Patents, Antitrust, and the Rule of Reason

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Introduction

Antitrust's per se rule is applied only to "naked" restraints of trade -- mainly price fixing, market division, and some boycotts, all of which are addressed under section 1 of the Sherman Act.[1] Some antitrust challenges to patent practices involve unilateral exclusionary conduct.[2] Most others are complaints about the competitive effects of various licensing agreements.[3] Many of these are simply contracts negotiated in the technology transfer marketplace, while others are the outcome of patent infringement litigation.

The existence of a license plus the licensee's actual production indicates that the firms are sharing technology and very likely increasing output above that which would occur without licensing. Ignoring the possibility of other restrictive terms, this should indicates that a restraint is not naked but rather ancillary to joint provision of some kind. For example, cross licensing in a large patent pool is typically an effort to compete within a common technology, which is often essential for achieving both competition and interoperability. Other types of patent licenses, such as those given to several local producers to make the patentee's product, are a form of vertical integration. They serve to establish a dealership network for a common product, give dealers incentives to promote the supplier's product, eliminate double marginalization,[4] or simply take advantage of complementarities that

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[1] A per se rule may survive for tying. See 9 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1720 (3d ed. 2011).

[2] *E.g.*, Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 176-180 (1965). See 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 706 (4th ed. 2015) (in press).

[3] A few involve outright transfers. A patent is an asset and is thus subject to § 7 of the Clayton Act, which forbids anticompetitive asset acquisitions. See 5 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1202f (3d ed. 2010).

[4] Double marginalization ("royalty stacking," in the case of IP licenses) occurs when two firms supply complementary inputs to some good, each has some market power, and they do not coordinate their pricing. In that case the sum of the prices charged by each will exceed their combined price

technologies often provide.[5] Such practices are properly treated under the rule of reason, which requires proof of market power and some kind of competitive harm.[6]

A few agreements, such as the one at issue in the Supreme Court's 2013 *Actavis* decision,[7] are not ancillary to any kind of joint production activity or technology sharing. They are simply naked restraints on trade. In *Actavis* a firm with a patent essential to manufacturing a product paid a rival to stay out of that market for a specified period of time. There was no integration of production or sharing of technology. Outside the patent law context such an agreement would be unlawful per se and could even be a criminal violation. As a result, the Supreme Court's decision to apply the rule of reason must have been driven exclusively by considerations of patent law.

Applying antitrust law to agreements involving patents raises several issues. One is whether the practice falls completely within an express authorization of the Patent Act. If so, then antitrust has no place and neither the per se rule nor the rule of reason applies. The rather general language of the antitrust laws yields to the specific permission in the Patent Act. For example, the Patent Act authorizes a patentee, acting unilaterally, to refuse to license its patent to others.[8] As a result, a simple refusal to license is not an antitrust violation.

In contrast, there is one situation in which the antitrust laws are more specific than the Patent Act. Section 3 of the Clayton Act forbids anticompetitive exclusive dealing or tying of goods, "whether patented or unpatented."[9] While Section 261 of the Patent Act authorizes exclusive licenses,[10] an exclusive license is not the same thing as exclusive dealing. An exclusive license operates in favor of the licensee, giving it the right to

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if they were a single entity or could coordinate. See 3B Phillip E. Areeda & Herbert Hovenkamp ¶ 758 (4th ed. 2015, forthcoming).

[5] On these and other advantage of organized networks of independent dealers, see 8 Phillip E. Areeda & Herbert Hovenkamp ¶¶ 1601, 1608, 1611-1619 (3d ed. 2010).

[6] E.g., United States v. Studiengesellschaft Kohle, mbH, 670 F.2d 1122 (D.C. Cir. 1981)

[7] FTC v. Actavis, Inc., 133 S. Ct. 2223 (2013).

[8] 35 U.S.C. § 271(d)(4).

[9] 15 U.S. C. § 14.

[10] See 35 § 261 (patentee may "grant and convey an exclusive right...).

exclude other licensees of the same patent. For example, a licensee who has an exclusive license for the state of Nebraska can exclude any other licensee who attempts to practice the patent in Nebraska. By contrast, exclusive dealing operates *against* the licensee, forbidding it from purchasing and reselling competing goods. For example, a dealer in Alpha's patent product in Nebraska may be forbidden from selling the product of Beta, a rival supplier. Because the Patent Act is silent on exclusive dealing, the Clayton Act provision controls.

When a practice is not authorized by the Patent Act, then general antitrust provisions such as those contained in the Sherman Act should have relatively free rein.[11] This does not mean that practices that are not authorized by the Patent Act are unlawful under the antitrust laws, but only that antitrust is free to impose the analysis it would ordinarily impose. There are good reasons for this presumptive rule. *First*, the Patent Act reflects a long history of producer capture.[12] When a statutory provision that reflects special interest capture is ambiguous, a sound interpretative approach is to construe the statute against the interest group that has shown its ability to control the process. If the courts get it wrong the interest groups involved are in a position to have it changed. If the statute is construed the other way, however, it will very likely never be changed.[13] Historically, whenever courts imposed either antitrust rules or rules about patent scope that were regarded by patenting entities as overly restrictive, Congress amended the Patent Act so as to counter them. For example, the 1952 Patent Act limited what had come to be regarded as overly aggressive claims of patent "misuse."[14] Then again in 1988 Congress made clear that unilateral refusals to license were not unlawful misuse, and that tying arrangements were unlawful only if the defendant had market power in the tying product.[15]

Second, virtually all of the practices at issue occur after a patent has

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[11] *See* discussion *infra*, text at notes __.

[12] HERBERT HOVENKAMP, THE OPENING OF AMERICAN LAW: NEOCLASSICAL LEGAL THOUGHT, 1870-1970, Ch. 10 (2014).

[13] *See* CHRISTINA BOHANNAN & HERBERT HOVENKAMP, CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION 210-212 (2012); Christina Bohannan, *Reclaiming Copyright*, 23 Cardozo Arts & Ent. L.J. 567 (2006); EINER ELHAUGE, STATUTORY DEFAULT RULES: HOW TO INTERPRET UNCLEAR LEGISLATION (2008).

[14] 35 U.S.C. § 271(d).

[15] Id. at§ 271(d)(4 & 5).

been issued. This includes both restricted and unrestricted licensing, pooling, and price fixing. The patent process is characterized by intense government supervision during the patent application and prosecution process, but almost no supervision at all once a patent has been issued. Here we can apply the same set of rules that generally govern antitrust analysis in regulated markets. When markets are intensely regulated and the practice under consideration has been reviewed and supervised by a government official, then there is very little room for antitrust.[16] As a result, antitrust has virtually no role to play in the patent issuance process, not even for the fraudulent or inequitable conduct of a patent applicant in obtaining a patent. The patent system has ample legal authority and resources for policing such conduct.[17] Even antitrust's *Walker Process* doctrine, which recognizes antitrust liability for some improper infringement actions, pertains entirely to post-issuance conduct. That is, the gravamen of a *Walker Process* violation is not "obtaining" a patent fraudulently. Rather, it lies in later enforcing or threatening to enforce a patent that was obtained fraudulently, by inequitable conduct, or where a reasonable person in the patentee's position should have known that the patent was not enforceable under the circumstances.[18] Once a patent has issued it is a personal property asset,[19] and its use is largely in the discretion of the patent owner. This makes antitrust an important and relevant instrument for dealing with allegedly anticompetitive conduct involving issued patents.

Third, antitrust policy has a relatively robust although certainly imperfect tradition of examining the economic effects of practices against the industry in which they occur, at least when they are analyzed under the rule of reason. For example, in a challenge to exclusive dealing a court may consider market structure, the height and nature of entry barriers, the duration of exclusive contracts, the availability of alternative distribution mechanisms, and the like.[20] In sharp contrast, patent law is almost completely indifferent to market specific factors that pertain to patent value and the effects of patent practices. As a general proposition it treats all markets alike and has never developed useable tools for considering how or when a particular practice furthers or restrains competition or -- for that

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[16] *See* 1A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶244b, c (4th ed. 2013).

[17] *See* 3 ANTITRUST LAW, *supra* note __ at ¶ 706.

[18] *Ibid*.

[19] 35 U.S.C. § 261.

[20] 11 HERBERT HOVENKAMP, ANTITRUST LAW ¶1820 (3d ed. 2012).

matter -- even when it furthers or restrains innovation.[21] As a result, the only real tool we have for assessing the effects of a practice insofar as patent law is concerned is the explicit language of the Patent Act.

To be sure, factors such as high fixed costs, restricted entry, nonrivalrousness, product differentiation and other things that are characteristic of patent licenses may play an important role in assessing the effects of a patent practice on innovation, which is the appropriate concern of patent law. For example, knowing the market share of pool members or something about the availability of alternative technologies or the way information flows in a certain industry may be important tools for assessing innovation effects. The need for interconnectivity or product complementarity may also serve to explain the value of joint innovation or information sharing. But these are *antitrust* tools, derived from industrial organization economics. Patent law has no equivalent tool set for assessing either the competitive effects of the innovation effects of specific post-issuance patent practices.

The balance of this essay considers practices that are not expressly authorized by the Patent Act and might be made subject to antitrust scrutiny. It considers (1) the significance of adversity among the parties to patent settlements; (2) the "scope of the patent" test for patent/antitrust practices that was favored by the *Actavis* dissenters but rejected by the majority; (3) the relevance of pre- vs. post-issuance patent conduct in determining antitrust immunity; and (4) proper application of the rule of reason, considering whether the antitrust tribunal must address questions of patent validity or scope (infringement) or, relatedly, patent quality; and the relevance of less restrictive alternatives.

Patent Settlements and True Adversity

In most lawsuits parties settle when each has some prospect of winning or losing. The settlement discounts these probabilities into a certain agreement immediately rather than an uncertain outcome later. The classic patent infringement lawsuit settled by a production license is a good example. Under the settlement agreement the infringement defendant becomes a producing licensee. The relative strength of the infringement claim appears mainly in the size of the agreed upon royalty, although it can also show up in other provisions such as the extent of geographical or other

[21] *See* Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination* (working paper, 2014)

output limitations. In general, the more likely the patent was valid and infringed, the higher the royalty payment will be or the more restrictive the license terms.[22]

One problem with pay-for-delay pharmaceutical patent infringement suits that originate under the Hatch-Waxman Act is that the statutory structure serves to limit or even eliminate adversity between the patentee and the generic infringer. Under the Act a generic firm commits patent infringement when it files an abbreviated new drug application (ANDA) for a biological equivalent to a pioneer drug and the relevant patent has not yet expired. The significance of the "abbreviated" application is that, because the drug is bioequivalent to a drug that has already undergone comprehensive FDA testing, most of that testing need not be repeated. At the time the generic files its ANDA, the pioneer patent holder can either acquiesce and permit the generic to produce or else file a patent infringement action. The Act provides that once the generic begins producing under this ANDA, it will have a 180 day period of exclusivity, during which time no other generics can enter the market.[23]

The Hatch-Waxman statutory mechanism contemplated that the generic would begin production after pioneer acquiescence, or upon winning the infringement lawsuit or settling with a production license. However, If the parties settle by agreeing that the generic will delay entry for a specified period in exchange for a payment from the patentee, production will not begin until perhaps several years in the future. As a result the clock does not run on the generic exclusivity provision. Under a pay for delay settlement both parties will be better off than they would be under generic entry and production. Further, the less certain the quality of the patent the less adversity there will be on this issue. True adversity would exist, however, if the pioneer believes the patent is strong and will thus litigate the infringement case to a conclusion or else pay a relatively small sum reflecting avoided litigation costs.

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[22] See e.g. Asahi glass Co., Ltd. v. Pentech Pharma., Inc., 289 F.Supp.2d 986, 992 (N.D.Ill. 2003) (low royalty suggested weak patent).

[23] *See* 21 U.S.C. § 355(j)(5)(B)(iv). The Supreme Court described the process briefly in FTC v. Actavis, Inc. 133 S. Ct. 2223, 2228 (2013). *See also* Herbert Hovenkamp, *Anticompetitive Patent Settlements and the Supreme Court's Actavis Decision*, 15 Minn. J.L. Sci. & Tech. 3, 15-16 (2014); 12 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2046c (3d ed. 2012); C. Scott Hemphill & Mark A. Lemley, *Earning Exclusivity: Generic Drug Incentives and the Hatch-Waxman Act*, 77 Antitrust L.J. 947, 952 (2011).

Prescription drug prices drop when generic entry occurs, often quickly and dramatically.[24] Significantly, the joint profits available to the pioneer plus the generic in this setting will almost always be much less than the profits that the pioneer alone was earning when it was the only firm in the market. In many cases the price of the pioneer alone actually increases, while the price of the generic is much lower, but this is generally accompanied by a significant loss of market share by the pioneer. That is, generic entry sometimes creates segmented markets in which a relatively small group of people continue to pay a high price for the pioneer version, while the larger balance of the market moves to the generic at a much lower price.[25]

Prior to generic entry the pioneer was setting its profit-maximizing output and price. The parties could attain similar profits after generic entry occurs only by fixing prices. The price and output set by a perfect cartel of an undifferentiated product (such as bioequivalent drugs) is the same as the monopoly price and output.[26] But that would be unlawful per se. If the generic and competitor do not fix prices output will increase and prices will drop. The extent of the price reduction is magnified by the fact that, while development costs for drugs are high, manufacturing costs are relatively low. As a result, price-cost margins are typically very high just prior to generic entry, leaving a great deal of room for the parties operating under competitive constraints to cut the price.

What Congress did not foresee is that this situation creates an opportunity that is well known in the history of collusion: sharing the

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[24] *See, e.g.,* Luke M. Olson & Brett W. Wendling, *The Effect of Generic Drug Competition on Generic Drug Prices During the hatch-Waxman 180-Day Exclusivity Period* (FTC Working Paper # 317, April 2013), available at *http://www.ftc.gov/sites/default/files/documents/reports/estimating-effect-entry-generic-drug-prices-using-hatch-waxman-exclusivity/wp317.pdf*; Rena M Conti & Ernst R. Berndt, *Specialty Drug Prices and Utilization After Loss of U.S. Patent Exclusivity, 2001-2007* (NBER Working Paper #20016, March 2014), available at *http://www.nber.org/papers/w20016*.

[25] See Henry Grabowski, et al., *Recent Trends in Brand-name and Generic Drug Competition*, 2013 J. MEDICAL ECONOMICS 1-B, available at *http://fds.duke.edu/db/attachment/2575* (for drugs in studied sample, pioneer retained only 16% of the market one year after generic entry).

[26] *See* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE, § 4.1 (4th ed. 2011) .

monopoly profit is a better outcome for the cartel players, no matter how little or how much each of them produces. The only trick is to make the cartel legal. For example, suppose that under the pioneer's original monopoly its profits are 100, while under generic entry the price will drop and the aggregate profits of the two firms will go down to 60 -- say, 40 to the pioneer and 20 to the generic. *Any* output allocation that tends to preserve the 100 in profits can be profitable for both parties, including one in which the generic firm produces nothing at all. For example, the pioneer might pay the generic 30 to stay out of the market, retaining 70 to itself. The payment that the generic receives is more profitable than anything it could reasonably expect to earn by producing, and the pioneer is better off as well.[27] This outcome is no different than what would happen if a dominant firm bought out its only rival and shut it down, except that in this case the duration of the shutdown is limited. The history of cartels has seen instances when cartel members have compensated one of those among them for a complete shutdown.[28]

The cartel is especially profitable In this case because government regulation provides the entry barrier that virtually guarantees its success. Under the Hatch-Waxman Act no one else can challenge the patent in question until 180 days after the generic begins producing, which will not occur until after the agreement terminates. To the extent that the pioneer

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[27]See Ruben Jacobo-Rubio, et. al., *Generic Entry, Pay-for-Delay Settlements, and the Distribution of Surplus in the US Pharmaceutical Industry* (SSRN Working Paper, Aug. 13, 2014), available at *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2481908* (measuring high value of pay-for-delay settlements). One important finding is that brands value entry deterrence by roughly $4.6 billion, while generics value the right to enter at about $236.8 million. This provides enormous bargaining room for an exclusion payment once the parties have come fairly close to an understanding about patent value.

[28]This is true because the cartel needs to reduce output, and the most profitable output reduction gets rid of the highest cost output. As a result, it may be more profitable to compensate a high cost member for shutting down than to retain part of its production. For examples, *see* Henry Carter Adams, *Relation of the State to Industrial Action*, 1 PUB. AM.ECON.ASSN. 472 (1887) (describing one such incident in a grain elevator cartel); JEFFREY R. FEAR, ORGANIZING CONTROL: AUGUST THYSSEN AND THE CONSTRUCTION OF GERMAN CORPORATE MANAGEMENT 255 (2005) (describing similar shutdowns within German steel cartels). See HOVENKAMP, FEDERAL ANTITRUST POLICY, *supra* note ___, § 4.1c.

drug defines a market, the parties will have achieved a cartel protected from entry for the duration of the settlement agreement.

One of the reasons for lack of adversity in this institutional setting is that the parties can trade the size of the payment and the generic's entry date against each other -- a larger payment to the generic in exchange for a later entry date. As noted below, under the *Actavis'* dissenters' "scope of the patent" test, if any date prior to patent expiration is within the scope of the patent, the equilibrium entry point for the generic will be one millisecond prior to the expiration of the patent.[29] That will maximize the value of the monopoly period, and give the participants the largest amount to share. By contrast, as noted later, fixing the entry date without any payments to the generic preserves adversity and creates a "less restrictive alternative" that can serve to validate the license agreement under the antitrust laws.[30]

The "Scope of the Patent" and Vertical Integration

The "scope of the patent" test is built on the premise that the patent creates a black box that is free from antitrust scrutiny, provided that the challenged conduct stays inside the box. A practice that reaches outside is beyond the scope of the patent, but that does not necessarily mean that it is an antitrust violation. Rather, the practice can then be subjected to antitrust analysis. For example, a field-of-use restriction, which limits uses that a licensee can make of the patent or the class of customers to whom a licensed product can be sold, reaches "beyond the scope" of the patent. The Patent Act does not explicitly authorize such restrictions. Nevertheless, they are assessed under the rule of reason, and most are legal under the antitrust laws.[31]

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[29]See Aaron S. Edlin, C. Scott Hemphill, Herbert Hovenkamp, & Carl Shapiro, Actavis *and Error Costs*, ANTITRUST SOURCE (Oct. 2014) (in press), currently available at

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2448530.

[30] *See* discussion *infra*, text at notes __.

[31] E.g., Gen. Talking Pictures Corp. v. W. Elec. Co., 304 U.S. 175, aff'd on reh'g, 305 U.S. 124 (1938) (approving patentee's restriction limiting one set of manufactuers to commercial use and another to residential use); Benger Labs. Ltd. v. R.K. Laros Co., 209 F. Supp. 639 (E.D. Pa. 1962), aff'd per curiam, 317 F.2d 455 (3d Cir.), cert. denied, 375 U.S. 833 (1963) (similar); B. Braun Med. v. Abbott Labs, 124 F.3d 1419 (Fed. Cir. 1997) (field-of-use restriction to be evaluated under rule of reason);

In *Actavis* the defendant was accused of violating the antitrust laws by paying the patent infringement defendant to stay away from the market for a period of time that was shorter than the remaining duration of the patent. Two things are noteworthy about this agreement. First, if the patent were both valid and infringed, then the pay-for-delay agreement that permits the generic to enter prior to the patent's expiration is no more exclusionary than the result if the patent were found to be valid and infringed. If that should happen the rival would have to stay out of the market for the entire duration of the patent's remaining term. So the restraint was within the scope of the patent. Second, however, paying a rival to stay out of one's market without any kind of license involving production or joint integration is a naked restraint on trade and a practice that is not authorized by any provision in the Patent Act.

For the *Actavis* dissenters the "precise terms of the grant define the limits of a patentee's monopoly and the area in which the patentee is freed from competition."[32] This statement suggests a degree of clarity about the meaning of "scope of the patent" that belies the ambiguity in the case law. The Eleventh Circuit had defined "scope" in reference to patent duration, indicating that a pay-for-delay settlement that kept the generic out indefinitely, or for some period beyond the patent's expiration, would be beyond the scope of the patent.[33] Justice Breyer's opinion for the Court interpreted "scope of the patent" to be a reference to the patent's duration.[34] That is apparently what Chief Justice Roberts meant as well, although he was not as explicit. Of course, the patentee in *Actavis* was not simply practicing the patent for its duration and refusing to license; it was also paying someone else not to challenge in a legal environment that made it impossible for anyone to challenge the patent either.

The "scope of the patent" formulation is meant to identify restraints imposed upon someone other than the patentee that reach beyond the explicit set of rights conveyed by the patent. An agreement that reaches beyond the patent's expiration does that.[35] Many of the early cases

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[32] *Actavis*, 133 S.Ct. at 2238, quoting United States v. Line Material co., 333 U.S. 287, 300 (1948).

[33] *See* F.T.C. v. Watson Pharmaceuticals, Inc., 677 F.3d 1298, 1311, 1315 (11th Cir. 2012).

[34] See *Actavis*, 133 S.Ct. at 2227 ("since the alleged infringer's promise not to enter the patentee's market expired before the patent's term ended, the Circuit found the agreement legal and dismissed the FTC complaint").

[35] The Supreme Court established this proposition in Brulotte v. Thys,

involving patent ties used "beyond the scope" language to the effect that the patentee was attempting to "leverage" the power of the patent beyond its intended scope to things that were not covered by the patent -- for example, by insisting that licensees of a patented movie projector use only the patentee's unpatented films.[36] The Court wrote at some length on the "beyond the scope" formulation in *Ethyl*, holding that the patentee of a gasoline antiknock additive could not use its sales agreements to specify the price at which the gasoline was to be sold.[37] It also divided on the issue eight years later in *Line Material*. The majority condemned a product price fixing scheme contained in patent cross licenses and sublicenses. Three dissenting Justices objected that the scheme did not reach "beyond the scope of the statutory patent rights," because a single patentee would have been legally able to set the product price in any event. [38]

"Scope of the patent" formulations become severely indeterminate when we compare patent use by vertically integrated vs. unintegrated firms. For example, a vertically integrated patentee might engage in "tying" internally and stay completely within the scope of the patent. Suppose that Edison Films made movies and then invented and patented a superior projector for showing them. Today it could lawfully refuse to license the projector to anyone else.[39] In that case the projector would be an upstream

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379 U.S. 29 (1964), which condemned an arrangement calling for the payment of what a contract deemed "royalties" that lasted past the expiration of the patent. The case has been widely criticized. See HERBERT HOVENKAMP, MARK D. JANIS, MARK A. LEMLEY, AND CHRISTOPHER LESLIE, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW § 23.2 (2d ed. 2010 & 2014 Supp).

[36]Motion Pictures Patents Co. v. Universal film Mfg. Co., 243 U.S. 502, 517 (1917) (tying of patented projector to unpatented films was an attempt to extend power "wholly without the scope of the patent monopoly). *See also* Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661, 665-666 (1944) ("acquire a monopoly which is not plainly within the terms of the grant"); Carbice Corp. of Am. v. Am. Patents Dev. Corp., 283 U.S. 27, 32 (1931) (tying of patented ice box to unpatentable dry ice: "[c]ontrol over the supply of such unpatented material is beyond the scope of the patentee's monopoly").

[37]Ethyl Gasoline corp. v. United States, 309 U.S. 436, 455-459 (1940).

[38]United States v. Line Material Co., 333 U.S. 287, 354 (1948) (Burton, jj., dissenting).

[39] 35 U.S. § 271 (d) (4).

component in Edison's process and using it to show its own films would clearly be within the scope of the patent. Section 3 of the Clayton Act tracks this outcome, condemning anticompetitive patent ties but not internal production that uses two inputs together.[40]

Another example is resale price maintenance. When RPM was unlawul per se,[41] the Supreme Court consistently condemned or refused to enforce resale price maintenance agreements contained in patent licenses.[42] Such agreements would appear to fall "within the scope" of the patent, however, because if the patentee sold the goods directly to consumers itself, it could charge any price it pleased. So why cannot it assign another the right to sell the product but retain its price setting authority? It is also noteworthy that in neither the tying nor the RPM cases did the courts consider relevant whether the practice extended beyond the expiration date of the patent. These practices were deemed to be unlawful or unenforceable from the moment they were created. Indeed, the doctrine of patent "misuse" was invented in tying cases where the premise was that the patent was otherwise in force.[43] By the same token, both *Ethyl* and *Line Material*, mentioned above, involved a practice -- setting the output price -- that a patentee could lawfully have done had it made the entire product itself, using the patent internally but refusing to license it to anyone else.

The "scope of the patent test" as the courts have interpreted it apparently means that a patentee may lawfully do something internally, such as using two products together or setting a retail price, but that this same activity steps outside of the scope of the patent as soon as the patenteet attempts to assign part of the activity to someone else. In that case, however, it is hardly clear that the pay-for-delay settlement is within the scope of the patent. The patentee was not merely manufacturing under

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[40] 15 U.S. § 14.

[41] RPM was made unlawful per se by Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373 (1911), but was placed under the rule of reason in Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

[42] United States v. Univis Lens Co., 316 U.S. 241 (1942); Ethyl Gasoline Corp. v. United States, 309 U.S. 436 (1940). The exception was when the dealers were mere agents who did not take title, rather than resellers. E.g., United States v. General Electric Co., 272 U.S. 476 (1926).

[43] On misuse, see 10 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶ 1781-1782 (3d ed. 2012); Christina Bohannan, *IP Misuse as Foreclosure*, 96 IOWA L. REV. (2011).

its patent but also paying a rival to stay out of the market. There was no integration of distribution between the parties, as there is in most tying or RPM cases, but that would seem to cut against rather than in favor of the practice.

An alternative and more useful meaning of the "beyond the scope" formulation considers whether the practice in question was or was not authorized by the Patent Act. In *Line Material* the Supreme Court defined the "limits of the patent monopoly" by observing that "[n]othing in the patent statute specifically gives a right to fix the price at which a licensee may vend the patented article."[44] The *Actavis* majority adopted this formulation. Justice Breyer noted that nothing in the Patent Act authorized the pay-for-delay scheme in question.[45] Later, he observed that "[t]he dissent does not identify any patent statute that it understands to grant such a right to a patentee, whether expressly or by fair implication."[46]

This meaning of "beyond the scope" is much more consistent with the ordinary usage of that term. For example, while the legal rights flowing from real property ownership are substantial, they do not permit murder or theft as long as it occurs only within the property's boundaries. Rather, the proper scope of property rights is determined by looking at a large body of law in addition to the metes and bounds of a deed as determining what the owner can and cannot do. In addition, the courts have often spoken of things not expressly covered by a statute as being beyond its scope.[47]

Patentees are not explicitly authorized to fix product prices, divide territories with respect to products (as opposed to licenses themselves), engage in exclusive dealing, or charge discriminatory royalties. On the one hand, if a patentee refuses to license to others, then it is free to set the product price, produce wherever it wants, use only its own complementary products, and so on. As a result, the "scope of the patent: test immunizes a

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[44] United States v. Line Material Co., 333 U.S. 287, 310-311 (1948).

[45] *Actavis*, 133 S.Ct. at 2231, quoting Line Material, 333 U.S. at 311.

[46] *Actavis*, 133 S.Ct. at 2233.

[47] E.g., Food and Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000) (cigarette coverage beyond the scope of Food and Drug Act); In re Placid Oil co., 753 f.3d 151 (5th Cir. 2014) (bankrupt's claims extended beyond the scope of statute); City of Brighton v. Rodriguez, 318 P.3d 496 (2014) (divided court debating whether decision on entitlement to receive worker's compensation extended beyond the scope of the statute).

great deal if our meaning is that the patentee is free to achieve through concerted activity whatever the Patent Act permits it to achieve alone. This concept of immunity stretches far beyond anything the courts have actually recognized.[48] It immunizes far less, however, if it reaches only those activities that are authorized by the patent.

Finally, an often debilitating problem with the "scope of the patent" test formulated as the *Actavis* dissenters did is that it makes questions about patent validity or scope essential to the analysis of the challenged practice. In the context of patent settlements this entails that the very questions that the parties were seeking to avoid come right back in. For example, a pay-for-delay settlement that terminates prior to expiration of the patent is no more restrictive than a court finding of validity and infringement, which will exclude the generic from the market in any event. The parties to a patent infringement dispute settle in order to avoid answer these difficult questions. Serious judicial consideration of the settlement agreement, however, requires that they be assessed in any event. Or to say it differently, we cannot evaluate the settlement without determining the very issues that the parties sought to avoid litigating about in the first place. Recognizing that this is absurd, the courts generally resort to something far less -- holding, for example, that the settlement will be approved unless the patent is "obviously" invalid or very weak.[49]

As a result, the *Actavis* majority quite properly observed that courts should be able to evaluate settlements in at least some cases without addressing issues of patent validity or infringement. In many cases where the settlement includes a practice that is not authorized by the Patent Act, the practice can be evaluated without considering questions of validity or scope.[50]. Most patent infringement disputes are settled by license agreements, sometimes accompanied by territorial or field-of-use restrictions.[51] Most are thus either explicitly authorized by the Patent Act and exempt from antitrust scrutiny, or else they are treated under the rule of reason. Product price fixing and market division in the product market as opposed to the licensing market are not authorized and should be assessed under ordinary antitrust rules that do not require an assessment of patent validity or infringement.

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[48] *See* discussion *supra*, text at notes ___.

[49] E.g. Asahi glass Co., Ltd. v. Pentech Pharma., Inc., 289 F.Supp.2d 986, 992 (N.D.Ill. 2003).

[50] *See* discussion *infra*, text at notes ___.

[51] See 12 HERBERT HOVENKAMP, ANTITRUST LAW ¶2046 (3d ed. 2012).

Antitrust Immunity: Pre- vs. Post-Issuance Conduct

The "scope of the patent" test for determining antitrust immunity reflects an approach to antitrust in regulated industries that is no longer used. It comes out of a period when regulatory law immunized everything that was "pervasively" controlled by a regulatory authority. Once a court concluded that an area was pervasively regulated, or inside the box, then pretty much everything within that particular regulatory enterprise was regarded as immune from antitrust scrutiny.[52] The patent system is a form of regulation and must be treated accordingly.

Today we take a more finessed approach to antitrust problems in regulated markets, querying whether the regulator actually authorized the specific practice that is under antitrust scrutiny. This approach looks at the particular conduct being challenged under the antitrust laws, rather than providing a blanket exemption for everything inside the box. As the Supreme Court has observed:

> To be sure, where Congress did intend to repeal the antitrust laws, that intent governs,…but this intent must be clear. Even when an industry is regulated substantially, this does not necessarily evidence an intent to repeal the antitrust laws with respect to every action taken within the industry….Intent to repeal the antitrust laws is much clearer when a regulatory agency has been empowered to authorize or require the type of conduct under antitrust challenge.[53]

Or as the Court rephrased the issue in *Trinko*, the question is whether the government's oversight of the particular challenged practice made it an "effective steward of the antitrust function. [54]

In this respect, the patent system divides the territory rather cleanly, providing a great deal of government supervision during the patent application and prosecution process, but almost no supervision at all after

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[52]*E.g.*, Hughes Tool Co. v. TWA, Inc., 409 U.S. 363 (1973); Pan Am World Airways, Inc. v. United States, 371 U.S. 296 (1963). *See* 1A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶244b, c (4th ed. 2013).

[53]Nat'l Gerimedical Hosp. v. Blue Cross, 452 U.S. 378, 389 (1981).

[54]Verizon Commc'ns, Inc. v. Law Offices of Curtis Trinko, LLP, 540 U.S. 398, 413 (2004) (Scalia, J., writing for majority).

the patent has been issued. One important limitation under this approach is that practices that are *explicitly* required or authorized by the government are immune whether or not they are supervised. For example, a federal statute requires all new cars manufactured in America to be equipped with seatbelts prior to sale.[55] As a result, an automobile manufacturer cannot be convicted of unlawful tying under the antitrust laws when it refuses to sell an automobile without a seatbelt. This conduct does not require supervision, but only prosecution of violators.

The Patent Act itself contains several many express authorizations that free the authorized practices from antitrust scrutiny. It authorizes the patentee to license its patent, including the issuance of exclusive licenses, and even those that are restricted to a territory within the United States. [56] As a result, a domestic territorial restriction is not reachable under the antitrust laws. The Patent Act also explicitly authorizes a patentee, acting unilaterally, to refuse to license its patent to others,[57] so unilateral refusals to license are not antitrust violations. The Act permits tying, provided that the patentee does not have market power in the tying product.[58]

But when a patentee makes use of a patent in a way that the Patent Act does not authorize, then antitrust can be brought to bear. This does not mean that the presence of a patent or a patent issue is irrelevant. Antitrust law is properly quite sensitive to questions about how patents function in the market, and what the purpose or effects of a particular practice are likely to be. In fact, here antitrust law has a distinct advantage over patent law, which is largely indifferent to such questions and has not developed useable litigation tools for addressing them.[59]

In this respect antitrust law can be a serious aide to patent law, providing analysis of patent function and diverse effect that is completely

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[55] 49 U.S.C. § 30127 (2012). *See* 2A AREEDA & HOVENKAMP, *supra* note __, ¶¶ 242a, 243b2.

[56] 35 U.S.C. § 261.

[57] 35 U.S.C. § 271(d)(4).

[58] 35 U.S.C. § 271(d)(5).

[59] See Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination* (SSRN working paper, August 25, 2014), available at *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2486633*; Herbert Hovenkamp, *Institutional Advantage in Competition and Innovation Policy*, 2013 CONCURRENCES 27 (2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2307141

absent from patent law. the fact is that antitrust law has always tried hard to accommodate patent law -- indeed, over history it has been fairly obsessed with the issue of making patents fit into its rules about competition. It is precisely because antitrust *has* rules about how markets should perform that it does so.

By contrast, patent law has never accommodated antitrust concerns or, for the most part, even considered them to be relevant. A good recent example is the Federal Circuit's decision in Trebro Mfg., Inc. v. FireFly Equipment.[60] The patentee was a dominant firm in a market with a small number of sellers. It acquired from an outside inventor a patent on a technology that was an alternative to the technology it was actually using. However, it continued to use its established technology, so the acquired patent was unused. When a competitor entered the market with a machine that infringed on the dominant firm's unused patent, the Federal Circuit allowed an injunction. Subsequent to the Supreme Court's *eBay* decision injunctions for patent infringement are not a matter of right, and the courts have been generally disinclined to grant injunctions on unused patents.[61] The Federal Circuit made a distinction in this case, however. While the patentee was not using the infringed patent, it was an actual participant in the product market and thus was injured by the infringement defendant's entry into the market.

In this case the Federal Circuit made patent law in complete disregard of competition policy. Indeed, the amount of harm to competition brought about by the injunction was substantial. Further, the court's rule did nothing to further innovation because the acquired patent was already invented before the patentee acquired it, and was not even valuable enough to the acquirer that it actually used the technology it controlled.[62] The only effect of the patent in this case was to remove technology from the market

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[60] 748 F.3d 1159 (Fed. cir. 2014).

[61] eBay, Inc. v. MercExchange, LLC, 547 U.S. 388 (2006). On non-practicing entities and general lack of entitlement to an injunction, see Erik N. Hovenkamp and Thomas F. Cotter, ANTICOMPETITIVE INJUNCTIONS, UNPROTECTED MARKET ENTRY, AND DIAGONAL INTEGRATION IN PATENT DISPUTES (SSRN Working paper, August 10, 2014); Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 9-11 (2013).

[62] Elaborating this point very forcefully is Hovenkamp and Cotter, *Anticompetitive Injunctions*, supra note __.

rather than permits its deployment. Nearly four decades ago the Supreme Court held in *Brunswick* that one cannot use antitrust law to complain about more, rather than less, competition in the market.[63] That decision fostered a revolution in antitrust that required plaintiffs to link their theory of harm to the underlying goals of antitrust law. For patent law, that road is as yet untaken.[64]

Applying Antitrust's Rule of Reason to Patent Practices

When a post-issuance practice is neither compelled nor expressly permitted by the patent laws it should be subject to antitrust scrutiny. This hardly means that the presence of patents is irrelevant, but it does mean that antitrust's more empirical, market-focused tools should be brought to bear. This section addresses two issues. First, when must the antitrust Court inquire into patent validity or scope? Second, does the involvement of a patent suggest significant deviations from the ordinary antitrust rule of reason requirements of proof of market power and anticompetitive effects?

Inquiries into Patent Validity or Scope: Less Restrictive Alternatives

Under the rule of reason, when market power is present and overall effects on competition and efficiency are ambiguous, less restrictive alternatives become important.[65] Both competitive harm and efficiencies can be difficult to impossible to prove in practice. This makes it important for courts to inquire whether benefits could be attained by means of a less restrictive alternative. In patent/antitrust cases this inquiry often makes it unnecessary to determine whether a patent is invalid or infringed. If competitive harm can be avoided with a less restrictive alternative that attains the same legitimate goals, then the existing arrangement can be condemned without inquiries into patent quality. As a result, "less restrictive alternative" analysis is crucial under antitrust rule of reason analysis when competitive threats are real but an alternative is available that is less threatening to competition and achieves any results to which the participants are reasonably entitled.

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[63] Brunswick corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477 (1977).

[64] Developing this point is BOHANNAN & HOVENKAMP, CREATION WITHOUT RESTRAINT, supra note __ at 33-59.

[65] *See* 7 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶1505b (3d ed. 2011).

For example, consider patent license agreements that fix product prices. Parties to a patent dispute have a strong motive to engage in price fixing, provided that market conditions permit it. The price fix can compensate the patentee with higher returns. Further, the availability of product price fixing gives the parties to an infringement dispute a highly favorable joint maximizing position that serves to limit adversity between them.[66] Further, if the price fix lasts no longer than the duration of the patent, then it is no more harmful to customers than a patentee's simple solo production under its patent, which will also produce the monopoly price. As a result a product price fix of limited duration survives the "scope of the patent" test previously discussed.

On the other hand, while license prices have to be determined by the parties, product prices do not. Further, nothing in the Patent Act authorizes product price fixing. A product price fix contained in a patent license agreement might be a cover for a dubious patent, as Judge Posner suggested in the *Asahi Glass* case.[67] Firms wishing to fix product prices might identify some relatively weak or useless patent and then place the price fix into a license agreement. If the license operated as a full legal shield we could expect a great many of these. But assessing such an agreement would require an inquiry into patent validity or strength.

In fact, however, the competitive consequences of product price fixing through a patent license has little to do with patent *validity*. The more relevant question is patent *value*. An invalid patent certainly has no value once it has been established as invalid. But many perfectly valid patents have little value for the simple reason that they add little to a licensee's technology or there are alternative patents or technological routes that serve the same purpose.

As a general matter, patents are worth much less than the value of cartel formation in an existing industry. An assortment of empirical studies have suggested that cartel markups in industries prone to collusion run in the range of 20% to 40% over the pre-cartel price.[68] By contrast, average

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[66] *See* discussion *supra*, text at notes __.

[67] Asahi glass Co., Ltd. v. Pentech Pharma., Inc., 289 F.Supp.2d 986, 992 (N.D.Ill. 2003).

[68] *See* Florian Smuda, *Cartel Overcharges and the Deterrence Effect of EU Competition Law (*Centre for European Economic Research, 2012), *available at* http://ftp.zew.de/pub/zew-docs/dp/dp12050.pdf; John M. Connor and C. Gustav Helmers, *Statistics on Modern Private International*

royalty rates on licensed patents run in a range of 1% to 6% of the wholesale product price. One study found the median rate to be about 3%.[69] Significantly, licensed patents that are subject to these royalty rates are assumed to be valid and also practiced (infringed) by the licensees. Indeed, only a small percentage of patents are licensed -- as few as 3-4% by some estimates -- and these patents are generally regarded as more valuable than the vast majority that are not licensed.[70]

In sum, a rule invalidating a product price fix only if the patent is likely to be invalid does not adequately address the problem. Even a relatively strong patent is likely to claim a royalty that is much smaller than the typical returns to price fixing. When that is the case, then the parties are attributing to the patent the entire monopoly markup value of a cartel in the market in question -- a value that is rarely conferred by even relatively strong patents.

These facts suggest a couple of things. First, the markup that results from product price fixing can be much greater than any markup that results from patent licensing alone, even if we assume that the patents in question are valid. Second, in the settlement context a judicial determination of patent *validity* is not adequate for assessing this problem. The patent could be perfectly valid but worth very little to the licensee, or at least worth only a small fraction of the markup contained in the product price fix.

Realistically, in order to determine the harmfulness of the price fix we would have to determine the patent's value to licensees. This means an inquiry into validity, infringement, and licensing value. We would then have to compare that value with the observed cartel markup. Answering these question is likely to be monumentally difficult, and we would not likely have a great deal of confidence in the answers. In addition, it means that assessment of a product price fix contained in a settlement agreement would be even more complex than the patent infringement suit that was

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Cartels, 1990-2005 (Purdue Economics Working Paper, 2006), http://www.agecon.purdue.edu/working_papers/workingpaper.connor.11.10.06.pdf.

[69] Mariko Sakikibara, *An Empirical Analysis of Pricing in Patent Licensing Contracts* 12 (working paper, Anderson Graduate School of Management, UCLA, 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1515163.

[70] *See* Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1504 (2001).

settled. That lawsuit would address questions of validity and infringement, but not of patent value.

But in this case the availability of a less restrictive alternative enables the tribunal to avoid more difficult inquiries. Questions about patent validity, scope, and market value can be completely discounted into the terms of a patent license agreement that sets the terms of the license fee, without specifying anything about the product price. If the patent is likely to be invalid, or uninfringed, or if it is not valuable to the licensee because reasonable alternatives exist, then the licensee will not pay very much for the license. By contrast, if the patent scores high on all these points, the outcome will be reflected in a higher license fee. With respect to the license fee itself the parties have complete adversity across all three elements of patent validity, infringement, and value. The licensee wants a lower fee and the patentee wants a higher one.

Rule of reason analysis of pay-for-delay settlements is similar. In a pay-for-delay settlement agreement such as the one the Supreme Court analyzed in *Actavis*, the parties bargained along two vectors: the generic entry date and the size of the payment from the pioneer to the generic. The entry date establishes the size of the monopoly pie, and the size of the payment represents how the pie is to be divided up. Being able to bargain along these two vectors simultaneously enables the parties to select an entry date as remote as the antitrust authorities will accept, thus maximizing the overall size of the gains, and then bargain over the size of the payment in order to resolve issues about patent validity, risk aversion, and anticipated litigation costs. The parties have no significant adversity on the question of entry date: the longer the delay the better, provided that they keep it short of patent expiration. They do have adversity over the size and terms of the payment, with weaker patents resulting in higher payments to the generic. In this case, however, even if the two parties privately conceded that the patent is completely worthless, they would still have every incentive to bargain for the remote entry date, but the generic would insist on a very high pay-for-delay price. The equilibrium entry date would be as close as possible to the patent expiration date, and consumers would be heavy losers, no matter the strength of the patent.

In this case a less restrictive alternative is available as well: we can permit the parties to bargain over the entry date, but without a side payment. Such a bargain provides all of the value that the parties are entitled to but without the additional consumer harm caused by an unnecessarily anticompetitive agreement. The parties are still able to consider patent

strength, anticipated litigation costs, and degree of risk aversion. If the parties believe that the patent is strong the outcome may still be one that sets a generic entry date relatively close to the expiration of the patent, but in that case the duration of the agreement will have been determined by considerations of patent strength rather than joint maximization of a monopoly profit stream without regard to patent strength. If the parties' joint assessment is that the patent is weak, they can either bargain for an early entry date or else the generic will refuse to bargain and litigate to the end. By the same token, if the patentee believes that its patent is valid but is risk averse, it can trade away uncertainty over the litigation outcome against the certainty of an assured entry date. The parties can also take reasonably anticipated litigation costs and duration into effect, although the *Actavis* decision permits a payment sufficient to cover expected litigation costs in any event.[71]

The parties to a settlement agreement without a payment for delay have complete adversity on all elements of their bargain. The pioneer wants to delay entry as long as possible, while the generic, not having a side payment as an alternative, will want to obtain entry as quickly as possible. Just as in the case of product price fixing, resolving a Hatch-Waxman suit in this fashion does not require an inquiry into patent validity.

Anticompetitive Practices as Appropriate Returns to Patenting?

Product price fixing in patent licenses and pay-for-delay settlements of pharma patent disputes both serve to increase the returns to patents. The other side of course is that antitrust rules limiting these practices serve to reduce those returns. One argument against antitrust rules of this sort is that by reducing the returns to patenting they also reduce the incentive to innovate. If a patent could reasonably claim a royalty of 3% but a product cartel of that patent's users could exact a 30% markup, then the returns to that patent are higher and there would be more incentive to innovate. By the same token a large pay-for-delay settlement increases returns to that patent by building an impregnable legal wall around it for the settlement term, without protecting it from invalidity challenges.

One response to this complaint is that patents are tradeable goods, and the price that a buyer is willing to pay can be trusted to reflect that patent's innovation value. Product price fixing cartels obtain high royalties

[71] *Actavis*,133 S.Ct. at 2236 (citing "avoided litigation costs" as legitimate grounds for settlement).

by giving the patent an effective value equal to the entire monopoly markup for that particular product. If a patent would command a royalty of 3% but yields a 35% product overcharge if licensed along with a product price-fix, then this particular patent is commanding much more than its market determined innovation value. Overvalued patents can cause just as much deadweight loss as undervalued ones.

Economically, the pay-for-delay settlement operates in much the same way as the product price fix, permitting the parties to obtain the full cartel value until the settlement terminates. The outcome is about the same as one in which the generic entered but the pioneer and generic then fixed product prices.[72] The principal gains to the patentee result from the settlement's lengthening of the effective patent term. Most large pay-for-delay settlements involve extension (evergreened) patents rather than original primary molecules. The failure rate on these extension patents is far higher than on pioneer molecule patents,[73] but Hatch-Waxman gives the parties the same protection that would occur if the patent were ironclad.

So is the effective lengthening of the patent term that a pay-for-delay settlement provides a reasonable return to patenting? While longer patent terms are worth more than shorter ones, the difference is less than one might think. Landes and Posner conclude that, measured *ex ante*, the value of a 20 year patent is roughly 85% of an infinitely long patent. [74] Once they calculate in an estimate for market depreciation the number is closer to 95%. The depreciation number is important. While the quality of a patented drug does not change over the patent's term the number and quality of its competitors is likely to increase. A blockbuster drug that has no good alternatives when first patented may have a half dozen differentiated substitutes within a few years. These alternatives are not generics, which would be patent infringers, but drugs that use different

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[72] *See* discussion *supra*, text at notes __.

[73] *See* Rebecca S. Eisenberg, *The Role of the FDA in Innovation Policy*, 13 MICH. TELECOMM. & TECH. L.REV. 345 (2007); Hovenkamp, *Anticompetitive Patent Settlements and the Supreme Court's* Actavis *Decision*, 15 Minn. J.L., Sci., & Tech. 3, 11 (2014) (invalidity rate of about 2/3 in fully litigated Hatch-Waxman challenges); FTC, *Generic Drug Entry Prior to Patent Expiration: An FTC Study* 42 (2002), *available at* http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf. (concluding that one 1/4 of litigated patents in Hatch-Waxman challenges are valid).

[74] WILLIAM M. LANDES AND RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 296 (2003).

compounds to obtain substantially the same result. As a result, other things being equal the patent becomes less value over time even without generic entry.[75]

Most importantly for antitrust purposes, the Patent Act itself regulates patent value by defining the length of the term and partly by metering patent scope. Beyond that there is no good reason for treating patent practices that are not authorized by the Patent Act any differently than the law treats other kinds of property. The argument that restraining price-fixing, horizontal product market division or boycotts can increase the returns to patenting proves far too much. These practices can increase the returns to every form of property ownership. But the law's authorization to own and transact in property does not carry by implication the right to do so anticompetitively.[76] Nor is there any such general authorization in the Patent Act.

Presumptions and the Rule of Reason

Actavis held that the rule of reason should be applied to a pay-for-delay patent infringement settlement on the facts of that case. In so doing it rejected alternatives suggesting that pay-for-delay settlements should be legal per se if they fell within the scope of the patent, or assessed under a "quick look" analysis as the FTC had urged.

Insistence on a rule of reason reflects the Supreme Court's own antipathy toward "quick look" analysis. It also tracks the approach taken in the *Antitrust Law* treatise that prefers to think of the mode of antitrust analysis as a "sliding scale," composed of varying presumption.[77] Rather than placing antitrust analysis in three boxes dominated "per se," "quick

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[75] *See* Peter Arcidiacono, et al, *Pharmaecutical Followers*, 31 INT'L J. INDUS. ORG. 538 (2013). *See also* Lars Olbe, et al., *A Proton-Pump Inhibitor Expedition: the Case Histories of Omeprazole and Esomeprazole*, NATURE REVIEWS 132 (Feb. 2003, available at http://faculty.missouri.edu/~gatesk/Prilosec.pdf. (developing history of one family of similar but not bioequivalent drugs).

[76] The Supreme Court made this clear in FTC v. Phoebe-Putney Health Sys., Inc., 133 S.Ct. 1003 (2013) (state statute that authorized one corporation to acquire another did not implicitly authorize an anticompetitive acquisiton).

[77] See *Actavis*, 133 S.Ct. at 2237-2238, quoting a previous edition of 7 ANTITRUST LAW ¶ 1507, at 402 (1986).

look," and "rule of reason," it is better to think of the problem as setting proof requirements that vary with the circumstances. The less factually plausible a party's case, the greater its burden should be. By contrast, the quick look analysis as the *Actavis* Court conceived it envisioned a strong global presumption of per se illegality, which could be defeated if the defendant could "show empirical evidence of procompetitive effects."[78]

By rejecting that global approach, as it should have, the Court was hardly eliminating the use of presumptions in antitrust litigation under the rule of reason. To the contrary, the rule of reason contains far more presumptions than the per se rule or any alternative truncated approach. They are ubiquitous and an essential part of rule of reason analysis.[79] For example, courts sometimes say that a high market share creates a presumption of market power, but this presumption can be defeated by evidence of low entry barriers or rivals who can readily expand their output.[80] Or in exclusive dealing cases under the rule of reason the courts presume competitive harm from contracts of long duration, or presume lack of harm from shorter term contracts.[81] Historically the courts presumed market power if a tying product was patented, but that is no longer the case.[82]

The *Actavis* majority also suggested presumptions such as would apply in any rule of reason case. For example, "an unexplained large reverse payment itself would normally suggest that the patentee has serious doubts about the patent's survival."[83] The Court added that "the size of the unexplained reverse payment can provide a workable surrogate for a

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[78] *Actavis*, 133 S.Ct. at 2237, quoting California Dental Assn. v. FTC, 526 U.S. 756, 775 n. 12 (1999).

[79] On the use of presumptions under the rule of reason, see 7 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶1507 (3d ed. 2010). See *also* Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L.REV. 1, 21023 (2981) (importance of presumptions in rule of reason cases).

[80] *E.g.*, Rebel Oil Co., Inc. v. Atlantic Richfield Co., 51 F.3d 1421, 1438 n. 10 (9th Cir. 1995); FTC v. Promedica Health Sys., 2011 WL 1219281 (N.D.Ohio. March 29, 2011). *See also* Allen v. Dairy Farmers of Am., Inc., 748 F.Supp.2d 323, 340 (D. Vt. 2010) (market shares given "weight and not conclusiveness").

[81] *E.g.*, Omega Environmental, Inc. v. Gilbarco, 127 F.3d 1157, 1172 (9th Cir. 1997).

[82] Illinois tool Works, Inc. v. Independent Ink, Inc., 547 U.S. 28 (2006).

[83] *Actavis*, 133 S.Ct. at 2236.

patent's weakness, all without forcing a court to conduct a detailed exploration of the validity of the patent itself.[84] The term "unexplained" means that the Court was creating a presumption: a large payment requires an explanation, obligating the defendant to produce something that justifies the payment insofar as it exceeds anticipated litigation costs.[85] The Court also indicated that the size of a reverse payment is a "strong indicator" of market power,[86] but later suggested that a large payment might partly reflect compensation for other services that would serve to weaken that inference.[87]

Another presumption that the Court acknowledged concerned inferences of market power. The traditional presumption used in antitrust analysis relates market power to market share of a properly defined relevant market. However, that presumption can be defeated or weakened by evidence of low entry barriers, market instability, or rival or customer mobility.[88] Market power can also be measured "directly,' typically by technical tools that assess residual demand or price-cost margins.[89]

In some cases power can be inferred from conduct, as *Actavis* acknowledges.[90] The Court observed that "the "size of the payment from a branded drug manufacturer to a prospective generic is itself a strong indicator of power"—namely, the power to charge prices higher than the competitive level.[91] However, the Court suggested, this presumption could

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[84] *Id*. at 2236-2237, *citing* 12 AREEDA HOVENKAMP & ANTITRUST LAW, *supra* note ___, ¶ 2046, at 350–352

[85] On the relevance of litigation costs, *see Actavis*, 133 S.Ct. at 2236.

[86] *Ibid*.

[87] *Id*. at 2237.

[88] *See, e.g*., Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 592 n. 15 (1986) ("yet without barriers to entry it would presumably be impossible to maintain supracompetitive prices for an extended time.").

[89] *See* 2B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶515, 521 (4th ed. 2015) (in press).

[90] *Id*. at ¶520.

[91] *Actavis*, 133 S.Ct. at 2236, citing and quoting 7 & 12 ANTITRUST LAW, *supra* note __, ¶¶1503, 2046. The Court continued:

> An important patent itself helps to assure such power. Neither is a firm without that power likely to pay "large sums" to induce "others to stay out of its market." *Ibid.* In any event, the Commission has referred to studies showing that reverse payment

be defeated by a showing that the payment was no greater than anticipated litigation costs plus reasonable compensation for other services that the generic might be providing to the pioneer.

The Court actually obtained double duty from the high settlement price. First, it created a presumptive signal of patent invalidity, or at least of serious doubts about its validity. Second, the fact that the pioneer was willing to make the payment was a presumptive indicator of power.

The Court was correct on both scores. In the case of power, a large payment is a rational act only if the payor has price cost margins worth protecting. More specifically, the payor's willingness to pay will be limited by the anticipated price-cost margins of exclusive sales over the remaining life of the settlement. if price cost margins were zero, then the seller would be unwilling to pay anything. So to the extent high margins indicates power the high payment is a good presumptive signal.

One objection to this presumption is that high price-cost margins reflect only variable costs. A firm may have high margins but still not be able to recover its fixed cost investment, making the product unprofitable over its lifecycle. In fact, however, *all* of our direct measures for assessing power focus exclusively or heavily on variable costs. For example, the Lerner Index and its variations measure market power by looking to margins between short-run marginal cost and price, and the impact of changes in demand. All of these are variable cost measures. Even market share measures the extent to which the firm respond to changes in demand or short-run costs. The market power question for antitrust purposes is not whether a firm is earning enough to cover its fixed costs, but whether it has the ability to proti by reducing market output and raising price. So inferring power from a large pay-for-delay settlement is not different in principle from inferring power from other types of evidence more conventionally used to estimate market power. Finally, the critique from fixed costs confuses the power issue from the liability issue. On the one hand we do not want to punish firms for having high fixed costs and the high margins that ordinarily accompany them.. On the other, they are clearly relevant to a determination whether the firm is capable of pulling off an anticompetitive act.[92]

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agreements are associated with the presence of higher-than-competitive profits—a strong indication of market power.

[92] *See* Louis Kaplow, *Why (Ever) Define Markets?*, 124 HARV. L.REV. 437, 500 (2010)

It is also important not to lose sight of the fact that the Court was not inferring power simply from high price/cost margins but from an exclusion payment. Particularly in intellectual property markets, products are sold under at least moderately competitive conditions and yet have high margins.[93] For example, an "app" store that sells software for an electronic device such as an iPad or Kindle may offer many product alternatives that have very low variable costs of distribution, sometimes approaching zero. The same thing is true of electronic books and streamed movies. Any price represents a significant short-run price-cost margin, but these products may not even be able to recover fixed investment costs over their product lives.

Very high exclusion payments are a different matter. A manufacturer with large fixed costs and high margins would not agree to make a large payment if it could not anticipate being able to recoup this investment over the duration the settlement. The issue here is similar to the one used for analyzing "recoupment" in predatory pricing cases. Namely, a firm will invest in a strategy if the reasonably anticipated payoff exceeds the reasonably anticipated investment.[94] Presumably, one of a dozen manufacturers of notepad apps for an iPad would not pay large amounts to a different app manufacturer to withdraw from the market. The market is competitive and the removal of one supplier would not make much difference. In sum, it is the absence of competition from other firms that makes a payoff to one firm a rational act.

In any event, the argument from high fixed costs proves too much. A firm with high fixed costs might be able to stay profitable (or earn greater profits) if it has a monopoly, but unless constrained it will produce at the monopoly level. For example, a firm with high fixed costs might maximize its profits by producing 1000 units. The competitive market output in this industry -- that is, producing a return just large enough to maintain investment -- might be 2000 units. Permitting collusion or innovation would get us the 1000 unit outcome. That is why the Supreme Court is correct to reject "ruinous competition" defenses to collusion in industries with high fixed costs.[95] Competitors with high fixed costs may have a

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[93] *See* 2B AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note __ at ¶¶516g, 518e2,3.

[94] On the recoupment requirement in predatory pricing, *see* 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶726-727 (4th ed. 2015) (forthcoming).

[95] *E.g.*, United States v. Trans-Missouri Freight Assn., 166 U.S. 290.

motive to fix prices, but when they do so they can be expected to set prices at the cartel level, not at a level just sufficient to provide a competitive rate of return.

Conclusion

Applying the rule of reason to antitrust claims involving patent licensing and related practices has been made unnecessarily difficult by the "scope of the patent" rule. *First*, identifying practices that fall within and without the scope of the patent yields indeterminate results. *Second*, many settlements, including both product price restraints and payment-for-delay, can be properly assessed under this rule only by judicial determination of patent validity, infringement, and in some cases market value. This makes a full scale evaluation even more difficult than the assessment made in a patent infringement lawsuit, which ordinarily inquires only into validity and infringement.

A better pair of rules divides patent practices into pre-issuance and post-issuance, generally immunizing the former from antitrust scrutiny. Post-issuance practices must then be divided into those that are authorized by the Patent Act and those that are not. A post-issuance practice that is not authorized by the Patent Act should ordinarily be subject to antitrust review. While the antitrust decision maker must be circumspect about assessing the competitive and innovation effects of challenged practices, these assessment largely involve questions of antitrust law, not of patent law. Outside of damages measurement, patent law has no tool kit for assessing either the market or even the innovation effects of a particular practice.

While that criticism may seem harsh, the reality is that patent law has developed in relative isolation from any significant inquiry into how patents function in the marketplace. The result gives antitrust policy a comparative advantage, not only for assessing competition effects but ironically, even for assessing innovation effects.

329-330(1897).