Valuable Patents*, 92 GEO. L.J. 435 (2004) (discussing attributes of valuable patents); Michael S. Kramer, *Valuation and Assessment of Patents and Patent Portfolios Through Analytical Techniques*, 6 J. MARSHALL REV. INTELL. PROP. L. 463 (2007) (discussing licensing based on "essential" patents).

246. *See generally* Ted Hagelin, *A New Method to Value Intellectual Property*, 30 AIPLA Q.J. 353 (2002) (discussing various valuation techniques).

247. Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

248. Schlicher, *supra* note 5, at 376 (arguing that the parties will set royalties based on expected litigation outcomes rather than the commercial outcomes).

249. Ostensibly, e must be greater than c, or else it would never make sense to litigate, even with a one hundred percent chance of winning. *Id.* at 375.

C. The Licensing Discount

Subtracting the licensing outcome from the litigation outcome yields the discount that a licensee gives to the licensor, even if the specific function of each component is unavailable. The discount can be represented as:

(5) $L - R = wr + we - c - r = we + (wr - r) - c =$
(6) $(we - c) + r(w - 1) =$
(7) $(we - c) - (1 - w)r$

Note that $(1 - w)$ is the probability of loss. Thus, equation 7 makes intuitive sense—the expected license discount is the expected additional litigation damages after costs ($we - c$) less the expected opportunity cost of giving up the license if the patentee litigates and loses ($(1 - w)r$). If the patentee is risk neutral, then it would litigate whenever

(8) $(we - c) > (1 - w)r$

Equation 8 makes intuitive sense as well—if the patentee expects to gain more from litigation than it might lose by giving up the licensing opportunity, then it will do so.

D. The Patent Challenge Outcome

The model thus far does not include consideration of postagreement challenges. The ability for the licensee to challenge a patent ex post will affect the ex ante value of the license for both the patentee and the licensee. This introduces a new variable into the model—the probability that the licensee will challenge the patent after entering into a license:

(9) $s = f(w,r,e,c,m,x,y,z)$

where x, y, and z represent whatever factors might be important to the licensee, such as alternatives, design-around costs, the importance of the licensed invention to the product, bad- or good-will, and any other factor that might affect the licensee's decision to sue.[250]

The likelihood that a licensee will challenge (s) will affect the patentee's expected outcome. The new patent challenge expectation (S) is represented by:

(10) $S = (1 - s)r + s(wr - c) =$
(11) $r - sr + swr - sc = r - (1 - w)sr - sc$

Equation 10 combines the licensing (r) and litigation ($wr - c$) outcomes, weighting each outcome by the likelihood that it will happen ($1 - s$ and s).[251] Equation 11 is a restatement—the expected patent challenge outcome is the license fee (r) less the

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250. A more complex version of the model might vary s and r (and even w) over time.

251. Schlicher, *supra* note 5, at 373 (presenting a similar model, but assuming that the patentee will always challenge outcome).

chance of being challenged and losing (i.e., *slr*, where *l* is the chance of losing), less litigation costs if challenged (*sc*).

Note that the patent challenge outcome, *S*, is different than the litigation outcome, *L*, which is presented in Equation 4. This is because the licensee may continue paying *r* during litigation (and after) if it loses. Thus, the patentee can no longer seek damage enhancements to *r* (that is, *e*) in litigation.[252]

The result is a two-way truncation of the patentee's expected outcome. First, if the licensee sues and wins, the patentee receives nothing.[253] Second, if the licensee sues and loses, the patentee wins no more than *r* and must bear litigation costs in any event.

E. The Patent Challenge Tax

Because the patent challenge outcome also differs from the negotiated licensing outcome, the ability for licensees to challenge the patent imposes a cost on the patentee that would be absent without the challenge right. This cost means that the value of any license is less than whatever royalty is agreed, such that the patentee will have to charge a higher royalty to obtain the same value it would have had without the challenge right. The cost (*T*) for any given royalty rate is represented by:

$$(12)\ R - S = r - (r - (1 - w)\text{sr} - \text{sc}) =$$
$$(13)\ (1 - w)sr + sc = s((1 - w)r + c)$$

Equation 13 seems to track a patentee's likely thought process. The additional expected cost on the patentee is the probability of challenge (*s*) times the probability of loss (*1 - w*) times the value of the lost license (*r*) (i.e., *slr*, where *l* is probability of loss = *1 - w*) plus the probabilistic costs of suit (*sc*) which are independent of *w/l*).[254]

F. Rationality of the License Decision

Given the additional cost imposed on the patentee, the rationality of a patentee entering any license agreement must be reexamined. Equation 8 implies that a patentee will license if (*we - c*) > (*1 - w*)*r*. Now the patentee must consider the patent challenge outcome versus the litigation outcome. Given additional costs, the new decision is represented by:

$$(14)\ S > L \Rightarrow (1 - s)r + s(wr - c) > wr + we - c \Rightarrow$$
$$(15)\ r - sr + swr - sc > wr + we - c \Rightarrow$$
$$(16)\ r - sr + swr - wr + c - sc > we \Rightarrow$$
$$(17)\ r - sr + w(sr - r) + (c - sc) > we \Rightarrow$$

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252. *Cf. id.* at 377–78 (discussing the effect of license termination on potential infringement damages).

253. *See* O'Connor, *supra* note 9, at 447. This too is a simplification: it is unlikely that the licensee will essentially sue one day after execution of the license. In reality, *r* would be reduced rather than eliminated because the licensee would be paying royalties for some period of time.

254. *Cf.* Schlicher, *supra* note 5, at 380 (arguing that the patentees will only license if the royalty is doubled). Schlicher uses a different methodology for determining license pricing, which assumes that the likelihood of suit (*s*) is one hundred percent.

(18) $(1 - s)(1 - w)r + (1 - s)c > we$

Equation 18 implies that a licensee will choose to license whenever the expected marginal loss associated with litigation exceeds the expected enhancement to fees. Textually, a patentee will prefer a license when the worst case scenario of litigating (the loss of license fees $((1 - w)r)$ plus anticipated litigation costs (c) where the licensee would not have challenged $(1 - s)$ would cost more than the potential marginal benefit of litigation (the expected extra damages that might be obtained in litigation (we)).[255] The first half of the equation, the potential downside of litigation, is considered only to the extent that the licensee would not have challenged. If the licensee is going to challenge anyway (s), then the potential losses are the same for the patentee whether it chooses to litigate or license.

An example may better explain this choice. Assume that Patentee licenses the '123 patent to Licensee for $100, which will be paid over a period of years. This payment represents a discount, because Patentee would have obtained $150 in litigation, though it would have cost $25 to try the case. However, Patentee knew it would only win in litigation 40% of the time, so it was willing to negotiate the discount. However, Patentee knows Licensee is unhappy with the $100 due to the weakness of the patent and that Licensee has a 50% chance of challenging the patent.

Patentee's expected outcome from the license is $67.50. This is 50% * $100 (or $50), if Licensee does not challenge, plus 50% * 40% * $75 (or $17.50) if the Licensee does challenge. The $75 is the amount of recovered royalties less the litigation cost.

Patentee's expected outcome from litigation is $35. This is 40% * $150 (or $60) minus $25 in litigation costs. The $150 is the amount of the royalty ($100) plus the additional damages it would gain in litigation ($50).

Based on these expected outcomes, Patentee would prefer to license every time, even though it is only receiving $67.50 of expected value for a $100 license. From a different perspective, it also means that the patentee is charging $32.50 more than it needs to in order to obtain the same value. This means one of two things. Either first, Patentee may charge more than $100[256] to get to a desired royalty of $100. Or second, Licensee might have paid as little as $67.50 with no challenge right for the same license to give the patentee the same value it gets for a $100 with the challenge right. While actual license pricing will depend on Patentee and Licensee and the initial baseline, if no challenge were possible, Licensee would likely pay less for the license.[257]

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255. *Id.* (discussing the effect of *MedImmune* on patentee choices between licensing and litigation). Schlicher does not incorporate the chance that the licensee will not sue into the decision-making considerations; he assumes that the licensee will *always* challenge the patent whenever potential royalties exceed litigation costs. The result is that patentees would refuse to license unless they obtained twice the royalty or more, assuming the patent is fifty percent likely to be valid. *Id.* These assumptions seem unlikely, given that patent licensing has not ground to a halt in the wake of *MedImmune*.

256. Patentee would charge $50 more to reach a desired royalty of $100: (.5 * 150) +.5(.4 * (150 - 25)) = 100. This means that for a $150 royalty, the tax portion is $50.

257. Schlicher, *supra* note 5, at 373–75, discusses why the licensee is unlikely to pay as little as the litigation outcome. Additionally, after application of the tax, a "litigation outcome" royalty would mean that the patentee would do worse licensing than simply litigating, and the

The following is the application of the above in the economic model, using $100 as the baseline. Assume that $r = \$100$, $e = \$50$, $w = 40\%$ (.4), $s = 50\%$ (.5), and $c = \$25$. Using Equation 14:

(19) $S = (1 - .5)100 + .5(.4*100 - 25) = 50 + 17.5 = 67.5$
(20) $L = (.4*100) + (.4*50) - 25 = 40 + 20 - 25 = 35$

Thus $S > L$, and the decision to license makes sense, even though the license has less value to the patentee than it would have if s were zero. Where $s = 0$, the no-challenge license outcome (R) is $r = \$100$, making $T(R - S) = \$32.50$. This represents the amount of costs imposed on the patentee for a royalty of $100.

G. The Multiple Licensee Assumption

Incorporating into the model the risk of losing future licensees due to patent invalidity amplifies the tax in most cases. The model is easily adjusted to incorporate multiple licensees. The multiple licensee model here assumes that only one licensee will sue. Allowing multiple licensees to sue would complicate the model in a variety of ways. First, after one licensee challenges the patent, the probability of challenge by others may increase—a "piling on" effect. Second, the outcome of one suit will affect the likelihood that the patentee will win later suits. Third, the potential lost royalties are at risk multiple times, which changes their expected value.

The single suit assumption is reasonable with respect to royalty decisions. At the point of license, all past challenges are known, such that they can be incorporated into the royalty calculation. Thus, the patentee would ask whether the new licensee will be the one who will challenge and cause a loss of all future royalties from all licensees.

First, a new variable (r') can represent the present value of other licenses. We might expect $r' > r$ for two reasons. First, r' represents multiple licenses, whereas r represents only one. Second, follow-on licensees might pay a premium based on prior licensees—the more licensees, the stronger the patent.[258] However, one may not predict which licensee will actually challenge the patent, and the model's outcome does not hinge on the relationship between r and r'.[259] The total income stream to a patentee (R') is $r' + r$. This increases the stakes of any challenge, because a loss in one case leads to a loss of future licenses.[260]

Second, a new variable (e') can represent additional royalties available from future licensees.[261] The theory behind this variable is that any litigation win (which results in

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patentee would choose to litigate rather than license.

258. *Cf.* Kim, *supra* note 100, at 635 (finding that firms with prior license experience tend to have more future licenses). *But see* Sudarshan, *supra* note 84, at 172 (arguing that nuisance settlements for weak patents can also lead to future licenses). Sudarshan's findings do not weaken the model; any win, even a nuisance settlement, will enhance patent value. Whether this outcome is socially optimal is different than the private choices patentees face.

259. In the limiting case, r' is zero when there are no other licensees. Further, r' could represent anticipated future licenses; the patentee's perception is more important than reality.

260. *See* Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found., 402 U.S. 313 (1971) (applying the doctrine of nonmutual collateral estoppel against the patentee).

261. This is, of course, a great simplification. A more complex model would separate future royalties and future damages enhancements if the patentee chose to litigate against future

e') will increase the probability of winning in future litigation, which will allow patentees to secure higher royalty rates ($r' + e'$) from future licensees.[262]

Third, a new variable (w') reflects that a small component of w is based on the specific accused product, and thus might not relate to future licensees. Thus, there is a way for the patentee to lose any particular challenge ($1 - w'$) in such a way that future royalties are not affected.[263] Here, $w' > w$ represents the probability that the patentee will "win" a portion of the litigation by being able to enforce the patent in the future.

Thus, the analytical framework of the basic model is essentially unchanged, but the amounts at stake for the patentee would increase while the amounts at stake for the licensee would remain the same as the single-licensee model. The following are new licensing (R'), litigation (L'), and litigation/licensing decision ($L' - R'$) outcomes:

(21) $R' = r + r'$
(22) $L' = w(r + e) + w'(r' + e') - c = wr + we + w'r' + w'e' - c$
(23) $L' - R' = wr + we + w'r' + w'e' - c - r - r' =$
(24) $we + w'e' - ((1 - w)r + (1 - w')r') - c$

Equation 24 implies that the litigation/licensing decision is similar to that in Equation 8. If expected gains from future licenses exceed the risk of loss of current licenses (including the case at bar), then the patentee will choose to litigate. As the stakes increase, the role of litigation costs will decrease.

The patent challenge outcome (S') now looks like this:

(25) $S' = (1 - s)(r + r') + s(wr + w'r' + w'e' - c) =$
(26) $r + r' - sr - sr' + swr + sw'r' + sw'e' - sc =$
(27) $r + r' - s[(1 - w)r + (1 - w')r' - w'e' + c]$

Equation 27 is similar to the single-licensee result in Equation 10 to the extent that Equation 27 deducts the likely chances of losing other licensing revenues from current revenues while not allowing for the possibility of enhanced damages in litigation (e). However, the multilicense scenario adds something new: the possibility of enhanced future license fees if the licensee wins the challenge ($sw'e'$). Whether this results in a better outcome than the single-licensee model (that is, whether $S' > S$) will depend on whether the risk adjusted value of future fees is higher than the risk adjusted value of losing current fees. If future opportunities are rich enough, patentees might well prefer a challenge to a continuing license.

The multilicensee tax (T') now looks like this:

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infringers, because there is a separate probability for each future possibility. The simplified model bundles both probabilities into w', which cannot account for all of the potential variation in outcomes.

262. O'Connor, *supra* note 9, at 445–46. If the game were played multiple times, then r would increase with successive wins and e would increase, but at a slower rate due to diminishing returns as w trends toward one hundred percent likelihood of win.

263. Specifically, $w' = v * i'$, where v is the probability the patent will be found valid and i' is the probability that an infringement finding (good or bad) will not affect future licensees. Here i' will be lowest where the patentee cannot prove infringement and future licensees have products identical to the product in litigation, such that the patentee will not be able to prove infringement there either.

(28) $T' = r + r' - (r + r' - s[(1 - w)r + (1 - w')r' - w'e' - c] =$
(29) $s[(1 - w)r + (1 - w')r' - w'e' + c]^{264}$

The effect of multiple licensees on the tax can be determined:

(30) $T' > T => s((1 - w)r + (1 - w')r' - w'e' + c) > s((1 - w)r + c) =>$
(31) $(1 - w)r + (1 - w')r' - w'e' + c > (1 - w)r + c =>$
(32) $(1 - w')r' - w'e' > 0 => (1 - w')r' > w'e'$

The implication of Equation 32 results directly from the implication in Equation 27; the tax will be higher where the chance of losing all royalties exceeds the possibility of securing higher royalties by winning. Note that the difference between T' and T is independent of the particular license at issue—the marginal cost of the patent challenge right where multiple licenses are at stake is based only on the value of nonlitigated (and future) licenses.[265]

This difference implies that patentees entering a single exclusive license do not face a tax any higher than they would if they entered a single nonexclusive license. This result is contrary to arguments that exclusive licenses cause greater harm to patentees because they cannot seek other licenses if there is a patent challenge.[266] A rational patentee would consider the cost of exclusivity (and risk of losing future exclusive royalties) as part of the tax and part of that cost would be passed on to licensees. Patentees unable to find an exclusive licensee willing to pay such a premium would charge less for nonexclusive licenses.

The final consideration is the license/litigation decision for the patentee, represented as:

(33) License where $S' - L' > 0 =>$
(34) $r + r' - (1 - w)sr - (1 - w')sr' + sw'e' - sc - (wr + we + w'r' + w'e' - c) > 0 =>$
(35) $r + r' - (1 - w)sr - (1 - w')sr' + sw'e' - sc - wr - we - w'r' - w'e' + c > 0 =>$
(36) $r - wr - sr + swr + r' - w'r' - sr' + sw'r' + c - sc > we + w'e' - sw'e' =>$
(37) $(1 - s)[(1 - w)r + (1 - w')r' + c] > we + (1 - s)w'e'$

The new litigation decision is similar to the single licensee decision in Equation 18. Patentees will consider the probabilistic opportunity cost of losing the particular license, losing other licenses, and litigation costs. These are all adjusted by the chance that a licensee would not have challenged. If the licensee would have challenged (s)

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264. If future opportunities ($sw'e'$) are large enough, the tax could theoretically be a "benefit" rather than a cost. This is unlikely in practice, however, because future benefits that large would lead patentees to choose litigation over licensing.

265. This is probably not entirely true in practice. As litigation stakes increase, the patentee would likely spend more in litigation costs, some of which would be passed on to licensees as well.

266. *See*, *e.g.*, O'Connor, *supra* note 9, at 447 ("It is not only that the patentee could have had someone else trying to commercialize its patent in the time it was exclusively licensed to the now dead beat licensee, but also that very few companies may be willing to take a license from the patentee after all that time has passed and there is a taint to the patent." (emphasis omitted)).

then the risk of losing the patent is the same as choosing litigation, and thus the patentee will not weigh those possibilities in the litigation/licensing choice. All that matters is what might have happened if the patentee litigates against a licensee who would have lived by the agreement.

The expected lost royalties and costs would be compared to the potential for enhanced damages and higher license fees in the future if successful in litigation. The slight wrinkle is that, as with the potential loss of the patent, patentees only consider the opportunity cost of winning extra royalties if the licensee does not challenge (($1 - s)w'e'$). If the licensee is going to challenge anyway (s), the chance for additional royalties is no different than the litigation option. Note, though, that potential enhanced damages (*we*) are not so adjusted because damages are only available if the patentee litigates.

APPENDIX II: SAMPLE LICENSE LANGUAGE

<u>LITIGATION</u>

1. Settlement and Covenant Not to Sue

A.   This license constitutes a settlement of all disputes between the parties regarding the subject matter hereof, including, but not limited to, whether or not any currently existing licensed products practice the Licensed Patent and whether or not the Licensed Patent is valid. The parties agree that this Agreement is entered into in order to avoid litigation relating to patent infringement and/or invalidity. Each party relies on the consideration granted herein, including but not limited to the provisions of this Section, as the basis for the bargain between the parties in order to avoid litigation.

B.   The parties agree, and Licensee concedes, that the Licensed Patent is valid. Each party covenants not to sue the other with respect to infringement of any product for which Licensee ever pays a royalty. Each party covenants not to sue the other with respect to validity of the Licensed Patent.

C.   If Licensee asserts in litigation that subsection B, above, is void or otherwise unenforceable, and loses such challenge, then Licensee shall pay to Licensor liquidated damages of $_____, as well as all of Licensor's attorneys' fees associated with the challenge to the Licensed Patent's validity or infringement of any product. This subsection shall survive any termination of this Agreement.

2. Breach of the Covenant by Licensee

The validity and enforceability of the settlement and covenant not to sue in Section 1 is an express condition of this agreement. Upon any challenge (including litigation, reexamination, arbitration or other official proceedings, including counterclaims) initiated by Licensee challenging the validity of the Licensed Patent or questioning whether any licensed product for which a royalty is ever paid[267] is covered by the Licensed Patent, Licensor may do one of the following:

A.   Immediately terminate this Agreement, voiding Licensor's covenant not to sue set forth in Section 1, and seek damages and an injunction, including damages for willful infringement; *or*

B.   Continue performance of this Agreement, in which case:

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267.   This provision allows for disputes about infringement of future products without triggering termination rights. However, once a royalty is paid under any product, infringement of the patent by that product may no longer be challenged.

The Royalty set forth in Section __ shall be multiplied by four. If a final judgment or order determines that the Licensed Patent is valid or that a particular product is covered by the license, then the Royalty set forth in Section __ shall be multiplied by six for all products licensed. The parties agree that this increase in royalty is nonrefundable, and is reasonable compensation for the increased nonattorney cost to the Licensor of defending such litigation, including executive time, document collection and management, internal counsel time, market price decline, market share decline, and any other associated overhead, opportunity costs, and/or loss of goodwill.

C. In all events, Licensee shall reimburse Licensor for all attorneys' fees and costs (both taxable and nontaxable) for defending such lawsuit, including but not limited to all travel costs, document gathering, imaging, and reproduction costs, expert costs, court costs, and meals. This subsection shall survive any termination of this Agreement.

D. In the event that Licensee is held to be infringing and/or is not relieved of its obligation to make payment under this Agreement pursuant to any final judgment or order arising under or relating to this Agreement, including an action for patent infringement, then Licensee shall reimburse Licensor for all attorneys' fees and costs (both taxable and nontaxable) for defending such lawsuit, including but not limited to all travel costs, document gathering, imaging and reproduction costs, expert costs, court costs, and meals.

3. Venue

A. Notwithstanding Sections 1 and 2 above, any patent related suit brought by Licensee against Licensor shall be brought in _____, and Licensee expressly agrees to the jurisdiction of _____.

B. Any such suit shall be privately arbitrated before [American Arbitration Association/JAMS] in accordance with such tribunal's expedited arbitration rules. No discovery may be taken in such arbitration by either party. Any ruling by the arbitrator shall be considered a private resolution of the dispute between the parties (and if required by law an amendment to this Agreement), and shall have no preclusive effect on either party against third parties in any future litigation.

4. Application of Royalties

The parties acknowledge that this Agreement encompasses services, support, know-how, and other nonpatent related consideration, and that such consideration is indivisible from the patent license. Any invalidation of the Licensed Patent or any finding that a product does not infringe the Licensed Patent shall not affect any

consideration given by Licensee under this Agreement. Such consideration is
_____.

5. Severability and Future Applicability

A.   If any part of this Section is found to be unenforceable, all other parts shall remain in full force.

B.   If any final, nonappealable determination that Licensee is relieved of any payment obligation arising under this Agreement due to invalidation of the Licensed Patent or a finding that a product does not practice the Licensed Patent, Licensee shall only be relieved of future payment obligations.

C.   Licensee's payment obligations under Subsection B shall not cease until such final determination. Licensee shall not be relieved of any payment obligations at the time of any challenge to its obligation to make such payments. Licensee shall not be entitled to a refund of any payments owed.

D.   Licensee shall not seek, nor shall it abide by, any order placing any payments owed under this Agreement into escrow or any other form of deferred payment. Licensee shall actually pay to Licensor any payments owed when due until Licensee obtains any final, nonappealable determination that relieves it of such obligation.

E.   If, at any time, any appeals court (including the Supreme Court) determines that invalidation/nonpractice of a Licensed Patent does not obviate the requirement to pay license fees, then payments set forth in this Agreement shall recommence from the date of such ruling forward.