Patent Challenge Clauses: A New Antitrust Offense?

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ABSTRACT: Patent licensing contracts frequently bar licensees from challenging the validity of the patents at the basis of the contract or penalize such challenges. There is a considerable debate as to whether courts should enforce these clauses. We argue that unenforceability is not enough: Challenge clauses should be illegal under antitrust law. Our argument is based on two grounds. The first, doctrinal route, argues that this new antitrust offense is a natural extension of the logic of the Supreme Court's landmark case of Federal Trade Commission v. Actavis, Inc., *decided nearly four years ago. The second, normative route, shows that a welfare-enhancing foundation exists for recognizing this antitrust offense. We propose three cumulative conditions that should exist for a new antitrust offense to be realized, and show that they are met in the case of challenge clauses. Our conclusion challenges the existing laws and draws a new line between contract law and antitrust law, which is applicable to other cases as well.*

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I. INTRODUCTION

Patent licensing contracts commonly prohibit licensees from challenging the validity of the patents at the basis of the agreement. Other contracts penalize licensees who bring these suits. A considerable debate has emerged as to whether courts should enforce these "challenge clauses." We argue that this debate has not gone far enough. Challenge clauses should be illegal.

The starting point for our analysis is the landmark case of *Federal Trade Commission v. Actavis, Inc.*,[1] decided nearly four years ago. In *Actavis*, the Supreme Court held that reverse payment agreements—settlements of patent infringement actions in which the plaintiff pays the alleged infringer for delaying its entry into the market—may violate the antitrust laws.[2] The

1. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2223 (2013). For an interesting analysis of this case, see Aaron Edlin et al., *Activating* Actavis, 28 ANTITRUST 16, 16–23 (2013).

2. *Actavis*, 133 S. Ct. at 2227 ("In our view, however, reverse payment settlements such as

agreements were viewed as anticompetitive because they could prevent value-enhancing challenges to the validity of the asserted patents.[3]

Reverse payment agreements are similar to challenge clauses in that, in both, a potential competitor agrees to contractual limitations on its ability to challenge a patent. Both types of contracts have similar deleterious effects on competition, and both can be used as anticompetitive devices. But in contrast to the contractual limitations included in straightforward reverse payment agreements, challenge clauses have not been held to be anticompetitive. In fact, some are presumptively legal.[4] This raises the following question: Why should a different rule apply if the agreement to not challenge a patent comes at the incipiency of a licensing agreement rather than after the commencement of an infringement action?

This Article analyzes the differences between reverse payment agreements and challenge clauses, and asks whether the existing doctrine is coherent. The analysis leads us to two important conclusions. First, the logic of *Actavis*, applied to the facts of challenge clauses, compels the conclusion that challenge clauses can violate antitrust law. Second, the application of antitrust can be justified on normative grounds, in the sense that it is welfare-enhancing.

The importance of the antitrust implications of challenge clauses stems from the degree to which patents are intertwined with our modern knowledge-based economy. The U.S. Patent and Trademark Office ("PTO") routinely errs in determining the patentability of inventions,[5] and consequently the role of eliminating unwarranted patents is largely in the hands of private parties.[6] Challenge clauses are boilerplate provisions in

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the agreement alleged in the complaint before us can sometimes violate the antitrust laws.").

3. *Id.* at 2225, 2230–32.

4. In a previous article, we have shown that current rules are sub-optimal. However, we did not use the logic of *Actavis*, nor did we analyze antitrust as the regulatory tool. *See* Alan D. Miller & Michal S. Gal, *Licensee Patent Challenges*, 32 YALE J. REG. 121, 155–57 (2015).

5. ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT 172–75 (2004) ("Patent examination is never going to be perfect" because "[e]xaminers are human [and, as a result,] there is an essentially irreducible aspect of judgment in determining if an invention is truly new.").

6. *See, e.g.*, *Actavis*, 133 S. Ct. at 2233 (claiming that reverse payment settlements harm the "patent-related policy of eliminating unwarranted patent grants so the public will not 'continually be required to pay tribute to would-be monopolists without need or justification.'" (quoting Lear, Inc. v. Adkins, 395 U.S. 653, 670 (1969))); Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 250 (1945) (protecting the competitive economy by keeping open the way for interested persons to challenge the validity of patents which might be shown to be invalid); Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661, 665–66 (1944) ("It is the public interest which is dominant in the patent system."); Pope Mfg. Co. v. Gormully, 144 U.S. 224, 235 (1892) (noting how "the right to make the [usury] defense is not only a private right to the individual, but it is founded on public policy which is promoted by his making the defense, and contravened by his refusal to make it").

many patent licensing agreements.[7] The effects of these agreements are too important to be ignored.

Despite its importance, this issue has not yet been the subject of an in-depth analysis.[8] Courts have refused to enforce some of these clauses on the ground that they violate patent policy.[9] But no court has held that challenge clauses constitute violations of antitrust.[10] Academic scholarship is also relatively sparse.[11] Reverse payment agreements have probably been the most debated antitrust issue of the last decade, yet their close relatives, the challenge clauses, have been ignored in this discussion.[12] The existing scholarship on challenge clauses tends to limit itself to the question of whether these clauses should be enforced.[13] It, too, has ignored the antitrust implications.[14]

This Article fills this void. It argues that challenge clauses should also constitute an antitrust offense. In doing so, it treads new ground regarding the interface of both patent and contract law with antitrust. It addresses the important question of how these laws can and should be synchronized in the presence of anticompetitive effects. The confusion that currently exists highlights the pressing need for guiding principles.

Antitrust courts and scholars commonly adopt the view that antitrust applies when conduct creates an anticompetitive harm, and no explicit or

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7. As an example, see Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning* Lear*? Incentives to Innovate After* MedImmune, 24 BERKELEY TECH. L.J. 971, 975–77 (2009). Much of the scholarship deals with the issue of how to overcome limitations imposed on patent holders rather than engaging in a normative analysis of which laws are best for social welfare.

8. For an exception, see STEVEN C. SUNSHINE & SEAN M. TEPE, BEYOND REVERSE PAYMENTS: WILL *ACTAVIS* EXTEND TO PATENT ACTIVITIES GENERALLY? 2 (2013), http://awards.concurrences.com/IMG/pdf/beyond_reverse_payments_-_sunshine_tepe.pdf (stating that the findings of *Actavis* can be stretched to other patent agreements and settlements in which an "exchange of consideration would have resulted in lesser competitive restrictions").

9. *See infra* Part III.A.

10. Thomas K. Cheng, *Antitrust Treatment of the No Challenge Clause*, 5 N.Y.U. J. INTELL. PROP. & ENT. L. 437, 447 (2016) ("In the U.S., no court seems to have ruled on the legality of no challenge clauses under antitrust law or held them to constitute patent misuse.").

11. Indeed, legal scholars recognize how few articles discuss no challenge clauses under the lens of antitrust. *Id.* at 440. One of our earlier articles regarding "the enforceability of no challenge clauses from a patent law and total welfare perspective" was regarded as a "notable exception" to this trend. *Id.*; *see also* Miller & Gal, *supra* note 4, at 133 (observing how "courts have generally not found that either no-contest or challenge-penalty clauses, by themselves, constitute patent misuse or an antitrust violation"). Through this Article, we strive to elevate our discussion by challenging the existing laws and proposing new conditions that should exist to form a new antitrust offense.

12. *See supra* notes 8–11 and accompanying text.

13. *See, e.g.*, Dreyfuss & Pope, *supra* note 7, at 982–83; Alfred C. Server & Peter Singleton, *Licensee Patent Validity Challenges Following* MedImmune*: Implications for Patent Licensing*©, 3 HASTINGS SCI. & TECH. L.J. 243, 399 (2011); Christian Chadd Taylor, Note, *No-Challenge Termination Clauses: Incorporating Innovation Policy and Risk Allocation into Patent Licensing Law*, 69 IND. L.J. 215, 244–46, 251–53 (1993).

14. *See supra* note 13.

implicit exemption exists.[15] With few exceptions, the interplay among alternative legal tools is ignored. We maintain that one cannot see the entire picture by looking through the lens of a single law. This is not to say that antitrust should be expanded into the realm of contract. Rather, that the legal decision maker should capitalize the unique strengths of each regulatory tool, in order to harness the comparative advantages of each and to create a coherent unity.

This broader claim is of great relevance at the present time. Questions regarding this interplay of contract and antitrust have recently arisen elsewhere, in particular with respect to FRAND—the requirement made by standard setting organizations that patents used in their standards must be licensed under fair, reasonable, and non-discriminatory terms.[16] We go beyond this literature to provide a more comprehensive and general framework with which to assess the relative strengths and weaknesses of contract and antitrust laws in light of the normative criteria of efficiency and effectiveness.

We first explain when these overlappings arise and why they are inevitable. We then explore the main interplay options in an attempt to determine whether only one of the legal tools should apply, or whether both should apply in parallel. The latter option opens up a range of coordination tools. We analyze the extent to which these options can advance regulatory goals—including to increase clarity, to reduce litigation costs, or to mitigate the risk of capture by interest groups. Finally, we ask whether the antitrust agencies or the courts are better placed to apply the law.

In this analysis, we provide an institutional justification for our claim that antitrust is more likely to serve the public interest: Antitrust is administered by specific agencies, while contract is not. When the existing legislation is not optimal, however, neither courts nor agencies are likely to apply a better rule than is possible within the legislative framework. For this reason, the legislative and executive branches should be primarily responsible for setting the optimal balance between these areas of law.

The roadmap in this Article is as follows. Part II describes and analyzes the different rules applied by courts to challenge clauses.[17] Part III provides a systematic analysis of the similarities and differences between challenge clauses and reverse payment agreements, to determine whether and to what extent the logic of *Actavis* is relevant to our case.[18] Part IV sets forth a normative analysis of whether challenge clauses should be regarded as

15. *See infra* Part IV.A.

16. *See, e.g.*, Jorge L. Contreras, *A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens*, 80 ANTITRUST L.J. 39, 42–46 (2015); Douglas H. Ginsburg et al., *The Troubling Use of Antitrust to Regulate FRAND Licensing*, 10 COMPETITION POL'Y INT'L ANTITRUST CHRON., no. 1, Oct. 2015, at 1–2.

17. *See infra* Part II.

18. *See infra* Part III.

infringing the antitrust laws.[19] Part V focuses on the interplay between the different options and suggests specific rules to be applied in regulating challenge clauses.[20] A conclusion ensues.

II. CURRENT LEGAL RULES

Challenge clauses are common provisions in patent licensing contracts that affect challenges brought by licensees to the patent at the basis of the agreement.[21] Challenge clauses can be divided into two general types: the more straightforward *no challenge clauses*, which explicitly bar licensees from challenging the underlying patents,[22] and *challenge penalty clauses*, which penalize challenges, but do not prohibit them outright.[23] There is no archetypical challenge penalty clause; rather this phrase describes a broad array of contractual agreements that are used to deter licensees from bringing challenges. To illustrate, we describe five types of challenge penalty clauses.

First, termination-upon-challenge clauses provide that a challenge will lead to the termination of all or most of the licensee's rights under the agreement.[24] In some cases, such a termination is automatic;[25] in others it is conditional on some action by the patent holder.[26] Second, a contract may specify that a challenge will lead to a change in the royalty terms, such as an increase in the rate.[27] This change may be triggered either when the challenge is brought, or alternatively, when litigation fails.[28] Third, an agreement may specify that the bringing of a challenge will lead to a reduction in technology transfer between the licensee and the licensor.[29] The technology transfer may not be related directly to the contested patent.[30] Fourth, a contract may create procedural impediments to the bringing of a challenge.[31] For example, it may require mandatory arbitration or require the challenger to pay litigation costs.[32] Fifth, the agreement may be framed as giving the licensee a bonus conditional on the challenge not

19. *See infra* Part IV.

20. *See infra* Part V.

21. In this Article, we do not deal with contracts that prohibit the challenge of additional patents, which raise different issues and may even amount to illegal tying.

22. Miller & Gal, *supra* note 4, at 127–30.

23. *Id.* at 131–33.

24. *Id.* at 131.

25. *See* Dreyfuss & Pope, *supra* note 7, at 1003.

26. *Id.* A clause of this type can be found in section 8(c) of the agreement cited in C.R. Bard, Inc. v. Schwartz, 716 F.2d 874, 881 (Fed. Cir. 1983).

27. Miller & Gal, *supra* note 4, at 131.

28. Dreyfuss & Pope, *supra* note 7, at 975–77.

29. Miller & Gal, *supra* note 4, at 131.

30. *Id.*

31. *Id.*

32. *Id.*

being brought.[33] Such a bonus is functionally equivalent to a penalty.[34] Challenge clauses may be couched in indirect terms; for example, the fifth agreement might involve a reduction in the royalty rate as a function of the length of the licensing contract.[35]

No challenge clauses and challenge penalty clauses share a common trait: They weaken the ability and motivation of licensees to challenge invalid patents.[36] The anticompetitive effect of these clauses is obvious: Owners of invalid patents can exercise unjustified monopoly power over the use of valuable ideas, potentially leading to a decrease in the level of competition in the market. In spite of this anticompetitive effect, challenge clauses are rarely regulated under antitrust.[37] Instead, they are analyzed through contract law and general doctrines of public good, which focus on whether these contractual commitments are enforceable in court.[38] We summarize the arguments proffered in support of—and in opposition to—these clauses in the case law. Their relevance to our question stems in part from the importance that some courts give to patent challenges by licensees.

A. *NO CHALLENGE CLAUSES*

The modern doctrine on licensee patent challenges dates back primarily to the landmark decision in *Lear, Inc. v. Adkins*,[39] decided by the Supreme Court in 1969. In *Lear*, Lear, Inc., brought a challenge to the

33. *Id.*

34. Stephanie Chu, Note, *Operation Restoration: How Can Patent Holders Protect Themselves From* MedImmune*?*, 2007 DUKE L. & TECH. REV. 9, ¶ 14 ("It is possible that a provision imposing increased royalties on a licensee exercising its right to challenge a patent may be enforced when the pre-filing rate could be considered a discount reflecting the uncertainty of the patent's validity—in accordance with the understood functioning of patent licenses. However, if the variance in rates is too great, a court may view the post-filing rate as a penalty on licensees for exercising their Declaratory Judgment Act rights.").

35. Miller & Gal, *supra* note 4, at 131.

36. *Id.* Please also note that other types of clauses might indirectly limit the incentives to challenge a patent. One interesting example involves non-assertion of patent rights clauses, in which either party agrees not to assert his otherwise presumptively legal patents on the other party to the licensing agreement. This, in turn, reduces the incentives of the other party to challenge the validity of such patents, thereby limiting the sorting of valid patents from invalid ones which would have reduced the hurdles for third parties to enter the market. Such clauses are beyond the scope of this Article, although our analysis has some relevance for them as well.

37. *See supra* notes 8–11 and accompanying text.

38. Miller & Gal, *supra* note 4, at 134–40.

39. Lear, Inc. v. Adkins, 395 U.S. 653 (1969). Prior to this case, courts generally adhered to a doctrine of licensee estoppel, according to which a licensee was estopped from challenging the validity of the licensed patent. *See, e.g.*, Automatic Radio Mfg. Co. v. Hazeltine Research, Inc., 339 U.S. 827, 836 (1950) (describing how, under licensee estoppel, a "licensee under a patent license agreement may not challenge the validity of the licensed patent in a suit for royalties due under the contract"), *overruled in part by* Lear, Inc. v. Adkins, 395 U.S. 653 (1969); United States v. Harvey Steel Co., 196 U.S. 310, 317 (1905) (discussing the "assumption that a licensee, when sued for royalties, is estopped to deny the validity of the patent which he has been using").

validity of a patent that it licensed from John Adkins, an inventor.[40] The Supreme Court overruled prior doctrine to allow the challenge, justifying it by reference to the "important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain."[41] Forbidding challenges would impair this important interest because "[l]icensees may often be the only individuals with enough economic incentive to challenge the patentability of an inventor's discovery."[42] This decision was based on the assumption that these patent challenges would, on balance, be welfare enhancing.

In *MedImmune, Inc. v. Genentech, Inc.*, the Supreme Court held that courts have subject matter jurisdiction to hear a patent challenge by a licensee performing contractual duties under protest.[43] Prior to this decision, the Federal Circuit had held that such a licensee lacked standing to bring the challenge.[44] Here, as in *Lear*, it seems the Supreme Court prioritized the invalidation of unwarranted patents over the avoidance of litigation.

Neither of the licensing agreements in *Lear* nor *MedImmune* contained a no challenge clause. Controversy has arisen with regard to the applicability of these decisions to no challenge clauses that are explicitly agreed to by the parties.[45] On the one hand, the basic theory of *Lear* prioritizes a federal antitrust doctrine over a state contract law; on the other, *Lear* concerned an equitable doctrine, perhaps of lower importance than the freedom of contract. Furthermore, there is a strong federal policy favoring the settlement of disputes, and this question arose primarily in the context of settlement agreements.[46] Different courts have adopted different rulings.[47]

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40. *Lear*, 395 U.S. at 655–56.

41. *Id.* at 670.

42. *Id.*

43. MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 137 (2007).

44. Gen–Probe Inc. v. Vysis, Inc., 359 F.3d 1376, 1382 (Fed. Cir. 2004), *abrogated by* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118 (2007).

45. *See* Dreyfuss & Pope, *supra* note 7, at 1006–07. This reading is based on the Court's emphasis on the fact that the parties did not contract out of the uncertainties created by a patent challenge by limiting the licensee's right to challenge the patent. *Id.* at 984–91. The absence of a discussion is read as an invitation to rethink the priorities of *Lear*, which is distinguished on the basis of information: The specific clauses alert potential licensees to the restriction and thus further the public interest by strengthening incentives to examine the patent prior to the agreement. This argument is problematic if we assume that, before *Lear*, parties assumed that *Automatic Radio* was good law, and that any challenge would be prohibited under the doctrine of licensee estoppel.

46. *See* Rates Tech. Inc. v. Speakeasy, Inc., 685 F.3d 163, 172 (2d Cir. 2012) (acknowledging "the important policy interests favoring the settlement of litigation . . . with respect to no-challenge clauses in settlements entered into after the initiation of litigation" but also finding "that enforcing no-challenge clauses in pre-litigation settlements would significantly undermine the 'public interest in discovering invalid patents'" (quoting Idaho Potato Comm'n v. M & M Produce Farm & Sales, 335 F.3d 130, 135 (2d Cir. 2003))).

47. Cheng, *supra* note 10, at 439 ("Different appellate courts have expressed diverse views on the enforceability of no challenge clauses, depending on the nature and timing of the agreement in

The Federal Circuit, which has exclusive jurisdiction over appeals in patent cases, has generally allowed no challenge clauses. For example, in *Baseload Energy, Inc. v. Roberts*, the Federal Circuit stated in the dicta that "clear and unambiguous" no challenge clauses in settlement agreements are enforceable even in the absence of prior litigation.[48] The court distinguished *Lear* on the grounds that it did not involve a no challenge clause, and justified its approach through reference to a strong jurisprudential policy in favor of settling litigation, in which considerations of certainty and avoiding litigation costs prevail.[49] While the specific contractual clause formed a part of a settlement agreement, the reasoning of *Baseload Energy* can be extended to all no challenge clauses.[50]

Appeals involving challenge clauses are also sometimes heard by other circuit courts of appeal. Early cases predate the creation of the Federal Circuit. For example, in *Massillon-Cleveland-Akron Sign Co. v. Golden State Advertising Co.*, the Ninth Circuit refused to enforce a settlement agreement in which the licensee agreed "to refrain from directly or indirectly contesting or questioning the validity of the patent."[51] The Ninth Circuit based its decision on the argument that no challenge clauses are inconsistent with the federal patent policy announced in *Lear*.[52] The decision also refused to distinguish settlement agreements from other licensing agreements, because of the parties' ability to "couch licensing arrangements in the form of settlement agreements."[53] When in conflict, the court stated, "the recognized policy favoring settlement of disputes . . . must give way to the policy favoring free competition in ideas not meriting patent protection."[54]

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which they are incorporated.").

48. Baseload Energy, Inc. v. Roberts, 619 F.3d 1357, 1362–64 (Fed. Cir. 2010); *see also* Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1370 (Fed. Cir. 2001) ("Once an accused infringer has challenged patent validity, has had an opportunity to conduct discovery on validity issues, and has elected to voluntarily dismiss the litigation with prejudice under a settlement agreement containing a clear and unambiguous undertaking not to challenge validity and/or enforceability of the patent in suit, the accused infringer is contractually estopped from raising any such challenge in any subsequent proceeding.").

49. *Baseload Energy*, 619 F.3d at 1361–62. For such a line of argument see, e.g., In re *Tamoxifen Citrate Antitrust Litig.*, 466 F.3d 187, 203 (2d Cir. 2006), *abrogated by Fed. Trade Comm'n v. Actavis, Inc.*, 133 S. Ct. 2223 (2013); *Schering-Plough Corp. v. Fed. Trade Comm'n*, 402 F.3d 1056, 1075 (11th Cir. 2005); and *Valley Drug Co. v. Geneva Pharm., Inc.*, 344 F.3d 1294, 1304 (11th Cir. 2003).

50. Miller & Gal, *supra* note 4, at 128–30.

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

52. For additional cases holding that no challenge clauses are unenforceable under *Lear*, see Server & Singleton, *supra* note 13, at 399 n.505.

53. *Massillon-Cleveland-Akron*, 444 F.2d at 427.

54. *Id*; *see also* Callaway Golf Co. v. Kappos, 802 F. Supp. 2d 678, 687 (E.D. Va. 2011) (finding how the plaintiff has failed to "demonstrate[] that the public interest in enforcement of settlement agreements outweighs the public interest in patent validity").

Today, these cases are occasionally heard in other circuits because the specific question of whether no challenge clauses are enforceable is not itself within the exclusive jurisdiction of the Federal Circuit.[55] The Second Circuit recently addressed this question in *Rates Technology, Inc. v. Speakeasy, Inc.*, in which the licensee promised that it would neither challenge nor assist others in challenging the validity of the patent.[56] Following *Massillon-Cleveland-Akron*, the Second Circuit held the clause unenforceable under *Lear*, which it viewed as having "establish[ed] a 'balancing test' for weighing the 'public interest in discovering invalid patents' against other competing interests."[57] The *Rates* court reasoned that allowing these clauses would enable parties to evade "*Lear*'s strong policy 'favoring the full and free use of ideas in the public domain' . . . through the simple expedient of clever draftsmanship."[58] The importance of discovering invalid patents was understood by the court to outweigh the high costs that arise from of patent litigation and the accompanying risk imposed on the licensor.[59]

B. CHALLENGE PENALTY CLAUSES

No challenge clauses are an attempt to revive the rule of licensee estoppel through contract. While challenge penalty clauses do not go as far, these agreements can create a significant economic barrier to the possibility of a challenge. The enforceability of these clauses is far from clear.[60]

The licensing agreement at issue in *Lear* contained a challenge penalty clause; in particular, a royalty payment provision requiring the continued payment of royalties by the licensee during the pendency of the patent challenge.[61] The Court disallowed this provision, noting that it could have dual negative effects: first, encouraging the patent holder to postpone a final determination regarding the patent's validity, and second, deterring the licensee from bringing the patent challenge in the first place.[62]

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55. *See* Rates Tech., Inc. v. Speakeasy, Inc., 437 F. App'x 940, 941 (Fed. Cir. 2011) ("The contract dispute does not require the resolution of a related question of patent law, such as inventorship, infringement, validity, or unenforceability."). Most, but not all, of the relevant patent cases are heard by the Federal Circuit because they involve related questions of patent law.

56. Rates Tech., Inc. v. Speakeasy, Inc., 685 F.3d 163, 171 (2d Cir. 2012).

57. *Id.* at 168 (quoting Idaho Potato Comm'n v. M & M Produce Farm & Sales, 335 F.3d 130, 135 (2d Cir. 2003)).

58. *Id.* at 171 (quoting Lear, Inc. v. Adkins, 395 U.S. 653, 674 (1969)).

59. *See generally id.*

60. In a previous article, we have identified how termination-upon-challenge clauses were neither challenged in *Lear* nor in *MedImmune*. *See* Miller & Gal, *supra* note 4, at 131 n.53 (citing Chu, *supra* note 34, at ¶¶ 18–22); Dmitry Karshtedt, Note, *Contracting for a Return to the USPTO:* Inter Partes *Reexaminations as the Exclusive Outlet for Licensee Challenges to Patent Validity*, 51 IDEA 309, 340–42 (2011); Taylor, *supra* note 13, at 251–53.

61. *Lear*, 395 U.S. at 673–74.

62. *Id.*

Consequently, it would harm the public interest in eliminating invalid patents. Hence, an important implication is that *Lear* prohibits at least some challenge penalty clauses.

How far does this ruling extend? One possibility is that penalty clauses should be judged in terms of their effects on challenges. The challenge penalty clause in *Lear* was relatively weak—at most, the licensee would pay royalties for a longer period. By this rationale, one might argue that the holding should extend to clauses that create stronger disincentives to challenge. Alfred Server and Peter Singleton argue that this, in fact, happened: The majority of regional courts that addressed this issue in the aftermath of *Lear* prohibited contractual provisions that clashed with underlying public policy as discussed in the opinion.[63]

For example, the contract at issue in *Crane Co. v. Aeroquip Corp.* contained a clause permitting the patent holder to terminate the exclusive license upon non-payment of royalties.[64] When the licensee subsequently refused to pay royalties, the patent holder responded by bringing a suit for patent infringement.[65] The patent holder only invoked the termination clause after the licensee raised the defense of patent invalidity.[66] On the theory that the termination was in response to the claim of invalidity, and thus would chill meritorious challenges to patents, the Seventh Circuit applied *Lear* to prohibit the patent holder from terminating the contract.[67]

As with no challenge clauses, the trend changed with the creation of the Federal Circuit Court of Appeals in 1982.[68] The Federal Circuit held that despite the public interest in eliminating invalid patents, a licensee who challenges a patent can be subject to economic consequences.[69] In limiting the extent of the application of *Lear*, the court emphasized a different set of goals: the stimulation of innovation through patent protection, the settling of disputes, stability, and contractual freedom. Their approach, described by some as "challenge-but-face-the-consequences,"[70] was to find all challenge penalties not specifically prohibited by the Supreme Court as categorically legal.[71] These decisions can be thought of as an attempt to narrow *Lear*. One

63. Server & Singleton, *supra* note 13, at 337–54.

64. Crane Co. v. Aeroquip Corp., 504 F.2d 1086, 1087 (7th Cir. 1974).

65. *Id.* at 1088.

66. *Id.* at 1088–89, 1092–93.

67. *Id.* at 1092.

68. The Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (codified as amended in scattered sections of 28 U.S.C.).

69. Server & Singleton, *supra* note 13, at 354 & n.378 (providing a list of Federal Circuit cases relating to this issue).

70. *Id.* at 382–90.

71. Cordis Corp. v. Medtronic, Inc., 780 F.2d 991, 993 (Fed. Cir. 1985) (refusing to enjoin the appellant "from terminating the licens[ing] agreement during the pendency of the action").

Federal Circuit judge even attacked *Lear* as being outmoded and disserving the national interest in encouraging innovation.[72]

What would the Supreme Court do today? Follow the narrow approach of the Federal Circuit, or adopt a broader application of *Lear*, as other courts have done? Commentators offer different readings of the case law, but no clear answer exists.[73]

Courts that have terminated challenge clauses have based their decisions on general contractual principles and not on antitrust.[74] The only exception occurred prior to *Lear*, when antitrust was used to carve out an exception to the doctrine of licensee estoppel when the patent monopoly was used to justify an otherwise impermissible agreement to fix prices.[75] Challenging the patent in such a setting was regarded by the Court as a service to the public.[76]

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72. Diamond Scientific Co. v. Ambico, Inc., 848 F.2d 1220, 1228 (Fed. Cir. 1988) (Newman, J., concurring) ("The Court in *Lear* apparently believed that 'full and free competition' ensues when a patent is eliminated from the rolls. The experience of the marketplace is otherwise [and]declin[ing] to give sustenance to a theory of public policy that both weakens the rule of law and disserves the national interest."). Interestingly, in 1986, the Department of Justice supported a bill that a termination upon challenge clause be valid. *See* Taylor, *supra* note 13, at 215 ("In 1986, the Department of Justice supported legislation in the United States Senate that would have allowed patent licensors to include in licenses a provision that would authorize the licensor to terminate the license if the licensee challenged the validity of the patent. This 'no-challenge termination clause' was later introduced in the House of Representatives." (citation omitted)).

73. *See, e.g.*, Dreyfuss & Pope, *supra* note 7, at 1006–07 (discussing how *MedImmune* "could lead courts to revisit *Lear*, *Brulotte*, and the other 1960s cases expressing distrust with state law that touches on innovation policy"); John W. Schlicher, *Patent Licensing, What To Do After* Medimmune v. Genentech, 89 J. PAT. & TRADEMARK OFF. SOC'Y 364, 387–88 (2007) ("Prior to *Lear*, a licensee's agreement not to contest validity was lawful and enforceable."); Server & Singleton, *supra* note 13, at 403–17 (arguing that the legality of such clauses falls within the grey zone).

74. *See, e.g.*, Panther Pumps & Equip. Co. v. Hydrocraft, Inc., 468 F.2d 225, 231–32 (7th Cir. 1972) (holding that a "no contest" clause is "unenforceable under *Lear*" and "does not constitute the kind of 'misuse' of the patent which forecloses recovery of damages from an unlicensed infringer"); Congoleum Indus., Inc. v. Armstrong Cork Co., 366 F. Supp. 220, 234 (E.D. Pa. 1973) (finding "no basis for a conclusion that [a licensor's] refusal to delete [the no contest] clause amounts to misuse of the patents in suit"), *aff'd*, 510 F.2d 334 (3d Cir. 1975). *But see* Bendix Corp. v. Balax, Inc., 471 F.2d 149, 155 (7th Cir. 1972) (involving a no-challenge clause which remains in effect after the termination of the agreement).

75. *See, e.g.*, Katzinger Co. v. Chicago Metallic Mfg. Co., 329 U.S. 394, 398 (1947) (affirming the Circuit Court of Appeals in holding "that the District Court had erred in barring Metallic from challenging the patent's validity as a predicate to establishing the illegality and consequent unenforceability of the royalty covenant"); MacGregor v. Westinghouse Elect. & Mfg. Co., 329 U.S. 402, 407 (1947) (holding that the state supreme court was wrong in affirming the judgment in this cause on the ground that the licensee, MacGregor, was estopped to offer proof of his allegation of invalidity); Sola Elec. Co. v. Jefferson Elec. Co., 317 U.S. 173, 177 (1942) (finding that the "petitioner may assert the illegality of the price-fixing agreement and may offer any competent evidence to establish its illegality, including proof of the invalidity of the patent"). This exclusion to the general rule of licensee estoppel was also independent of whether the contract contained an explicit clause prohibiting challenges.

76. *See Katzinger Co.*, 329 U.S. at 401–02 ("For the contract was still illegal, whoever suggested it, so that there is no less reason for leaving the way open to challenge the patent as a

C. A COMPARATIVE PERSPECTIVE

Some jurisdictions apply antitrust rules in order to regulate challenge clauses. The European Union ("EU") provides an interesting example. In its *Windsurfing* case, the European Commission found a no challenge clause to be invalid as an infringement of antitrust law.[77] The Commission adopted a strong stance according to which "the public interest in ensuring an essentially free system of competition and therefore in the removal of a monopoly perhaps wrongly granted to the licensor must prevail over any other consideration."[78] The European Court of Justice upheld the Commission's decision, holding that the no challenge clause constituted an unlawful restriction on competition.[79] As its primary justification for the ruling, the Court referred to "the public interest to eliminate any obstacle to economic activity which may arise where a patent was granted in error."[80]

The EU Technology Transfer Block Exemption and accompanying Guidelines take a more nuanced approach. Their starting point is that "invalid intellectual property rights should be eliminated. Invalid intellectual property stifles innovation rather than promoting it."[81] The justification provided for this rule is reminiscent of that provided in *Lear*: "[L]icensees are normally in the best position to determine whether or not an intellectual property right is invalid."[82] Yet the Guidelines do not impose a categorical per se illegality rule on no challenge clauses. Rather, they exclude from automatic exemption clauses imposing "any direct or indirect obligation on the licensee not to challenge the validity of intellectual property rights which the licensor holds" and, as a consequence, these clauses are subject to a rule of reason analysis.[83] Furthermore, the Guidelines recognize some situations where no challenge clauses are acceptable.[84] The examples rely on an old case and include instances "when the licence relates to a technically

service to the public interest than if [the licensor] had suggested price-fixing.").

77. Case C-193/83, Windsurfing Int'l Inc. v. Comm'n, 1986 E.C.R. 611.

78. *Id.* at 663.

79. *Id.* at 664. No challenge clauses have also been recently dealt with, in the same fashion, by the Commission in its *Servier* decision. Case at 39612—Perindopril (Servier) 1/2003 of Sept. 7, 2014, art. 7, 244, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39612/39612_12422_3.pdf.

80. *Id.* at 663.

81. Communication from the Commission: Guidelines on the Application of Article 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements, 2014 O.J. (C 89) 3, 28, http://kartellblog.de/wordpress/wp-content/uploads/TT-Guidelines-2014.pdf [hereinafter Guidelines].

82. *Id.*

83. Commission Regulation 772/2004 of April 27, 2004, On the Application of Article 81(3) of the Treaty to Categories of Technology Transfer Agreements, art. 5.1(c) 2004 O.J. (L 123) 11, 16 (EC), http://www.wipo.int/edocs/lexdocs/laws/en/eu/eu105en.pdf (recently replaced by the Guidelines).

84. Guidelines, *supra* note 81, at 28.

outdated process which the licensee undertaking did not use."[85] It is unclear why these clauses should be exempted on normative grounds. A free license to one's major challenger can act as a "value transfer" and stifle competition in the market.[86]

Until 2014, termination-on-challenge clauses were automatically exempted from scrutiny, which led to a practice where no challenge clauses were not included in licensing agreements, but termination-on-challenge clauses were commonly adopted.[87] As of recently, termination clauses are also not automatically exempted.[88] The rationale is that such clauses "can have the same effect as a non-challenge clause, in particular where the licensee has already incurred significant sunk costs for the production of the contract products or is already producing the contract products."[89] An exception was recognized in exclusive licenses below a certain market share.[90] No mention is made in the Guidelines with regard to other challenge penalty clauses.

In the recent case of *Motorola Mobility*, the EU Commission analyzed the validity of a termination-on-challenge clause included in a settlement agreement in which Motorola licensed the use of its Standard Essential Patents ("SEPs") to Apple.[91] The agreement stated that should Apple challenge the validity of the SEPs, Motorola would have the right to terminate the agreement.[92] This, in turn, would enable Motorola to seek an injunction against Apple if it continued to use of any of the SEPs covered by the agreement before validity was determined.[93] The Commission found the clause to be anticompetitive.[94] It was included in order to discourage Apple from bringing invalidity actions, strengthened by the fact that the licensed patents were SEPs, and indeed succeeded in doing so.[95] Furthermore, the Commission stressed the externalities on other licensees: In discouraging invalidity claims by Apple, the agreement also led other potential licensees

85. Case 65/86, Bayer v. Süllhöfer, 1988 E.C.R. 5281, 5286.

86. Sophie Lawrance, *The Competition Law Treatment of No-Challenge Clauses in Licence Agreements: An Unfortunate Revolution?*, 9 J. INTELL. PROP. L. & PRAC. 802, 807 & n.39 (2014).

87. *Id.* at 803.

88. Guidelines, *supra* note 81, at 28.

89. *Draft Communication from the Commission: Guidelines on the Application of Article 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements*, at 39 (2013), http://ec.europa.eu/competition/consultations/2013_technology_transfer/guidelines_en.pdf.

90. *Id.*

91. Case at 39985—Motorola—Enforcement of GPRS Standard-Essential Patents (EC) 1/2003 of Apr. 29, 2014, art. 7, 2, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39985/39985_928_16.pdf.

92. *Id.* at 58.

93. *Id.*

94. *Id.* at 60.

95. *Id.* at 60–61.

to continue to pay royalties for what might be unwarranted SEPs—thereby potentially increasing production costs that may be passed on to consumers in the form of higher prices.[96] The Commission concluded that "[t]he termination clause, whereby Motorola shields itself from validity challenges by Apple, one of its strong competitors, is likely to safeguard Motorola's SEP portfolio in Germany against invalidity actions, which is capable of generating an undue competitive advantage for Motorola and distorting competition on the merits."[97]

With regard to challenge clauses included in settlement agreements, the previous EU Guidelines provided that no challenge clauses in settlement agreements were generally considered to fall outside the prohibition, provided there is no "value transfer" between the patent holder and the licensee.[98] The new Guidelines state that they might nevertheless be caught under specific circumstances, in particular where the patent was granted following the provision of incorrect or misleading information or the licensee is "financial[ly] induced" to agree not to challenge the patent validity.[99]

In conclusion, the EU treats most challenge clauses agreements as potential anticompetitive restraints, which are scrutinized under antitrust rather than contract law. This policy differs significantly from the one adopted in the United States, elaborated above.

III. DO CHALLENGE CLAUSES VIOLATE ANTITRUST LAWS?

No cases have yet addressed the question of whether challenge clauses can violate the antitrust laws.[100] To the extent that these clauses have been regulated, courts have relied upon contract law and general public good doctrines.

This lack of precedent does not imply that these clauses should be immune from antitrust scrutiny. Nor does the fact that only some types of licensing agreements have historically been regarded by courts as falling under antitrust. A clear example can be found in *Actavis*.[101] Reverse payments agreements have long been used to settle patent claims. The application of antitrust is a recent development. It follows that if courts were to reach the conclusion that antitrust should regulate challenge clauses, its

96. *Case at 39985—Motorola—Enforcement of GPRS Standard-Essential Patents (EC) 1/2003*, *supra* note 91, at 67–68. An interesting question involves the scope of the ruling, given its exceptional circumstances which involve, *inter alia*, a commitment by Motorola to license its technology under FRAND terms. This question is beyond the scope of this Article. *See* Lawrance, *supra* note 86, at 811.

97. *Case at 39985—Motorola—Enforcement of GPRS Standard-Essential Patents (EC) 1/2003*, *supra* note 91, at 68.

98. Lawrance, *supra* note 86, at 807 & n.39.

99. Guidelines, *supra* note 81, at 45.

100. *See supra* text accompanying notes 8–11.

101. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2232 (2013).

reach could similarly be expanded. Changes in perceptions—both of the effects of behavior on conduct and of the relative competence of regulatory tools—are accounted for by the legal system and may result in changes in legal rules.

When can new anticompetitive behaviors be incorporated into antitrust? The first hurdle was set by the Supreme Court in *Credit Suisse*, which held that antitrust cannot apply if the application of both antitrust and some other law would produce conflicting guidance, requirements, duties, privileges or standards of conduct.[102] *Lear* suggests that there is no conflict between antitrust and patent law in the context of challenge clauses.[103] In contrast, it has been argued that limitations on challenge clauses harm the *right to exclude*, which is central to the patent grant.[104] This argument, however, is problematic: it can hold only if the patent is valid, and as the *Lear* Court recognized, limitations on challenge clauses are necessary to ensure such validity.[105] It also seems unlikely that there would be a clash between antitrust and contract law in this regard.[106] It is true that limitations on challenge clauses harm the *freedom of contract*: the right of the contracting parties to agree on the terms on which they deal. But freedom of contract is not absolute;[107] contract doctrines are of general application and do not enjoy automatic precedence over antitrust. The *Credit Suisse* test is therefore satisfied.

Neil Averitt has argued that a new antitrust offense can most easily be justified when the defendant knows the conduct to have been improper under some other standard.[108] In our case, at least some of the circuits have treated challenge clauses as being against the public good. Furthermore, as this Part elaborates, the 2013 Supreme Court decision in *Federal Trade Commission v. Actavis, Inc.* sets some guiding principles that are relevant to challenge clauses.[109] Accordingly, this Part analyzes the *Actavis* decision and compares reverse payment agreements at issue in that case to the challenge clauses discussed in this Article.

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102. Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264, 275–76 (2007).

103. *See supra* Part II.A.

104. Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 215 (1980) ("[T]he essence of a patent grant is the right to exclude others from profiting by the patented invention.").

105. Lear, Inc. v. Adkins, 395 U.S. 653, 673–74 (1969); *see also* Miller & Gal, *supra* note 4, at 131–32.

106. Miller & Gal, *supra* note 4, at 134–35.

107. *Id.* at 135.

108. Neil W. Averitt, *The Elements of a Policy Statement on Section 5*, ANTITRUST SOURCE, Oct. 2013, at 12–13.

109. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223 (2013); *see also* Edlin et al., *supra* note 1, at 16–17.

A. FEDERAL TRADE COMMISSION V. ACTAVIS, INC.

Actavis involved an infringement action brought by Solvay, a brand-name manufacturer, against three generic manufacturers who sought to enter the market for a patented pharmaceutical within the framework of the Hatch-Waxman Act.[110] Solvay, however, ultimately settled the action.[111] Each of the generic manufacturers agreed to refrain from entering the market for at least nine years, while Solvay agreed to pay the three firms a total of approximately $250 million to $350 million.[112] Such a settlement is often referred to as a "reverse payment" agreement because it is the patent holder—who brought the infringement suit—that pays a substantial sum to settle it.[113] The Federal Trade Commission took the view that allowing these agreements can frustrate the procompetitive purpose of the Hatch-Waxman Act,[114] which was designed to increase challenges of drug patents by granting the first successful challenger an exclusivity period, and consequently brought suit against Solvay and three generic manufacturers, alleging violations of the antitrust laws.[115]

The Eleventh Circuit ruled against the Commission, holding the settlements "immune from antitrust attack so long as its anticompetitive effects fall within the scope of the exclusionary potential of the patent."[116] The decision was consistent with prior holdings in other circuits.[117] The

110. *Actavis*, 133 S. Ct. at 2229–30.

111. *Id.* at 2229.

112. *Id.*

113. Michael L. Fialkoff, Note, *Pay-For-Delay Settlements in the Wake of Actavis*, 20 MICH. TELECOMM. & TECH. L. REV. 523, 524 (2014) (noting how reverse payments are also referred to as "pay-for-delay" settlements due to their effect on new entry into the market).

114. Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended at 21 U.S.C. § 355 (2012)) (also informally known as the Hatch-Waxman Act).

115. Michael A. Carrier, *Payment After* Actavis, 100 IOWA L. REV. 7, 14 (2014) (discussing agreements by a patentee who pays another "not to enter the market threaten dangers similar to territorial market allocation. But instead of allocating geographic space, in which the parties reserve for themselves particular territories, they allocate time [by] agree[ing] that the [brand-name manufacturer] will not be subject to competition for a period of time, thereby dividing the market and preventing competition"). The settlement agreements therefore protect the patent beyond its actual strength.

116. Fed. Trade Comm'n v. Watson Pharm., Inc., 677 F.3d 1298, 1312 (11th Cir. 2012), *rev'd*, Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223 (2013). Watson Pharmaceuticals changed its name to Actavis shortly after the Eleventh Circuit decision. *Watson Announces New Name—Actavis—for Global Operations*, ALLERGAN (Oct. 31, 2012), http://www.allergan.com/NEWS/News/Thomson-Reuters/
Watson-Announces-New-Name-Actavis-for-Global-Ope.

117. Both the Federal Circuit and the Second Circuit had held similar agreements to be immune from antitrust scrutiny. *See, e.g.*, *In re* Ciprofloxacin Hydrochloride Antitrust Litig., 544 F.3d 1323, 1341 (Fed. Cir. 2008) ("Agreements were not in violation of section 1 of the Sherman Act because any anti-competitive effects caused by the Agreements were within the exclusionary zone of the patent."), *abrogated by* Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223 (2013); *In re* Tamoxifen Citrate Antitrust Litig., 466 F.3d 187, 206 (2d Cir. 2006)

Supreme Court reversed, holding instead that reverse payment settlement agreements may sometimes violate antitrust laws. In the view of the majority, these agreements can significantly harm competition by lowering the risk of patent invalidation.[118]

The extent of the *Actavis* decision is a matter of considerable debate,[119] but some facts are clear. The court refused to establish a presumption that settlements are legal, as urged by the contracting parties. Instead, the majority held the settlements subject to a (qualified) "rule of reason" analysis.[120] The decision left to lower courts the question of how the analysis should be conducted, but emphasized that those courts need not require the party challenging the agreement to "litigate the patent's validity, empirically demonstrate the virtues or vices of the patent system, present every possible supporting fact or refute every possible pro-defense theory."[121]

The majority decision also made it clear that reverse payment agreements are anticompetitive, unless the payment is justified on grounds *other than* harming competition.[122] The Court brought two examples of such justifications. The reverse payment may roughly approximate wasteful "litigation expenses saved through the settlement."[123] Alternatively, the generic may have agreed to perform services on behalf of the patent holder (such as distribution or marketing), and the reverse payment may simply be fair compensation for this work.[124] Furthermore, the Court emphasized that the agreement is presumed illegal unless "[a]n antitrust defendant may show . . . that legitimate justifications are present, thereby explaining the presence of the challenged term and showing the lawfulness of that term under the rule of reason."[125]

Several aspects of the decision are worth highlighting. First, the majority held that both antitrust and patent law are relevant in analyzing the legality of a settlement agreement.[126] Under this approach, anticompetitive terms

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(refusing "to conclude . . . that reverse payments are per se violations of the Sherman Act such that an allegation of an agreement to make reverse payments suffices to assert an antitrust violation"), *abrogated by* Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223 (2013). Shortly after the Eleventh Circuit opinion, however, the Third Circuit decided otherwise. *See In re* K–DUR Antitrust Litig., 686 F.3d 197, 218 (3d Cir. 2012) (finding "a reverse payment" to be "*prima facie* evidence of an unreasonable restraint of trade"), *vacated by* Upsher-Smith Laboratories, Inc. v. Louisiana Wholesale Drug Co., 133 S. Ct. 2849 (2013).

118. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2234–36 (2013).

119. There is much debate regarding the scope of the opinion. *See, e.g.*, Daniel A. Crane, Actavis, *the Reverse Payment Fallacy, and the Continuing Need for Regulatory Solutions*, 15 MINN. J.L. SCI. & TECH. 51, 58–59 (2014); Edlin et al., *supra* note 1, at 16–17.

120. *Actavis*, 133 S. Ct. at 2237.

121. *Id.*

122. *Id.*

123. *Id.* at 2236.

124. *Id.*

125. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2236–37 (2013).

126. *Id.* at 2231.

and conditions are "unlawful unless patent law policy offsets the antitrust law policy strongly favoring competition."[127] A valid patent would give its holder a statutory right to market exclusivity and would consequently immunize the settlement from a claim founded upon antitrust. However, as the Court explained, the settlement prevented the determination of the validity of the patent.[128] As a result, antitrust prevents the patent holder from protecting a potentially invalid patent from attack.

Second, the majority emphasized that the decision does not prohibit all settlements of patent challenges. The parties "may . . . settle in other ways [such as] by allowing the generic manufacturer to enter the patentee's market prior to the patent's expiration, without the patentee paying the challenger to stay out prior to that point."[129] This form of a settlement lowers uncertainty and saves the parties' litigation costs but is not anticompetitive and does not involve any direct compensation to the potential challenger. However, if the settlement is motivated by "a desire to maintain and to share patent-generated monopoly profits, then, in the absence of some other justification, the antitrust laws are likely to forbid the arrangement."[130]

Third, the majority held that patent validity normally need not be litigated to determine the antitrust question.[131] This can be understood if the competitive harm is calculated ex ante, before it is known whether the patent will be upheld.[132]

The *Actavis* decision was not unanimous; Justices Roberts, Scalia, and Thomas dissented, claiming that reverse payment agreements fall within the scope of "the rights conferred by the patent" and consequently are immune from antitrust scrutiny.[133] The basic logic of Roberts' argument is that the patent should be assumed valid until found otherwise.[134] A few aspects of the dissent are important, both to understand Roberts' point of view and, more importantly, to understand that of the majority.

First, Chief Justice Roberts claimed that by weakening patent protection, the decision would weaken incentives for innovation.[135] The majority did not directly respond to this prediction. It is unclear whether Chief Justice Roberts is correct; it has not been shown whether allowing reverse payment agreements will encourage desirable innovation as he

127. *Id.* at 2233. The minority read cases differently and dissented on this point. *Id.* at 2238–39 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting).

128. *Id.* at 2231 (majority opinion).

129. *Id.* at 2237.

130. *Id.*

131. *Id.* at 2236.

132. *Id.* at 2237.

133. *Id.* at 2238 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting).

134. *Id.* at 2239–40.

135. *Id.* at 2238.

maintained, or whether it might instead encourage the type of undesirable rent-seeking that results in the patenting of non-innovative ideas. It might be argued that reverse payment agreements are likely to reward the latter more than the former, and consequently may be harmful to innovation.

Second, Chief Justice Roberts claimed that the majority decision will discourage settlements of patent litigation.[136] The majority did not challenge the accuracy of this claim, but instead dismissed its significance without explanation.[137] What might explain the majority's position? The basic justification for pro-settlement policies is that litigation is costly.[138] To the extent that parties can settle a dispute through cheaper means, it should generally be encouraged.[139] However, litigation at times produces a benefit to third parties in the form of externalities.[140] Hence, when analyzing reverse payment agreements, we must ask: What is the value of the externalities that are lost as a result of these settlements? These agreements are likely to occur when there is a substantial chance that a valuable patent will be held invalid. The benefits to third parties from such a ruling are large: The public will no longer "be required to pay tribute to would-be monopolists without need or justification."[141] More individuals will be able to use the product as the price falls and the patenting firm will not profit from its rent-seeking behavior.[142]

Third, Chief Justice Roberts claimed that the decision will apply to strong patents as well as weak ones.[143] The majority did not base its decision directly on the patent's strength. Rather, as Dan Crane observes, the majority appeared to suggest that any motivation to eliminate patent challenges is inherently anticompetitive.[144] While the Court emphasized the potential analytical link between reverse payment size, patent strength, and anticompetitive effects, it determined that, "a court, by examining the size of the payment, may well be able to assess its likely anticompetitive effects" and

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136. *Id.* at 2243 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting).

137. "We recognize the value of settlements and the patent litigation problem. But we nonetheless conclude that this patent-related factor should not determine the result here." *Id.* at 2234 (majority opinion). This principle is in line with previous Supreme Court cases in which settling a dispute regarding a patent's validity was not treated as a justification for an otherwise anticompetitive agreement. *See generally, e.g.*, Katzinger Co. v. Chicago Metallic Mfg. Co., 329 U.S. 394 (1947); MacGregor v. Westinghouse Elec. & Mfg. Co., 329 U.S. 402 (1947).

138. Michael R. Herman, *The Stay Dilemma: Examining Brand and Generic Incentives for Delaying the Resolution of Pharmaceutical Patent Litigation*, 111 COLUM. L. REV. 1788, 1795 n.41 (2011) (finding how "litigation expenses can raise the expense of an [abbreviated new drug application] to around $10 million").

139. *Actavis*, 133 S. Ct. at 2234.

140. William B. Rubenstein, *Why Enable Litigation?: A Positive Externalities Theory of the Small Claims Class Action*, 74 UMKC L. REV. 709, 725–27 (2006).

141. Lear, Inc. v. Adkins, 395 U.S. 653, 670 (1969).

142. That is, the patenting of an unpatentable idea.

143. *Actavis*, 133 S. Ct. at 2244 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting).

144. Crane, *supra* note 119, at 53.

that a very large payment creates an inference that the settlement is anticompetitive.[145] It also noted that a payment based on risk aversion alone, likely seeks to prevent competition and is not justified.[146]

Fourth, the dissent argued that the logic which underlay the majority holding—"that taking away any *chance* that a patent will be invalidated is itself an antitrust problem"—will inevitably be expanded beyond the specific case of reverse payment agreements.[147] The majority also did not respond to this claim. It is hard to argue with the dissent on this point—indeed, it is the thesis of this Article that the logic of the majority *should* be expanded to the case of challenge clauses. However, it is not clear why this argument should be normatively compelling. Why not expand the holding? It may be absurd, as the dissent suggests, to apply the holding to every agreement which negatively affects the probability of patent invalidation. But the majority opinion has not suggested, nor do reigning jurisprudential theories suggest, that lexicographic priority be placed on this factor.[148]

How can Chief Justice Roberts' dissent be understood in the context of *Lear*? In particular, if a patent should be assumed valid until found otherwise, then challenge clauses should be permissible. Unlike the majority opinion, which cited *Lear* approvingly, Chief Justice Roberts made no mention of the case in his dissent.

One possibility is that Chief Justice Roberts views patent law as supplanting other areas of law. *Lear* held that patent doctrines favoring the invalidation of unwarranted patents supersede the equitable remedy of estoppel.[149] Chief Justice Roberts argued that antitrust does not apply to the extent that the challenged action is within the scope of a patent.[150] In this sense the two are consistent. However, the conflict is in their distinct understandings of patent law. The *Lear* Court based its decision on the idea that patent law itself favors challenges and does not presume patents to be valid when assessing the validity of agreements that discourage challenges.[151] It is unclear whether or how Roberts' dissent can be harmonized with *Lear*'s view of patent law.

A second possibility would be to understand *Lear* and *Actavis* not as decisions about the relative hierarchy of legal doctrines, but instead as attempts to balance policies favoring the invalidation of unwarranted patents with policies favoring the freedom of contract and the settlement of

145. *Actavis*, 133 S. Ct. at 2237.

146. *Id.* at 2236.

147. *Id.* at 2245 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting) (emphasis in original).

148. By a lexicographic priority, we mean that one factor should completely dominate all others.

149. Lear, Inc. v. Adkins, 395 U.S. 653, 668–71 (1969).

150. *Actavis*, 133 S. Ct. at 2238 (joint opinion of Roberts, Scalia, and Thomas, JJ., dissenting).

151. *Lear*, 395 U.S. at 668–71.

disputes. In the simplest interpretation, the majorities in these cases could be understood to have prioritized the former over the latter. However, *Lear* involved an equitable claim by the licensor, and an explicit agreement requiring the payment of royalties.[152] *Actavis* involved a settlement agreement.[153] Chief Justice Roberts may have believed that, to the extent that courts engage in this sort of balancing exercise, claims grounded in formal settlement agreements should be given more weight than those stemming from an ordinary contract. Under this view, the argument for the application of antitrust to challenge clauses is at least as strong as the argument for the application of antitrust to reverse payment agreements. Chief Justice Roberts' dissent would be consistent with the application of antitrust to challenge clauses not found within settlement agreements; the majority would be consistent with the application of antitrust to all challenge clauses.

There is (at least) a third possibility: Chief Justice Roberts may have believed *Lear* to have been wrongly decided. However, the Roberts dissent made no mention of the case, and it seems likely he would have thought to mention it, given that his position entailed the rejection of *Lear*. In this particular case, Chief Justice Roberts would clearly reject the argument of this Article. The majority, of course, rejected every argument based on the rejection of *Lear*.

B. DISCREPANCY OR DIVERGENCE?

What are the implications of *Actavis* for challenge clauses? Reverse payment agreements and challenge clauses are not identical, so *Actavis* cannot be applied in a straightforward manner. However, while there are differences that distinguish the two cases, most are without legal consequence. Reverse payment settlement agreements and challenge clauses are similar in that both limit a potential challenger's ability to invalidate a patent. Reverse payment agreements delay the entry of a contractual party, by paying a potential challenger to drop the challenge which would have allowed him to enter the market securely. Challenge clauses delay entry of third parties as well as the independent operation by the licensee, by paying the licensee for his agreement not to challenge the patent or for committing to sanctions once a challenge is brought. While challenge clauses are dormant until the licensee contemplates a challenge, the *type* of their effect on the ensuing competition is similar.

The agreements do differ with respect to: (1) the identity of the challenger whose ability is limited; (2) the means by which this challenger's ability is limited; (3) the context in which the agreements are made; and (4)

152. *Id.* at 657.

153. *Actavis*, 133 S. Ct. at 2227.

the nature of the consideration given in return. These differences are analyzed below to determine their relevance for challenge clauses.

1. Which Challenger is Restricted by the Agreements?

Reverse payment agreements tend to be signed with generic manufacturers. Challenge clauses are found in agreements with licensees. In both cases, the deterred party has the strongest incentives to bring a challenge. The generic manufacturers tend to have special rights under the Hatch-Waxman Act that grant them an advantage over other new entrants, potentially worth several hundred million dollars in the event that the patent is invalidated.[154]

The licensees, however, are not new entrants, but already operate in the market. As a consequence, they may be better informed than other potential challengers about the validity of the patent. There are also reasons to believe that the licensees would have comparative advantages enabling them to enjoy supracompetitive profits in the event of invalidation.[155] First, they may enjoy first mover advantages: their experience in the market and their established business relationships may give them a leg up against their competition. Second, the patent holder has incentives to choose as a licensee the firm with the strongest ex ante comparative advantage in production.

2. How Do the Agreements Limit the Challenger's Ability to Invalidate the Patents?

Reverse payment agreements limit this ability through a contractual commitment by the generic manufacturer to refrain from entering the market for a fixed term. This removes the generic manufacturer's economic incentive to launch a challenge.[156] Challenge penalty clauses similarly introduce economic barriers—the imposition of additional costs which reduce the licensee's incentives to challenge. No challenge clauses, by contrast, erect a legal barrier to patent challenges.

One may ponder on the importance of this distinction. A legal barrier can be thought of as the imposition of an economic cost, where that cost is high enough to discourage all potential challenges. In this sense, no challenge clauses and reverse payment agreements should be viewed

154. The payments to the generic manufacturer in *Actavis* were estimated to total $171 to $270 million. *See* Fialkoff, *supra* note 113, at 526. These payments were much higher than the payments of $12 and $60 million to the other challengers. *Actavis*, 133 S. Ct. at 2229, 2235.

155. *Actavis*, 133 S. Ct. at 2229, 2236; *see also* Stephen Yelderman, *Do Patent Challenges Increase Competition?*, 83 U. Chi L. Rev. 1943, 2004–12 (2016) (arguing that at least in some subset of cases licensees might have stronger incentives that others to challenge patents).

156. The generic manufacturer may also lack standing due to the lack of risk of an infringement suit. This is a moot point, however, as the generic will not expend millions of dollars to litigate a suit if success will cause the generic to lose the reverse payment.

similarly.[157] The economic barrier that results from challenge penalty clauses varies; in some cases it may be as strong as in that resulting from reverse payment agreements, while in others it will be relatively weak.

3. In Which Context Are These Agreements Made?

Reverse payment agreements are settlements of active litigation. Challenge clauses can also be found in settlements of active litigation, but they may also come in at an earlier stage: in settlements of threatened litigation or as a prophylactic measure in an initial licensing agreement. Courts have generally found the argument for permitting anticompetitive agreements to be strongest when used as a tool to resolve imminent litigation, due to the policy favoring the settlement of disputes.[158] However, as noted above, the majority opinion in *Actavis* did not place decisive weight on considerations regarding the value of settlements.[159]

A contrary argument can be made that the expected harm from the agreements is greatest when found in settlements of imminent litigation. The harm from reverse payment agreements is more or less guaranteed. Were it not for the settlement, the generic would challenge the patent, and would likely enter the market if successful. The challenge clause, on the other hand, may not be relevant; it may never be in the licensee's interest to challenge the patent. However, this is not the correct measure of harm; the challenge clause should be evaluated assuming that it is binding. As a consequence, the relevant measure must be the harm conditional on a challenge, or alternatively the expected harm divided by the probability of a challenge.

Alternatively, it may be argued that licensing contracts, unlike reverse payment agreements, are often socially beneficial—they allow for the diffusion of valuable innovative ideas. Nonetheless, our focus is on the individual clauses. An individual clause may be anticompetitive even though the contract is generally welfare enhancing. The inclusion of anticompetitive clauses in licensing contracts may not increase the social benefit from licensing.

The reverse payment agreements that reached the Court in *Actavis* occur within the incentive scheme created by the Hatch-Waxman Act, and in particular, serve to frustrate it. The Hatch-Waxman Act was motivated by the consideration that generic drug manufacturers need stronger incentives to challenge weak patents; allowing reverse payment agreements would defeat the purpose of this statute as patent holders and generic manufacturers

157. To the extent that reverse payment agreements do not create an insurmountable barrier to challenges, the logic of *Actavis* applies more strongly to no challenge clauses than to reverse payments.

158. *See supra* Part II.A.

159. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2237 (2013).

would always prefer to share the profits arising from the drug patent than risk invalidation.[160] Challenge clauses do not frustrate a particular legislative response to an identified problem with patent and antitrust law. However, it is important to keep in mind that *Actavis* did not involve the interpretation of the Hatch-Waxman Act, but rather was primarily a decision about the limits of patent law, and its relationship with antitrust.[161]

4. What is the Nature of the Consideration Given in Return?

Reverse payment agreements are relatively simple; the limitation on the generic's right to challenge is compensated with a large cash payment. Challenge clauses, by contrast, tend to be a small part of more complicated licensing agreements. The licensee will still pay the patent holder a royalty for the right to use the patent; however, the amount of the royalty will generally be lower than it would be in the absence of the challenge clause. Alternatively, the consideration offered in exchange for the challenge clause may be non-monetary.[162]

This distinction leads to two implications. First, the reverse payment agreements are easy to detect because of their unusual nature: the plaintiff pays the defendant a very large sum to settle a suit in which the defendant has no counterclaim for damages. It fails the smell test. The compensation to patent licensees who agree to challenge clauses is less obvious. Second, the size of the reverse payment agreement is a rough indicator of the size of the harm. No similar measure exists in the case of licensing agreements.

However, these implications are less important than they may seem on first glance. This is in part because reverse payment agreements are often more complicated than a trade of cash for an undertaking not to challenge the patent. The generic manufacturers in *Actavis*, for example, agreed to distribute and market the disputed pharmaceutical.[163] Sometimes they involve non-monetary payments: while lower courts have been split as to whether these agreements fall within the scope of *Actavis*,[164] a number of

160. This is because the monopolist's profit from the patent will exceed the sum of the profits of the firms under competition. This assumes that both parties share similar information about the value of the patent and whether it is likely to be invalidated. This assumption is quite reasonable given that both parties can consult experts.

161. *Actavis*, 133 S. Ct. at 2227.

162. If there are multiple licensees—for example, when each licensee has the exclusive right to a geographical territory—it is possible that the licensees will want these clauses because they restrict their fellow licensees from challenging the patent. In this case, however, the clauses are still likely to have negative welfare effects.

163. *Actavis*, 133 S. Ct. at 2229. The Federal Trade Commission disputed the claim that these services could justify the high payments in the contract. *Id.*

164. Most district courts have interpreted *Actavis* as applying to non-cash reverse payments. Michael A. Carrier, *2008 and 2015: Night and Day for Drug Patent Settlements*, COMPETITION POL'Y INT'L ANTITRUST CHRON., Dec. 2015, at 6.

scholars have argued that the logic of the case requires the term "payment" to include non-monetary benefits, and not only cash transfers.[165]

But in larger part, this is because complicated questions of patent and antitrust policy should not be based on how they are understood by an uninformed observer.[166] The compensation to the licensee for agreeing to the challenge clause may not be obvious to a non-expert, but that does not make it less real. The size of the reverse payment is an indicator of the harm that stems from the agreement, but experts are still needed to estimate the full extent of the harm. In practice, experts can also calculate the size of the harm that stems from challenge clauses.

C. *THE IMPACT OF* ACTAVIS *ON CHALLENGE CLAUSES*

How should the similarities and discrepancies between the situations shape the law with regard to challenge clauses? We highlight five general principles applied in *Actavis* that should carry over to challenge clauses.

The first principle is that courts should prioritize the invalidation of unwarranted patents. This principle does not originate with the *Actavis* decision, but rather comes from a long line of Supreme Court decisions, including *Lear* and *MedImmune*.[167] The strong position taken by the *Actavis* majority leads us to conclude that any rule dealing with limitations to the right to challenge patents will need to incorporate this principle.[168] This line of cases also recognizes the important role of private parties in invalidating unwarranted patents.

The second principle is that the scope of the patent does not include the right to immunize the patent from future challenges through a contract with potential challengers. This will be the case whether the contract restricts the legal right to bring the challenge or whether it imposes a penalty if it is brought. As the Court emphasized, an important "patent-related policy" is to "eliminat[e] unwarranted patent grants."[169] This

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165. Joshua D. Wright, Comm'r, Fed. Trade Comm'n, *Remarks at the Antitrust Masters Course VII: Antitrust Analysis of Reverse Payment Settlements After Actavis: Three Questions and Proposed Answers* (Oct. 10, 2014), https://www.ftc.gov/system/files/documents/public_statements/591131/141010 actavisspeech.pdf (stating how "complex supply agreements" and various "marketing and other advertising arrangements" are examples of "non-monetary elements"). For a similar view, see also Carrier, *supra* note 115, at 7, 9; and Fialkoff, *supra* note 113, at 543.

166. Obviousness to an outside observer may be a relevant criterion in determining whether courts should employ a "quick look" approach in determining legality of the agreements, but the *Actavis* court rejected this in favor of a "rule of reason." *Actavis*, 133 S. Ct. at 2237.

167. Lear, Inc. v. Adkins, 395 U.S. 653, 670–71 (1969); *see also* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 135–36 (2007).

168. *Actavis*, 133 S. Ct. at 2233.

169. *Id.*

principle clears the hurdle of patent law in all cases limiting patent challenges.

The third principle is that a small reduction in the probability that a challenge will be brought constitutes an anticompetitive harm. As shown above, challenge clauses can create as much harm to competition as reverse payment agreements. We know of no reason to assume that limits to the challenges of drug patents under the Hatch-Waxman Act would be more harmful than similar limits would be in other types of patents. However, even if one were to make this assumption, the benchmark set by the Court—the existence of harm caused by a small reduction in the probability of a challenge—is very low and can be met, if nothing else, by the cumulative effects of challenge clauses across licensing agreements.

The fourth principle is that an otherwise anticompetitive agreement to limit a patent challenge cannot be justified on the ground that higher profits to the patent holder encourage or fund beneficial innovation. High revenues are especially important for the drug industry because of the significant expenditures needed to research and develop new products. That this consideration is not given much weight in the drug industry implies that it should not be given much weight with regard to other types of patents.

The fifth and final principle is that limited weight should be given to the consideration of settling legal disputes. The application of this principle in the context of reverse payment agreements also carries over to challenge clauses. While a difference does exist between the two instances with regard to contractual stability, as we saw above, these considerations do not have a significant positive impact on social welfare even with regard to challenge clauses in licensing agreements.

Beyond these five principles that should be adopted, there are two principles that we think are largely inapplicable. First, does the rule of reason adopted in *Actavis* imply that challenge clauses can have pro-competitive effects that should be taken into account when shaping the legal rule? On its face, the answer is yes: If the Court applied a rule of reason in the case of a stand-alone immunity-from-challenge agreement, then it should obviously be applied with regard to challenge clauses that are part of licensing agreements. But a closer look reveals that the answer is not trivial: *Actavis* can be read as acknowledging pro-competitive effects to any part of a reverse payment agreement but for the no challenge commitment, unless the payment is lower than the litigation costs saved by the patent holder.[170]

170. *See* Carrier, *supra* note 115, at 20–21. In *Actavis* the Court characterized lawful agreements as those in which the parties have not "sought or brought about the anticompetitive consequences [which result from limiting challenges to potentially invalid patents]." Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2236 (2013). An interesting question is whether the Court's statement that the parties may "settle in other ways [which do not involve reverse payments], for example, by allowing the generic manufacturer to enter the patentee's market prior to the patent's expiration, without the patentee paying the challenger to stay out prior to

Second, should *Actavis* be read as creating a per se legality rule with regard to payments for a no-contest challenge that covers litigation costs? This reading, if correct, would at most create only a partial defense for challenge clauses. But we question the justification of this exemption, especially where it applies regardless of the strength of the patent. Furthermore, the size of these litigation costs is hard to estimate ex ante, and it would be difficult to determine in practice whether the benefit received by the licensee for dropping his potential challenge is higher than the saved litigation costs.

The implication of our argument is that *Actavis* provides a foundation for the expansion of antitrust scrutiny to challenge clauses.

IV. A NORMATIVE FOUNDATION FOR AN ANTITRUST OFFENSE

The regulation of challenge clauses through antitrust is consistent with the legal precedent set in *Actavis*. Can this regulation be justified on normative grounds as well? This Part focuses the normative analysis on two questions. First, should challenge clauses be regulated? Second, assuming that regulation is desirable, is antitrust the best regulatory tool to achieve our goals? To the best of our knowledge, neither courts nor scholars have yet performed a thorough analysis of these questions.

To make a compelling normative case for a new antitrust offense, we suggest that three requirements need to be met. The first and basic requirement is that the challenged conduct must have a potential to negatively impact competition. The second requirement is that such effects are not offset by procompetitive or otherwise welfare-enhancing virtues. These two conditions ensure that making use of the antitrust toolbox falls within its goals of prohibiting conduct that harms competition and welfare. The third requirement ensures that antitrust adds to the realization of such goals. If, for example, contract law creates optimal incentives for market players, adding antitrust may at minimum be redundant, and in some cases might even be harmful. This Part explores whether these requirements are met in the case of challenge clauses.

Note that these conditions should determine not only when to add an offense to the antitrust palette, but when to remove one as well.

A. POTENTIAL ANTICOMPETITIVE EFFECTS OF CHALLENGE CLAUSES

The first requirement—that the challenged conduct must have the potential to negatively impact competition—is the easiest to meet. Many

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that point" exclude antitrust scrutiny challenge clauses, since they do not involve a direct payment from the patent holder to the licensee-challenge. *Id.* at 2237. We argue that the answer is negative. In the following sentence, the Court makes it clear that it will not allow such settlements "[i]f the basic reason is a desire to maintain and to share patent-generated monopoly profits." *Id.* Rather, "in the absence of some other justification, the antitrust laws are likely to forbid the arrangement." *Id.*

courts, starting with *Lear*, have recognized this potential effect.[171] Recently in *Actavis*, the Supreme Court emphasized that an anticompetitive harm is created when the risk of competition is prevented by limiting a patent challenge, even if that risk is small.[172] The Court has clearly taken the position that contractual limitations on patent challenges harm competition.

Of course, that judges believe a fact does not make it true. We present the case that challenge clauses do in fact harm competition. Our case consists of two arguments: First, challenge clauses lead to fewer invalidations of unwarranted patents; second, the invalidation of unwarranted patents is welfare-enhancing. To simplify our analysis we make an assumption that apart from the challenge clauses the basic licensing contract will remain unchanged. We then consider how the prohibition of these clauses may affect the remainder of the contract.[173]

The argument that challenge clauses lead to fewer invalidations of unwarranted patents is straightforward. It is uncontroverted that unwarranted patents are commonly granted by the PTO.[174] No challenge clauses erect a legal barrier to challenges. Challenge penalty clauses erect an economic barrier. These barriers prevent, or at least limit, the invalidation of unwarranted patents.

If licensees faced no contractual limitations on their ability to challenge, would they have incentives to bring challenges? In *Lear*, the Supreme Court assumed that "[l]icensees may often be the only individuals with enough economic incentive to challenge the patentability of an inventor's discovery."[175] The Court was correct: Licensees are often better able and better incentivized than third parties to challenge unwarranted patents.[176]

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171. *Lear*, 395 U.S. at 667.

172. *Actavis*, 133 S. Ct. at 2236.

173. *See infra* Part IV.A.

174. A significant debate does exist over whether it would be cost-effective for the PTO to invest more (or less) in the patent inspection process in an attempt to bring down (or raise) the number of unwarranted patents. This debate, however, is not directly relevant to our argument. Empirical studies have shown that the PTO makes costly errors with the effect of limiting current production and future innovation. *See* FED. TRADE COMM'N, GENERIC DRUG ENTRY PRIOR TO PATENT EXPIRATION: AN FTC STUDY 9–10, 16 (2002), http://www.ftc.gov/sites/default/files/documents/reports/generic-drug-entry-prior-patent-expiration-ftc-study/genericdrugstudy_0.pdf (showing that 73% of generics prevailed in patent invalidation challenges between 1992 and 2000). Excessive patent protection can reduce innovation by precluding subsequent innovations by others. *See, e.g.*, Michele Boldrin & David K. Levine, *A Model of Discovery*, 99 AM. ECON. REV. 337, 342 (2009) ("[I]n this world, introducing a patent is damaging to welfare: it does not increase the rate of innovation and may even reduce it."); Josh Lerner, *The Empirical Impact of Intellectual Property Rights on Innovation: Puzzles and Clues*, 99 AM. ECON. REV. 343, 347 (2009) ("The lack of a positive impact of strengthening of patent protection on innovation is a puzzling result. It runs not only against our intuition as economists that incentives affect behavior, but also counter to the findings in the 'law and finance' literature that stronger property rights . . . encourage economic growth.").

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

176. This argument draws heavily on our prior research. Miller & Gal, *supra* note 4, at 140–54.

First, the licensee has a better ability to challenge the patent.[177] The licensee engages in production based on the patent and thus may be in a better position to determine whether the patent is based on prior art or is otherwise invalid. Second, the licensee may have a stronger financial incentive to challenge the patent than do third parties—if royalties are high enough, the licensee's profits may increase even if the market becomes (more) competitive when the patent is invalidated.[178] Moreover, the licensee could enjoy a significant comparative advantage over potential competitors, allowing him to reap supracompetitive profits for a period of time after the invalidation of the patent. For example, the licensee may have a first-mover advantage, lower production costs, a reputation from producing the previously-patented good, or the rights to an improvement patent. These comparative advantages may ensure that the licensee's prices do not necessarily plunge once the patent is invalidated. Accordingly, the benefits to the licensee from bringing the challenge may outweigh licensee-specific costs not faced by other challengers.[179]

We emphasize that third parties cannot generally be relied upon to bring these challenges. Invalidation is a public good: A successful challenger will face a competitive marketplace in which it will be difficult to profit. These limited benefits mean that third-parties will rarely be willing to incur the substantial cost of bringing a challenge.[180] Contractual clauses which impair the ability and incentive of licensees to challenge the patent may lead to the removal from the litigation market of the most motivated and best able—and sometimes, the only—challenger of the patent.[181]

The legality of challenge clauses would not be an issue if the licensees did not agree to be bound by them. However, licensees have a strong incentive to agree to these clauses: The patent holder and the licensee can benefit while externalizing the monopolistic harm onto consumers.

Challenge clauses can be adopted in the initial licensing contract as forward-looking safeguards against future challenges which may arise if new information regarding the patent's validity is revealed to the licensee, or if the licensee's incentives for bringing a challenge otherwise change. For

177. *Id.* at 137–40.

178. *Id.* at 138.

179. For example, the challenge may harm the parties' existing contractual relationship—especially valuable if the licensee seeks to obtain a license for additional patents or to enjoy the patentee's know-how—and the public nature of the challenge may make other patent-holders leery of contracting with him.

180. Of course, exceptions apply. For example, the third party might enjoy a comparative advantage such as economies of scale in marketing or distribution, which will create incentives to challenge the patent, even if its invalidity is a public good. Also, they might wish to lower the financial gains of a patentee which competes with them in other markets, so he would have less funding to invest in research and development or expansion in their market, or that his reputation in the patent market will not carry over to their market.

181. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2236–37 (2013).

example, a licensee may not wish to challenge the patent until he has gained a significant amount of experience producing with the technology.

Alternatively, these clauses may be added later in the relationship. For example, if the licensee finds out, during the course of the license term, that the patent is sufficiently weak to justify a challenge, both the patent-holder and the licensee will have strong incentives to renegotiate the contract rather than litigate. Under this renegotiated contract, the licensee will agree not to bring a challenge in return for a lower royalty rate. Both parties can benefit from this agreement: they eliminate the uncertainty that they will lose in court, they save litigation costs, and they keep third party competition from entering the market. However, the public will lose—the patent will not be declared invalid and a competitive market will not ensue. A lower royalty rate may lead to slightly higher quantities of production, reducing the deadweight loss, but it will not approach the competitive level. The benefits from such an agreement will accrue primarily to the parties involved, and not to the public at large.

Our second argument is that challenges of unwarranted patents are welfare enhancing. This argument has two steps. First, unwarranted patents harm competition and welfare. Second, successful challenges of unwarranted patents will improve welfare.

That unwarranted patents harm competition and welfare follows from textbook economics. Patents limit competition in production. Successful patents create monopolies, and monopolies create static social harm: too little of the good is produced, at too high of a cost, and valuable resources are squandered by rent-seeking firms.[182] Furthermore, the anti-commons problem may limit the production of multi-patent products and future follow-on inventions.[183]

Patents come with benefits as well as costs; namely the possibility of enjoying monopoly rents increases the inventors' incentive to innovate. However, this benefit may outweigh the costs only in the case of valid patents.[184] Monopoly rents derived from invalid patents at most create weak incentives to innovate, and at worst, may create strong incentives for firms to

182. *See generally* Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813 (1984). Of course, the benefit to the consumer depends on the market structure and conditions.

183. *See* Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 699 (1998) ("The tragedy of the anticommons refers to the more complex obstacles that arise when a user needs access to multiple patented inputs to create a single useful product. Each upstream patent allows its owner to set up another tollbooth on the road to product development, adding to the cost and slowing the pace of downstream biomedical innovation.").

184. For the argument that the costs of the patent system outweigh the benefits even in the case of valid patents, see generally MICHELE BOLDRIN & DAVID K. LEVINE, AGAINST INTELLECTUAL MONOPOLY (2008).

engage in wasteful rent-seeking behavior leading to the creation of weak patents.

It does not automatically follow that successful challenges of unwarranted patents increase welfare. The argument that unwarranted patents harm competition and welfare applies to patents only in general, and is not true in every individual case. Not all patents turn out to be economically valuable. The invalidation of a patent with low market value does not increase competition, and consequently, preventing the invalidation of such a patent does not harm competition. A declaration of invalidity would not lead third parties to produce based on the patent.

The market value of the patent matters little for the question of whether challenge clauses should be contractually enforceable. As a practical matter, a licensee is not going to challenge a worthless patent. However, it may matter for the question of whether and when the inclusion of a challenge clause is an antitrust violation. We consider two idealized cases: a straightforward rule that applies ex ante to all clauses—creating contractual clarity—and an ex post rule that applies only to clauses that have the effect of limiting competition. Of course, many intermediate rules are possible, but the lessons that arise from these two rules are generally applicable.

The patent holder and licensee would not invest resources in a licensing agreement unless the patent was expected to be valuable. Thus, under the ex ante rule, all challenge clauses should be illegal because they are written with the intent of harming competition and because of the difficulty in predicting the future economic value of patents. Under the ex post rule, the legality of the clause may change during the contract term as new information about the value of the patent becomes available. The temporal element—the stage during which the challenge clause is incorporated into the contract—can serve as a rough indicator as to the likelihood that the risk of anticompetitive effects will actually materialize. A challenge clause that is a product of mid-term renegotiation leads to a higher probability that competition will be harmed because it is based on the licensee's revealed intention to actually bring a challenge.

Finally, the effect of the challenge on the degree of competition in the market also depends on whether the outcome of the patent's challenge applies in rem. If the invalidity only affects the contracting parties, then at maximum the result would be a change in the market structure from a monopoly to a duopoly, in the case that the patent holder also starts producing.[185] If the patent's invalidity applies in rem, however, the result may be that multiple firms will enter the market. This is true even if the licensee was motivated to bring the challenge by an initial comparative

185. The situation is slightly more complicated if other licensees exist, but the general change remains the same.

advantage in production based on the patent.[186] Invalidation in rem benefits other producers who can now enter the market, and consumers who enjoy lower prices and more access to the good as a result of the increase in the quantity produced.

In short, a challenge clause can lead to underinvestment in patent challenges and consequently helps preserve the monopoly created by the patent.[187] The preservation of the monopoly affects the degree of competition in the market. The cumulative effect across all licensing contracts in the economy can be substantial, even if antitrust policy has only a modest effect on individual licensees' incentives to challenge.[188]

B. REDEEMING VIRTUES

Challenge causes can harm competition by maintaining unwarranted patents. This fact alone is not sufficient to condemn them. The justification for applying an antitrust rule depends on the relative weight of anticompetitive and procompetitive considerations. There is no justification for prohibiting challenge clauses if their anticompetitive effects are always offset by their procompetitive effects, or if the benefit of prohibiting these clauses in the specific cases where they lead to anticompetitive effects is outweighed by the cost of regulation, including over-deterrence. This Section identifies possible procompetitive justifications and assesses their relative weight. In doing so, we build on the literature on challenge clauses and learn by way of analogy from the vast literature on reverse payment agreements.

We first address several potential justifications for challenge clauses. In particular, the claims that these clauses may: (1) lead to more socially beneficial patent licensing; (2) enable the parties to save costs, stemming from both direct expenditures and increased uncertainty; (3) lead to an increase in innovation; and (4) make it more difficult for parties to engage in gamesmanship. We show that the procompetitive benefits of challenge clauses are few, and rarely outweigh their accompanying anticompetitive effects.

1. Increase in Beneficial Licensing

Patent licensing is socially beneficial. It disseminates the fruits of innovation more widely and more quickly, by building on the parties' comparative advantages. In particular, patent licensing contracts shift

186. The doctrine of collateral estoppel prevents the patent holder from re-litigating its patent validity.

187. *See* Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2234 (2013) ("The payment in effect amounts to a purchase by the patentee of the exclusive right to sell its product, a right it already claims but would lose if the patent litigation were to continue and the patent were held invalid or not infringed by the generic product.").

188. Crane, *supra* note 119, at 54 (relating to reverse payments).

production to more efficient producers. A challenge clause is not a naked stand-alone restraint but rather part of an information-sharing agreement. However, this does not imply that challenge clauses are necessarily beneficial. Rather, we should determine whether a prohibition of these clauses negatively impacts the efficiency of production.

The first issue is whether the limitation of challenge clauses affects whether patents are licensed. Put differently, would some patent holders choose to produce the product in-house rather than license to another producer? This depends on the strength of the patent and the comparative advantages of the potential producers, including the patent holder. The holder of a strong patent is not likely to worry about the risk of a challenge.[189] However, the weaker the patent, the greater the risk. Here, the relative comparative advantages come into play. In competition, each producer's ability to profit comes from her comparative advantage, and consequently, a licensee's willingness to challenge a patent is, in part, a function of her ability to profit in competition. We will now describe three key cases, and show that, while a limitation on challenge clauses may lead patent holders to forgo license opportunities, these licenses lead at best to only a small social benefit, and at worst, to social harms.

The first case is that in which the patent holder has a comparative advantage in production over all competitors. In this case, a limitation on challenge clauses may lead to a reduction in licensing, but the licensing would not have been socially beneficial. To understand why, note that licensing produces a social harm: it would shift production toward a less efficient producer. Fortunately, it will rarely be in the interest of the patent holder to license the patent in this case. The exception is when there is a less-efficient producer who is nonetheless significantly more efficient than the remainder of her third party competitors, and who consequently may still be able to profit enough in competition to justify challenging the patent. The patent holder may choose to license to this competitor to forestall a challenge. Such a license is fundamentally anticompetitive and can lead to a decline in the efficiency of production.

The second case is one in which a single producer, who is not the patent holder, has a very large comparative advantage over all potential rivals. In this case, a limitation on challenge clauses will not cause the patent holder to forgo beneficial licensing, because refusing to license will lead to the challenge that the patent holder seeks to avoid. To see this, note that a producer with a large enough comparative advantage over its rivals can make a profit in competition and consequently has an incentive to challenge. However, it is in the interest of the patent holder and the producer to license ex ante, avoiding the direct costs of a challenge and the risk of immediate competition in the market. A challenge will only occur

189. A licensee is not likely to challenge a strong patent. Miller & Gal, *supra* note 4, at 145–47.

later if there is a change in the circumstances—either new information leads the licensee to believe that the patent is weaker than previously thought, or else the licensee's comparative advantage grows as a result of having gained experience producing the patent. The decision to license will not be affected by a limitation on challenge clauses.

The third case is that in which the most efficient producer, who is not the patent holder, does not have a large comparative advantage over all potential rivals. In this case, a limitation on challenge clauses will lead to a reduction in beneficial licensing, but even if we ignore any offsetting benefits, the social cost of this reduction will be low. To see why, note that the producer will not want to challenge the patent ex ante, even for a weak patent, because the cost of the challenge will be greater than the limited profit the producer will be able to enjoy in competition. That producer may choose to challenge later, however, if she strengthens her comparative advantage from her production experience while under the patent. A patent holder who chooses to license, then, can capture most of the joint profits from licensing, but those profits are limited by the added risk of a later challenge.[190] A patent holder who decides to produce in-house may lose the benefits from licensing, but will also lose that added risk of a challenge. Hence the patent holder will be more willing to license when the joint profits from licensing are high, which is when the licensee has a strong comparative advantage over the patent holder. Conversely, the patent holder will be less willing to license when the licensee's comparative advantage is slight. Thus, a limitation in challenge clauses will lead to a decline in beneficial licensing, but the social benefit of licensing in these cases will be small.

The second issue that should be analyzed is whether a limitation on challenge clauses would affect the nature of the licenses, even if it does not induce the patent holder to forgo licensing altogether. It may affect the broader licensing scheme, changing the number of licensees or the nature of the rights that they receive. Or it may affect the contractual terms offered to the licensees.

A limitation on challenge clauses may induce a patent holder to contract with multiple licensees in order to reduce the possibility that a licensee will gain a comparative advantage over its rivals.[191] For example, the patent holder may divide the market geographically, giving each licensee a monopoly in its region, so as to minimize the decline in royalties arising from this scheme. The effects of this scheme on social welfare will be mixed: The expiration of the patent will lead to an extremely competitive market, as no producer will have gained a first-mover advantage. However, the multiple

190. Specifically, the joint profits that arise from licensing the patent to the second-most efficient producer are similar to those that arise from licensing to the most efficient producer.

191. Miller & Gal, *supra* note 4, at 149–50.

licensees should be able to anticipate this state of competition, and consequently will avoid taking costly action that would terminate the patent prematurely, such as bringing a challenge.

A limitation on challenge clauses may also induce the patent holder to choose different contractual terms.[192] In particular, the patent holder may ask for a larger upfront payment to reduce the benefit that the licensee may later enjoy from a successful challenge.[193] In the extreme case, the patent holder may prefer to sell the patent outright. However, the fact that the sale of the patent to the most efficient producer solves these problems leads us to ask why we do not see this remedy more often. There are four basic reasons, which are also partly relevant in the case of increased upfront royalties.

First, the expected value of the patents may be large relative to the size of the firms, and as a consequence we may expect them to behave as if they are risk averse. Here, the licensing contract can serve as a type of insurance. When both parties are risk averse, it is optimal for each to bear some risk, even though one may be significantly more risk averse than the other.[194] A complete sale of the patent would be inefficient.

Second, the buyer of the patent will typically have less information than the seller about the value of the patented technology and about the strength of the patent. As a consequence, the buyer may not be willing to purchase the patent without a substantial discount; in some cases the necessary discount will be enough to completely destroy the market for the patent.[195] A royalty contract can signal to the licensee that the patent holder believes that the patent is valuable.

Third, even if the value of the patent was clear, and the parties were not risk-averse with respect to it, not all licensees would be willing or able to buy the license outright. This would affect the choice of potential licensees and consequently the patent holder's profit.

Fourth, the outright sale of a patent affects the buyer's incentives. While it may have only been moderately worthwhile for the licensee to research the validity or value of the patent, a large investment may induce more research, which may not be to the benefit of the patent holder. Once again, the patent holder's benefits are reduced by the counter-effects that he may suffer.

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192. For an extended analysis, see generally *id.*

193. *See* Dreyfuss & Pope, *supra* note 7, at 974; 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, 452–55 (2007). Such payments might include not only the payment for the right to use the patent, but also for transfer of knowledge (know-how) that is necessary in order to efficiently produce based on the patent.

194. Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 AM. ECON. REV. 941, 959–61 (1963) (describing a general model applicable to many types of insurance).

195. This is the classic situation described by the term "Market for Lemons." To understand the economics, see George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 488–500 (1970).

2. Cost Savings

Challenge clauses prevent costly litigation; in this sense they act like early settlements of potential future disputes, regardless of whether they occur in initial license agreements or in actual settlement agreements. Litigation is costly in at least two ways. First, there are those costs imposed from the process of litigation itself. Second, uncertainty about the outcome of potential litigation may itself impose a significant cost on the patent holder, the licensee, and third parties. We analyze each of these costs in turn.

The costs of litigation are well known.[196] The parties to the litigation need to hire expensive lawyers and other highly skilled professionals, each of whom needs to devote much of their valuable time and energy to the challenge. The litigants' own employees, including their senior management, must also devote their time and attention to the case.[197] These costs may be substantial enough to prevent the patent holders from protecting their own patents.[198] Litigation also imposes significant costs on courts, which must devote substantial resources (primarily labor and courtroom time) toward hearing and deciding the case.[199]

However, litigation can also create countervailing benefits. Judicial decisions create precedents which benefit third parties. These decisions both clarify and correct private parties' understanding of the law. They clarify the law in the sense that they provide guidance to future courts, which in turn enables private parties to better anticipate how courts will react. They correct the law in the sense that good judicial decisions lead to rules which make private behavior more efficient. Also, the outcome of a legal case may lead to a change in the behavior of one or both of the litigants, regardless of the precedential value of the case. This change in behavior might sometimes be socially beneficial.

Generally, settlement agreements are favored by the courts because the savings in litigation costs may well outweigh the social value of deciding the case. Most cases involve relatively established questions of law, and the resolution of the cases would not have predictable effects on third parties. Settlement agreements allow the parties (and the public) to avoid the cost of litigation without affecting the valuable ex ante incentives created by the judicial system—to respect other people's rights lest one be punished by a court.

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196. Crane, *supra* note 119, at 54.

197. *Id.*

198. *See* Miller & Gal *supra* note 4, at 151.

199. In the context of reverse payment agreements see Gregory K. Leonard & Rika Onishi Mortimer, *Antitrust Implications of Pharmaceutical Patent Litigation Settlements*, *in* ECONOMIC APPROACHES TO INTELLECTUAL PROPERTY POLICY, LITIGATION, AND MANAGEMENT 251, 261–65 (Gregory K. Leonard & Lauren J. Stiroh eds., 2005).

However, in patent challenge cases the costs of litigation may well be outweighed by benefits to society. This is because the expected value of the decision in patent cases is relatively large. Patents are valuable because they restrict competition. In general, patents are litigated only when they are both valuable and weak. The consequence is that a litigated patent has a significant chance of being invalidated, therefore leading to a significant increase in the level of the competition in the patented idea. The costs of litigation, by contrast, are small relative to the expected benefits of patent invalidation. This implies that the general logic that underlies settlement agreements generally does not apply to challenge clauses.[200]

Beyond the costs of the litigation, there are costs that arise from the fact that litigation is disruptive: The outcome of a case can be a judicial decision which alters our understanding of legal rights, and can consequently lead to a costly restructuring of economic activity. The possibility of litigation and uncertainty about the status of the patent makes it difficult for the parties to plan.

We should not exaggerate the cost of this uncertainty. Were it very high, it could be eliminated by a simple legal rule according to which the decision to grant a patent is unreviewable. But at the same time, this cost should not be dismissed out of hand. We analyze the effect of the uncertainty on the patent holder, the licensee, the suppliers, and the consumers of the patented product.

The patent holder faces two sources of uncertainty: the threat that the firm will incur litigation costs and the risk of patent invalidation. This first source of uncertainty may be significant to the patent holder, but for reasons explained above it need not be a cause of concern. The second source of uncertainty is that the revenue stream flowing from the patent may be cut off. This harms the patent holder in that it lowers the expected value of the patent and in that it makes it difficult for the patent holder to plan. The first of these harms is not directly relevant to our analysis—the patent holder does not have the right to the full value of the patent if it is invalid. The second harm—the difficulty planning—is related to the firm's level of risk aversion, which comes from its need for credit.[201] The uncertainty about the risk of patent invalidation makes it more difficult to value the patent, and consequently makes it hard to use capital markets to smooth the risk. In some cases, this risk is minor. A firm with a large portfolio of valuable patents may not have any problem accessing capital.[202] A publicly traded

200. For more on when settlement agreements are, as a class, not socially optimal, see generally Ezra Friedman & Abraham L. Wickelgren, *Chilling, Settlement, and the Accuracy of the Legal Process*, 26 J.L. ECON. ORG. 144 (2010).

201. *See generally* Barry C. Harris et al., *Activating* Actavis*: A More Complete Story*, 28 ANTITRUST 83 (2014).

202. Unless the risk of patent invalidation is correlated across the portfolio, in which case even a large firm may have trouble accessing capital under the threat of multiple and concurrent suits.

firm whose patent royalties are paid directly to shareholders in dividends does not have any need for credit. But a small firm that wishes to use the patent as collateral for a loan can incur a real cost. An individual who cannot get credit as a result may act as if risk averse. For firms, institutions, and individuals in this position, the option to limit future patent litigation by including challenge clauses in licensing agreements helps to mitigate at least one aspect of this uncertainty. It is important to remember that patent holders have alternate methods to mitigate this uncertainty, such as hiring experts to evaluate the risk of litigation.

The risk of patent invalidation can also make it more difficult for the licensee to plan. In particular, uncertainty about future competition can impair the licensee's ability to make long term investments that require significant sunk costs. If there is a single licensee, this risk is unimportant, as it is the licensee who decides whether to disrupt the contractual status quo by challenging the license. The licensee will choose to challenge only if these investments will be more easily recouped in competition.

This issue becomes more complicated if there are multiple licensees. Each faces the risk that another licensee will bring a successful challenge, leading to a state of competition for which they have not planned.[203] This result may help or harm the licensee, depending on their comparative advantages.[204] Whether it helps or harms the licensee is not of concern, however; the invalidation of unwarranted patents is socially beneficial, and licensees do not have a right to protect the value of their interest in an unwarranted patent. Patent licenses are understood to include the inherent risk of invalidation.

It is not whether the licensee is helped or harmed by this invalidation that is relevant, but whether the risk of an invalidation caused by one licensee's challenge will make it harder for the other licensees to plan and therefore might be socially harmful. Often the invalidation of a patent will lead to an increase in quantity of that patent-based product that an individual licensee supplies, while leading to a decrease in that licensee's profits. The effect on investment is unpredictable. The licensee may invest more (so as to be more prepared to capture more of the market following an invalidation) or less (the ability to fill demand lowers profits in an oligopolistic setting).[205] It is possible that the risk will, however, keep some producers from becoming licensees in the first place. Consider the case where a patent holder licenses the patent to multiple producers to limit the risk of a challenge. It may be that the weaker producers will not be able to

203. The risk of a patent challenge is substantially smaller if there are multiple licensees.

204. On first pass, it is reasonable to assume that the strongest licensee will bring the challenge, but this does not mean that the strongest licensee will benefit the most from it; the other licensees do not need to contribute to the litigation costs.

205. For the latter, see JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 211–12 (1988) (examining the Edgeworth solution to the Bertrand paradox).

profit in competition, and the full length of the patent term is necessary for them to participate in the scheme. However, this plan is not efficient as it involves more producers than is socially optimal. Society benefits if uncertainty about the risk of a licensee challenge prevents its arrangement.

Last, we consider the suppliers and buyers of the patent-based products. The invalidation of the patent will lead to an increase in supply of the patent-based product, and consequently to an increase in the demand for the supplied inputs. This is a windfall for both the supplier and the buyer—the price of the inputs will rise and the price of the output (the patent-based product) will decrease. The effects of this change on the behavior of the supplier and buyer will depend on the type of products involved and the production and consumption technology. For some products, the supplier may increase the price of the product ex ante, effectively postponing sales of the input. Similarly, the buyer may postpone her purchase of the product, effectively decreasing the amount that she is willing to pay. For other products, the seller may invest in production in anticipation of an increase in demand. The buyer, meanwhile, may invest in consumption, such as purchasing a printer in anticipation that ink cartridge prices will decrease in the future.

To summarize, this uncertainty affects the ability of the different market participants to plan. The patent holder may find it harder to borrow against the value of the patent due to difficulties in assessing the risk of invalidation. The suppliers and consumers of patent-based products may change their purchasing behavior in anticipation of the possibility of a sudden windfall. However, these changes are only marginal. For example, even with challenge clauses the valuation of the patent still needs to take into account other sources of uncertainty about the value of the patent, such as the demand for patent-based products and the risk of invalidation due to a challenge not launched by the licensee. The cost of this uncertainty is likely to be of second order when compared with the large social benefit that arises from the increased level of competition that follows the invalidation.

3. Effects on Innovation

It has been claimed that challenge clauses strengthen incentives to innovate.[206] Commentators raise two main reasons. First, limitations on challenge clauses lower the expected value of the patent because the clauses prevent challenges that are costly, both in expended litigation costs and in lost royalty income. A decrease in the expected value of the patent would weaken ex ante incentives to invest in the kind of innovative research for

206. For such a risk, see, e.g., Dreyfuss & Pope, *supra* note 7, at 976–77; James Langenfeld & Wenqing Li, *Intellectual Property and Agreements to Settle Patent Disputes: The Case of Settlement Agreements with Payments from Branded to Generic Drug Manufacturers*, 70 ANTITRUST L.J. 777, 794–97 (2003); and Chu, *supra* note 34, at 10.

which the patent is awarded.[207] Second, higher patent revenues allow patent holders "to recoup more capital for later research and development" leading to innovation.[208] In theory, the long-run increase in welfare from the marginal innovation could be enough to out-weigh the short term harms that stem from a decrease in the level of competition.[209] To our knowledge, no empirical evidence exists to support these claims. We address them in sequence, and argue that a prohibition of challenge clauses is less likely to limit incentives to innovate than to increase them.[210]

Patents are commonly viewed as a prize given to increase incentives for innovation.[211] We do not dispute that rewards can affect incentives; however, we must ask what it is that patents incentivize. Implicit to many scholars' analyses is the assumption that granted patents are valid.[212] Were this true, the patent grant would indeed reward innovation. However, in practice, a non-marginal number of granted patents are unwarranted.[213] An increase in the prize given to unwarranted patents does not strengthen incentives to develop patentable ideas. It merely strengthens incentives to patent non-innovative ideas, a form of undesirable rent-seeking.

So the general principle is that profits that accrue to patent holders incentivize innovation when, and only when, the patent is properly awarded.[214] In other words, the patent holder should not receive any profits that he would not have received had the PTO done its job properly. The baseline should be the state of affairs where no patents are granted in error, and not the situation arising from the erroneous grant of a patent. We analyze the effect of challenge clauses on the value of patents, warranted and otherwise.[215]

Patent challenges lower the expected value of patents in two ways. First, there is the cost of litigation. Second, there is the cost of patent invalidation.

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207. Dreyfuss & Pope, *supra* note 7, at 974.

208. Zhenghui Wang, Note, *Reanalyzing Reverse-Payment Settlements: A Solution to the Patentee's Dilemma*, 99 CORNELL L. REV. 1227, 1257 (2014).

209. Langenfeld & Li, *supra* note 206, at 778.

210. The California Supreme Court has recently accepted this view with regard to reverse payment agreements. *In re* Cipro Cases I & II, 348 P.3d 845, 853–54 (Cal. 2015).

211. Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2246 (2013).

212. Langenfeld & Li, *supra* note 206, at 808–09.

213. *See supra* note 174 and accompanying text.

214. This assumes that patent law itself is optimal. We do not know whether this is true. If patent law is too narrow, meaning that the legal bar for patentability is set too high, then it may be efficient to treat some unwarranted patents as valid. If patent law is too broad, then the reverse would be true. However, we suggest that in this case it would make more sense to revise the law than to compensate for a potential inefficiency through antitrust. Note that this is distinct from the question of whether unwarranted patents are granted; it may be efficient for the PTO to have a high error rate in granting patents and to use the courts to weed out those that are unwarranted.

215. For an elaboration of this argument, including a numeric example, see generally Miller & Gal, *supra* note 4, at 140–43.

The expected cost of the challenge depends on whether the patent is warranted.

The holder of a warranted patent faces only the first of these costs.[216] While litigation costs can be significant, they are unlikely to have a large effect on innovation. Valid patents are more likely to be considered strong, ex ante, and consequently are less likely to be challenged. Furthermore, costly patent challenges are only likely if the patent is economically valuable, which implies that litigation costs will have at most a small impact on expected revenue.

The holder of an unwarranted patent faces both costs: those stemming from litigation and those from the loss of royalties. The expected litigation cost is more significant than in the case of a warranted patent, as unwarranted patents are more likely to be viewed ex ante as weak, and weak patents are more likely to be challenged. The more dominant cost, however, is the loss of royalties that will come when the patent is invalidated. As the optimal value of an unwarranted patents is zero, a prohibition of challenge clauses will weaken, but will not eliminate, incentives to engage in rent seeking by acquiring unwarranted patents.

One implication of this argument is that the value of a challenge clause to the patent holder is greater for weak patents than for strong ones.[217] Contractual limitations on the ability or incentives of the party most likely to challenge the patent serve to "equalize" the threat of challenge to weak and strong patents. As Einer Elhauge and Alex Krueger argue, this strengthens incentives to obtain pseudo-innovation-based patents that are less costly to create, but which nevertheless impose large social costs.[218] A legal regime that reduces incentives to invest in weakly patentable inventions will tend to increase social welfare.[219] Furthermore, as the elimination of challenge clauses should change incentives to obtain weak patents, it may lead to an increase in the average strength of patents, which in turn could lead to more contractual stability in the market.[220]

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216. We assume that courts decide cases accurately. Our analysis should be roughly correct as long as this assumption is approximately true.

217. *See, e.g.*, Einer Elhauge & Alex Krueger, *Solving the Patent Settlement Puzzle*, 91 TEX. L. REV. 283, 294 (2012) ("As the proof below shows . . . settlements that exclude entry increase patent-holder profits more for weaker patents than for stronger patents." (footnote omitted)); Murat C. Mungan, *Reverse Payments, Perverse Incentives*, 27 HARV. J.L. & TECH. 1, 25 (2013) ("The strength of a patent not only affects the patentee's incentives to sue or settle, it also provides information as to the social value of the invention for which the patent was granted."). This consideration is based on the assumption that firms make conscious decisions about the level of innovation and are aware of the level of innovativeness of their innovation.

218. Elhauge & Krueger, *supra* note 217, at 294–95.

219. Mungan, *supra* note 217, at 25.

220. However, it is possible that the PTO would respond by lowering their threshold for granting patents.

The second argument about innovation is that patent holders would use the higher patent revenues for later research and development.[221] This idea is predicated on a misunderstanding of how innovative firms operate, roughly analogous to the sunk cost fallacy. Investments in research and development are motivated by the promise of future rewards, and not by income from past behavior. The quantity of cash on hand is relevant only if the firm is unable to access functioning capital markets.

Yet even if cash on hand is relevant, this argument still faces another problem. The extra revenues would help the patent holder, but the existence of the patent may make it more difficult for other market participants to engage in research, either because the patent would harm their ability to develop follow-on patents, or because the monopoly prices charged by the patent holder would result in them having less cash on hand. Unless the patent holder has a significantly stronger ability to create new welfare-enhancing innovations than do these other market participants, the harm to the latter group is likely to outweigh the benefit to the former.

4. Preventing Gamesmanship

Challenge clauses may limit the ability of licensees to engage in strategic gamesmanship. Henry N. Butler and Jeffrey Paul Jarosch argue that licensees might take advantage of "small and cash poor" patent holders who lack the resources to defend against the challenge of a valid patent.[222] Similar situations may occur in the presence of risk aversion, asymmetric information, and other real-world circumstances. There are reasons to believe that some of these scenarios are more theoretical than real. For example, an otherwise liquidity constrained patent holder with a strong and valuable patent could likely use the patent as collateral for the outside funding needed to defend against the challenge. Under some circumstances, the strategic use of litigation by the licensee could amount to monopolization.[223]

A prohibition on challenge clauses may also limit certain types of gamesmanship. One form of gamesmanship involves so-called nuisance suits: A licensee may challenge a strong patent with the goal of enjoying a settlement in which he commits to not reviving the challenge. If this settlement is not possible, the licensee must either drop the challenge or take it to its conclusion, and has no incentive to engage in the nuisance

221. *See generally* Wang, *supra* note 208. We know of no empirical research that supports this claim.

222. Henry N. Butler & Jeffrey Paul Jarosch, *Policy Reversal on Reverse Payments: Why Courts Should Not Follow the New DOJ Position on Reverse-Payment Settlements of Pharmaceutical Patent Litigation*, 96 IOWA L. REV. 57, 98 (2010).

223. Of course this might only happen if the licensee holds a monopoly position and the litigation cannot reasonably be considered as an attempt to establish the rights of the undertaking concerned and can therefore only serve to harass the opposite party.

suit.[224] Gamesmanship can also be reduced by imposing (at least part of the) litigation costs of an unsuccessful patent challenge on the licensee.

The conclusion from this analysis is that procompetitive justifications rarely outweigh the anticompetitive effects of challenge clauses. The second condition for a new antitrust offense is thus met.

C. ANTITRUST ADDS TO THE REALIZATION OF SOCIAL GOALS

Challenge clauses limit competition, generally without offsetting procompetitive effects. No other law makes challenge clauses immune from antitrust scrutiny. Does it automatically follow that antitrust should be applied?

A formalistic approach may suggest that we answer this question in the affirmative: because the justification for prohibiting the conduct pertains to harm to competition, the conduct automatically falls within the auspices of antitrust.[225] But the legal and normative question is not this simple. Some types of conduct that harm competition are nonetheless dealt with using other legal tools. For this reason, we establish a normative rationale for applying antitrust in parallel with or in place of contract law.

1. The General Framework: Analysis of Comparative Advantages

We propose a normative framework for determining whether antitrust should apply to previously unrecognized offenses. Our framework assesses alternative legal tools in terms of efficiency, following the approach of the Office of Management and Budget for evaluating regulatory alternatives in terms of cost-effectiveness.[226] This method of analysis may take into account both economic and noneconomic goals, including those motivated by distributional concerns and the desire to preserve the freedom of contract. To the extent that some goals cannot be quantified, the decision-maker must exercise judgment in identifying their importance and assess how they might affect the ranking of alternatives based on estimated economic benefits.[227]

The development of a framework is important for several reasons. First, antitrust is a strong tool with significant implications in both criminal and civil law. Its use should be limited to those cases in which the benefits—such

224. For more on nuisance suits, see generally David Rosenberg & Steven Shavell, *A Solution to the Problem of Nuisance Suits: The Option to Have the Court Bar Settlement*, 26 INT'L REV. L. & ECON. 42 (2006).

225. For example, the test for abuse of dominance in the European Union ("EU") covers "anything" that harms competition. *See, e.g.*, Case C-62/86, AKZO Chemie BV v. Comm'n, 1991 EUR-Lex CELEX LEXIS I-3439 (July 3, 1991); Case 322/81, NV Nederlandsche Banden-Industrie Michelin v. Comm'n, 1983 EUR-Lex CELEX LEXIS 3466 (Nov. 9, 1983); Case 85/76, Hoffmann-La Roche & Co. AG, Basle v. Comm'n, 1979 EUR-Lex CELEX LEXIS 464 (Feb. 13, 1979).

226. Circular A-4 Regulatory Analysis, 68 Fed. Reg. 58,366 (Oct. 9, 2003).

227. *Id.*

as reducing under-deterrence of anticompetitive conduct created by other tools—outweigh the costs. If more efficient, and less interventionary, legal tools can effectively achieve the regulatory goal, there may be no need to add antitrust to the legal toolbox. Second, the question of whether antitrust should apply when alternative regulatory tools exist is not limited to challenge clauses. This question has arisen most recently in the debate regarding the regulation of FRAND—fair, reasonable, and nondiscriminatory—licensing commitments in standard setting organizations.[228] It has also arisen in the context of sector-specific alternatives in cases such as *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*[229] and *Credit Suisse Securities (USA) LLC v. Billing*.[230] The palette of cases that come under antitrust changes over time, along with our understanding of the comparative advantages and limitations of other legal tools. We must not be too quick to apply antitrust: once a regulatory tool is added to the palette, it may be difficult to dislodge.[231]

We propose that the comparative analysis focus on three factors: substance, remedies, and institutional characteristics. The first factor, substance, looks at the sets of situations in which the alternative legal tools can be applied. The second factor, remedies, assesses the means by which the alternative legal tools can affect behavior. The third factor, institutional characteristics, addresses the differing competences of the institutions that apply these legal tools. The inquiry into all three factors is essential in determining whether an antitrust offense should be recognized.

The complete failure of one factor can be sufficient to render a legal rule irrelevant for this analysis. The simplest case involves substance: If a legal tool cannot apply to the conduct at issue, there is no need to examine the other factors. For example, if our goal is to regulate morally unfair conduct that does not harm competition, antitrust laws are not the right tool because their mandate does not extend to such conduct. Another case involves remedies: If a legal tool can apply to the conduct but cannot provide an effective remedy, when compared to alternative tools, then the former tool should not be used. For example, suppose that we wish to prevent the formation and operation of cartels, and that the parties interested in cartelization can effectively enforce the cartel without recourse to the court system. In this case, preventing the enforcement of a cartel agreement would not significantly prevent the formation of cartels, and consequently this type of contractual remedy would not be sufficient to prevent harm to welfare.

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228. *See supra* note 16 and accompanying text.

229. Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

230. Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264 (2007).

231. Howard A. Shelanski, *Justice Breyer, Professor Kahn, and Antitrust Enforcement in Regulated Industries*, 100 CALIF. L. REV. 487, 491 (2012) ("Once a statutory program is in place, it can be very difficult to change and may therefore outlast the conditions that motivated it in the first place.").

More often, the relevant comparison will require the balancing of all three factors. For example, if one regulatory tool widens the list of potential plaintiffs or limits problems of political economy, then this might create a comparative advantage for the tool. If some of the relevant institutions lack competence in analyzing and comparing the relevant considerations, such as the extent of anticompetitive effects and their social cost, then it might be better to empower a different institution that has more experience and expertise in this area. The analysis requires an understanding of the comparative advantages of all relevant regulatory tools across all factors.[232] In some situations, the comparative advantages of several different regulatory tools can be combined to create a better overall regulation, such as when the expert institution sets the rules to be enforced by all.

Among other concerns, the multi-factor analysis should incorporate certainty and predictability, which are essential for business transactions. Certainty assists law-abiding firms in their efforts to comply with the law and reduces their costs of changing their modes of doing business.[233] The balancing of the three factors implicitly takes into account proportionality whether or not the means of an alternative legal rule are proportionate to its end.

We emphasize that our proposed test is not generally accepted. Instead, some courts and scholars apply a simple test that considers whether the substance of antitrust meets the regulatory end.[234] If the conduct creates anticompetitive effects that are not generally offset by procompetitive means, antitrust should apply, regardless of whether other tools might be sufficient to meet the regulatory goal.[235] One of the main benefits of such a rule is the simplicity and clarity in the application of antitrust. Another benefit is that this rule leads to more unity among the rules and enforcement agencies that deal with anticompetitive conduct. Still, our test is valuable for three reasons. First, our test leaves to the social planner—rather than to private plaintiffs—the decision of whether there is a

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232. An important question is whether a court or a regulatory agency engaged in this comparison should take into account only existing regulatory tools or also potential ones. In other words, if all regulatory alternatives are sub-optimal, can courts reject the applicability of antitrust by suggesting a better way of regulation that does not exist yet? We think not. At the same time, the court might suggest such a legislative change and, should it indeed be adopted, take antitrust off the regulatory palette in the future.

233. Averitt, *supra* note 108, at 15.

234. For an analysis of alternative tests written in the context of remedies, see generally IOANNIS LIANOS, *Competition Law Remedies in Europe*, *in* HANDBOOK OF EUROPEAN COMPETITION LAW: ENFORCEMENT AND PROCEDURE 362 (Ioannis Lianos & Damien Geradin eds., 2013). *But see* George S. Cary et al., *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 ANTITRUST L.J. 913, 921 & n.31 (2011).

235. Janusz Ordover & Allan Shampine, *Implementing the FRAND Commitment*, ANTITRUST SOURCE 1, 1 (Oct. 2014). This approach might have been implicitly based on the comparative advantages of competition law.

justification in terms of social welfare for using one legal tool instead of the other. The simple test does not ask whether antitrust is the best tool to apply and does not prevent its use in those instances where its application would reduce welfare. Second, our test presents us with a more difficult burden. If antitrust is justified using our test, then it is justified according to the simple test as well. Third, the Supreme Court's jurisprudence in cases such as *Trinko* and *Credit Suisse* suggest that the application of antitrust should not be automatic but rather should be based on a comparison of the advantages and disadvantages of the legal rules in light of the regulatory goal.

Trinko and *Credit Suisse* both involved the question of whether antitrust should apply to allegedly anticompetitive behavior in regulated industries. In *Trinko,* a customer brought an antitrust action against Verizon for alleged violations of the Sherman Act stemming from a refusal to help competitors as required by the Telecommunications Act of 1996.[236] The Court held that while the 1996 Act did not contain an implied exclusion of antitrust scrutiny, the Sherman Act does not require monopolists to assist their competitors outside of a few recognized exceptions.[237] The Court refused to create a new exception in this case.[238] In *Credit Suisse,* buyers of securities brought an antitrust action brought against a group of underwriters who allegedly colluded to increase the commissions they charged in initial public offerings.[239] The Court held that the securities laws implicitly excluded this behavior from antitrust scrutiny.[240]

The legal questions in *Trinko* and *Credit Suisse* are substantially distinct from the one we address in this Article. The Supreme Court did not make explicit use of the framework we propose. Nonetheless, its reasoning in these cases fits cleanly within our three-factor analysis.

In both cases the court emphasized the importance of institutional characteristics. The majority opinion in *Trinko* emphasized that courts are less effective than specialized agencies in understanding the industry, and that sophisticated anticompetitive schemes may be "beyond the practical ability of a judicial tribunal to control."[241] In *Credit Suisse,* Justice Breyer emphasized the importance of the expertise needed to determine whether an underwriter's activity was forbidden (and anticompetitive) or permitted (and procompetitive).[242] As courts lack this expertise, "there is no practical

236. Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 401 (2004).

237. *Id.* at 407–08.

238. *Id.* at 410–11.

239. Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264, 267 (2007).

240. *Id.* at 285.

241. *Trinko,* 540 U.S. at 414 (quoting Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993)).

242. *Credit Suisse Sec.,* 551 U.S. at 280 ("It will often be difficult for someone who is not familiar with accepted syndicate practices to determine with confidence whether an underwriter has insisted that an investor buy more shares in the immediate aftermarket

way to confine antitrust suits so that they challenge only . . . activity that is presently unlawful and will likely remain unlawful under the securities law."[243] Furthermore, while the securities industry is regulated by a single agency, "antitrust plaintiffs may bring lawsuits throughout the Nation in dozens of different courts with different nonexpert judges and different nonexpert juries."[244] In the opinion of the Court, "antitrust courts are likely to make unusually serious mistakes."[245]

The institutional characteristics affect the application of the law in practice. A rule administered by courts must be drawn with a broad brush, while one administered by a regulator can be more narrowly tailored to prohibit only harmful anticompetitive behavior. Furthermore, the Court in *Credit Suisse* noted that allowing the use of antitrust would lead to the kind of unmeritorious securities lawsuits that Congress has tried to eliminate.[246]

Lastly, both courts pointed out that the marginal remedy provided by antitrust is of minimal value. In *Trinko*, Justice Scalia noted that "the existence of a regulatory structure designed to deter and remedy anticompetitive harm" implies that antitrust enforcement will only provide a small benefit to competition.[247] Later in the decision he noted the "sometimes considerable disadvantages" of antitrust.[248] Combined with the better institutional capability of the regulator, the result may have been overdetermined. As Howard Shelanski emphasizes, *Trinko* involved a competent agency which actively administered a rule whose standard for the competitive conduct was more demanding on the defendant than antitrust law.[249] Similarly, in *Credit Suisse*, the court noted that given the state of regulation, the "need for an antitrust lawsuit is unusually small."[250]

2. Application to Challenge Clauses

In applying the framework to challenge clauses, we consider two alternatives. The first alternative is to apply a contract rule under which anticompetitive challenge clauses are unenforceable. Some courts have

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(forbidden), or has simply allocated more shares to an investor willing to purchase additional shares of that issue in the long run (permitted). And who but a securities expert could say whether the present SEC rules set forth a virtually permanent line, unlikely to change in ways that would permit the sorts of 'laddering-like' conduct that it now seems to forbid?").

243. *Id.* at 282.

244. *Id.* at 281.

245. *Id.* at 282.

246. Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264, 284 (2007)("To permit an antitrust lawsuit risks . . . permitting plaintiffs to dress what is essentially a securities complaint in antitrust clothing.").

247. Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 412 (2004).

248. *Id.*

249. Shelanski, *supra* note 231, at 502.

250. *Credit Suisse Sec.*, 551 U.S. at 283.

adopted a form of this rule.[251] The second alternative is to subject these clauses to antitrust liability. We wish to answer the question of whether antitrust is a necessary addition to the regulatory toolbox, or if it is effectively a sledgehammer used to solve a problem when a screwdriver would do.

There are two important ancillary questions that we consider. First, if we find that both regulatory tools should apply in parallel, can we harness the advantages of each to improve the efficiency of regulation without creating conflicting or otherwise incompatible polices?[252] Second, should all of the standard remedies for antitrust violations apply in this case?

We first compare the substance of these rules. To which forms of conduct do they apply? Under contract law, challenge clauses may come under the general rule that contracts against public policy are void.[253] Under antitrust, challenge clauses would be prohibited because of their potential to harm competition without producing offsetting procompetitive effects. As currently applied by some courts that enforce harmful challenge clauses, the antitrust approach should dominate in terms of substance. However, as we explained above, we view the approach by these courts as an incorrect application of contract law.[254] Properly applied, both the contract law and antitrust rules would apply in very similar situations: When a challenge clause is included in a licensing contract, the clause would have the ability to strengthen the market power of the patent holder, even if the patent underlying the market power is invalid. This is because the public policy relevant to contract law also leads to the invalidation of unwarranted patents that harm competition. As shown above, wider considerations such as the settlement of disputes and freedom of contract should not decisively influence the public interest in this case.[255] Furthermore, the balancing of anticompetitive and procompetitive effects needed to determine whether the clause is harmful can be performed under both rules.

We next compare their associated remedies. Under contract law the remedy is simple: The court will refuse to enforce the offending clause. Under antitrust, there is a much broader set of remedies. Not only will the court refuse to enforce the offending clause, but furthermore it is illegal and can subject the contracting parties to criminal and civil penalties.[256] These harsher sanctions create a stronger incentive to obey the law.

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251. *See supra* Part II.A.

252. Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1133, 1146 (2012) (noting how "overlapping agency functions" may "easily produce inefficiencies").

253. *See generally* Note, *A Law and Economics Look at Contracts Against Public Policy*, 119 HARV. L. REV. 1445 (2006).

254. *See supra* Part III.

255. *See supra* Part III.

256. Sherman Antitrust Act, 15 U.S.C. § 1 (2012).

However, the use of these penalties is not necessarily desirable. Punishment is costly, and we should not employ the stronger tool unless antitrust also has benefits.[257] The important question is whether we might expect challenge clauses to be useful for the contracting parties and harmful to social welfare even if they are not enforceable in court. We argue that this question should be answered in the affirmative.

First, these contracts can be self-enforcing, that is they can be enforced without recourse to domestic courts. Imagine the following scenario: the licensee places assets in a foreign jurisdiction (e.g., Switzerland) and the patent holder and licensee draft a separate agreement, enforceable in that foreign jurisdiction, that the assets are to be forfeited to the patent holder in the event of a challenge. If challenge clauses are merely unenforceable in the United States, then this scheme will work. If challenge clauses are illegal, however, then the patent holder and licensee can be prosecuted in the United States for engaging in this scheme.[258] Second, some agreements may be enforceable without recourse to any court.

Consider the following example. At some point during the contractual term, the licensee threatens to challenge the validity of the patent. The licensee and the patent holder then reach a new agreement in which the licensee is given a greater portion of the private surplus the two parties receive from preventing the invalidation of the patent. This agreement may increase the welfare of both parties: The patent holder avoids the risk that his patent would be invalidated in exchange for receiving lower royalties, while the licensee pays less in royalties but retains the patent-created exclusivity.

The most extreme case is when litigation will almost certainly lead to the invalidation of the patent. The new agreement will clearly prolong unwarranted monopolistic harms. But the monopoly profit will be greater than the licensee's profit in competition, and hence an agreement is possible where the licensee and the patent holder share the surplus.

The challenge clause need not be written into the new agreement. As long as the licensee and the patent holder divide the surplus properly, the licensee will not challenge the validity of the patent. Given that the clause need not be explicit, what is the value of making the clause illegal? First, an explicit clause may nonetheless be of some value in this collusion. It allows the parties to verifiably signal the nature of the agreement to other market participants, so that the breaching party will suffer a reputational harm. Second, if challenge clauses are illegal, then it may be possible to prosecute parties who come to otherwise unjustifiable agreements on the ground that implicit challenge clauses are a combination in restraint of trade.

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257. Unfortunately, a precise tradeoff of the costs and benefits of antitrust cannot be done without serious empirical research.

258. Hartford Fire Ins. Co. v. California, 509 U.S. 764, 769–70 (1993).

Third, antitrust is also of value if parties are not informed about the law. The simplest case is when the patent holder knows the clause to be unenforceable but the licensee does not. The patent holder who includes the clause suffers no harm if the licensee later discovers that the clause is unenforceable, and a significant gain of the licensee's lack of knowledge prevents a challenge. If the clause is illegal, however, then the patent holder—and the licensee—risk being punished for illegal contracting. This potential harm weakens the patent holder's incentive to engage in this type of strategic behavior.

Fourth, the illegality of the contract under antitrust adds more parties who can intervene to ensure that the prohibition is followed. In addition to the contractual parties, it adds the antitrust agencies as well as third parties harmed by the challenge clause.[259] Empirical research conducted by Robert Lande and Joshua Davis indicates that private antitrust enforcement plays a significant role in deterring antitrust violations—mostly due to treble damages—and may have a greater deterrent effect than does public antitrust enforcement.[260]

We now consider institutional characteristics. Contract law is privately enforced, and the balancing need to determine whether the clause offends public policy must be done by generalist courts. Antitrust law, on the other hand, may be enforced either privately, or publicly.[261] While the ultimate decision will still be made by these same courts, they are helped by the distinct role of the public enforcer. The federal and state agencies that investigate and prosecute antitrust cases may also develop guidelines for their application. This allows the agencies to use their expertise to play a major role in designing—and at times changing—antitrust policy through their prosecutorial discretion and policy papers.

This differs substantially from the scenarios in *Trinko* and *Credit Suisse*. Those cases compared the expert regulators of communications and securities and found that they were better able to understand the complexities of their relevant industries than were the antitrust authorities.[262] Contract law, however, is applied by generalist courts, and

259. For such an argument in the context of standard setting organizations, Cary et al., *supra* note 234, at 913 ("While other areas of law may prove capable of addressing certain abuses of standard-setting processes, they are an incomplete solution, as only antitrust law can ensure that private parties and government enforcement authorities can seek redress where the underlying abuse harms competition.").

260. Robert H. Lande & Joshua P. Davis, *The Extraordinary Deterrence of Private Antitrust Enforcement: A Reply to Werden, Hammond, and Barnett*, 58 ANTITRUST L. BULL. 173, 178 (2013).

261. *The Enforcers*, FED. TRADE COMM'N, https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/enforcers (last visited Mar. 10, 2017).

262. *See, e.g.*, Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264, 279–83 (2007) (explaining that antitrust authorities lack the expertise necessary to determine whether securities laws have been violated); Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 414 (2004) (discussing how "conduct consisting of anticompetitive

there is no concern that an expert regulator will be surpassed. Relatively speaking, in the public sphere, antitrust is applied by regulators expert at distinguishing anticompetitive from procompetitive and neutral conduct.

Our three factor analysis suggests that this is an easy case. While contract law and antitrust are comparable with regard to substance, antitrust enjoys a clear advantage in remedies and institutional characteristics, which are relevant to the achievement of our regulatory goal. Our conclusion is that antitrust law should play a significant role in deterring and otherwise ameliorating the negative effects of anticompetitive challenge clauses.

That antitrust should apply to challenge clauses does not mean that the contract remedy should be eliminated. Both tools can and should apply in tandem. Deterrence is increased by having wider remedies against challenge clauses and by having more actors with incentives to bring cases that prevent their application. At the same time, it is important to ensure that courts applying contract law all adopt a rule that is compatible with the one applied in antitrust.

V. WHAT LEGAL RULES?

Even if we conclude that there is justification for applying antitrust to regulate challenge clauses, the next question is what rule should be applied: per se, rule of reason, or any rule in-between, and what should be the conditions for applying it.

The rule should be based on our understanding of the purpose and effects of challenge clauses within the context of licensing agreements. If it can be assumed that all clauses have similar effects, then one simple rule can apply. For example, per se illegality is appropriate when conduct can be assumed to be manifestly anticompetitive without redeeming benefits.[263] If, on the other hand, the effects of a challenge clause are fact-specific, then a rule of reason should be applied in order to provide the flexibility necessary to evaluate these clauses on a case-by-case basis without negating their procompetitive effects.[264]

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violations of § 251 may be, as we have concluded with respect to above-cost predatory pricing schemes, 'beyond the practical ability of a judicial tribunal to control'" (quoting Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993))).

263. *See* Fed. Trade Comm'n v. Actavis, Inc., 133 S. Ct. 2223, 2237 (2013) ("[A]bandonment of the 'rule of reason' in favor of presumptive rules . . . is appropriate only where 'an observer with even a rudimentary understanding of economics could conclude that the arrangements in question would have an anticompetitive effect on customers and markets.'" (quoting Cal. Dental Ass'n v. Fed. Trade Comm'n, 526 U.S. 756, 770 (1999))).

264. *See* FED. TRADE COMM'N & U.S. DEP'T OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS § 1.2, at 4 (2000), https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-doj-issue-antitrust-guidelines-collaborations-among-competitors/ftcdojguidelines.pdf.

Let us first state the bottom line: In our view, a truncated per se illegality rule should be applied to challenge clauses, based on the following elements.

A. *Proof of an Agreement and a Challenge Clause*

Licensing agreements are generally written and detailed, so proof of an agreement and its content is typically not an issue. Yet in some cases it might be more difficult to detect a penalty clause, especially if the penalty is couched in terms of a benefit. Similarly, a broad, no-fault termination clause in favor of the patent holder could have similar effects as a challenge clause with regard to the incentives to bring patent challenges. The inclusion of such a clause under the prohibition depends in part on the justifications for its inclusion in the contract and the inclusion by the parties of a specific limitation on this clause so it could not be triggered simply by a patent challenge.

B. *Proof of Consideration*

We argue that the court should not check whether consideration was given for the challenge clause. It can be assumed that the inclusion of such a clause primarily served the patent holder's interest and therefore no specific consideration needs to be proven. Requiring proof of consideration would make it extremely easy to circumvent a prohibition, as parties often do not determine the specific consideration given to each clause.

C. *Proof of Anticompetitive Harm*

On its face, this is an easy hurdle to overcome, especially in light of the statements in *Lear* and *Actavis* to the effect that even a small obstacle to bringing patent challenges can create significant anticompetitive harm, and that the licensee is best placed to bring such a challenge.[265] However, a precondition to actual anticompetitive effects is the existence of market power. Absent market power, the clause would not actually limit competition.[266]

Rather than require the parties to prove market power, we suggest that there be a presumption of the anticompetitive effects of challenge clauses. It would not make sense to require proof of market power of the patent at the time the clause was signed. Many licensing agreements are signed before the patent is put to the market test. That is, these agreements have the *potential* to create significant anticompetitive effects even though it is often not clear

265. *See generally Actavis*, 133 S. Ct. at 2223; Lear, Inc. v. Adkins, 395 U.S. 653 (1969).

266. This raises an interesting question whether a monopolization assertion must arise in parallel to a restraint of trade assertion. We think not. This is partly because the benchmark for monopoly under U.S. antitrust law is very high, so the patent might not enjoy a monopoly position in the antitrust sense, yet still create sufficient market power in order to harm welfare.

at the time they are signed whether this potential will indeed be realized.[267] It would be problematic to exclude these agreements from scrutiny as the patent might enjoy market power later in time.

Alternatively, one could wait to determine the legality of the challenge clause once the patent gains market power, but this creates a new problem. It adds to the uncertainty of the parties—most importantly the licensee—as to whether the clause is legal and to the potential costs of bringing a patent challenge. This might directly frustrate our goal of increasing challenges of unwarranted patents.

What role should the *patent's validity* play in the analysis? Clearly, an invalid patent, known to the parties, creates a per se violation.[268] A licensing agreement based on such an invalid patent is in effect a collusive agreement to allocate revenues, which is per se illegal.[269] If a patent is known to be valid, the challenge clause does not directly affect competition. Nonetheless, it is important that sham litigation be treated as an antitrust violation, or at least that the litigation costs in such cases be imposed on the challenger. But what about patents whose validity is not ensured before a final judicial decision is reached? This question arises because the degree of validity of the patent affects the height of a challenge clause's anticompetitive effects. If determining validity would have been easy, then surely we would have required it as a condition for finding anticompetitive effects. In practice it is often a demanding task.

In *Actavis*, the Court indicated that litigating validity may not be necessary to answer the antitrust question.[270] Rather, any motivation to eliminate competition will be considered inherently anticompetitive.[271] This part of the ruling was criticized by Daniel Crane, who argues that this assumption is at odds with the goal of increasing welfare.[272] This is because determining the actual anticompetitive effects of reverse payment agreements on patent challenges requires an informed judgment as to the strength of the patent, and such agreements are often driven by procompetitive effects.[273] Yet as shown above, challenge clauses do not have significant offsetting procompetitive effects that will be harmed if all challenge clauses are prohibited.[274] Therefore, we suggest that, like in

267. For the same logic, see *Ill. Tool Works, Inc. v. Independent Ink, Inc.*, 547 U.S. 28, 40–43 (2006).

268. Herbert Hovenkamp et al., *Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719, 1725–28 (2003).

269. Miller & Gal, *supra* note 4, at 156.

270. *Actavis*, 133 S. Ct. at 2223.

271. *Id.*

272. Crane, *supra* note 119, at 59.

273. *Actavis*, 133 S. Ct. at 2234; Crane, *supra* note 119, at 52–55.

274. *See supra* Part IV.B.

Actavis, litigating validity will not be necessary to answer the antitrust question. This would create a clear red line with regard to such clauses.

Should we allow a penalty clause that mandates the licensee to pay the patent holder his *litigation costs*? We think not. This is because the litigation costs benchmark does not reliably identify anticompetitive agreements, and it risks chilling welfare-increasing challenges. Observe that this rule does not clash with *Actavis*. While in a reverse payment agreement the patent holder pays the challenger for not challenging (saving him his litigation costs and paying him his own litigation costs), in penalty clauses the licensee must not only bear his own litigation costs, but also pay those of the patent holder. The result is that society does not save on litigation costs. This leads to the following question: Should we allow a no challenge clause for which the patent holder pays the licensee—directly or indirectly—an amount equal to his potential litigation costs? Once again, we think not, for similar reasons to those noted above. However, should courts decide to follow *Actavis* in this regard, we suggest that they only allow a less restrictive alternative, in which the patent holder will be entitled to recover the litigation costs from the licensee only in case the latter fails to prove his claim.

Given the above analysis, there is no justification for evaluating *offsetting procompetitive justifications*. While challenge clauses can sometimes be neutral, any procompetitive justifications are generally outweighed by their anticompetitive effects.[275] This also implies that there is no need for *proof of less restrictive means* of getting to the same result.[276]

VI. CONCLUSION

This paper sought to determine whether the inclusion of challenge clauses in patent licensing agreements should be regarded as an antitrust offense. To do so, we explored two routes. The first, doctrinal route, determined whether *Actavis*'s logic extends to challenge clauses. The question arises because both types comprise an exchange of consideration for an agreement not to litigate patent validity. The second, normative route, determined the socially optimal rule for no challenge clauses. The two routes yielded roughly the same answer: Expanding antitrust liability to such clauses is justified. This is because the positive cooperative surplus of the challenge clauses that the parties share does not create a parallel social benefit. Our conclusion challenges the existing laws on challenge clauses.

In so doing, the Article balances between antitrust and patent law. The need for this balance arises from the uncertainty inherent to the patent

275. *See supra* Part IV.A.

276. *See, e.g.*, United States v. Visa U.S.A., Inc., 344 F.3d 229, 238 (2d Cir. 2003) ("Certain arrangements, such as price fixing and market division, are considered unreasonable per se, but most other restraints are evaluated case by case, under the 'rule of reason.'"); Law v. Nat'l Collegiate Athletic Ass'n, 134 F.3d 1010, 1019 (10th Cir. 1998) (finding that "the per se rule is a 'demanding' standard that should be applied only in clear cut cases").

system. Unwarranted patents create a government-made barrier to competition, which needs to be lowered to ensure that welfare is not harmed.

It also explored the interrelation between antitrust and contract law, an important normative question that often receives dichotomic answers. The regulation of challenge clauses in patent licensing agreements provided a lens through which this question was explored. The Article proposed three general principles for performing such a balance, which led to the conclusion that challenge clauses should be regulated not only by contract law, but also through antitrust. Accordingly, patent challenge clauses—whether no challenge clauses or challenge penalty clauses—should be recognized as a basis for a new antitrust offense. This would increase social welfare by limiting barriers to competition in the form of invalid patents.