

Anticompetitive Settlement of Intellectual Property Disputes

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INTRODUCTION

The overwhelming majority of intellectual property (IP) lawsuits settle before trial.¹ These settlements involve agreements between the patentee and the accused infringer, parties who are often competitors before the lawsuit. Because these competitors may agree to stop competing, to regulate the price each charges, and to exchange information about products and prices, settlements of IP disputes naturally raise antitrust concerns.

In this Article, we suggest a way to reconcile the interests of IP law and antitrust law in evaluating IP settlements. In Part I, we provide background on the issue. Part II argues that in most cases courts can determine the legality of a settlement agreement without inquiring into the merits of the IP dispute being settled, either because the settlement would be legal even if the patent were invalid or not infringed, or because the settlement would be illegal even if the patent were valid and infringed. Only in a narrow class of cases will the merits of the IP dispute matter. In Part III, we argue that, in that narrow middle set of cases, antitrust's rule of reason is unlikely to be helpful. Rather, courts must inquire into the validity, enforceability, and infringement issues in the underlying case, with particular sensitivity to both the type of IP right at issue and the industrial context of the dispute. In Part IV, we apply our framework to a number of common settlement terms, most notably the use of exclusion payments to settle pharmaceutical patent disputes. We argue that exclusion payments that exceed litigation costs should be presumptively illegal. There is no legitimate reason for such payments, and the most likely

1. Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1501 (2001).

reason—to permit the patentee to exclude competition that would likely have occurred absent the payment—is anticompetitive. Further, legitimate patent disputes can be settled in other ways than with an exclusion payment—for example, by licensing the defendant or by agreeing to delay entry.

I. BASIC ISSUES AND CONFLICTS

Our legal system encourages firms to settle their disputes out of court.² Settlements of IP disputes often take the form of unrestricted or restricted licenses, which may or may not be exclusive; cross-licensing arrangements; pools; agreements not to license third parties or to license only jointly; or market division or field-of-use agreements.³ Further, the agreements are quite typically horizontal, particularly in patent cases, for the firms are either actual or at least potential competitors in the market for the ultimate product and may be competitors in the innovation market itself. As a result, IP settlement agreements raise significant antitrust issues. Indeed, some of those agreements would be illegal per se if created in the absence of a genuine IP dispute.⁴ Much of our legal doctrine concerning the permissible scope of licensing agreements was developed in cases in which the arrangements were undertaken in settlement of an IP dispute.⁵

2. Daniel A. Crane, *Exit Payments in Settlement of Patent Infringement Lawsuits: Antitrust Rules and Economic Implications*, 54 FLA. L. REV. 747, 748 (2002).

3. For a general discussion of these licensing arrangements, see HERBERT HOVENKAMP ET AL., *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW* (Supp. 2003).

4. See *infra* notes 25-38 and accompanying text.

5. *E.g.*, *United States v. Singer Mfg. Co.*, 374 U.S. 174, 196-97 (1963) (disapproving of a settlement agreement that involved pooling plus exclusion); *United States v. New Wrinkle*, 342 U.S. 371, 373-74 (1952) (involving cross-licensing with price restrictions); *Hartford-Empire Co. v. United States*, 323 U.S. 386, 400 (1945) (discussing horizontal customer restrictions); *United States v. Masonite Corp.*, 316 U.S. 265, 277 (1942) (involving a cross-license with price restrictions); *Standard Oil Co. (Ind.) v. United States*, 283 U.S. 163, 169 (1931) (involving a patent pool); *Noll v. O.M. Scott & Sons Co.*, 467 F.2d 295, 297 (6th Cir. 1972) (holding that a conveyance of a disputed patent to a trustee who gave non-exclusive licenses to each party was not patent misuse); *Philip Morris v. Brown & Williamson Tobacco Corp.*, 641 F. Supp. 1438, 1438-92 (M.D. Ga. 1986) (discussing the legality of a cross-licensing agreement); *Duplan Corp. v. Deering Milliken*, 444 F. Supp. 648, 683 (D.S.C. 1977), *aff'd in part, rev'd in part*, 594 F.2d 979 (4th Cir. 1979); *United States v. Huck Mfg. Co.*, 227 F. Supp. 791, 797-98 (E.D. Mich. 1964) (involving a settlement that

Assuming a genuine dispute, the outcome of a settlement agreement that would otherwise produce an antitrust violation might be no more anticompetitive than the outcome of litigation. A judgment establishing the validity of a rival's claim might prevent a competitor from entering a market altogether, leaving the other with a monopoly. In such a case, a settlement that excludes the competitor from the market would not reduce competition that would otherwise legally exist, and a settlement involving a license even on restrictive terms would create more competition than if the IP owner had merely enforced its rights to the fullest extent.

At the same time, the parties to an IP dispute have a strong incentive to enter into agreements that maximize their own interests but disserve the public's interest with respect to either competition or innovation. Parties to an IP dispute, like parties to a cartel agreement or joint venture, are more interested in maximizing their own profits than enhancing the public welfare. For this reason, judicial scrutiny of anti-competitive settlement agreements is appropriate, and harsher scrutiny is appropriate when it appears clear that alternative, less harmful settlement arrangements were available.

Incentives to collude are hardly reduced by the fact that a dispute concerns IP. To the contrary, the uncertain scope and validity of IP rights may encourage a collusive settlement, serving both to remove the uncertainty and to permit the two firms to share monopoly profits. For example, the owner of a market-dominating patent⁶ in infringement litigation will continue to earn monopoly profits if it prevails but be no more than one of many competitors if it loses. In such a case, a settlement agreement that forms a cartel with the infringement defendant may be the optimal choice for the parties. It will not necessarily be optimal for society, however: Such collusion is inefficient if there is any significant chance that the patentee would have lost the suit.

Suppose that two horizontal competitors have developed potentially conflicting patents for a superior computer memory device. Each patent owner claims that the other's participation in the market infringes on its patent. The parties commence litigation but, contemplating a long and uncertain path, they

included cross-licensing with price restrictions), *aff'd by an equally divided Court*, 382 U.S. 197 (1965).

6. As we have emphasized elsewhere, most patents do not in fact dominate an economic market. See 1 HOVENKAMP ET AL., *supra* note 3, § 4.3.

settle the dispute by agreeing to split the market: One will manufacture its memory device for exclusive use by IBM-compatible computers, and the other will manufacture its memory device exclusively for Apple computers. Formally, this agreement may include a cross-license whereby each party licenses to the other the right to use their patent within the specified market segment.

This scenario poses a dilemma. Consider several factors. First, in the absence of IP rights, the agreement in question would be a *per se* unlawful market division.⁷ Second, patent litigation is extremely expensive and can lead to debilitating uncertainty.⁸ As a result, settlement of private disputes is generally cost reducing. Third, there may be doubt about the validity or applicability of both patents—at least enough doubt that each patentee might prefer to settle rather than litigate to judgment.⁹ Fourth, if the dispute were fully litigated, a court might ultimately invalidate one firm's patent but uphold the other, thus yielding the entire market to the other firm. Alternatively, a court might conclude that both parties' patents are valid and infringed, in which case neither party can sell in the market. The proposed settlement is certainly no more anticompetitive than either of those outcomes. Only if both patents are held invalid or not infringed will the settlement reduce competition.¹⁰ Finally, a less restrictive alternative is

7. Many criminal "price-fixing" cases in fact involve naked market divisions. *See, e.g.,* United States v. Brown, 936 F.2d 1042, 1044, 1050 (9th Cir. 1991) (affirming a criminal conviction of rivals that divided the market for billboard sites and agreed not to compete for each other's sites); United States v. Sutar Roofing, 897 F.2d 469, 472 (10th Cir. 1990) (upholding a criminal conviction for a horizontal customer allocation among roofers); *see also* 12 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2030 (1999) (noting that naked market division agreements are unlawful *per se* and sometimes warrant criminal sanction).

8. The median patent case that goes to trial costs each side \$1.5 million in legal fees, to say nothing of the costs to the company in lost employee time and productivity. *See* Lemley, *supra* note 1, at 1502.

9. This factor should be taken with some caution. Because parties may have more to gain by colluding than by competing on the merits, they may have an incentive to settle even a case that the patentee is sure to lose. Thus, it would be a mistake to infer from the fact that the parties settled that the validity or scope of the patent was an open question.

10. The rather simple case we have posed assumes that the parties can only compete using the patented technology. If one or both parties have noninfringing alternatives, a settlement could be anticompetitive by leading the parties to divide the market rather than to pursue (admittedly less efficient) alternatives that would still create competition.

also available: The parties *could* have cross-licensed the patents without insisting on market division—an outcome that would produce greater competition and would approximate the competitive result in the absence of patent protection.¹¹

Given these competing factors, courts have responded leniently to settlements in which each party's claim seemed reasonably legitimate but also seemed subject to a reasonable risk of failure—that is, when the settlement appeared to be a reasonable business decision and not a sham.¹²

Antitrust challenges to IP disputes can be addressed either on antitrust grounds or IP grounds. Few cases require courts to balance the interests in the two statutes. In many cases involving antitrust challenges to IP settlements, the presence or absence of IP rights is largely irrelevant. In some situations, the challenged practice is clearly not anticompetitive, and the antitrust challenge can be dismissed without considering the fact of an IP dispute and settlement. At the other extreme, some settlement agreements impose anticompetitive restrictions that cannot be justified by settlement of an IP dispute, or that would unreasonably restrain competition even assuming the IP rights in question were fully valid and enforced. These restrictions should be unlawful regardless of the legitimacy of the underlying IP right. Correctly placing cases into one of these two classes is critical to rational antitrust enforcement, because cases in the problematic middle set are much more difficult to resolve.

This middle set of cases—where the agreement itself looks like an antitrust violation but the presence of IP rights might absolve it—is much more problematic and requires special treatment. The traditional “rule of reason” analysis¹³ is not a good fit for practices that would be unlawful *per se* but for the presence of an IP claim. The rule of reason is designed to assess whether a practice tends to diminish market-wide

11. Such a cross-license would, however, reduce the return to each party on its patent.

12. *See, e.g.*, *Standard Oil Co. (Ind.) v. United States*, 283 U.S. 163, 171 (1931) (arguing that courts should encourage settlement of “legitimately conflicting claims”); *Boston Scientific Corp. v. Schneider* (Eur.) AG, 983 F. Supp. 245, 271 (D. Mass. 1997) (discussing a reasonable settlement that was challenged by a competitor as a “concerted refusal[] to deal” (quoting *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1204 (2d Cir. 1981))). On the risk of sham claims in a patent pool, see 2 HOVENKAMP ET AL., *supra* note 3, § 34.4a1.

13. *See infra* note 24 and accompanying text (discussing “rule of reason” analysis); *infra* note 25 (discussing “*per se*” analysis).

output.¹⁴ By contrast, the disputed issue in these middle cases concerns the likely validity and scope of the claimed IP rights, and the reasonableness of the settlement as one among many outcomes of the IP dispute. That is, these cases should be decided on IP grounds because the agreements in this middle category are pro-competitive if, but only if, the patent in question is valid and infringed. Antitrust's rule of reason cannot help with that IP inquiry. All antitrust can do is narrow the class of cases for which inquiry into the IP merits is required.

II. DOES THE ANTITRUST INQUIRY DEPEND ON THE PRESENCE OF AN IP DISPUTE?

When a court considers an antitrust challenge to an IP settlement agreement, its first question should be whether the IP dispute matters at all. The IP issues do not matter to resolution of the case if (1) the agreement would be lawful under the antitrust laws even in the absence of any IP dispute, or (2) the agreement would be unlawful under the antitrust laws even if all the IP claims that are made were fully sustained.

Many settlements result in agreements that would not be unlawful under the antitrust laws even if IP litigation was not on the horizon. For example, two firms might challenge each other's competing patents and resolve the litigation by giving each other unrestricted, non-exclusive licenses. In that case, the firms have done no more than agree to compete and not to assert their IP rights against each other—an agreement that is unlikely to reduce market-wide output or increase price even if there had never been any IP rights in the first place.¹⁵ Alternatively, a non-producing patentee like a research firm might claim that a producer is infringing one of its patents, and settle the dispute with an agreement permitting production for a royalty. The agreement would be a purely vertical non-price restraint.¹⁶ As such, it would be analyzed under the rule of

14. See *infra* notes 24, 27 and accompanying text.

15. Courts may still want to inquire into the terms of the license, however. Terms that restrict output under the cross-license, or that give each party control over the downstream price set by the other, may have the effect of encouraging or facilitating collusion. A royalty-free cross-license, on the other hand, or a straightforward percentage-of-sales royalty to the patentee, does not.

16. That is, although vertical "price" restraints are unlawful *per se*, the

reason, and today almost all such agreements are lawful.¹⁷ In sum, a court can often resolve the antitrust challenge entirely on antitrust grounds, without even considering the various ways that IP rights affect the dispute.

At the opposite end of the scale, some agreements are unlawful even if every IP right reasonably claimed in them is both valid and infringed. For example, a settlement agreement might include a horizontal market division that goes beyond the scope of the disputed patent. Suppose that Ford claims that a windshield wiper blade that Chevrolet is building and installing on pickup trucks infringes a Ford patent. The parties settle their dispute with an agreement that licenses the blade to Chevrolet, but also restricts Ford to selling pickups west of the Mississippi River and Chevrolet to selling east of the river. That market division agreement would be unlawful even if the windshield wiper blade patent was both valid and infringed, because enforcing the patent would not prevent Chevrolet from selling pickups. The court could dispose of the antitrust issue without considering that the agreement settled an IP claim. Once again, the dispute is resolved entirely on antitrust grounds, for no patent policy is in conflict.¹⁸

Slicing off these two extremes still leaves us with the hard cases, where the settlement agreement would constitute lawful use of the claimed IP right if an infringement claim was valid, but not if there were no valid IP right. Consider the case of so-called "blocking patents,"¹⁹ in which each party would have the

definition of such restraints is limited to situations in which the agreement controls the *resale* price that the downstream firm must charge. See 8 PHILLIP E. AREEDA, *ANTITRUST LAW* ¶ 1622 (1989). All vertical agreements of necessity set a price for the transfer from the buyer to the seller.

17. On rule of reason treatment for vertical nonprice intra-brand restraints and the resulting near universal legality, see HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY* § 11.6 (2d ed. 1999).

18. See, e.g., *United States v. Singer Mfg. Co.*, 374 U.S. 174, 196-97 (1963) (condemning a settlement agreement that involved cross-licensing and a refusal to deal, even though the Court assumed that all the patents at issue were valid).

19. On "blocking" patents and cross-licensing as a remedy, see 2 HOVENKAMP ET AL., *supra* note 3, §§ 34.2c, 34.4c. See also, e.g., *Carpét Seaming Tape Licensing Corp. v. Best Seam, Inc.*, 616 F.2d 1133, 1142 (9th Cir. 1980) (discussing blocking patents); Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1009-10 (1997); Robert P. Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 88 (1994); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 860-68 (1990).

right to exclude the other from the market if the competing patents are held valid. If the two patents are both valid and indeed block each other, virtually any settlement into which the parties enter concerning the patents will increase social welfare, since at least one party acquires the right to sell the product. On the other hand, if the patents are not valid or not truly blocking, a settlement that restricts the parties from competing will be anticompetitive. In these fact-dependent cases, the general policy of the law has been to encourage settlements, as the Supreme Court observed in *Standard Oil Co. (Indiana) v. United States*²⁰ and the federal government echoed in its 1995 licensing guidelines.²¹ As a result, some agreements that would be unlawful if undertaken in the absence of a reasonable dispute may be lawful when used to settle a bona fide dispute.²²

The difficulty is that, under cover of a settlement agreement, firms might engage in anticompetitive behavior—such as market division—that would be otherwise per se unlawful. For that reason, once conduct is found that would likely be an antitrust violation in the absence of a settlement, some care must be taken to ensure (1) that the parties did have a bona fide dispute, (2) that the settlement is a reasonable accommodation, and (3) that the settlement is not more anticompetitive than a likely outcome of the litigation.²³ In the face of uncertainty, the antitrust tribunal must also consider

20. 283 U.S. 163, 171 (1931).

21. U.S. DEPT OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 5.5 (1995) [hereinafter ANTITRUST GUIDELINES] (“Settlements involving the cross-licensing of intellectual property rights can be an efficient means to avoid litigation and, in general, courts favor such settlements.”), <http://www.usdoj.gov/atr/public/guidelines/ipguide.pdf>.

22. See, e.g., *Carpet Seaming*, 616 F.2d at 1142 (noting that a “well-recognized legitimate purpose for a pooling agreement is exchange of blocking patents”).

23. Carl Shapiro proposes the following test: “that the proposed settlement generate at least as much surplus for consumers as they would have enjoyed had the settlement not been reached and the dispute instead been resolved through litigation.” Carl Shapiro, *Antitrust Limits to Patent Settlements*, 34 RAND J. ECON. (forthcoming 2003) (manuscript at 6, on file with authors). Shapiro’s test requires calculation of the odds of victory, the effect of victory on competition, and the costs of litigation. See *id.* (manuscript at 10, on file with authors). Although we agree that this is the right basic inquiry, as noted in text we would limit the inquiry to cases in which it is unavoidable. Social rather than merely consumer surplus may also be the right metric.

whether the parties might have settled on alternative, less restrictive terms.

A court considering an antitrust challenge to an IP settlement agreement should proceed in the following fashion. First, it must ask whether the challenged settlement agreement would have constituted an antitrust violation in the absence of an IP controversy. If the answer is no, then the antitrust challenge can be dismissed without further inquiry into the effects of the IP dispute and settlement. If the answer is yes, then the court should consider whether the challenged settlement would be unlawful even if the IP rights claimed were valid and infringed. If the answer to this second question is again yes, then antitrust condemnation is in order without regard to the presence of an IP dispute. Only cases that do not fall within these camps must be decided on the basis of IP policy rather than antitrust policy.

III. ANTITRUST'S RULE OF REASON AND IP SETTLEMENTS

A. APPROPRIATE AND INAPPROPRIATE USES OF THE RULE OF REASON

Antitrust generally applies the “rule of reason” to practices that present some potential for competitive harm but also hold out the promise of social gains.²⁴ Such practices cannot be assessed without an inquiry into the defendant’s individual or collective market power and a determination of competitive effects. Fundamentally, the antitrust tribunal wants to know whether the challenged practice is likely to increase or decrease market output. By contrast, antitrust applies the “per se rule” when it has sufficient experience to conclude that a certain class of practices is so likely to be anticompetitive without offsetting social benefits that the much more expensive and cumbersome analysis required by the rule of reason is unnecessary.²⁵

Suppose that the settlement resolving an IP dispute

24. The rule of reason requires courts to weigh the anticompetitive consequences of a practice against its pro-competitive benefits. *See* 7 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶¶ 1507-1508 (2d ed. 2003).

25. Under the per se rule, a particular class of practices is declared illegal without detailed inquiry into the merits of any given case. *Id.* ¶¶ 1509-1511.

involves an agreement that would be per se unlawful in the absence of the dispute. One might conceivably approach such an agreement by saying that the presence of the IP settlement is sufficiently mitigating so as to justify applying the more lenient rule of reason.²⁶ We would avoid that approach as a general proposition. The purpose of the rule of reason is to determine whether, on balance, a practice is reasonably likely to be anticompetitive or competitively harmless—that is, whether it yields lower or higher market-wide output.²⁷ By contrast, patent policy encompasses a set of judgments about the proper tradeoff between competition and the incentive to innovate over the *long* run.²⁸ Antitrust's rule of reason was not designed for such judgments and is not adept at making them. A properly defined per se rule represents a judicial judgment that a particular restraint is so highly likely to be anticompetitive—that is, output reducing and price increasing in the short run—that a full inquiry into market power and applicable defenses is not worth the court's trouble.²⁹ The antitrust status of such agreements does not change merely because the agreement arises in the context of an IP dispute. The issue in such cases is not so much the economic consequences of the agreement as whether those consequences are deemed acceptable as a matter of IP policy.

For example, suppose that a patent settlement is resolved with a *GE*-style price-restricted license.³⁰ Under the settlement, GE, the patentee, licenses Westinghouse to make light bulbs, but also stipulates the price at which Westinghouse must sell these bulbs. In the absence of IP rights, this agreement would be per se unlawful.³¹ If the patent is valid and infringed, however, the agreement would fall into the *GE*

26. See, e.g., Roger D. Blair & Thomas F. Cotter, *Are Settlements of Patent Disputes Illegal Per Se?*, 47 ANTITRUST BULL. 491, 533-34 (2002) (advocating this approach in part).

27. See *supra* note 14 and accompanying text.

28. See, e.g., ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 13 (3d ed. 2003).

29. See 7 AREEDA & HOVENKAMP, *supra* note 24, ¶¶ 1509-1511.

30. In *United States v. General Electric Co.*, the Supreme Court held that a patentee could license a competitor subject to a restriction on the price the competitor would charge for goods embodying the patent. 272 U.S. 476, 488 (1926). For a full discussion, see 2 HOVENKAMP ET AL., *supra* note 3, ch. 31.

31. Price-fixing is illegal per se. See 9 AREEDA & HOVENKAMP, *supra* note 24, ¶ 1906.

rule's antitrust exception for price-restricted licenses.³²

In such a case, applying the rule of reason to the settlement agreement is unlikely to be helpful. Naked price-fixing is unlawful *per se* because judicial experience tells us that price-fixing is so inherently anticompetitive that queries into market power or competitive effects in a particular case are not worth the added administrative costs.³³ Further, rational parties engage in naked price-fixing only because they presume they have at least some power to raise price above the level that would prevail absent an agreement.³⁴ Those basic facts do not change because the agreement at issue is termed a settlement of an IP dispute. Rather, the incremental factual issues to be resolved concern the questions whether the GE patent is valid, whether Westinghouse's technology infringed, and whether the license that results from the settlement goes no further than *GE* would permit.³⁵ In short, the question is whether this particular price-fixing agreement is one contemplated by the IP laws as part of the supracompetitive incentive those laws give to innovation. For these queries, the burdens of production and proof properly rest with the antitrust defendants (or proponents of the settlement) because they typically control the information upon which resolution of the infringement issue will be made.

As a second example, suppose that two competitors in a patent dispute reach a horizontal territorial division agreement. Under the settlement agreement the infringement plaintiff gives the infringement defendant a license to practice the disputed technology east of the Mississippi, while reserving to itself the right to practice the technology west of the Mississippi. There is no other integration of operations among the firms, so this agreement would be a *per se* unlawful naked territorial division in the absence of the IP dispute.³⁶ At the same time, however, it would be a completely legal license of a patent, because the Patent Act expressly provides that the patentee may make territorially-restricted licenses.³⁷ The antitrust rule of reason would require an assessment of market

32. See 2 HOVENKAMP ET AL., *supra* note 3, § 31.4.

33. See 11 HOVENKAMP, *supra* note 7, ¶ 1906.

34. *Id.*

35. There is also a legal question about the continued vitality of that exception. See 2 HOVENKAMP ET AL., *supra* note 3, §§ 31.2-31.3.

36. See 12 HOVENKAMP, *supra* note 7, ¶ 2030b.

37. 35 U.S.C. § 261 (2000).

power and the integrative potential of this market allocation agreement.³⁸ But since the restraint is naked, application of the rule of reason is not likely to tell us anything that we do not already know. The additional issues added by the presence of an IP dispute and settlement do not go to whether naked horizontal agreements threaten competition. Instead, they go to whether the agreement in question involved a legitimate IP dispute, and whether the settlement at issue was a reasonable accommodation given both the presence of IP rights and the scope of their claims. In this particular case, these questions are answered by the Patent Act, which expressly authorizes naked horizontal territorial restrictions in patent licenses.

To be sure, there is one sense in which this might be viewed as a rule of reason inquiry. Fundamentally, the rule of reason considers whether a restraint is output increasing or output decreasing. A naked territorial division agreement between two competitors, neither of whom has the lawful power to exclude the other, is output decreasing and thus unlawful. By contrast, the licensing of a second producer by a firm whose IP right *does* give it the power to exclude is presumptively output increasing.³⁹ Although the query formulated in this fashion does appear to invoke the rule of reason, the content of this rule really reduces to nothing more than the validity of the underlying patent. So, we might say that, in the absence of a valid infringement claim, the restraint is naked; but if the infringement claim is valid, the restraint is ancillary.

This hardly means that the rule of reason has no place in the analysis of antitrust challenges to IP settlements. Often patent settlement agreements must be evaluated under the rule of reason because they are ancillary to restraints involving joint production. As a result, legality of the agreement *vel non* must be established under the rule of reason quite aside from any IP rights that might be involved. Generally, IP settlement agreements qualify for rule of reason treatment when they involve competitors but create only non-exclusive rights,⁴⁰ or

38. *Ancillary* market division agreements are treated under the rule of reason, but they require some element of joint production or distribution. See 13 HOVENKAMP, *supra* note 7, ¶ 2134.

39. See *Polk Bros., Inc. v. Forest City Enters.*, 776 F.2d 185, 189-91 (7th Cir. 1985) (applying this form of analysis to an ancillary output restraint); see also 12 HOVENKAMP, *supra* note 7, ¶ 2030 (arguing that territorial market division of patent rights is pro-competitive relative to the alternative of refusing to license the right at all).

40. In general, non-exclusive rights permit production outside the scope of

when they involve purely vertical agreements that do not include per se unlawful resale price maintenance or bundling.⁴¹

Finally, any antitrust rule must be sensitive to issues of administrability and uncertainty. The costs of assessing the validity of an IP claim may be significantly greater than the costs of applying the rule of reason in some cases either because the IP claim is difficult to assess or because the rule of reason application seems reasonably easy. For example, in some markets it will be clear upon a reasonably quick look that the parties to the settlement agreement lack power in any market.⁴² In that case, dismissal of the antitrust complaint is justified on antitrust grounds alone, without further inquiry into IP policy. These cases may present the antitrust tribunal with a choice: It can either analyze the restraint under the rule of reason or else assume momentarily that the restraint is unlawful and consider whether it is a valid settlement of a legitimate IP dispute. Courts should have considerable discretion on summary judgment to dispose of a weak case on the antitrust merits without getting to the underlying IP issues.⁴³

A third example involves "blocking" patent claims.⁴⁴ Suppose that two makers of hard drives have potentially blocking patent claims—that is, the practice of each patent by its owner could constitute infringement of the other's patent. The two firms settle their dispute by giving one another non-exclusive, unlimited cross-licenses. This agreement would have to be analyzed under the rule of reason, but it is highly likely to

the agreement and thus cannot keep market output below the competitive level, particularly if they include the right to sublicense. See 13 HOVENKAMP, *supra* note 7, ¶ 2104.

41. For a discussion of why purely vertical arrangements such as resale price maintenance and tying are said to be unlawful per se, see 8 AREEDA, *supra* note 16, ¶¶ 1620-1627, and 9 *id.* ¶ 1720. As we have noted elsewhere, however, the prohibition on tying is not a per se rule in any meaningful sense. 1 HOVENKAMP ET AL., *supra* note 3, § 21.5d. Vertical nonprice restraints and exclusive dealing are governed by the rule of reason. See 8 AREEDA, *supra* note 16, ¶ 1645; 11 HOVENKAMP, *supra* note 7, ¶ 1820b.

42. See *infra* notes 119-27 and accompanying text (discussing how *Clorox Co. v. Sterling Winthrop, Inc.*, 117 F.3d 50 (2d Cir. 1997), serves as an example of an agreement where the parties lacked market power).

43. See, e.g., *Matsushita Elec. Indus. Corp. v. Zenith Radio Corp.*, 475 U.S. 574, 598 (1986) (rejecting an antitrust claim on summary judgment as economically implausible).

44. See *supra* note 19 and accompanying text (introducing the concept of "blocking" patents).

be held “reasonable,” and thus legal under the antitrust laws, because it is non-exclusive and unlimited as to quantity, thus giving the firms little opportunity for collusion. Further, depending on market structure, the two firms may not control enough of the market to make the restraint unlawful under the rule of reason in any event.⁴⁵ In this case, going directly to the rule of reason antitrust analysis is likely to be a much simpler way of resolving an antitrust challenge than the route of assuming that the restraint is unlawful and considering whether the conflicting patent claims are valid and infringement is likely.

Other cases will be tougher—for example, where the participants collectively dominate the market and the cross-licensing agreements contain quantity restrictions or market divisions that make collusion more likely, or where settlement agreements impose exclusive dealing under structural conditions establishing *prima facie* illegality.⁴⁶ Suppose a non-producing patentee such as an R&D firm settles its infringement action against a producer with a territory- or product-restricted license. For example, suppose that GE makes no light bulbs itself, but simply develops and patents light bulb technology. When Westinghouse makes bulbs without obtaining a license, GE brings an infringement suit that is settled by an agreement under which Westinghouse can manufacture bulbs exclusively under the GE license agreement.

In the absence of any IP rights at all, this particular agreement would most closely resemble an exclusive dealing agreement under which a downstream manufacturer agrees to use an upstream supplier’s input exclusively. Because exclusive dealing is a rule of reason offense, the antitrust challenger to this agreement would have to make out a complete case under the rule of reason, including a market definition and an assessment of the extent and duration of market “foreclosure” under the criteria ordinarily applied in rule of reason cases.⁴⁷ If the claim fails, the case is dismissed entirely on antitrust grounds. If, however, the plaintiff makes

45. See *Standard Oil Co. (Ind.) v. United States*, 283 U.S. 163, 175-76 (1931) (applying the rule of reason and dismissing the complaint because the owners of the potentially conflicting patents did not dominate the market).

46. On the structural conditions that make exclusive dealing unlawful, see 11 HOVENKAMP, *supra* note 7, ¶ 1821.

47. See *id.*

out a prima facie exclusive dealing case, then the burden shifts to the defendant.⁴⁸ At that time the defendant may assert both (1) the general defenses that arise in exclusive dealing claims⁴⁹ and (2) the additional considerations that might arise from the presence of the IP right. In this case, proof of (2) would require a showing of likely validity and infringement of GE's patent. Significantly, proof of (2) would be unnecessary if the ordinary antitrust criteria for assessing exclusive dealing showed no illegality in the first place.

B. VALIDITY OF IP CLAIMS; REASONABLENESS OF SETTLEMENT TERMS

Once a settlement appears to be unlawful under either the per se rule or the rule of reason, the agreement's special status as resolution of an IP dispute becomes relevant. Under our approach, such an agreement can be saved from antitrust condemnation if two things are true. First, there must have been a legitimate dispute concerning an IP right and likely infringement of a valid IP right. Second, the settlement agreement must be within the range of likely outcomes of litigation, or no more anticompetitive than such an outcome would have been. Unfortunately, these inquiries may be the very ones that the settlement agreement itself sought to forestall because of their complexity and uncertainty. That is why it is critical that these inquiries be made no more often than necessary.

The Patent Act requires settlements in one particular type of patent dispute—interference cases—to be filed with the PTO.⁵⁰ While filing might draw the attention of government enforcers to such agreements, it protects against the collusive settling of frivolous patent claims only if the PTO were to make a determination whether the patents at issue in the lawsuit were likely valid and infringed. The PTO never makes such determinations, although it does make copies of filed

48. *Id.* ¶ 1822.

49. *Id.*

50. See 35 U.S.C. § 135(c) (2000); *CTS Corp. v. Piher Int'l Corp.*, 727 F.2d 1550, 1555 (Fed. Cir. 1984) (suggesting that § 135(c) was designed to prevent the use of anticompetitive settlement agreements); *United States v. FMC Corp.*, 717 F.2d 775, 777-78 (3d Cir. 1983) (same); *Moog, Inc. v. Pegasus Labs., Inc.*, 521 F.2d 501, 505 (6th Cir. 1975) (same); see also *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 818 (1945) (refusing to enforce a filed settlement that did not reveal possible perjury in connection with the application for a related patent).

settlements available to the FTC.⁵¹

There is also some precedent for judicial inquiry into the soundness of settled patent claims. In *Standard Oil*, the Supreme Court approved the appointment of a special master to determine whether the patents held by the various parties were sufficiently broad to warrant a conclusion that they interfered with one another.⁵² And in *United States v. Singer Manufacturing Co.*, the record suggested that the parties had reached a settlement in part in order to avoid drawing attention to prior art that might have resulted in the invalidation of several of their patents.⁵³

Permitting ex post judicial queries into the validity and coverage of settled patents may sound onerous, and may sometimes even be a deal breaker. But it is necessary in our "middle set" of cases in order to distinguish pro- from anticompetitive agreements. Requiring scrutiny of the merits of a patent case can also serve the useful purpose of encouraging the parties to execute a less restrictive settlement agreement where such an alternative is available. For example, infringement actions against competitors can be settled either by a license permitting production by the licensee, perhaps with royalty payments to the patentee (output increasing and likely pro-competitive), or by payments to the infringement defendant for its exit from the market (highly suspicious).⁵⁴ If there is considerable uncertainty about the validity or coverage of the patent, requiring an evaluation of the patent merits will encourage firms to take the former course rather than the latter.

51. In the late 1990s, Joel Klein, then-assistant attorney general for antitrust enforcement, proposed that cross-licenses be filed with the antitrust authorities to permit a quick, Hart-Scott-Rodino-style review. Joel I. Klein, Cross-Licensing and Antitrust Law, Address Before the American Intellectual Property Law Association (May 2, 1997), at <http://www.usdoj.gov/atr/public/speeches/1123.htm> (last visited Mar. 6, 2003). Section 135(c) already gives such a power, but only in the subset of interference disputes that are actually litigated and then settled. See 35 U.S.C. § 135(c). For an argument in favor of an expanded obligation to disclose patent settlement agreements, see Maureen A. O'Rourke & Joseph F. Brodley, *An Incentives Approach to Patent Settlements: A Commentary on Hovenkamp, Janis & Lemley*, 87 MINN. L. REV. 1767, 1775-76 (2003).

52. *Standard Oil Co. (Ind.) v. United States*, 283 U.S. 163, 180-81 (1931).

53. 374 U.S. 174, 199 (1963). The Court assumed that the patents were valid but condemned the restraint anyway. *Id.*

54. See *infra* notes 130-84 and accompanying text.

C. INDUSTRY-SPECIFIC NATURE OF IP SETTLEMENTS

The middle set of cases, in which the IP owner's likelihood of success on the merits of the underlying lawsuit will determine whether the settlement is pro- or anticompetitive, is not a random sample of all possible IP cases. We can make two predictions about where such cases are likely to occur. First, patent cases are more likely than copyright cases to fall within the middle category. Second, settlement of patent disputes in some industries is more likely to be pro-competitive than in other industries.

1. Comparing Patent Disputes to Copyright Disputes

Patent disputes frequently occur between horizontal competitors. Because those competitors are usually making the same or similar products, a settlement that prevents one of them from participating in the market is likely to have some sort of competitive effect. Further, because patents may cover components of a product, rather than actual commercial products, and because copying is not an element of a case for patent infringement, patentees often find themselves the owners of patents that block each other.⁵⁵ These blocking patent rights must be cleared in order for some or all of the owners to sell an integrated product.⁵⁶ If the parties do not come to terms, and the patents are found valid and infringed, none of the parties may be able to sell the product.⁵⁷ A variety of private agreements, from simple cross-licenses to standard-setting organizations' rules to complex patent pools, exist to clear these rights.⁵⁸ Whether these horizontal agreements between competitors are pro- or anticompetitive will frequently depend on whether the parties could have competed without the arrangement, and therefore on whether the underlying patents were valid and infringed.⁵⁹

Several characteristics of copyrights make similar cases unlikely. First, copyrights are often enforced not against

55. See *supra* note 19 and accompanying text.

56. See *Merges & Nelson, supra* note 19, at 860-61.

57. See *id.*

58. See, e.g., Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1892-95 (2002) (standard-setting organizations); Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293, 1340-58 (1996) (patent pools).

59. See *supra* notes 10-11 and accompanying text.

competing creators, but against those who would be buyers but for their infringement. The antitrust risks of vertical agreements are significantly less than the risks of horizontal agreements.⁶⁰ Second, unlike patents, copyrights can be infringed only when a defendant copies the plaintiffs' work.⁶¹ Although it is possible that two copyright owners will each claim that the other copied certain material from it, such symmetrical claims are much less likely than in patent cases. As a result, there is no corollary in copyright law to this important class of patent disputes that require investigation of the merits.⁶² Where blocking copyright cases do arise, the legal outcome is different because there is no law of "blocking copyrights."⁶³ Rather, the creator of a work that uses infringing material from another loses all copyright in the newly created work.⁶⁴ An important justification for patent cross-licenses thus disappears in the copyright context; the original creator will be free to use his own work and indeed even his rival's new material without liability.⁶⁵ The (rare)

60. While there are often horizontal agreements between copyright owners, they tend to be not settlements of cases but agreements to bring lawsuits jointly or agreements to license defendants only on certain terms. These agreements can be anticompetitive, but it is not the settlement of the copyright suit that creates the antitrust problem. See *Primetime 24 Joint Venture v. Nat'l Broad. Co.*, 219 F.3d 92, 99 (2d Cir. 2000); cf. *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 24 (1979). For a discussion of the antitrust issues that arise in such a case, see 2 HOVENKAMP ET AL., *supra* note 3, § 35.6b.

61. *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 54 (2d Cir. 1936) ("[I]f by some magic a man who had never known it were to compose anew Keats's Ode on a Grecian Urn, he would be an 'author,' and, if he copyrighted it, others might not copy that poem, though they might of course copy Keats's.").

62. This is not to suggest that antitrust cases never arise that require courts to determine the scope of a copyright. In *United States v. Microsoft Corp.*, the court evaluated the government's claim that Microsoft unilaterally imposed unreasonable restrictions on licensees in part by determining whether copyright law did in fact give Microsoft the power to prevent the modifications the licensees sought. See 253 F.3d 34, 60-62 (D.C. Cir. 2001), *cert. denied*, 534 U.S. 952 (2001).

63. See Lemley, *supra* note 19, at 1021.

64. See 17 U.S.C. § 103(a) (2000). Strictly speaking, the creator of the derivative work loses only rights in any part of the new material in which unlawful material is used. *Id.* So, if the work is composed of discrete segments, she may be able to retain some copyright. See Lemley, *supra* note 19, at 1022.

65. See *Anderson v. Stallone*, 11 U.S.P.Q.2d 1161, 1173-74 (C.D. Cal. 1989) (holding that Stallone was free to copy elements from Anderson's unauthorized script for *Rocky IV* because Anderson infringed the copyright in

settlements of copyright disputes that restrict the ability of both parties to sell in a market may therefore be approached with more skepticism than would analogous patent settlements.

2. Patent Disputes in Various Industries

Economic evidence strongly suggests that the patent system has very different effects in different industries.⁶⁶ Of particular interest for our purposes, there is tremendous variance by industry in the effective scope of the patents that issue.⁶⁷ This variance results from the relationship between a patent and a product.⁶⁸ In some industries, such as chemistry and pharmaceuticals, a single patent normally covers a single product.⁶⁹ The patent system is built on the unstated assumption of this one-to-one correspondence.⁷⁰ We speak of patents covering products, measuring damages by the profits lost in the sale of infringing products, and the like.⁷¹ In fact, however, such a correspondence is the exception rather than the rule.⁷² Machines of even moderate complexity are composed of many different pieces, and each of these components can itself be the subject of one or more patents.⁷³ No inventor could patent a modern car, for instance. Rather, they will patent a particular invention—say, intermittent windshield wipers—that is only one small piece of a much larger product.⁷⁴ In industries like semiconductors, new products are so complex that they can incorporate hundreds and even thousands of different inventions, inventions frequently patented by different companies.⁷⁵ A patent covering one of those hundreds of components won't effectively

the previous Rocky character).

66. See, e.g., Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. (forthcoming Dec. 2003) (manuscript at 13, on file with authors).

67. See *id.*

68. *Id.* at 15.

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.*

74. See *Kearns v. Gen. Motors Corp.*, 152 F.3d 945 (Fed. Cir. 1998) (unpublished table decision) (involving a patent dispute over intermittent windshield wipers).

75. Burk & Lemley, *supra* note 66, at 16.

protect a product; it is useful, if at all, only as a licensing tool.⁷⁶

The relationship between a patent and a product determines the likelihood of blocking patent claims, and therefore the need for settlements or ex ante agreements to resolve those blocks. No one can build a new microprocessor without running afoul of hundreds of patents owned by competitors. Innovation in the semiconductor industry would cease if patent owners could not cross-license their patents. By contrast, virtually no pharmaceutical patents are truly blocking; pharmaceutical patents tend to issue for drugs that can themselves be sold as products. This doesn't mean that settlements between competitors are never anticompetitive in the semiconductor industry, or that they are always anticompetitive in the pharmaceutical industry. But it does mean that one important pro-competitive justification for settlement agreements—the desire to clear blocking patents—is much more plausible in semiconductors than in pharmaceuticals. The same point can be extended to other industries as well.⁷⁷ Antitrust courts and agencies should take the characteristics of the industry into account in assessing such settlement agreements.

IV. PARTICULAR SETTLEMENT PROVISIONS

In this Part we classify the various types of settlement provisions, ranking them very roughly from those that pose the least antitrust risk to those that pose the greatest. Settlement agreements are often complex documents, and many will include provisions of more than one type.

A. NON-EXCLUSIVE, UNRESTRICTED LICENSES IN FAVOR OF ALLEGED INFRINGERS; NON-EXCLUSIVE CROSS-LICENSES

The simplest situations posing the least risk of competitive harm are those in which a patentee sues a rival or potential rival for infringement, and the plaintiff settles by giving the defendant a non-exclusive license to practice the patent in exchange for royalties or other consideration. The granting of a non-exclusive license itself almost never harms competition, regardless of the presence or absence of any IP dispute. A non-

76. *Id.*

77. For example, standard-setting organizations in the Internet and telecommunications industries often endeavor to clear potentially blocking royalty positions. See Lemley, *supra* note 58, at 1948-54.

exclusive license does not restrain the patentee's ability to produce patented goods itself or to license others in the future. Also, the non-exclusive license itself adds at least one new producer to the market.⁷⁸ Antitrust challenges to such settlements can usually be dismissed purely on antitrust grounds, without any inquiry into IP issues.

Where there are antitrust concerns in such non-exclusive license settlements, they generally involve not the fact or nature of the license but other restrictions imposed on the licensee. We have already discussed one such problem above: a license agreement that limits the licensee's behavior in a broader market than the patent covers.⁷⁹ Other terms that raise antitrust issues might include a requirement that the licensee pay royalties even on goods not covered by the patent⁸⁰ or, in unusual circumstances, a reciprocal licensing requirement.⁸¹ The restrictions in these cases present antitrust concerns for reasons unrelated to the existence of the IP right in suit. It is the patentee's attempt to impose restrictions on the licensee beyond the scope of the patent—presumably in lieu of monetary royalties—that raises competitive concerns. Thus, these restrictions can be judged under existing principles of antitrust law without worrying about the strength of the patent claims.

78. *Boston Scientific Corp. v. Schneider* (Eur.) AG, 983 F. Supp. 245, 271 (D. Mass. 1997) (distinguishing a situation in which a firm agrees with another not to license its own patent from one in which it agrees not to license a patent that it has licensed from others, and upholding the cross-licensing agreement), *appeal dismissed*, 152 F.3d 947 (Fed. Cir. 1998); *cf. Int'l Mfg. Co. v. Landon, Inc.*, 336 F.2d 723, 730 (9th Cir. 1964) (upholding an agreement that required two owners of patents likely to block each other to license others only jointly but placed no restrictions on the number of licenses they could issue).

79. *See supra* p.1726 (providing a hypothetical example of such an agreement involving Ford and Chevrolet).

80. *See* 1 HOVENKAMP ET AL., *supra* note 3, § 3.3b2.

81. *In re Intel Corp.*, Analysis of Proposed Consent Order to Aid Public Comment, F.T.C. Dock. No. 9288 (Mar. 17, 1999), <http://www.ftc.gov/os/1999/9903/d09288intelanalysis.htm>. The FTC challenged such a reciprocal licensing requirement and Intel agreed in a consent decree not to require those who dealt with it to give up all patent claims against Intel. *Id.* *But see* *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1367 (Fed. Cir. 1999) (rejecting an antitrust claim based on Intel's reciprocal dealing). For a more detailed discussion of the economics of such a claim, *see* 1 HOVENKAMP ET AL., *supra* note 3, § 13.4d.

B. PURELY VERTICAL AGREEMENTS

When the infringement plaintiff and defendant are not actual or potential rivals in any market, a settlement agreement among them rarely raises antitrust concerns.⁸² For example, the infringement plaintiff may be a seller of some product or input, and the infringement defendant may be no more than a purchaser.⁸³

An occasional purely vertical agreement might raise concerns about resale price maintenance, tying, or exclusive dealing. For example, a manufacturing infringement defendant might settle a dispute by agreeing to sell the product manufactured under the settlement agreement at a price set by the non-manufacturing patentee.⁸⁴ Alternatively, an infringement defendant using the patentee's technology in its own production process might settle an infringement suit by agreeing to use exclusively technology licensed from the patentee.⁸⁵ Or, an infringement defendant might agree to an arrangement in which it agrees to accept some undesired technology or to purchase some undesired product from the infringement plaintiff in exchange for the right to obtain a license for the desired product.⁸⁶ Package licenses fall into this latter category. A research firm might license its patents only in packages, typically in order to reduce monitoring costs.⁸⁷

In all such cases the presence of an IP dispute settled by the agreement in question should have little bearing on its

82. *E.g.*, *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1138 (D.C. Cir. 1981) (upholding purely vertical restraints that resulted from a settlement agreement involving an owner of a process patent and various producer licensees).

83. *Id.*

84. *E.g.*, *Bement v. Nat'l Harrow Co.*, 186 U.S. 70, 94 (1902) (approving a settlement agreement that permitted the infringement defendant to manufacture agricultural harrows using patents owned by the infringement plaintiff, at a royalty of \$1.00 per harrow, and to be sold at prices stipulated by the infringement plaintiff).

85. *Bement* also involved a promise by the licensee that it would not manufacture harrows employing any technology other than that licensed by the infringement plaintiff. *Id.* at 73.

86. *See, e.g.*, *Int'l Salt Co. v. United States*, 332 U.S. 392, 400 (1947) (invalidating a tying arrangement in which a licensee of a patented salt lixator agreed to purchase salt only from the patentee).

87. *E.g.*, *Automatic Radio Mfg. Co. v. Hazeltine Research, Inc.*, 339 U.S. 827, 836 (1950) (permitting package licensing of patents to which the licensee voluntarily agreed). On package licensing as a mechanism for reducing monitoring costs, see 1 HOVENKAMP ET AL., *supra* note 3, § 22.5d.

antitrust legality. Resale price maintenance, exclusive dealing, and tying are usually governed by ordinary antitrust principles when any IP rights that are involved are not in dispute. The outcome is generally no different when a dispute is present. For example, resale price maintenance is unlawful whether or not the patent is valid, unless it is protected by the narrow exception created in *GE*.⁸⁸

The tying situation is more complex. A “hard core” tie of patented and non-patented products remains unlawful aside from questions about patent validity. Indeed, the proscription of tying in section 3 of the Clayton Act applies to goods “whether patented or unpatented.”⁸⁹ In the case of “pure” IP ties—where both the tying and tied product are IP rights—the courts have behaved much more erratically. “Block booking” of motion pictures and television shows remains per se illegal,⁹⁰ while package licensing of patents⁹¹ and blanket licensing of copyrighted works⁹² are generally treated under the rule of reason. But, in all events, where the plaintiff and defendant are not competitors, competitive harm is unlikely unless the bundling of rights threatens significant foreclosure of competing IP rights. Very few cases have found a foreclosure threat.⁹³

88. See 1 HOVENKAMP ET AL., *supra* note 3, § 24.1b (noting that the courts have tended to apply the *GE* price-fixing exception to both vertical and horizontal agreements). For further discussion of the *GE* rule, see *supra* notes 30-35 and accompanying text.

89. 15 U.S.C. § 14 (2000).

90. See, e.g., *United States v. Loew's, Inc.*, 371 U.S. 38, 55 (1962) (holding block booking illegal); *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 156-59 (1948) (same); *MCA Television Ltd. v. Pub. Interest Corp.*, 171 F.3d 1265, 1280 (11th Cir. 1999) (same); see also 1 HOVENKAMP ET AL., *supra* note 3, § 22.5a.

91. E.g., *Automatic Radio Mfg.*, 339 U.S. at 831.

92. E.g., *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 9 (1979) (holding that collective licensing of copyrights by a collective licensing organization was not illegal per se); *Broad. Music, Inc. v. Moor-Law, Inc.*, 527 F. Supp. 758, 767-68 (D. Del. 1981) (refusing to require the defendant to break down its blanket license of copyrighted songs into smaller categories), *aff'd*, 691 F.2d 490 (3d Cir. 1982) (unpublished table decision), *aff'd sub. nom. In re Moor-Law, Inc.*, 691 F.2d 491 (3d Cir. 1982) (unpublished table decision).

93. One possible exception is *Grid Systems Corp. v. Texas Instruments*, which included a claim that a package license from the licensor had the effect of discouraging the licensee from licensing patents from another. 771 F. Supp. 1033, 1038 (N.D. Cal. 1991). Perhaps the most important example is *United States v. Microsoft Corp.*, 253 F.3d 34, 64 (D.C. Cir. 2001), *cert. denied*, 534 U.S. 952 (2001). See Herbert Hovenkamp, *IP Ties and Microsoft's Rule of Reason*, 47 ANTITRUST BULL. 369, 373 (2002).

In sum, the great majority of challenges to purely vertical agreements settling infringement actions—though not all—can be resolved entirely on the basis of antitrust analysis, with no inquiry into the validity of the underlying infringement claims.⁹⁴

C. EXCLUSIVE LICENSES TO ALLEGED INFRINGERS; EXCLUSIVE CROSS-LICENSES AND POOLS; CONCERTED REFUSALS TO DEAL

Suppose the patentee sues an infringer and settles with an agreement that licenses the infringement defendant to practice the patent, but also promises that no one other than the patentee or this licensee will ever be licensed. Assuming the patent is valid, the Patent Act expressly permits exclusive licenses,⁹⁵ but it seems clear that that fact alone does not render them immune from antitrust scrutiny.⁹⁶

The inquiry into the validity of the infringement claim is necessary only if the settlement agreement itself poses an antitrust threat.⁹⁷ The antitrust risks resulting from exclusive rights can be more substantial than those involving non-exclusive licenses.⁹⁸ If the settlement involves nothing more than an exclusive license from the infringement plaintiff to the infringement defendant without price, quantity or market segment restrictions, the antitrust risks are reasonably small. The mere payment of money from the defendant to the plaintiff does not create an antitrust problem, and would certainly be lawful if the patent is valid and infringed. If the patent is invalid, then the agreement does not necessarily exclude anyone, for others will be able to challenge the patent as well.⁹⁹

94. See Hovenkamp, *supra* note 93, at 372.

95. 35 U.S.C. § 261 (2000).

96. 1 HOVENKAMP ET AL., *supra* note 3, § 14.2b1. Among other antitrust statutes, section 7 of the Clayton Act, 15 U.S.C. § 18 (2000), has been applied to exclusive patent licenses that tend to overly concentrate a market. 1 HOVENKAMP ET AL., *supra* note 3, § 14.2b1.

97. See 1 HOVENKAMP ET AL., *supra* note 3, § 14.2b1.

98. See *id.*

99. There is some risk that a patentee may seek to insulate its patent from antitrust challenge by co-opting the most likely challengers with licenses. Where co-option is a problem, the antitrust risks of a settlement are greater than where other potential defendants are likely to challenge the validity of a patent. The Supreme Court significantly reduced that risk in *Lear, Inc. v. Adkins* by permitting licensees to challenge the validity of the patents they license. 395 U.S. 653, 676 (1969). The Federal Circuit has chipped away at that rule, however. See *Studiengesellschaft Kohle, M.B.H. v. Shell Oil Co.*, 112 F.3d 1561, 1568 (Fed. Cir. 1997) (requiring the payment of royalties by a

The same thing is generally true of an exclusive cross-license resolving conflicting patent claims. The two parties might license only each other to practice their respective patents. But if the patents are invalid in any event, then third parties are not really being excluded, since they can simply use the patented technology without fear of liability.¹⁰⁰ If the cross-licenses do not include price, quantity, or market division provisions, then collusion in the production of downstream products may not be a particularly great risk.¹⁰¹ By contrast, cross-licenses that involve payments by one or both parties necessitate the exchange of price and output information between competitors, and can therefore facilitate coordinated output restrictions. These agreements may be perfectly legitimate, and indeed are generally pro-competitive where the parties hold actual or plausible blocking patents.¹⁰² But they

licensee who successfully challenges the validity of a patent up until the day the patent is challenged). In any event, the law does not permit a licensee who once challenged a patent's validity and settled that lawsuit to reopen the challenge. For a more thorough discussion of the cases, and an argument that even settlements should not necessarily bar validity challenges by licensees, see O'Rourke & Brodley, *supra* note 51, at 1778-81. *But see generally* Rochelle Cooper Dreyfuss, *Dethroning Lear: Licensee Estoppel and the Incentive to Innovate*, 72 VA. L. REV. 677 (1986) (challenging *Lear's* rationale).

100. The greater the number of patents that are involved, however, the greater the cost and risk in determining that they are invalid and deciding to infringe them. So, the principle stated in the text has limits, especially where many different parties enter into a group cross-license that excludes others.

101. See *Standard Oil Co. (Ind.) v. United States*, 283 U.S. 163, 183 (1931) (upholding a patent pool); *Carpet Seaming Tape Licensing Corp. v. Best Seam, Inc.*, 694 F.2d 570, 579-80 (9th Cir. 1982) (permitting a settlement agreement that required mandatory package licensing of allegedly blocking patents after several years of actual patent litigation, and reversing the district court decision that rejected the agreement on the theory that mutual non-exclusive licenses would have been less anticompetitive); *Philip Morris, Inc. v. Brown & Williamson Tobacco Corp.*, 641 F. Supp. 1438, 1491 (M.D. Ga. 1986) (upholding exclusive cross-licensing). To be sure, because the parties are dealing together already, any possible cartel is easier for them to arrange. Where the deal is a simple royalty-free cross-license, however, it may not require that much ongoing interaction.

102. *Carpet Seaming*, 616 F.2d at 1142 (concluding that legitimately blocking patents justify cross-licensing arrangements). Commentators have discussed the antitrust treatment of patent pools. See, e.g., 1 HOVENKAMP ET AL., *supra* note 3, §§ 34.1-34.4c1; Roger B. Andewelt, *Analysis of Patent Pools Under the Antitrust Laws*, 53 ANTITRUST L.J. 611, 611-39 (1984); John H. Barton, *Patents and Antitrust: A Rethinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L.J. 449, 462-65 (1997); Steven C. Carlson, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 359, 361-99 (1999); Richard J. Gilbert, *Patent Pools: 100 Years of Law and Economic Solitude* (May 5, 2002) (unpublished manuscript, on file with

may also be shams designed to give legal cover to a cartel.¹⁰³

A concerted refusal to deal with third parties that goes beyond exclusive cross-licensing might raise serious antitrust issues, but analysis of the competitive harm generally will not depend on underlying IP issues.¹⁰⁴ For example, conflicting claimants might license one another exclusively but also agree not to sell some essential input to third parties. The latter agreement would ordinarily be unlawful *per se* quite aside from the validity of the patent infringement claims.¹⁰⁵

The IP laws do not protect promises limiting the licensing of subsequently developed technology at all, because their subject matter is not an existing IP right.¹⁰⁶ For example, while the Patent Act permits price and territorial restraints in licensing agreements covering existing patents, an agreement to place the same limitations on patents to be developed in the future raises no patent law issue.¹⁰⁷ Of course, this does not mean that restraints on subsequently developed technology are unlawful *per se*. Many are perfectly valid ancillary restraints. The clearest example is grantbacks, which are promises by the licensee to license future technology to the patentee, either exclusively or non-exclusively.¹⁰⁸ Non-exclusive grantbacks can serve the legitimate purpose of ensuring that the original patentee does not find itself excluded from the market by licensees that patent improvements on the patentee's original idea.¹⁰⁹ Exclusive grantbacks and requirements that a licensee assign the rights to improvements to the original patentee are more troubling, since they reduce or eliminate a licensee's

authors); Josh Lerner & Jean Tirole, *Efficient Patent Pools* (2002) (unpublished manuscript, on file with authors).

103. See Andewelt, *supra* note 102, at 623-28.

104. See *id.* at 618.

105. *E.g.*, *United States v. Singer Mfg. Co.*, 374 U.S. 174, 196-97 (1963) (disapproving a settlement agreement that involved pooling plus exclusion even though the Court expressly assumed that the patents at issue were valid); see also *AG Fur Industrielle Elektronik Agie v. Sodick Co.*, No. 87 C 8974, 1990 WL 174921, at *3-*4 (N.D. Ill. Oct. 22, 1990); *cf.* *Duplan Corp. v. Deering Milliken, Inc.*, 444 F. Supp. 648, 683 (D.S.C. 1977) (construing a cross-licensing agreement as a concerted refusal to deal), *aff'd*, 594 F.2d 979, 981 (4th Cir. 1979).

106. 1 HOVENKAMP ET AL., *supra* note 3, § 25.1.

107. 35 U.S.C. § 261 (2000).

108. See 1 HOVENKAMP ET AL., *supra* note 3, §§ 25.2-25.3.

109. *Transparent-Wrap Mach. Corp. v. Stokes & Smith Co.*, 329 U.S. 637, 647-48 (1947) (noting the potential for pro-competitive uses of grantbacks, and refusing to find them illegal *per se*).

incentive to innovate.¹¹⁰ These characteristics of grantbacks—and thus their appropriate treatment under antitrust law—don't change depending on the validity or scope of the patents in question.

D. PRICE-, OUTPUT-, OR TERRITORY-RESTRICTED LICENSES OR CROSS-LICENSES; LICENSES CONTAINING FIELD-OF-USE RESTRICTIONS

IP settlement agreements among competitors that set prices, limit output, or divide markets deserve close antitrust scrutiny.¹¹¹ In the absence of any integration of production, all three of these practices are “naked” restraints and would be *per se* unlawful absent the license agreement. By contrast, most licenses that limit output or divide markets are lawful if the underlying IP rights are valid and infringed, since the owner of a valid IP right would have the right to prevent the licensee from selling into this market at all.¹¹² In addition, a narrow subset of price-restricted licenses are also valid, provided that they qualify for the *GE* exception.¹¹³

The situations described in Part IV.A above involved settlements that gave the infringement defendant an *unrestricted* right, whether exclusive or non-exclusive, to employ the infringement defendant's technology. Such agreements are generally competitively harmless because they do not limit the number of units of output that can be produced under the settlement. Of course, the parties could surreptitiously fix prices or divide markets aside from their

110. 1 HOVENKAMP ET AL., *supra* note 3, § 25.3; ANTITRUST GUIDELINES, *supra* note 21, § 5.6, <http://www.usdoj.gov/atr/public/guidelines/ipguide.pdf>.

111. See *United States v. New Wrinkle, Inc.*, 342 U.S. 371, 380 (1952) (declaring cross-licensing with price restrictions unlawful *per se*); *Hartford-Empire Co. v. United States*, 323 U.S. 386, 430-32 (1945) (condemning horizontal customer and price restrictions); *United States v. Masonite Corp.*, 316 U.S. 265, 276 (1942) (condemning cross-licensing with price restrictions); *United States v. Gen. Elec. Co.*, 272 U.S. 476, 494 (1926) (finding immunity for a price-fixing agreement that was contained in a patent license); *Bement v. Nat'l Harrow Co.*, 186 U.S. 70, 95 (1902) (same); *United States v. Huck Mfg. Co.*, 227 F. Supp. 791, 805 (E.D. Mich. 1964), *aff'd by an equally divided Court*, 382 U.S. 197 (1965).

112. This once again assumes the absence of noninfringing substitutes. If a licensee could have produced a noninfringing substitute, but chose instead to enter into an arrangement with the patentee to divide markets, cartel concerns are heightened.

113. See *supra* notes 30-35 and accompanying text (discussing the *GE* exception).

settlement agreement, but such an agreement could be separately considered under the antitrust laws.

By contrast, price- and output-restricted licenses create clear competitive harms. Those competitive harms are tolerable if—but only if—they are part of the supracompetitive return the government has granted to an IP owner under a social policy designed to encourage innovation. IP law requires that we tolerate departures from a competitive marketplace, but only where legitimate IP rights in fact exist and are infringed. The particular problem of the *GE* doctrine—and the reason the government and most commentators have criticized it—is that it gives antitrust immunity to naked price-fixing when couched in the guise of an IP licensing agreement.¹¹⁴ As the general antitrust literature on exclusionary strategy makes clear, cooperating is frequently much more profitable than competing.¹¹⁵ As long as the *GE* rule remains the law, price-fixing, in at least a limited range of patent licenses, must be tolerated; but it never needs to be tolerated when the disputed patent claims are unenforceable.

The Patent Act expressly authorizes territory-restricted licenses.¹¹⁶ It has also been interpreted to authorize most field-of-use restrictions, which are the equivalent of customer and product restraints.¹¹⁷ The same thing is generally true of production limits, because inherent in the concept of a license is the right to license a specified amount.¹¹⁸ Once again, however, these are restrictions imposed as part of a social policy designed to grant certain powers to owners of valid patent

114. See 2 HOVENKAMP ET AL., *supra* note 3, §§ 31.4, 31.6.

115. See, e.g., HOVENKAMP, *supra* note 17, § 8.8 (noting, in the predatory pricing context, that the most rational strategy for a dominant firm and its rivals may be collusion rather than fighting until the market produces either monopoly or competition).

116. 35 U.S.C. § 261 (2000).

117. *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 175, 181 (1938), *aff'd on reh'g*, 305 U.S. 124, 127 (1938); *B. Braun Med. v. Abbott Labs.*, 124 F.3d 1419, 1429 (Fed. Cir. 1997).

118. *E.g.*, *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1578 (Fed. Cir. 1990) (upholding quantity limitations on game cartridges manufactured under a patent license); *Texas Instruments, Inc. v. Hyundai Elecs. Indus., Co.*, 49 F. Supp. 2d 893, 915 (E.D. Tex. 1999) (upholding a license agreement under which TI licensed Hyundai to produce a specified dollar value of product). The rule permitting licenses of a specified amount is old, antedating the antitrust laws. See *Aspinwall Mfg. Co. v. Gill*, 32 F. 697, 698-99 (C.C.D.N.J. 1887) (finding that a licensee who was licensed to make 100 patented potato planters but who made 125 was guilty of infringement as to the excess).

claims within the scope of those claims. If a patent is invalid or if a licensee's technology does not infringe in the first place, a geographic or customer-based restriction by agreement among competitors is nothing more than a naked market division agreement.

Even a "naked" horizontal market division agreement is competitively harmless, however, if it occurs in a competitive market in which the defendants are merely a few among several significant players, or if the restraint does not suggest a significant potential for reducing market-wide output. Consider the *Clorox* decision, which involved a settlement of a trademark dispute.¹¹⁹ The parties were the owners of the "Pine-Sol" and "Lysol" trademarks for various household cleaners, disinfectants, and deodorizers.¹²⁰ The owner of the first-filed "Lysol" mark had alleged many years earlier that the "Pine-Sol" name was misleadingly similar to its own.¹²¹ After pursuing litigation for a time, the parties settled their dispute by an agreement that restricted the way in which products bearing the name "Pine-Sol" could be advertised and the types of household products that could be sold under the "Pine-Sol" name.¹²²

Such an agreement would have been a per se unlawful horizontal market division in the absence of the trademark dispute.¹²³ Further, one might question whether the "Pine-Sol" name really was confusingly similar to the older "Lysol" name—that is, whether the trademark was infringed.¹²⁴ Nevertheless, rather than pursue further litigation, the parties worked out an agreement that permitted use of the "Pine-Sol" name, provided that it were used only with a restricted list of products that contained pine oil as an active ingredient.¹²⁵

119. *Clorox Co. v. Sterling Winthrop, Inc.*, 117 F.3d 50, 52 (2d Cir. 1997).

120. *Id.*

121. *Id.*

122. *Id.*

123. *See, e.g.*, *Blackburn v. Sweeney*, 53 F.3d 825, 830 (7th Cir. 1995) (holding a horizontal agreement limiting advertising in one another's areas per se unlawful).

124. A trademark examiner had once denied registration of the "Pine-Sol" name because of presumed similarity. *Clorox*, 117 F.3d at 53. The examiner's conclusions were somewhat dubious, however. He reasoned that because one could slur the word "Pine-Sol" into "Pi-Sol," it could be stated in such a fashion as to sound too much like "Lysol." *See id.*

125. *Id.* Over the next twenty years, further controversy erupted and this agreement was modified from time to time. *Id.* The current owner of the Pine-Sol name, who wished to market a new product in conflict with the

Some other factors are relevant as well. First, as the court pointed out, the agreement was not literally a horizontal market division at all: It did not regulate Clorox's right to make or market any product.¹²⁶ It merely "regulate[d] the way a competitor [could] use a competing mark."¹²⁷ Further, having found a bona fide dispute and what appeared to be a reasonable attempt to settle it, the court applied the rule of reason and dismissed the complaint for lack of any showing of harm to competition.¹²⁸ The strength of that conclusion would depend on the proliferation of other brands of the cleansers and household chemicals at issue, the height of entry barriers, and the ease with which the firms could expand their business under different trademarks.¹²⁹

In short, price- and output-restricted licenses are generally illegal in the absence of a valid IP right, but generally legal where such a right exists. Sometimes—as in the *Clorox* case—the nature of the agreement will suggest that harm to competition is unlikely even if the IP right is not infringed. But in other cases involving territorial or field-of-use restrictions, the merits of the IP dispute will determine the outcome of the antitrust claim.

E. PAYMENTS TO INFRINGEMENT DEFENDANTS; HATCH-WAXMAN SETTLEMENTS

Insofar as antitrust is concerned, among the most problematic settlement agreements are those in which the infringement plaintiff pays the infringement defendant for the latter's abandonment of the market (what we call here an "exclusion payment").¹³⁰ To illustrate, suppose that a widget

existing settlement agreement, brought the present case. *Id.* at 54.

126. *Id.* at 57.

127. *Id.* at 55-56. The court's conclusion is correct, but at least superficially inconsistent with the Supreme Court's decision in *United States v. Topco Associates*, which applied the per se rule and struck down horizontal agreements restricting where the owners of valid, uncontested marks could use them. 405 U.S. 596, 608 (1972); see also *United States v. Sealy, Inc.*, 388 U.S. 350, 357-58 (1967) (applying the per se rule to an agreement that forbade manufacturers from making bedding bearing "Sealy" trademarks in one another's territories, but left them free to manufacture bedding bearing other labels); 12 HOVENKAMP, *supra* note 7, ¶ 2030c.

128. *Clorox*, 117 F.3d at 60.

129. *Id.* at 56-57. For a discussion of the role of market power in the rule of reason, see 2A AREEDA ET AL., ANTITRUST LAW ¶¶ 501-508 (1995).

130. See e.g., *In re Terazosin Hydrochloride Antitrust Litigation*, 164 F. Supp. 2d 1340, 1343 (S.D. Fla. 2000). When Zenith and Geneva each began

patentee observes incipient competition from a rival producer and files an infringement action. This lawsuit could be settled by (1) the infringement defendant's purchase of an exclusive or non-exclusive license from the patentee, followed by the defendant's production under the license, or (2) the infringement plaintiff's purchase of an agreement from the defendant that it abandon its entry plans. Alternative (1) brings a new rival into the market. It can facilitate competitive production, depending on whether the license is price- or quantity-restricted. It can also encourage further innovation in the market by giving two companies an incentive to improve on the widget. By contrast, alternative (2) keeps the rival out of the market and induces it to drop its suit in exchange for a payment. Thus, there are competitive reasons to favor inclusive rather than exclusive settlements.

In a perfectly functioning market without transaction costs, a monopoly producer would be indifferent between producing everything itself and simply "licensing" another to make part of its production. The license fee would be the monopoly markup, output would remain at the monopoly level as it would in any perfect cartel agreement, and the monopolist would earn the same profits, although part of them would be paid as license fees rather than as markup on goods that it produced.

If all parties were completely certain that a patent was valid and infringed, a patentee would have precisely the same set of incentives. It would either produce all output under the patent itself, or else it would license some output to a rival, earning the monopoly profits as royalties.¹³¹ Assuming zero

programs to produce a generic equivalent of a pharmaceutical patented by Abbott, Abbott claimed infringement. *Id.* at 1344. It settled both suits, paying Zenith \$3 million and Geneva \$4.5 million each month for their promise to stay out of the market. *Id.* at 1346. The district court's finding of per se illegality is currently on appeal to the Eleventh Circuit. *See also In re Cardizem CD Antitrust Litigation*, 105 F. Supp. 2d 682, 706-07 (E.D. Mich. 2000) (finding per se illegality on facts similar to *Terazosin*).

We intend the term "exclusion payment" to include situations in which the defendant, often a generic pharmaceutical company, never has an opportunity to enter the market, and is paid not to enter, as well as situations in which the defendant is paid to exit a market in which it already competes.

131. *Cf. Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821, 826 (Fed. Cir. 1991) (involving Intel, which owned a patent on a processor chip but hired Sanyo as its "foundry," or "subcontractor," to produce chips under its license).

Uncertainty about the outcome of an infringement suit might also incline the patentee to settle, either by accepting a royalty in exchange for a license or

transaction costs, however, a firm in that position would have no incentive whatsoever to pay another firm to stay out of the market. It could exclude without paying anything at all. This fact undoubtedly explains why the great majority of licensing agreements involve licenses given to the infringement defendant contemplating actual production, and not exclusion payments. The exclusion payment necessarily reduces the patentee's surplus; the license reduces the surplus only if the licensee fee extracts less than the full monopoly rent from the licensee.

Transaction costs change the picture somewhat. If bringing and winning an infringement suit costs \$1 million, the patentee might be willing to pay the infringement defendant up to that much because the cost of the settlement would be lower than the cost of an injunction.¹³²

1. Overview of Hatch-Waxman Provisions

Conceptually, the problem of exclusion payments can arise whenever the patentee has an incentive to postpone determination of the validity of its patent. Practically, the problem of exclusion payments has arisen in antitrust law primarily in the pharmaceutical industry because of its unique patent rules. The 1984 Hatch-Waxman legislation attempted to balance the pioneer drug manufacturers' innovation incentives against the need to facilitate market entry by manufacturers of equivalent generic products.¹³³ Because these

else by making a payment in exchange for the infringement defendant's exit. Under perfect information, the differences between the two types of agreements tend to dissolve. For example, suppose that a patent is worth \$1 million per year as long as it excludes everyone, and there is a 60% chance that the infringement claim will prevail. In that case the patentee would be willing to pay some amount up to the present value of \$400,000 per year to obtain an agreement from the infringement defendant that it not enter the market. The patentee could obtain precisely the same value by a license agreement given to the infringement defendant whose value makes the joint production of the two firms worth \$600,000 a year to the patentee. In either case the patentee would obtain its expected value of \$600,000 a year from the patent. Litigation costs and market uncertainties would certainly complicate the calculus, but they would not change the basic principle.

132. Of course, the settlement would not resolve questions about the patent's validity or coverage while the court's judgment would, making the settlement less valuable.

133. See Drug Price Competition and Patent Term Restoration (Hatch-Waxman) Act, Pub. L. No. 98-417, 98 Stat. 1585 (1984) (codified as amended in scattered sections of 15, 21, 28, and 35 U.S.C.). Tom Cotter has an excellent discussion of the details of Hatch-Waxman. See Thomas F. Cotter, *Refining*

concerns lay jointly in the domains of both the patent law and the law that governs FDA approval of new drug products, the Hatch-Waxman legislation included an extensive series of amendments to both the patent and federal drug statutes.¹³⁴

A major focal point of Hatch-Waxman was the prompt resolution of patent infringement disputes between pioneers and potential generic entrants.¹³⁵ Hatch-Waxman introduced three pertinent innovations: (1) a patent "listing" requirement directed to the pioneer,¹³⁶ (2) a thirty-month stay of the FDA's approval of the generic product whenever a patentee sues an infringer,¹³⁷ and (3) a 180-day exclusivity period benefiting the first generic producer to enter the market once a patent expires.¹³⁸ Each of these affects the bargaining dynamic in modern pioneer/generic pharmaceutical patent litigation, and each can be criticized as presenting opportunities for either unilateral anticompetitive behavior on the part of the pioneer or pioneer/generic collusion in the form of anticompetitive settlements.

When a pioneer drug manufacturer seeks FDA approval for a new product by filing a New Drug Application (NDA), the pioneer must list any patents having product or method-of-use claims that would be infringed by a generic producer.¹³⁹ Listing provides notice to potential generic producers, but it also presents pioneers with an opportunity to force a series of downstream consequences having the potential to hinder competition. Collateral disputes have now arisen over the

the "Presumptive Illegality" Approach to Settlements of Patent Disputes Involving Reverse Payments: A Commentary on Hovenkamp, Janis & Lemley, 87 MINN. L. REV. 1789 (2003); see also Marcy Lobanoff, Comment, *Anti-Competitive Agreements Cloaked as "Settlements" Thwart the Purposes of the Hatch-Waxman Act*, 50 EMORY L.J. 1331, 1332-37 (2001).

134. See §§ 101-105, 98 Stat. at 1585-1603.

135. See 21 U.S.C. § 355(j)(5) (2000).

136. See *id.* § 355(b)(2)(a).

137. See *id.* § 355(j)(B)(iii).

138. See *id.* § 355(j)(B)(iv).

139. NDA applicants must file

the patent number and expiration date of any patent which claims the drug for which the applicant submitted the application or which claims the method of using such drug and with respect to which a claim of patent infringement could reasonably be asserted if a person not licensed by the owner engaged in the manufacture, use, or sale of the drug.

Id. § 355(b)(1). The FDA publishes this information in the so-called "Orange Book." See *id.* § 355(j)(7)(A)(iii).

“listability” of particular patents or types of patent claims.¹⁴⁰

One of the key downstream consequences of a patent listing in a pioneer’s NDA is the prospect that FDA approval of a competitor’s generic product will be stayed for thirty months.¹⁴¹ A potential entrant into the generic market can secure FDA approval by filing an Abbreviated New Drug Application (ANDA), which asserts that the generic product is a bioequivalent of the pioneer product.¹⁴² Where the pioneer’s product or method of use is the subject of patent protection, and the pioneer has listed the patents, the generic’s ANDA must also include one of four certifications concerning the impact of the pioneer’s listed patents on the generic’s proposed manufacturing activity.¹⁴³ Of greatest relevance here is the Paragraph IV certification, under which the ANDA applicant asserts that the relevant patent is invalid or not infringed¹⁴⁴ and provides a detailed notice (known as “2(B)(i) notice”) to the pioneer, including a detailed opinion supporting the assertions of invalidity or noninfringement.¹⁴⁵

When the generic makes a Paragraph IV certification, the pioneer has forty-five days from the date of the 2(B)(i) notice to sue for infringement.¹⁴⁶ If the pioneer does not timely file such a suit, the ANDA approval “shall be made effective immediately.”¹⁴⁷ If the pioneer does timely file, ANDA approval is effective “upon the expiration of the thirty-month period” beginning on the date of receipt of the (2)(B)(i) notice, although the court may order a shorter or longer period where “either party to the action failed to reasonably cooperate in expediting the action.”¹⁴⁸ If a court concludes in a final decision that the patent is invalid or not infringed prior to the expiration of the

140. See, e.g., *Mylan Pharms., Inc. v. Thompson*, 268 F.3d 1323, 1328-33 (Fed. Cir. 2001). In *Mylan*, a generic drug applicant sought to delist a patent from the Orange Book. *Id.* at 1325. The court denied the request, however, finding no such cause of action exists “outside a properly filed patent case.” *Id.* at 1331-33.

141. See 21 U.S.C. § 355(j)(5)(B)(iii).

142. *Id.* § 355(j)(2)(A)(iv).

143. *Id.* § 355(j)(2)(A)(vii).

144. *Id.* § 355(j)(2)(A)(vii)(IV).

145. *Id.* § 355(j)(2)(B)(i)-(ii); see also 21 C.F.R. §§ 314.50(i), 314.94(a)(12) (2002) (describing requirements for patent certifications by ANDA filers).

146. 21 U.S.C. § 355(j)(5)(B)(iii). The filing of an ANDA “for a drug claimed in a patent or the use of which is claimed in a patent” is a technical act of infringement under the patent statute. 35 U.S.C. § 271(e)(2)(A) (2000).

147. 21 U.S.C. § 355(j)(5)(B)(iii).

148. *Id.*

thirty-month stay, ANDA approval is effective as of the date of that court decision.¹⁴⁹

The existence of a single thirty-month stay materially affects the bargaining calculus between pioneer and generic in a patent infringement suit because it is the equivalent of an automatic preliminary injunction that courts would be reluctant to issue in a normal patent suit. Further, existing law under the Hatch-Waxman provisions creates the potential for a pioneer to invoke multiple thirty-month stays, by successively listing new patent information in the Orange Book relevant to a given drug product.¹⁵⁰ The prospect of multiple thirty-month stays presents an opportunity for anticompetitive behavior that does not exist in ordinary patent infringement litigation.

The final Hatch-Waxman innovation of relevance here—the 180-day exclusivity period—also may make pioneer/generic pharmaceutical patent settlements fundamentally different from other patent infringement settlements.¹⁵¹ Under the Hatch-Waxman legislation, after a first generic producer files an ANDA containing a Paragraph IV certification, subsequent ANDAs filed by other generic producers for the same drug product “shall be made effective not earlier than” 180 days after (1) the date on which the first generic begins marketing the generic product,¹⁵² or (2) the date of a court decision holding the patent invalid or not infringed, whichever is earlier.¹⁵³

149. *Id.* § 355(j)(5)(B)(iii)(I).

150. The potential for multiple stays arises because multiple different patents might cover various aspects of a single commercial drug product. The pioneer might list a first patent, subsequently sue an ANDA filer, and trigger a thirty-month stay of the ANDA. If the pioneer then lists new patent information, the cycle may be started again: The ANDA filer would be compelled to make another certification, the pioneer could sue, and the FDA would initiate another thirty-month stay.

151. *See* Drug Price Competition and Patent Term Restoration (Hatch-Waxman) Act, Pub. L. No. 98-417, § 101, 98 Stat. 1585, 1589 (1984) (codified as amended at 21 U.S.C. § 355(j)(5)(B)(iv)).

152. 21 U.S.C. § 355(j)(5)(B)(iv). More precisely, this is the date on which the Secretary of Health and Human Services receives notice of the first commercial marketing of the generic drug under the first generic's ANDA. *Id.*

153. *Id.* Before 2000, the FDA regulations provided that a court decision triggered the 180-day exclusivity period only if the decision was a “final judgment from which no appeal can be or has been taken.” 21 C.F.R. § 314.107(e)(1) (1999). In response to *Mylan Pharmaceuticals, Inc. v. Shalala*, 81 F. Supp. 2d 30 (D.D.C. 2000), the FDA now considers the decision of a district court to trigger the 180-day period. Guidance for Industry on Court Decisions, ANDA Approvals, and 180-Day Exclusivity Under the Hatch-

Until 1998, the FDA conditioned the 180-day market exclusivity period on the requirement that the first generic ANDA filer have successfully defended against a patent infringement suit.¹⁵⁴ In *Mova Pharmaceutical Corp. v. Shalala*, the D.C. Circuit struck down this practice.¹⁵⁵ The FDA now grants the exclusivity period to the first generic ANDA filer whether or not the pioneer has sued the generic for patent infringement.¹⁵⁶

It is widely understood that the 180-day exclusivity period offers the potential for collusive settlement arrangements between pioneers and generics. A pioneer could initiate a patent infringement suit against a first generic ANDA filer and settle the litigation with a “non-entry” payment to the generic, under which the generic would delay commercialization of the generic product, thus postponing the commencement of the 180-day exclusivity period and locking other generics out of the market indefinitely.¹⁵⁷

According to a recent FTC study, out of twenty final settlement agreements resolving patent litigation between pioneers and first generic ANDA filers, fourteen contained waiting period provisions—i.e., provisions mandating that the generic wait for a specified period of time, ending on or before the date the patent expired, before entering the market.¹⁵⁸

Waxman Amendments to the Federal Food, Drug, and Cosmetic Act; Availability, 65 Fed. Reg. 16,922, 16,922-23 (Mar. 23, 2000) (specifying that the new rules apply only to ANDAs containing paragraph IV certifications filed after March 30, 2000).

154. 21 C.F.R. § 314.107(c)(1).

155. 140 F.3d 1060, 1066-74 (D.C. Cir. 1998).

156. Guidance for Industry on 180-Day Generic Drug Exclusivity Under the Hatch-Waxman Amendments to the Federal Food, Drug, and Cosmetic Act; Availability, 63 Fed. Reg. 37,890, 37,890-91 (July 13, 1998). Proposed regulations implementing this approach are still pending. See 180-Day Generic Drug Exclusivity for Abbreviated New Drug Applications, 64 Fed. Reg. 42,873, 42,874 (Aug. 6, 1999).

157. Other agreements are even more clearly anticompetitive. For example, an agreement by a patentee and a potential generic entrant that the patentee will pay the generic to continue the lawsuit—and thus the automatic stay of any generic entry—without ever prosecuting it to a conclusion is clearly anticompetitive and lacks even the redeeming virtue of ending an expensive litigation. Such an agreement can be condemned as illegal per se. Cf. Cotter, *supra* note 133, at 1800 (noting that many of the Hatch-Waxman cases had such other anticompetitive features in addition to exclusion payments).

158. FED. TRADE COMM’N, GENERIC DRUG ENTRY PRIOR TO PATENT EXPIRATION: AN FTC STUDY 26 (2002), <http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf>.

Nine of the agreements studied by the FTC involved payments from the pioneer to the generic.¹⁵⁹ Payments under the nine agreements ranged from \$1.75 million to \$132.5 million total.¹⁶⁰

2. Solutions to the Problem of Pharmaceutical Settlements

To the extent that Hatch-Waxman provisions present opportunities for anticompetitive settlements, antitrust law is not the only potential recourse, nor is it necessarily the desired one. An array of other legislative and regulatory proposals have been considered or are under current consideration.¹⁶¹ For example, one legislative proposal would have eliminated the thirty-month stay provisions and would have limited exploitation of the 180-day exclusivity period by requiring the first generic ANDA filer to market a product within ninety days after resolution of a patent infringement suit, or risk having the 180-day exclusivity period roll over to the next generic ANDA filer.¹⁶² Recent proposed FDA regulations would take a slightly different tack.¹⁶³ The new regulatory package would forbid the grant of more than one thirty-month stay for any given ANDA filing, and would implement restrictions on pioneers' patent listing practices in NDAs.¹⁶⁴ Although these proposals may go some distance toward altering the incentives

159. *Id.* at 25, <http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf>.

160. *Id.* at 31-32, <http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf>. Although the sheer amount of the payment alone may seem sufficient to raise concerns about potential anticompetitive behavior, additional information would seem relevant as well—for example, the length of time over which the payout is being made (typically measured by the time between the agreement and patent expiration) and the value of the brand name product (measured, for example, in terms of the pioneer's net sales of the product annually). The FTC study includes such information for each of the nine agreements. *Id.*, <http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf>

161. For a discussion of these proposals, see Julia Rosenthal, *Hatch-Waxman Use or Abuse? Collusive Settlements Between Brand-Name and Generic Drug Manufacturers*, 17 BERKELEY TECH. L.J. 317, 331-34 (2002).

162. S. 812, 107th Cong. §§ 5, 6 (2002). For an argument in support of eliminating the thirty-month stay provisions, see Lemley, *supra* note 1, at 1529-30.

163. See Applications for FDA Approval to Market a New Drug: Patent Listing Requirements and Application of 30-Month Stays on Approval of Abbreviated New Drug Applications Certifying that a Patent Claiming a Drug Is Invalid or Will Not Be Infringed, 67 Fed. Reg. 65,448, 65,449-56 (Oct. 24, 2002). Regarding the rationale for restricting grants of thirty-month stays, see *id.* at 65,455-56. Regarding changes to listing practices, see *id.* at 65,449-53.

164. *Id.* at 65,449-53, 65,455-56.

for pioneers and generics to collude in settling patent infringement suits, we expect that antitrust rules will continue to be important in Hatch-Waxman matters.¹⁶⁵ In the paragraphs that follow, we suggest how we believe antitrust should treat exclusion payments.

Exclusion payments were not common in patent infringement litigation prior to the passage of the Hatch-Waxman amendments.¹⁶⁶ Undoubtedly, what has increased their attraction under that statute is the fact—unique to pharmaceutical patents—that a properly defined settlement-plus-exit-payment keeps not only the immediate infringement defendant out of the market for a time, but also keeps other generic firms from entering as well.¹⁶⁷

In the typical Hatch-Waxman case involving a large exclusion payment, the rule of reason will not be a fruitful avenue of inquiry. The very fact that the pioneer finds it worthwhile to pay a large exclusion payment tends to establish market power.¹⁶⁸ It also suggests some inherent uncertainty as

165. Some legislative proposals reflect this sentiment. For example, one legislative proposal would facilitate antitrust scrutiny by requiring that Hatch-Waxman settlements be disclosed to the antitrust agencies. S. 754, 107th Cong., § 5 (2002).

166. See Cotter, *supra* note 133, at 1798 n.43 (2003). For a discussion of rare instances of such payments, see Robert J. Hoerner, *Antitrust Pitfalls in Patent Litigation Settlement Agreements*, 8 FED. CIR. B.J. 113, 121-23 (1998).

In cross-licenses, of course, net payments could go from one party to another depending on the relative value of the patents each licensor holds. But, where only one party owns a patent, it is virtually unheard of outside of pharmaceuticals for that party to pay an accused infringer to settle the lawsuit. Cf. M. Howard Morse, *Settlement of Intellectual Property Disputes in the Pharmaceutical and Medical Device Industries: Antitrust Rules*, 10 GEO. MASON L. REV. 359, 362 (2002) (noting that pharmaceutical settlements may sometimes include “side deals” justifying such a payment).

167. Hatch-Waxman also changes the general economic analysis of the costs and benefits of litigation. Because the law provides for an automatic stay of entry by generic manufacturers once the pharmaceutical patentee files suit, patentees do not lose profits and defendants do not gain profits unless and until the patent is determined to be invalid or non-infringed. Compare Cotter, *supra* note 133, at 1800-01, with *id.* at 1802-05 (discussing how this affects the settlement calculus).

168. For example, a pioneer’s willingness to pay 10% of its profits as an exclusion payment to a generic rival suggests that the pioneer’s profit-maximizing price is at least 10% above its costs. That market power may well have been legally conferred by an IP right, but the validity of that right is the very subject at issue in a settlement case.

It is also no answer to say that judges lack significant experience with exclusion payments, and as a result these should be governed by the full rule of reason. See Morse, *supra* note 166, at 361-62 (arguing for a rule of reason

to the validity or scope of the patent; as noted above, a patentee that is certain of winning will not pay anything more than its anticipated remaining legal fees in exchange for an agreement by a generic to exit the market.¹⁶⁹ The very fact of that uncertainty suggests that exclusion payments are anticompetitive—that on average such agreements exclude at least some generics that in fact had a legal right to compete.

In his contribution to this Symposium, Tom Cotter acknowledges the antitrust risks to exclusion payments.¹⁷⁰ He argues, however, that it will often be rational for pharmaceutical patentees to agree to make exclusion payments to generic competitors, and therefore that the mere existence and size of those payments should not automatically incline courts to find that they are illegal.¹⁷¹ We do not think it follows that because it is rational for the patentee to agree to an exclusion payment, that payment cannot be anticompetitive. Far from it. Breaking down the equations in Cotter's model¹⁷² makes it clear that there are two components of any rational exclusion payment. The first is the cost of continued litigation. Even a patentee sure to win would be willing to pay a defendant a sum up to the cost of the lawsuit to end the litigation and avoid that cost. The second, more significant number is the value of eliminating competition that the patentee could not expect *ex ante* to exclude after trial. A close look at Cotter's model confirms that the size of the expected exclusion payments are inversely related to the strength of the patentee's case: the less likely the patentee is to win, the more it is willing to pay a generic to stay out of the market.¹⁷³ Thus,

approach in most cases). Consider, for example, *In re Schering-Plough Corp.*, in which the ALJ applied the rule of reason because judges lacked experience with Hatch-Waxman-style exclusion payments and dismissed the complaint. See No. 9297, slip op. at 98 (June 27, 2002) (initial decision), available at <http://www.ftc.gov/os/2002/07/scheringinitialdecisionp2.pdf>. The "judicial experience" argument runs to classes of restraints, not to particular products. An exclusion payment is in fact a type of naked horizontal market division agreement, and naked market division agreements have been unlawful for a long time. For example, if a group of skateboard manufacturers should fix prices, one would not say that judicial experience with price-fixing in skateboards is very limited, so the rule of reason should be applied.

169. See, e.g., Shapiro, *supra* note 23 (manuscript at 35, on file with authors); Cotter, *supra* note 133, at 1806 tbl.1.

170. Cotter, *supra* note 133, at 1805-07.

171. *Id.* at 1808-11.

172. See *id.* at 1806.

173. *Id.* at 1808-09. Crane acknowledges this, though curiously he

if the patentee is sure to win, the second number is zero and the exclusion payment is no more than the cost of litigation.¹⁷⁴ But if the patentee has a 25% chance of losing, it is willing to pay up to 25% of the value of its monopoly to exclude its competitors without a trial.¹⁷⁵ The reason the patentee is willing to make this payment is precisely because the settlement will permit it to exclude competition from the market, whereas if it went to trial there is a 25% chance that the patent would be held invalid or not infringed and the market would become competitive. Far from justifying exclusion payments on competitive grounds, therefore, Cotter's model demonstrates that those payments are inherently anticompetitive. On expectation, the patentee is paying for an advantage that it could not get if it went to trial.¹⁷⁶

We suggest the following rule. In an antitrust challenge, a payment from a patentee to an infringement defendant for the latter's exit from the market is presumptively unlawful, shifting the burden of proof to the infringement plaintiff. The infringement plaintiff can defend by showing both (1) that the ex ante likelihood of prevailing in its infringement lawsuit is significant, and (2) that the size of the payment is no more than the expected value of litigation and collateral costs attending the lawsuit.¹⁷⁷ The rationale for limiting exclusion payments to

considers it a virtue rather than a problem with exclusion payments. Crane, *supra* note 2, at 774 ("The 'directional flow' of the settlement payment, therefore, will be affected by the probability of the plaintiff's lawsuit succeeding.").

174. See Cotter, *supra* note 133, at 1806 tbl.1.

175. See *id.*

176. Cf. George L. Priest, *Cartels and Patent License Arrangements*, 20 J. L. & ECON. 309, 327 (1977) (arguing that rational patentees won't reduce the royalty below zero unless they are cartelizing an industry). It is true, of course, that some patents that go to trial will be held valid and infringed, and therefore the patentee will keep its monopoly. But the anticompetitive harm comes from the fact that the settlement forecloses the incremental chance that the market would be competitive. Significantly, it is this very foreclosure that makes exclusion payments greater than the cost of litigation rational.

177. See Blair & Cotter, *supra* note 26, at 534-38 (proposing a "quick look" roughly comparable to ours); cf. Crane, *supra* note 2, at 779-96 (arguing that antitrust should permit such settlements when the ex ante success of the patent infringement suit is high, and prohibit them when the ex ante success is low). At the same time, however, other things being equal, the higher the objectively measured ex ante success of the infringement suit, the less the expected size of the payment to the infringement defendant. *Id.* at 780-82. For example, if the patentee was 100% sure of victory in the patent infringement suit, a settlement payment would not exceed the amount of expected litigation costs. See *id.* Thus, we think it reasonable to require both

litigation costs is noted above.¹⁷⁸ In addition, we think it important that the court make at least some limited inquiry into the merits of a settlement that requires the defendant to exit the market. If exclusion payments are illegal, the parties will have an incentive to conceal those payments, perhaps by turning them into non-cash compensation (the patentee's forbearance from price competition in a separate market, for example). If the patent lawsuit is a sham, and the accused infringer still agrees to leave the market without a substantial exclusion payment, it is worth making sure there isn't another payment hidden in the transaction. This oversight necessarily requires some inquiry into the merits of the IP suit, but we think it need not be particularly searching.¹⁷⁹ The goal is merely to ensure that there is a legitimate dispute being settled.

In assessing such payments, it is important to keep in mind that the ex ante effect of a harsh rule will not necessarily impede settlement; it may simply make the settlement take on a different form. For example, suppose the law absolutely forbade a patentee from paying an infringement defendant for its agreement not to practice technology covered by the patent. The result may make a settlement more difficult to achieve, but it could just as easily change the course of the settlement—for example, to one in which the infringement defendant obtains a license from the patentee. Since such a settlement permits

proof of likely success on the merits and, because it is evidentiary of likely outcomes, proof that the payment to the accused infringer did not exceed the patentee's expected litigation costs. Although Cotter is critical of our proposed limit on the size of exclusion payments, he is in general agreement with our position that they should be presumptively illegal. *See Cotter, supra* note 133, at 1797-98. Unlike us, he would permit a more open-ended inquiry into how large a payment should be permitted. *See id.*

The definition of litigation costs will also matter in practice. We think they should be limited to a good faith estimate of the out-of-pocket costs and attorney's fees the patentee could expect to pay between the time of the settlement and the time the case was concluded. Although Robert Willig and John Bigelow have suggested that the value of uncertainty could be included in "litigation costs," Robert D. Willig & John P. Bigelow, *Antitrust Policy Towards Agreements that Settle Patent Litigation*, 41 J. ECON. LIT. (forthcoming 2003), we think this impermissibly brings in the value of certain exclusion based on a doubtful patent under the rubric of litigation expenses.

178. *See supra* notes 172-76 and accompanying text.

179. Most of the alternatives proposed by those who favor exclusion payments in some circumstances require a more searching inquiry into the merits than does our proposal. *See, e.g., Crane, supra* note 2, at 1779-96; Willig & Bigelow, *supra* note 177.

more competition while allowing the parties to avoid the costs of uncertainty, it is preferable to a settlement based on exclusion payments.¹⁸⁰ Tom Cotter derides this as akin to a compulsory licensing rule,¹⁸¹ but in fact antitrust law is not compelling licensing of any sort. The patentee need not license at all. For the cost of a lawsuit, the patentee can simply enforce its rights without any fear of antitrust liability. If the patent is valid and infringed, the elimination of competition that results is entirely justified by IP policy. It is only where the patentee wants to eliminate competition through collusion that antitrust law properly takes notice.

Nor is there any significant risk that a rule limiting exclusion payments would reduce the legitimate value of pharmaceutical patent rights. As Carl Shapiro has pointed out, a patent is not a right to exclude, but rather a right to *try* to exclude.¹⁸² Indeed, a significant number of patents that make it to court are ultimately held invalid or not infringed.¹⁸³ The legitimate exclusion value of a pharmaceutical patent is the power it actually confers over competition, which is in turn a function of the scope of the patent and its chance of being held valid.¹⁸⁴ What the pharmaceutical patentees who agree to exclusion payments seek is something more—a guaranteed insulation from competition, without the risk that the patent is

180. Crane points out that there may be other costs to licensing some infringers, if there is reason to believe they will somehow harm the reputation of the patentee. Crane, *supra* note 2, at 767-68. This concern is plausible, though rare. But, it doesn't justify exclusion payments. A patentee who does not wish to license doesn't have to—it can pay the accused infringer a small amount to settle, or it can pay an equivalent amount to litigate the case through trial. See Cotter, *supra* note 133, at 1808-09.

181. See Cotter, *supra* note 133, at 1809-10 nn.78-79. He concedes, however, that the analogy is imperfect. *Id.* at 28 n.79.

182. Shapiro, *supra* note 23 (manuscript at 9, on file with authors).

183. See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205-07 (1998) (finding that 46% of patents litigated to judgment are held invalid); Kimberly A. Moore, *Judges, Juries and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 390 (2000) (finding that 33% of patents litigated to trial are held invalid).

184. Patents have other values, too. See, e.g., Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 637 (2002) (arguing that patents serve as financing signals for companies); John R. Allison et al., *Valuable Patents* 25-31 (2003) (unpublished manuscript, on file with authors) (discussing the uses of patents that aren't litigated); Paul J. Heald, *A Transaction Costs Theory of Patent Law* 2 (2003) (unpublished manuscript, on file with authors) (arguing that patents solve corporate organization problems).

held invalid. IP policy does not offer such a guarantee, and does not immunize from antitrust scrutiny those who seek it by entering into agreements that exclude potential competitors.

Another alternative to exclusion payments is for the parties to settle a patent dispute by delaying entry by the generic. A stipulated injunction that lasts for less than the term of the patent is more likely to reflect the uncertain outcomes of patent litigation. For example, if a patent with ten years of term remaining is 50% likely to be held invalid, the parties might settle the case by agreeing that the generic will not enter for a specified number of years, but then will be able to enter without paying a royalty.¹⁸⁵ The parties have effectively split the uncertainty costs of the litigation.¹⁸⁶ More important, assuming delayed entry is not coupled with an exclusion payment, it does not align the incentives of pioneer and generic litigants: Generics will want the delay to be as short as possible, and patentees to make the delay as long as possible. This means that we can expect that an agreement to delay entry likely reflects the parties' joint assessment of the likely outcome of the litigation. A delayed entry agreement therefore allows the parties to capture the economic significance of uncertainty as to patent outcome.¹⁸⁷

As a result, we think courts ordinarily should not object to a delayed-entry settlement, because it is likely to be an estimate of the expected outcome by the parties with the best information about that outcome. Two caveats are necessary, however. First, delayed entry is an efficient solution only if it is not coupled with any form of exclusion payment. If a pioneer pays a generic to delay entry, the likelihood is that the delay does *not* in fact represent the expected outcome of litigation, but rather has been biased toward later entry by the payment.

185. For endorsement of such an approach as pro-competitive, see Willig & Bigelow, *supra* note 177.

186. Actually, the determination of the length of the delay is a bit more complicated than suggested in the text. First, the relevant period to be divided should begin when the trial would end, or when the thirty-month stay would end, whichever is earlier; the generic couldn't enter before that date anyway. Second, because of the time value of money, the first five years of a ten-year period will provide more than 50% of the expected return over that period. The real calculation of the efficient delay will need to take into account the discount rate.

187. O'Rourke and Brodley also endorse delayed entry as an alternative to exclusion payments. See Joseph F. Brodley & Maureen A. O'Rourke, *Patent Settlement Agreements*, ANTITRUST, Summer 2002, at 53, 55; O'Rourke & Brodley, *supra* note 51, at 1786-87.

Second, there is always a risk that the parties will successfully conceal an exclusion payment, for example by agreeing under the table that the parties will cartelize the industry after entry. To prevent this risk, courts should engage in at least some scrutiny of delayed entry settlements to ensure that the IP right is not a mere sham employed to conceal what is essentially a cartel.¹⁸⁸ This oversight necessarily requires some inquiry into the merits of the IP suit, but we think it need not be particularly searching. The goal is merely to ensure that there is a legitimate dispute being settled.

F. HORIZONTAL PRICE, OUTPUT, OR MARKET DIVISION PROVISIONS NOT COVERED BY CONTESTED IP RIGHT

Finally, and most clearly anticompetitive, are settlement agreements in which the disputants restrain their output of things that are not even arguably covered by the disputed IP rights or any other, or engage in clearly unauthorized agreements. For example, firms might settle a patent dispute by dividing the market for products that are not covered by any patent. These agreements can ordinarily be condemned without determining the validity of the IP right.

Similarly, consider a price-restricted license that clearly goes beyond the *GE* exception.¹⁸⁹ Although that rule exempts price-fixing of patented goods from the Sherman Act's coverage, the exemption does not extend to non-patented output.¹⁹⁰ For example, suppose that DuPont and Mautz, two makers of house paint, have a dispute in which DuPont claims that Mautz is infringing its patent for a paint mixing process. The parties settle the dispute with an agreement in which DuPont licenses the patent to Mautz and Mautz agrees to charge \$20 per gallon for all paint produced under the patent. This agreement, which sets a price on the unpatented paint rather than the patented process itself, would constitute unlawful price-fixing and is not immunized by the *GE* exception.¹⁹¹ As a result, the court need

188. Courts do this already in the context of patent pools and cross-license agreements. See 2 HOVENKAMP ET AL., *supra* note 3, § 34.4a1. O'Rourke and Brodley worry that tests of this sort are indeterminate, O'Rourke & Brodley, *supra* note 51, at 1781-82, but we don't see a good alternative.

189. Recall that the *GE* exception permits patent owners to control the downstream prices their licensees charge. See *supra* notes 30-35 and accompanying text; see also 2 HOVENKAMP ET AL., *supra* note 3, § 31.1b.

190. *United States v. Gen. Elec. Co.*, 272 U.S. 476, 493 (1926).

191. See *United States v. Univis Lens Co.* 316 U.S. 241, 253-54 (1942) (holding that a patent on unfinished optical lens blanks did not authorize a

not trouble itself with whether the agreement was in settlement of a bona fide patent dispute.¹⁹² The agreement would be unlawful whether or not there was such a dispute.

A few of the recent cases involving pharmaceutical disputes and the Hatch-Waxman Act fall into this category.¹⁹³ For example, *In re Cardizem CD Antitrust Litigation* involved a situation in which Cardizem, the patentee of a pioneer drug, filed an infringement suit against Andrx, a generic producer threatening competitive entry.¹⁹⁴ Cardizem later settled by paying Andrx a large sum to stay out of the market.¹⁹⁵ The settlement agreement also "restrained Andrx from marketing other bioequivalent or generic versions of Cardizem CD which were not at issue in the pending . . . patent case."¹⁹⁶ While the

price-fix of finished lenses ground by licensee); *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 457-61 (1940) (finding that a patent on gasoline additive did not authorize a price-fixing license of gasoline); *Cummer-Graham Co. v. Straight Side Basket Corp.*, 142 F.2d 646, 647 (5th Cir. 1944) (concluding that a patent on an attachment to a basket-making machine did not justify a price-fixing license of baskets); *Am. Equip. Co. v. Tuthill Bldg. Material Co.*, 69 F.2d 406, 409 (7th Cir. 1934) (holding that a patent on brick loading equipment did not justify a price-fixing license of the brick being loaded); see also *United States v. Krasnov*, 143 F. Supp. 184, 198-99, 202-03 (E.D. Pa. 1956) (striking down a cross-licensing agreement that was accompanied by price-fixing, and suggesting that price-fixing in a cross-licensing arrangement does not enjoy the *GE* exception, *aff'd*, 355 U.S. 5 (1957); *United States v. Gen. Instrument Corp.*, 87 F. Supp. 157, 193-97 (D.N.J. 1949) (enjoining price-fixing accompanied by pooling); 2 HOVENKAMP ET AL., *supra* note 3, § 31.3b.c.

192. Indeed, in cases testing the limits of the *GE* rule the Supreme Court ordinarily assumes the patent is valid. See, e.g., *United States v. Line Material Co.*, 333 U.S. 287, 305-10, 314-15 (1948) (assuming that the patents in question were valid but striking down the cross-licensing agreement that imposed resale prices on both licensees and their sub-licensees). By the same token, once a patent expires a price-fixing agreement in its license becomes unlawful and can no longer be enforced. See 2 HOVENKAMP ET AL., *supra* note 3, § 31.2f.

193. See *supra* Part IV.E.1 (discussing these decisions).

194. 105 F. Supp. 2d 682, 686-87 (E.D. Mich. 2000).

195. *Id.* at 687.

196. *Id.* at 697; cf. *In re Terazosin Hydrochloride Antitrust Litig.*, 164 F. Supp. 2d 1340, 1343-47 (S.D. Fla. 2000). In *Terazosin*, the infringement defendant and incipient generic producer promised, in exchange for \$6 million per quarter, to "not sell, offer for sale, donate, or otherwise commercially distribute in the United States any [t]erazosin [h]ydrochloride [p]roduct' until another drug maker sold a generic version . . . in the United States." *Id.* at 1346 (alterations in original) (quoting the settlement agreement). This in fact would be unlikely to occur until well after the pioneer's patent expired, so the settlement agreement effectively contained the infringement defendant's promise to stay out of the market even after no patent was in issue, thus making it a per se unlawful market division.

language in the opinion is a little opaque, if it meant that Andrx promised not to sell products that Cardizem did not claim in its patent to begin with, then that portion of the agreement was per se unlawful notwithstanding the presence of a patent dispute. The agreement was a naked horizontal market division agreement, and the only justification for such agreements is that market divisions such as territorial and field-of-use restrictions are lawful when they are contained in patent licenses.

CONCLUSION

For courts to evaluate the competitive consequences of settlements of IP disputes, they must sometimes inquire into the merits of those IP disputes. Because this inquiry is time-consuming and difficult, it threatens to undo many of the benefits of settling the dispute in the first place. As a result, we suggest that courts endeavor to avoid this inquiry whenever possible. They can do this in two basic ways: (1) by concluding that the settlement does not violate the antitrust laws even if the patents are invalid or not infringed, or (2) by concluding that it violates the antitrust laws even if the patents are valid and infringed. Only in a relatively small set of middle cases will the competitive effects of a settlement depend on the merits of the IP case. We categorize settlements in an effort to help courts identify those cases in which a merits inquiry is necessary. While we have focused in this Article on settlements of patent disputes, the same approach may be useful in any case in which the lawfulness of a transaction under the antitrust laws depends on the validity of an uncertain claim to IP ownership. For example, merging parties may claim that the merger is not anticompetitive because one party's patent rights would have prevented competition in any event. The tripartite framework can help cabin the inquiry into

Indeed, the problem is even worse than these cases suggest. Because Hatch-Waxman provides that the first generic drug company to file an ANDA is entitled to six months of generic exclusivity once the patent expires, if the first generic agrees not to actually begin such production it can keep other generics out of the market indefinitely. In *Terazosin*, the infringement defendant also promised that it would obtain the patentee's "permission to market such products once generic competition began." *Id.* Assuming that generic competition would not begin until after expiration of the patent, this provision of the agreement appeared to require one firm to obtain a competitor's permission to enter when no patent was at issue—once again, a per se unlawful market division.

patent validity in such transactions as well.

In the middle set of cases in our taxonomy, courts and antitrust regulators must not shy away from determining the merits of the underlying IP claim. It is true that doing so will raise the costs of the antitrust inquiry, and may undo some of the cost benefits of settlement. But in the cases in which the inquiry will occur under our taxonomy, it is because that inquiry is the only way to determine whether a settlement is pro- or anticompetitive. Since the Chicago revolution, antitrust has embodied a preference for accuracy over ease. A deep investigation of the merits of the case will sometimes be the cost of accuracy.