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Herbert J. Hovenkamp
University of Pennsylvania Law School

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INSTITUTIONAL ADVANTAGE IN COMPETITION AND INNOVATION POLICY

Herbert Hovenkamp*

In the United States responsibility for innovation policy and competition policy are assigned to different agencies with different authority. Federal patent and copyright enforcement date back to the Constitutional period in the late eighteenth century. Federal antitrust policy did not come until a century later, although it was preceded by state common law and corporate law governing restraints on trade.¹

The principal institutional enforcers of patent policy in the United States are the United States Patent and Trademark Office (USPTO), the International Trade Commission (ITC), and the federal district courts as overseen by the United States Court of Appeals for the Federal Circuit, and ultimately the Supreme Court. While competition policy is not an explicit part of patent policy, competition issues arise frequently, even when they are not seen as such. For example, the issue of patent scope is highly relevant to competition because overly broad patents can knock competitive alternatives out of the market. For example, a patent that claims technologies that the inventor did not possess can eliminate competition while doing nothing to further innovation. The same is true of patent law's requirement of nonobvious subject matter, or "inventive step," which can stifle competition in ordinary products if interpreted too generously toward patent applicants.

Nevertheless, there is little decisional law that expressly addresses patent scope as a competition issue. In order to do this enforcers would need to assess patent scope within the context of the market in which it occurs. For example, an overly broad patent on a reverse-winding wristwatch does little competitive harm if reverse-winding watches are not much sought after, the wristwatch market is competitive, and includes digital watches that do not need to be wound at all. By contrast, the overly broad grant in 1903 to the Wright Brothers for a crude airplane steered and stabilized by cables that twisted the aircraft's wings effectively foreclosed (under the doctrine of equivalents) Curtiss' greatly superior technology with rigid wings and ailerons, such as modern aircraft have.²

Occasionally the courts have injected competition concerns into patent law. For example, the Supreme Court held in *Traffix Devices* that a firm could not obtain trade dress protection on

* Ben V. & Dorothy Willie Professor, Law and History, University of Iowa

¹ See HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW, 1836-1937* at Chs. 20-21 (Cambridge, Ma.: Harv. Univ. Press, 2001).

² *Wright Co. v. Herring-Curtiss Co.*, 204 F. 597 (W.D.N.Y. 1913). See HERBERT HOVENKAMP, *INNOVATION AND COMPETITION POLICY: CASES AND MATERIALS* (open source, 2d d. 2013, Ch. 1, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1937207&download=yes).

the same structural design that had been protected by a design patent, by that time expired. Design patent registration protects designs for limited times but then opens the market after expiration. Trademark protection, by contrast, lasts indefinitely, so the firm was attempting to leverage a limited term exclusionary power into one with an indefinite term.³

Another use of competition policy to limit patent overreaching is the judge made patent "misuse" doctrine, which is entirely a creature of patent law. In the United States the doctrine originated during the Progressive Era, reaching its modern articulation in the 1930s and 1940s.⁴ It initially applied to arrangements where the patentee tied the purchase or lease of its patented good to the purchase of unpatented supplies or other complementary goods. Unfortunately, misuse doctrine went off the rails, condemning many practices that were neither harmful to patent policy nor injurious to competition. As a result the doctrine is in disrepute today and the courts are reluctant to apply it.⁵ In the process the courts lost an important tool for limiting patent overreaching on competition grounds. A much more sensible approach would be a revised doctrine of misuse limited to situations involving true competitive harm, and that had narrower and more focused remedies -- mainly, a defense to a patent infringement claim or an injunction against enforcement.⁶

On the competition law side, since the early 1900s American courts have had to confront practices that implicate both competitive concerns and patent law.⁷ Over the next century patent/antitrust policy veered between extremes, from periods characterized by heavy deference to patent practices, even where they seemed obviously anticompetitive, to periods in which the

³Traffix Devices, Inc. v. Mktg. Displays, Inc., 532 U.S. 23 (2001).

⁴See Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917); Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488 (1942).

⁵E.g., Princo Corp. v. ITC, 616 F.3d 1318 (Fed. Cir. 2010).

⁶ See Christina Bohannon, *IP Misuse as Foreclosure*, 96 IOWA L.REV. 475 (2011); CHRISTINA BOHANNAN & HERBERT HOVENKAMP, *CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION* 258-289 (New York: Oxford Univ. Press, 2012)

⁷ E.g., E. Bement & Sons v. National Harrow Co., 186 U.S. 70 (1902) (upholding patent cross-licensing agreement that fixed product prices) ; Henry v. A.B. Dick Co., 224 U.S. 1 (1912) (Sherman Act did not reach patent tying arrangement).

courts viewed patents as little more than a competitive nuisance and used every opportunity to apply the antitrust laws against them.⁸

A few relatively durable principles emerged from this history.

First, one must distinguish pre-issuance from post-issuance patent practices. The patent application and prosecution process up to the time of patent issuance is heavily regulated and the important decisions are made mainly by government officials. Under American principles of implied antitrust immunity this allows little room for antitrust intervention. It is not antitrust's purpose to repair perceived deficiencies in other federal regulatory regimes.⁹ The possible exception is improper conduct by the private applicant that deceives the USPTO into issuing a patent when one should not have issued. Even in these cases, however, the patent system has a panoply of remedies available that do not require antitrust intervention, including invalidation of the patent or attorney fee awards for the costs of defending against improper conduct.

United States law does recognize the so-called *Walker Process* doctrine, which attaches antitrust liability when an attempt to enforce an improperly obtained patent threatens monopoly. Under United States law these remedies attach only to post-issuance enforcement actions, however, mainly the filing of a patent infringement suits or making unfounded threats.¹⁰

Once the patent issues, the USPTO itself has little power to discipline anticompetitive conduct outside of its authority to reexamine. The one thing the patent system does contain, however, is a judicially created defense of "inequitable conduct" which can be asserted as a defense to a patent infringement suit. Once sufficiently material and serious inequitable conduct is found the patent is usually declared to be unenforceable. The standards for finding inequitable conduct are very strict, however, and require knowing intent to deceive the USPTO by a false claim or omission.¹¹

⁸See Herbert Hovenkamp, "The Twisted Path to Innovation Policy," Ch. 10 in HERBERT HOVENKAMP, *THE OPENING OF AMERICAN LAW: NEOCLASSICAL LEGAL THOUGHT, 1870-1970* (New York: Oxford Univ. Press, 2014).

⁹ See 1B PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶¶240-244 (4th ed. 2013)

¹⁰*Walker Process Equip. Inc. v. Food Mach. & Chem.* 382 U.S. 172, 174 (1965). Cf. Case T-321/05, *AstraZeneca v. Euro. Comm'n*, July 1, 2010, available at <http://curia.europa.eu/juris/liste.jsf?num=T-321/05&language=en>, holding that representations to agencies requesting exclusion of generics could be actionable, although the patent had already issued.

¹¹*Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011).

Second, after a period of aggressive and often harmful expansion, antitrust in the United States has gone through a cleansing process that has made it a much more effective tool for protecting consumer welfare.¹² This is in sharp contrast to patent law, which remains strongly producer oriented. While both systems are imperfect, antitrust also has the comparative advantage in other ways. Our economic models of innovation remain much less robust than our models of competition. For example, we simply do not know what the optimal duration or scope of a patent should be, and there is increasing evidence that these numbers differ greatly from one industry to another, while the patent laws generally do not. Antitrust law has become relentlessly empirical in determining the actual market effects of various practices, not only in the economics literature but also in litigation. Further, different markets often obtain different treatment, depending on such factors as the number of firms, the height of entry barriers, or cost structures. In this regard, patent law is very far behind. Further, there is a widespread view in the United States that, whatever the optimal amount of innovation, the patent laws do an extraordinarily poor job of producing it. They tend to overprotect and thus to overexclude.

Too often patent law takes a property rights approach rather than an innovation economics approach to policy questions. One example is the requirement that a patent be granted only for a “nonobvious” improvement, which is intended to ensure that patents are granted only on things that others are unlikely to discover on their own. Defining the requirement rigorously is crucial, because unlike copyright and trade secret law, patent law has no right of independent invention: someone can infringe a patent even though she has no idea that the patent or the technology it represents even exists. An empirical test for nonobviousness might ask how many people appear to be discovering the patented invention independently. To be sure, information about either patents or the technologies they represent might be disseminated by ways that are difficult to test for. But that is not an excuse for failing to explore the issue. Only a small percentage of litigated cases include claims that the defendant actually knew about the plaintiff’s patent, and only 2% of decisions include a judicial conclusion to that effect.¹³ The incentive to claim knowing infringement is high, because the courts can award significantly higher damages for it. Nevertheless, if we are going to be in the business of condemning innocent discoverers for patent infringement then we must make sure that patents are granted only for things that are sufficiently nonobvious that there won’t be a large number of innocent discoverers. Otherwise we create monopoly rights in pedestrian changes.

Antitrust also has institutional advantages over patent law when analyzing the economic consequences of certain practices. This is particularly true when we are talking about a post-issuance practice, meaning that patent system oversight is minimal and the patent has become

¹² See BOHANNAN & HOVENKAMP, CREATION WITHOUT RESTRAINT, Ch. 3.

¹³ Christopher A. Cotropia & Mark A. Lemley, Copying in Patent Law, 87 N.C.L. REV. 1421 (2009).

little more than a business asset. And it is especially true when the practice in question is not authorized by the Patent Act, meaning that Congress has not spoken on the question. For example, the Patent Act authorizes licenses and assignments generally, but not *anticompetitive* licenses or assignments. It authorizes licenses to others to use the invention upon payment of a stipulated royalty, but it does not authorize the patentee to pay others to stay out of its market. The Patent Act authorizes territorial divisions in production licenses,¹⁴ but not those accomplished by payment for shutting down. It does not authorize price fixing of patented products. It refuses to condemn tying arrangements unless the patentee has market power in the tying product,¹⁵ but it says nothing about exclusive dealing or resale price maintenance. On exclusionary conduct, the Patent Act certainly permits the patentee to exclude by maintaining reasonably brought infringement actions, but it says nothing about predatory pricing, discount practices, or other practices that might violate either Section 2 of the Sherman Act or EU Article 102. For most of these situations the tools of antitrust are better suited to analyze the effects of the practice. If Congress becomes concerned that the courts have overreached by condemning a practice that is competitively harmless or that might facilitate innovation, it can always do so. Indeed, it did precisely that in 1988, when it overruled several Supreme Court decisions by passing a provision that made patent tying arrangements unlawful only when the patentee had market power.

The Supreme Court acknowledged antitrust's institutional advantages in its 2013 *Actavis* decision.¹⁶ The dispute was one of many involving "pay for delay" pharmaceutical patent settlements under the Hatch-Waxman Act. The Act was intended to facilitate the transition from "pioneer" to bioequivalent generic pharmaceutical drugs when the pioneer's patent either expired or was declared invalid. The Act gives the first generic firm to file a formal notification of entry a 180-day period of exclusivity once its own production begins.¹⁷ During this period the only contemplated producers of the drug are the original pioneer developer and the first entering generic firm. Once the 180 day period ends, other generics are free to enter as well. The 180 day period was designed to do two things: first, for many drugs a generic would be more likely to enter the market if promised exclusivity. Permitting open entry by everyone might yield no entry at all, for each firm would get only a small share of a competitive market. Second, the exclusivity period was intended to encourage generic firms to challenge weak patents. Original

¹⁴ 35 U.S.C. §261.

¹⁵ 35 U.S.C. §271d.

¹⁶ *F.T.C. v. Actavis, Inc.*, 133 S.Ct. 2223 (2013).

¹⁷ *Actavis*, 133 S.Ct. at 2228. For more detail and analysis, see 12 HOVENKAMP, ANTITRUST LAW ¶2046 (New York: Aspen, 3d ed. 2012); C. Scott Hemphill, *Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem*, 81 N.Y.U. L.REV. 1553, 1579 (2006).

pharmaceutical patents on drug molecules are typically robust. However, the pharmaceutical industry has a widespread practice of "evergreening," or extending patent protection by obtaining follow-on patents for new uses, new dosages, new delivery methods, and the like. Overall, these follow-on patents, which do not cover the drug's primary ingredient, are much weaker than pioneer patents and their failure rate in litigation is much higher.¹⁸

The drafters of Hatch-Waxman did not foresee the temptation this created for the pioneer and the first generic to preserve the patent's monopoly and divide the profits. Under a pay-for-delay settlement the pioneer patentee pays the generic firm a large sum, often in the hundreds of million dollars, for its promise to say out of the market. The Hatch-Waxman Act's exclusivity provision effectively protects this little cartel from competitive entry. Further, because the agreements at issue are patent settlements, the federal courts are reluctant to second guess them, certainly if it requires an inquiry into patent validity. For that reason numerous lower court decisions had upheld the settlements.

Parties often pay settlements in order to avoid costly litigation. But anticipated litigation costs in infringements cases of this type typically run less than \$10 million. Settlements in gross excess of that amount suggest that something else must be going on. One possibility which the Supreme Court acknowledged is that the generic has agreed to provide certain services to the pioneer, and that the excess payment is no more than the price of such services. However, these services -- typically marketing and distribution -- are sold on a robust market, and it difficult to see how they could amount to such large sums. Valuation of such services is likely to be a factor in future litigation.

More likely, the large payment reflects the parties' assessment that the patent is extremely weak. The pioneer would not be willing to pay so much if its patent were strong. Second, the large payment works in the Hatch-Waxman context because there are no other potential infringers. Ordinarily a plaintiff with a dubious patent would not be willing to pay a large sum to make a particular infringer go away. The payment would send a clear signal of patent weakness and others would come into the market, either because they realize that the patent is weak or else because they might also be able to collect a payment. The Hatch-Waxman Act prevents this by keeping others out of the market of its own force. Indeed, once the settlement has been executed it really does not matter how weak the patent is. No one may challenge it in any event.

Those advocating a patent law approach to the pay-for-delay problem are concerned that an antitrust rule will discourage pharmaceutical innovation, although competition concerns may be relevant at the margin. By contrast, those advocating an antitrust approach are concerned

¹⁸See C. Scott Hemphill and Bhaven Sampat, *Drug Patents at the Supreme Court*, 339 SCIENCE 1386 (March 22, 2013); FTC, *Generic Drug Entry Prior to Patent Expiration: An FTC Study* 16 (2002), <http://www.ftc.gov/os/2002/07/genericdrugstudy.pdf>.

about the practice's shorter run impact on product prices and output, but impact on innovation is certainly relevant too. Not coincidentally, those advocating a "patent" approach to the pay-for-delay problem, including the Supreme Court dissent written by Chief Justice Roberts, are reluctant to intervene, while those advocating an "antitrust" approach, including the Supreme Court majority, are more willing to find a problem susceptible to fixing.

The boundaries of patent and antitrust law are defined by policy rather than nature. So it is meaningless to debate about whether this is "really" a patent problem or an antitrust problem. It is a policy problem that needs to be addressed in a way that makes the proper tradeoffs between the incentive to innovate further and the consumer interest in competitive markets and low prices. The real question is what is the best system for addressing it?

Today our antitrust tools for assessing the competitive effects of pay-for-delay settlements are far more robust than our patent tools are. Indeed, we can go a step further: in some situations, including this one, antitrust tools are even superior for assessing the impact of such settlements on *innovation*. While our theoretical and empirical devices for evaluating such issues as the impact of generic entry on drug prices, the welfare costs of monopoly pricing, or the most plausible explanations for specific firm decisions are hardly perfect, they are reasonably good. Further, they far exceed our ability to assess such questions as the optimal length of a patent or scope of coverage needed to induce optimal invention rates. We are even further from having robust doctrine for determining patent validity, as witnessed by the high reversal rate of district court decisions in this area. In general, the more pro-patent the federal district court -- and thus the more frequently it is chosen by plaintiffs -- the higher the reversal rates, including more than half of the time in the patent-friendly Eastern District of Texas.¹⁹

As the Supreme Court observed in *Actavis*, a very high pay-for-delay settlement is good evidence of two different things, power and harmful effects. On the power issue the validity of the patent is irrelevant. The question is not whether the power was lawfully acquired, but whether it exists at all. A firm in a competitive market has no incentive to make a high payment to a rival to stay out of the market. First, price/cost margins are very close, leaving no surplus for such a large payment. Second, in a competitive market the removal of a single firm will not have a noticeable impact on the price. In this case the large payment is a share of the present value of anticipated monopoly profits for the period of exclusion that the payment purchases. How high a percentage is difficult to say. If the patent were acknowledged to be completely worthless one might expect the parties to split the revenues of the future stream of monopoly profits. It would not necessarily be an even split, and in any event the size of the payment would decline as the patent appeared to be stronger. The alternative is entry and more competitive

¹⁹Teresa Lii, Shopping for Reversals: How Accuracy Differs Across Patent Litigation Forums, 12 Chi.-Kent J. Intell. Prop. 31 (2013).

production with the generic, which leads to a significant reduction in pioneer profits. After 180 days the market will be open to others as well.

Use of a surrogate such as this to establish market power is not unusual. Economists do it often, particularly in merger cases, even if their subsequent testimony requires them to define a market. Further the method need be no less accurate than traditional methods involving market definition and computation of a market share. This is particularly true in a product differentiated market, where market definition assessments are always either over- or under-inclusive. If the market is limited to the pioneer plus the generic -- that is, the molecule in question plus its bioequivalent -- then the market will not exhibit much differentiation but the aggregate market share will be 100%. If the market is larger, including alternative molecules or procedures that address the same condition, then the market share will be smaller but the market will be differentiated. In such a case, direct measurement is likely to be superior.²⁰ Defining relevant markets is probably not the best way to measure power in such circumstances.

The large payment is also an indicator of anticompetitive effects and consumer harm, as *Actavis* concluded. First, a very large payment is strong evidence that the parties themselves think the patent is very weak or invalid. Otherwise the pioneer would not make a payment out of proportion to litigation expenses plus a reasonable estimate of the value of services that the generic might provide. That, incidentally, is a market based assessment of the patent's strength, and as such it is very likely more reliable than a court's determination. If the parties have calculated a, say, 70% likelihood that the patent will be invalid, given what they know about similar situations, that statistical assessment is more valid than the ultimate decision of the court, which could be wrong about half the time. Given the high likelihood of invalidity, the high payment then indicates that this generic is delaying or foregoing entry in order to maintain the high prices currently being charged.

Under United States law such a settlement could be challenged by either the government or else private plaintiffs. Overcharge damage actions would be available to direct purchasers under federal law and indirect purchasers under the antitrust laws of some states. Any party with a sufficient injury or threat of injury could also get an injunction. Patent invalidity need not be proven, but the plaintiff will have to show a payment that is unreasonably high in relation to litigation costs and the fair market value of any services that the generic has contracted to provide. Liability would ordinarily be shared by the pioneer and the generic firm, both of whom are voluntary participants in an unlawful restraint of trade.²¹

²⁰See 2B Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶¶512, 521 (4th ed. 2014).

²¹See 2A *Antitrust Law* ¶330d.

Conclusion

For a lengthy period in United States history patents were treated as monopolies, a view that showed up in various ways, including a presumption of market power, at least for tying arrangements.²² Today that view is largely abandoned in favor of one that regards patents as a form of property, nothing more. They are business assets that often confer no market power, although occasionally they do. Further, an issued patent is an "unregulated" business asset. The patent system and has little to say about how a patent is used, and in this case the Patent Act itself is silent. Then, as the Supreme Court realized in *Actavis*, the antitrust system is the better placed institution.

²² E.g., *International Salt Co. v. United States* 332 U.S. 392 (1947), overruled by *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, 547 U.S. 28 (2006).