VIRGINIA LAW REVIEW

VOLUME 72 | MAY 1986 | NUMBER 4

DETHRONING *LEAR*: LICENSEE ESTOPPEL AND THE INCENTIVE TO INNOVATE

*Rochelle Cooper Dreyfuss**

> Technology propels our economy forward. Without doubt, it has been our strongest competitive advantage. Innovation has created whole new industries and the renewal of existing ones. State-of-the-art products have commanded premium prices in world markets, and technological advances have spurred productivity gains. Thus, America owes much of its standard of living to U.S. preeminence in technology.[1]

IN 1985, the President's Commission on Industrial Competitiveness, charged with the task of assessing the United States' position in world markets, reported that this nation, which had long been a frontrunner in technological innovation, is now underinvested in research and development. One of the reasons for this phenomenon, the Commission suggested, is that rights to intellectual property have eroded to such a degree that investment in innovative activities is no longer profitable.[2] To remedy this

* Assistant Professor of Law, New York University School of Law. B.A., Wellesley College, 1968; M.S., University of California at Berkeley, 1970; J.D., Columbia University, 1981.

The author is grateful to the late Alan Latman for his enthusiastic encouragement and to Sam Estreicher, Harry First, Eleanor Fox, Richard Givens, Jeffrey Gordon, Lewis Kornhauser, and Diane Zimmerman for their thoughtful comments. The author would also like to thank New York University law students Lester Greenman, Michael Rogovin, and especially Joan Flynn for their research assistance. Research for this article was partially supported by the Filomen D'Agostino and Max E. Greenberg Research Fund of the New York University School of Law.

[1] 1 The Report of the President's Commission on Industrial Competitiveness, Global Competition: The New Reality 18 (1985) [hereinafter cited as Comm'n Report].

[2] Id. at 18, 21-22, 24-25, 52-53.

problem, the Commission made several recommendations for encouraging research and development, including removing antitrust barriers to joint ventures,[3] restructuring the tax system,[4] and relaxing regulatory controls.[5]

While the Commission's proposals would help to stimulate invention, improving the nation's technological position also requires reexamination of other constraints on research and development. Because the patent system has traditionally been viewed as an important means of encouraging research,[6] a comprehensive effort to redress the decline in innovation should include review of the Patent Act and its judicial interpretation. This article begins that endeavor by focusing on one aspect of patent law: federal preemption of the doctrine of licensee estoppel.

Under the estoppel rule, licensees were barred from attacking

---

[3] Id. at 51.

[4] Id. at 53; cf. National Cooperative Research Act of 1984, 15 U.S.C. §§ 4301-4305 (Supp. II 1984) (loosening antitrust strictures on pure research joint ventures).

[5] Comm'n Report, supra note 1, at 51, 53.

[6] The role of the patent system in stimulating invention has long been subject to debate. See, e.g., Subcomm. on Patents, Trademarks, and Copyrights, Senate Comm. on the Judiciary, 85th Cong., 2d Sess., An Economic Review of the Patent System: Study No. 15 (Comm. Print 1958) (prepared by F. Machlup) [hereinafter cited as Machlup]; National Academy of Sciences-National Research Council, The Role of Patents in Research (1962) [hereinafter cited as The Role of Patents]; F. Scherer, Industrial Market Structure and Economic Performance 439 (2d ed. 1980) (claiming that the debate began with the first formalized institution of a patent system in Venice in 1474).

This article is not meant to suggest that the patent system is the best or even a very useful way to encourage innovation. Rather, it simply assumes for the purposes of discussion that the patent system is a means of stimulating innovation and that it was adopted in order to do so. The article then argues for a particular rule to make the system work as efficaciously as possible.

For general discussions of the behavioral effects of the patent system, see, e.g., Subcomm. on Patents, Trademarks, and Copyrights, Senate Comm. on the Judiciary, 85th Cong., 2d Sess., The Impact of the Patent System on Research: Study No. 11 (Comm. Print 1958) (prepared by S. Melman); Barzel, Optimal Timing of Innovations, 50 Rev. Econ. & Stat. 348 (1968); Kitch, The Nature and Function of the Patent System, 20 J.L. & Econ. 265 (1977); McFetridge & Smith, Patents, Prospects, and Economic Surplus: A Comment, 23 J.L. & Econ. 197 (1980); Wright, The Economics of Invention Incentives: Patents, Prizes, and Research Contracts, 73 Am. Econ. Rev. 691 (1983); see also Nelson, The Simple Economics of Basic Scientific Research, 1959 J. Pol. Econ. 297 (drawing a distinction between applied research, where the patent system may be an efficacious means of enabling the inventor to appropriate the economic value of his invention, and basic research, where the relationship between investment and commercial application is too attenuated for the patent system to have a significant impact). Because licensing problems arise only where the invention has commercial significance, the patent system's ineffectiveness in stimulating basic research is not considered in this article.

the validity of patents they worked under license from the patent owner.[7] As a result, patentees were able to use licensing arrangements to assure a continued income stream from their inventions—at least for the period prior to patent expiration—so long as the discovery remained in use by their licensees. In *Lear, Inc. v. Adkins*,[8] however, the Supreme Court held that the federal interest favoring free access to inventions required preemption of this state law doctrine in order to enable—and encourage—licensees to attack the validity of the patents they have licensed.

Invention is an uncertain business. To spur investment in it, inventors must be reasonably assured that they will be able to recoup their costs and earn a profit. Under the current scheme of patent and trade secret law, this goal is accomplished by giving inventors the exclusive right to exploit their successful discoveries for a certain time period.[9] During that time, they can charge supracompetitive prices[10] for practicing the invention itself or using its fruits[11] and thus garner the economic surplus generated by it.[12] But the scheme cannot work effectively unless inventors can,

---

[7] See, e.g., Automatic Radio Mfg. Co. v. Hazeltine Research, Inc., 339 U.S. 827 (1950).

[8] 395 U.S. 653 (1969).

[9] See 35 U.S.C. § 271 (1982) (patent protection); Restatement of Torts § 757 (1939) (trade secret protection).

[10] That is, inventors are able to charge prices in excess of marginal cost. It is important to note that a patentee is not usually a monopolist in the classical sense because it is a rare invention that so dominates its field that there are no close substitutes. See Fortas, The Patent System in Distress, 14 Idea 571, 574 (1971); Lavey, Patents, Copyrights, and Trademarks as Sources of Market Power in Antitrust Cases, 27 Antitrust Bull. 433, 437-38 (1982); Note, An Economic Analysis of Royalty Terms in Patent Licenses, 67 Minn. L. Rev. 1198 n.5 (1983). Thus, in most cases the patentee faces a fairly elastic demand curve, because consumers can substitute other goods for the patented one. It has heen argued that cases restricting the right of the patentee to exploit his invention stem from a failure to appreciate the distinction between the power of a monopolist and the patentee's exclusive right to practice his invention. See Rifkind, Patents and Antitrust—Time for a Divorce, 1972 APLA Bull. 695, 698-99; H. Markey, Why Not the Statute?, Address at Univ. of Chicago Law School (April 26, 1983), at 2-4 (unpublished manuscript on file with Virginia Law Review Assoc.). Accordingly, the term "monopoly profits" is avoided here.

[11] A utility patent can be issued for products or processes. 35 U.S.C. § 101 (1982). This article uses the term "product" to encompass both kinds of subject matter unless process is specifically referred to.

[12] Of course, the patent system may be justified for reasons other than its ability to encourage innovation by enabling inventors to realize the benefits of their discoveries. See Machlup, supra note 6, at 22-25 (discussing, in addition to the profit-incentive argument, the natural-law, reward-by-monopoly, and exchange-for-secrets justifications). The natural law notion has never enjoyed great popularity in this country, see id. at 22, 26, and has not proved to be a useful concept with which to analyze the appropriate scope of a patentee's

at the investment stage in the development process, minimize the risk that their exclusive rights will be lost, enabling others to free ride on their research and development investments, enter into competition with them, and drive their discoveries' selling prices below the level at which they can recapture their investments. For large firms engaged in research and development as well as production, the uncertainties inherent in the innovative process are mitigated by the firms' ability to spread risks both horizontally—over their many business ventures—and vertically—by using their inventions themselves, perhaps in secret. Small, specialized, non-integrated research firms, on the other hand, often rely primarily on licensing as the means for exploiting their inventions.[13] Unable to spread risk internally, these firms can avoid risk only by shifting it to their licensees. Under *Lear*, their ability to do so is severely restricted.

Thus, a major flaw in the Court's analysis in *Lear* was its failure to consider the economic function played by licensee estoppel. Focusing on a static view of federal policy favoring free dissemination of inventions that have already come into being, the Court condemned the estoppel rule as merely a device that allows patentees to enlarge their patent grants and bar public access to unpatentable discoveries. But the rule has significant dynamic implications as well, for it influences the allocation of risks between patentees and licensees and affects investment decisions. Provisions requiring licensees to pay royalties even after patent lapse[14] and agreements requiring licensees to waive the right to contest patent validity allocate to the licensee a portion of the risk that the patent will be denied or subsequently held invalid and therefore enhance the value of discoveries to their inventors. Hybrid agreements, which license both patents and other intellectual property, typically trade secrets, have the same effect. Because these hybrid con-

---

rights. This article does, however, draw significantly on the other two theories. See infra notes 203 and 224.

[13] See Nelson, supra note 6, at 302; infra note 179. The biotechnology industry is an interesting example. Small biotechnology firms, often formed by academics, pioneered the application of biotechnology to pharmaceuticals. To continue financing their research, these firms have been forced to rely heavily on licensing. See Dibner, Biotechnology in Pharmaceuticals: The Japanese Challenge, 229 Science 1230 (1985).

[14] As used in this article, "lapse" refers to both invalidation and expiration of patent rights.

tracts provide for royalty payments as consideration for practicing both the patent and trade secret elements of a license, they require licensees to continue paying royalties even after the patents have lapsed. Thus, they too permit inventors to disclose their inventions as required by patent law[15] with confidence that they will be able to extract profits from the use of their discoveries even if their patents are later held to be invalid.[16] But although these agreements serve a useful function in promoting innovation, they have been condemned under *Lear* because the continued royalty provisions discourage licensees from attacking the validity of patents.[17]

By increasing inventors' exposure to litigation and preventing them from allocating to others the risk that their patents will be invalidated, *Lear* has introduced uncertainties into the research and development cycle. These uncertainties have decreased the value of patents as measured at the crucial time when research investments are contemplated. Other developments in the law, including liberalization of the requirements for standing to bring declaratory judgment actions[18] and the decline of the doctrine of mutuality of estoppel,[19] have exacerbated these problems. Finally, the Supreme Court's reaffirmation of the vitality of state trade secret law[20] makes it likely that inventions that were formerly brought to the public's attention through the filing of patent specifications now remain as trade secrets. In that form, they are less available as a basis for further research, and this lack of public

---

[15] The Patent Act requires the inventor to disclose "the manner and process of making and using [the invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which [the invention] pertains . . . to make and use the same, and . . . [to] set forth the best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112 (1982). Applications are kept in confidence by the Patent and Trademark Office (PTO). 35 U.S.C. § 122 (1982). Accordingly, although a discovery may be a trade secret before a patent issues, after it issues the inventor's sole property right is that created by the patent law.

[16] For a general discussion of the effect of uncertainty on the optimization of resource allocation to invention, see K. Arrow, Essays in the Theory of Risk-Bearing 138, 144-63 (1976).

[17] See infra text accompanying notes 72-75.

[18] See 28 U.S.C. §§ 2201-2202 (1982); infra text accompanying notes 282-301.

[19] See Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971); infra note 244.

[20] See Aronson v. Quick Point Pencil Co., 440 U.S. 257 (1979); Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974); infra text accompanying notes 51-78.

access in turn contributes to the decline of innovative activity.[21]

The problems with *Lear* and its progeny have not escaped the notice of the patent bar,[22] and there have been several unsuccessful legislative attempts to ameliorate its harshest effects. These proposals, however, have generally been limited to guaranteeing patentees the right to terminate licensing agreements when the licensee has challenged the validity of the patent.[23] Little attention has been paid to the expansive readings of *Lear* that have narrowed patentees' flexibility to structure their business dealings with licensees.[24]

A reexamination of *Lear* is timely for other reasons as well. Recent changes in patent law have reduced the benefits derived from freeing licensees to challenge patent validity. Creation of the United States Court of Appeals for the Federal Circuit (CAFC) to hear patent appeals from the federal district courts[25] should make federal patent law more uniform, provide the Patent and Trademark Office (PTO) with clearer guidelines on which to base issuance decisions, and thereby decrease the number of invalid patents issued. With fewer invalid patents extant, the potential benefit from "unmuzzling" licensees is correspondingly less. Moreover, institution of a cheap and expeditious reexamination procedure enabling third parties to call upon the PTO to review patentability in light of newly discovered prior art[26] makes it less important to create financial incentives to challenge validity.

---

[21] See infra text accompanying notes 195-204.

[22] See, e.g., Schlicter, Judicial Regulation of Patent Licensing, Litigation and Settlement Under Judicial Policies Created in *Lear v. Adkins*, *in* 3 AIPLA Selected Legal Papers, No. 1 (1985).

[23] See, e.g., H.R. 4529, 98th Cong., 1st Sess. (1983); S. 1535, 98th Cong., 1st Sess. (1983); S. 2255, 94th Cong., 2d Sess. (1976); S. 1308, 94th Cong., 1st Sess. (1975); S. 473, 94th Cong., 1st Sess. (1975); S. 23, 94th Cong., 1st Sess. (1975); S. 2930, 93d Cong., 2d Sess. (1974); H.R. 11868, 93d Cong., 1st Sess. (1973). Attempts to modify *Lear* were also included in amendments to two bills, S. 643, Amendment No. 24, 92d Cong., 1st Sess. (1971); S. 2756, Amendment No. 578, 91st Cong., 2d Sess. (1970).

[24] But see Note, supra note 10 (recognizing the importance of providing patentees with flexible means to exploit their inventions and applying current trends in antitrust doctrine to demonstrate that various licensing provisions formerly thought to violate the anti-tying provisions of the antitrust law, including hybrid agreements, are allocatively efficient, promote competition, and encourage innovation).

[25] See 28 U.S.C. §§ 41, 44, 46, 48, 1295-1296 (1982 & Supp. II 1984); 35 U.S.C. §§ 141-146 (1982 & Supp. II 1984); infra text accompanying notes 267-77.

[26] See 35 U.S.C. §§ 301-307 (1982 & Supp. II 1984); infra text accompanying notes 302-21.

This article, then, is a response to the call of the Commission on Industrial Competitiveness to enhance the rewards offered to inventors. Part I is a critical examination of *Lear* that proceeds along two lines. First, it reviews the case law to elucidate the changing perception of the function patent law serves in the scheme of intellectual property protection and demonstrates that patentability is not the sole measure of the national interest in encouraging innovation, but that state trade secret law is also relevant to these objectives. Next, this part argues that once trade secret law has been revitalized, the benefits of the two systems of protection must be equalized so that inventors of patentable subject matter are funnelled into the patent system, where their inventions are revealed to the public. Part I concludes by suggesting that this objective could be achieved by modifying the *Lear* doctrine to permit the enforcement of hybrid agreements, no-contest clauses, and promises to pay royalties despite patent lapse, so that inventors may shift to licensees some of the risks unique to the patent system.

Part II begins a more theoretical inquiry. It examines the innovative process to determine the junctures at which patent law influences decisionmaking. Applying a conceptual framework developed specifically for analyzing patent licensing restrictions to hybrid licensing agreements and no-contest clauses, this portion of the article argues that these provisions play an important role in relieving the uncertainties inherent in the inventive process and enhancing the rewards of the patent system. Part III notes that recent changes in the Patent Act and other aspects of federal law have reduced the social costs of enforcing these agreements. The article concludes by suggesting that the courts and Congress should consider modifying the *Lear* doctrine to make these agreements enforceable.

I. *Lear* AND ITS PROGENY

A. The Case Law

Lear, Inc. v. Adkins[27] marked the death of licensee estoppel. The agreement in *Lear*, like many technology-related licenses,[28]

---

[27] 395 U.S. 653 (1969).

[28] Although the agreement was negotiated while Adkins was a Lear employee, it was fairly

came into being after Adkins, the inventor, conceived his invention (a method for improving gyroscope accuracy at low cost) but before he secured a patent for it. Under the agreement, Lear, a manufacturer of aircraft parts, received a package of intellectual property consisting of access to a trade secret—confidential information known only to Adkins—and the right to practice a patent should one issue. In exchange, Adkins was given assurance that he would receive income from Lear for so long as it continued to use his invention. The agreement provided that Lear would pay Adkins royalties regardless of whether a patent issued but allowed Lear to terminate the licensing agreement if the application was rejected or the patent subsequently held invalid. Adkins filed a patent application immediately upon completion of the invention in 1954, a year before the licensing agreement was concluded. By 1957, Lear had become convinced that Adkins' invention did not represent a significant enough advance over prior art to be patentable.[29] Accordingly, it began to phase out royalty payments while continuing to produce the gyros covered by the agreement. In 1960, Adkins was issued a patent and immediately brought a contract action against Lear in California state court. When Lear asserted the invalidity of the patent as a defense, the stage was set for a reconsideration of the bar against licensee challenges to patent validity.[30]

The doctrine of licensee estoppel had been accepted for over a century before the *Lear* case reached the Supreme Court.[31] Al-

---

typical of licensing agreements between individual inventors and technology users. Because nothing the Court said in the case turned on the existence of the employment relationship, this factor will be ignored in the remaining discussion.

[29] *Lear*, 395 U.S. at 659. To be patented, an invention must, among other things, be new and useful, 35 U.S.C. § 101 (1982); have been known or used for no more than one year prior to the date of the application, 35 U.S.C. § 102 (1982); and be a nonobvious advance over prior art. 35 U.S.C. § 103 (1982 & Supp. II 1984).

[30] *Lear*, 395 U.S. at 657-60.

[31] See, e.g., Kinsman v. Parkhurst, 59 U.S. (18 How.) 289 (1855); see also Autematic Radio Mfg. Co. v. Hazeltine Research, Inc., 339 U.S. 827 (1950) (licensee of patent for radio receivers could not challenge patent's validity); Edward Katzinger Co. v. Chicago Metallic Mfg. Co., 329 U.S. 394, 408 (1947) (Frankfurter, J., dissenting) (licensee should be estopped from denying validity of patent); Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 260 (1945) (Frankfurter, J., dissenting) (prohibition of attacks by assignees against assignors' patents is "fabric of our law").

Most courts have inferred the doctrine of licensee estoppel from general principles of contract law. See, e.g., *Lear*, 395 U.S. at 663 n.11, 669-70; Dale Tile Mfg. Co. v. Hyatt, 125 U.S.

though it had been subject to several exceptions,[32] the notion that licensees could not, absent extraordinary circumstances, mount challenges to the patents they licensed was a well-accepted feature of the law and formed the legal background against which patent licenses were negotiated. Nonetheless, the *Lear* Court held that the doctrine was law no longer. While the Court recognized that state contract law generally forbids repudiation of promises for dissatisfaction with the bargain made,[33] it deemed the state's interest in honoring contracts outweighed by the federal interest in assuring "that all ideas in general circulation be dedicated to the common good unless they are protected by a valid patent."[34] The Court reasoned that because ex parte proceedings before the PTO could not be relied upon to produce correct legal conclusions in every case, it was necessary to find some private party with sufficient financial capacity—and motivation—to litigate issues of patent validity.[35] In the Court's view, licensees were often the only entities with these characteristics:

> Licensees may often be the only individuals with enough economic incentive to challenge the patentability of an inventor's discovery. If they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification. We think it plain that the technical requirements of contract doctrine must give way before the demands of the public interest . . . .[36]

---

46 (1888); Wilder v. Adams, 29 F. Cas. 1216 (C.C.D. Mass. 1846) (No. 17,647); Taylor v. Hare, 127 Eng. Rep. 461 (1805); see also Krantz, Life After Lear, 25 Idea 1, 1 (1984) (tracing equitable notions of fairness underlying both sides of estoppel issue). Some courts, however, have considered the doctrine to be derived from federal patent law. See *Kinsman*, 59 U.S. (18 How.) at 293. Although the majority in *Lear* treated the doctrine as being of relatively recent origin, see 395 U.S. at 663-68, that treatment has been termed "somewhat revisionist." See Note, The Enforceability of Patent Settlement Agreements After *Lear, Inc. v. Adkins*, 48 U. Chi. L. Rev. 715, 717 n.17 (1981).

[32] See infra note 135.

[33] *Lear*, 395 U.S. at 668.

[34] Id. The Court considerably overstated the public interest at stake. "Ideas" are always in the public domain because they cannot be patented; the Patent Act protects only applications of ideas. See, e.g., Diamond v. Diehr, 450 U.S. 175, 188 (1981) (citing Mackay Radio & Tel. Co. v. Radio Corp. of Am., 306 U.S. 86, 94 (1939)); see also H. Markey, supra note 10, at 4 ("only an embodiment of an idea, i.e. an invention, may be patented").

[35] *Lear*, 395 U.S. at 670.

[36] Id. at 670-71. The Court was referring to the "most common licensing context," id. at 671, in which the licensing agreement is entered into after a patent has issued. In *Lear*, however, the license was negotiated before the patent issued, so that Lear could obtain the benefit of information known only by Adkins—an "unpatented secret idea." Id. at 672. The

The sole issue necessarily before the *Lear* Court was that of the licensee's right to contest patent validity. Nonetheless, the Court went on to consider a second question: whether Adkins could continue to enforce Lear's agreement to pay royalties in the event that the patent was declared invalid on remand. Enforcement of this provision, the Court held, was also preempted by the policies underlying federal patent law.[37] Not only did the public interest require that licensees be permitted to challenge patent validity, it also required that they be given sufficient incentive to undertake such litigation.[38] If licensees were required to pay royalties accruing after patents issued, regardless of their validity, they would never accept the burden of entering into protracted litigation to prove the patents invalid.[39]

The response to *Lear* was mixed.[40] The narrow decision to allow licensees to challenge the validity of patents was generally perceived as a good one because it created "private attorneys general" who had an incentive to benefit the public by releasing invalidly patented inventions for public use.[41] Its broader implications, how-

---

Court found the equities in that situation "somewhat more appealing" than in the typical case but not enough to shift the balance in favor of state law. Id. at 672-73.

[37] Id. at 673. In a partial dissent, Justice White voiced doubts about the Court's jurisdiction over this issue. Id. at 677-82 (White, J., concurring in part).

[38] Id. at 673-74.

[39] Id. at 674. The Court expressly left open the question of the availability of royalties accruing prior to the issuance of the 1960 patent. Id. at 674-75.

[40] *Lear* has spawned a considerable literature. See, e.g., Altman, Is There an Afterlife?: The Effect of Patent or Copyright Expiration on License Agreements, 64 J. Pat. Off. Soc'y 297 (1982); Arnold & Goldstein, Life Under *Lear*, 48 Tex. L. Rev. 1235 (1970); Hill, The Licensing of Patent Applications: Legal and Competitive Effects, 63 J. Pat. Off. Soc'y 483 (1981); Krantz, supra note 31, at 2; McCarthy, "Unmuzzling" the Patent Licensee: Chaos in the Wake of Lear v. Adkins, 45 Geo. Wash. L. Rev. 429 (1977); Milgrim, *Sears* to *Lear* to *Painton*: Of Whales and Other Matters, 46 N.Y.U. L. Rev. 17 (1971); Comment, Patent Law—Federal Policy Does Not Preclude Enforcement of Royalty Contract for Unpatented Device, 50 Miss. L.J. 648 (1979).

[41] See, e.g., Patent Law Revision: Hearings on S. 643, S. 1253 & S. 1255 Before the Subcomm. on Patents, Trademarks, and Copyrights of the Senate Comm. on the Judiciary, 92d Cong., 1st Sess. 188-89 (1971) (statement of Raymond E. Johnson, General Counsel, Electronic Industries Ass'n) [hereinafter cited as Hearings]. But see id. at 218-19 (statement of Jackson B. Browning, Vice President-Technology, Carbon Prods. Div. of Union Carbide Corp., on behalf of the U.S. Chamber of Commerce) (discussing benefits accruing to licensee regardless of patent's validity); id. at 255-62 (statement of James T. Lynn, Under Secretary of Commerce) (after *Lear*, "bad faith" licensing, in which would-be infringers accept a patent's protection but then attack its validity, has increased).

Significantly, there are no "public attorneys general" in patent law. Rather, the public-access interest is protected by the government only through the PTO's power to reject pat-

ever, caused concern because they left inventors uncertain about their rights to exploit discoveries and severely diminished the impetus to innovate. Decisions following *Lear* have failed to resolve these problems.

The wider ramifications of *Lear* and its progeny can best be understood by putting *Lear* in historical perspective. The matrix set out in the notes illustrates four major shifts in the federal patent and state intellectual property rules affecting incentives to innovate.[42] Twenty-five years ago intellectual property was protected by both federal patent law and a full range of state rules, under the "patent/state law/estoppel" regime shown in square one below. This scheme, which was based on the notion that the national interest in encouraging innovation was best served by providing protection across the entire spectrum of inventiveness, afforded exclusive rights both to exceedingly innovative discoveries, under federal patent law, and to less inventive ones, under state trade secret and unfair competition law.

In a series of cases decided in 1964, however, the Court announced a new regime in dicta: the "patent/no state law/estoppel" rule designated as square two. In *Sears, Roebuck & Co. v. Stiffel Co.*,[43] *Compco Corp. v. Day Brite Lighting, Inc.*,[44] and *Brulotte v. Thys*,[45] the Court identified two competing federal interests implicated by intellectual property protection: first, the interest in stimulating innovation, achieved by giving inventors exclusive rights to their discoveries; and second, the interest in public access, ad-

---

ent applications. But see infra note 304 (describing the right of the Commissioner of Patents to order reexamination).

[42] Under all the permutations discussed below, patent law remains intact. Accordingly, the matrix eliminates the patent/no patent dimension. "State law" refers to state unfair competition law and trade secret law. Though a state law doctrine, estoppel is broken out separately because it has been considered separately by the Court.

	ESTOPPEL	NO ESTOPPEL
STATE LAW	1	4
NO STATE LAW	2	3

[43] 376 U.S. 225 (1964).

[44] 376 U.S. 234 (1964).

[45] 379 U.S. 29 (1964).

vanced by withholding exclusivity to promote competition and reduce the price of inventions. According to these cases, the federal interest in stimulating invention by granting exclusive rights extended only to those discoveries innovative enough to be patented. Thus, the Court in *Sears* and *Compco* refused to enforce state unfair competition laws that created exclusive rights to unpatentable discoveries, because enforcement would "block off from the public something which federal law ha[d] said belong[ed] to the public."[46] In *Brulotte*, the Court held it misuse of a patent to make a contract binding a licensee to royalty payments extending beyond the patent's term.[47] The patentee, said the Court, had improperly used the leverage of the patent to extract monopoly profits from the invention for a longer period than it was entitled to patent protection and had thereby attempted to secure a right denied by federal law.[48]

Given the Court's apparent view that the federal interest in stimulating innovation was limited to patentable discoveries, regime two, which preserved the licensee estoppel rule even for nonpatentable inventions, was unstable. *Lear* simply extended the *Brulotte* view that royalty payments beyond the patent term were improper to the situation in which the patent lapsed for reasons other than the passage of time. In both cases, the public interest in free use of the unpatented invention was held to preempt the inventor's interest in capturing the surplus generated by it.[49] In

---

[46] *Sears*, 376 U.S. at 232; accord *Compco*, 376 U.S. at 237-38.

[47] *Brulotte*, 379 U.S. at 32. Under the doctrine of patent misuse, courts will refuse to enforce patent rights when the patentee has exploited the patent improperly by violating the antitrust laws or extending the patent beyond its scope. See generally 4 D. Chisum, Patents § 19.04 (8th ed. 1985) (tracing development of patent misuse doctrine); Hoerner, Patent Misuse, 53 Antitrust L.J. 641 (1984) (same). A detailed discussion of patent misuse and its relationship to antitrust law is beyond the scope of this article.

[48] *Brulotte*, 379 U.S. at 33.

[49] Indeed, *Lear* strengthened suspicions raised by dicta in *Sears* and *Compco* that the Court believed federal patent law totally preempted state protection of unpatentable inventions. In his partial dissent in *Lear*, Justice Black, who wrote the *Sears* and *Compco* opinions, relied heavily on those decisions to argue that Adkins should be required to disgorge all the royalties paid by Lear if on remand it emerged that his invention was not patentable. According to Justice Black, if Adkins' invention was unpatentable, he should have no right to charge royalties for its use. *Lear*, 395 U.S. at 677-78 (Black, J., concurring in part and dissenting in part). By failing to join issue with Justice Black, the *Lear* majority fueled fears that unpatentable inventions could never be legally protected.

The majority avoided the question of Adkins' obligation to repay Lear by remanding the case to the California courts with instructions to consider the issue if the patent were de-

short, *Lear* moved the law into square three of the matrix, creating an internally consistent system, albeit one that was less protective of inventors than regime one.[50]

Inventors were hurt in two ways under regime three. First, the research community as a whole was forced to bear a new risk. Faced with the difficulty of determining ex ante whether an invention would be innovative enough to merit a patent, yet apparently stripped of the option of state law protection, inventors were forced to discount the expected return from their discoveries by the probability that a patent would (rightly or wrongly) fail to issue or subsequently be invalidated, causing the invention to fall into the public domain before the costs of developing it could be recouped. Second, regime three directly discouraged research into obviously unpatentable inventions. Unless inventors could guard and exploit these discoveries in absolute secrecy, they could never count on a period of exclusivity in which to capture any of the social benefits their inventions conferred. Under regime three, then, the law encouraged research only at the far upper end of the

---

cleared invalid. Id. at 675-76. It also managed to avoid the related issue of whether Adkins should be allowed to charge royalties for having revealed his invention to Lear while it was still a trade secret. The California trial court had required Adkins to elect his remedy, and thus the trade secret issue was not reviewed by the Supreme Court of California and was not presented to the United States Supreme Court. Id. at 660 n.9. See Comment, Validity of Patent License Provisions Requiring Payment of Post-Expiration Royalties, 65 Colum. L. Rev. 1256 (1965).

The dictum in Justice Black's *Sears* and *Compco* opinions prompted Congress to consider amending the Patent Act to state expressly that it did not preempt state trade secret law, see S. 2756, Amendment No. 579, 91st Cong., 2d Sess. (1970), but the attempt was unsuccessful, see Oppenheim & Scott, Empirical Study of Limitations in Domestic Patent and Know-How Licensing: A Second Report, 14 Idea 123, 129 (1971). See generally Arnold & Goldstein, supra note 40, at 1252 (discussing *Lear*'s suggestion that federal law protects only patented ideas); Goldstein, The Competitive Mandate: From *Sears* to *Lear*, 59 Calif. L. Rev. 873, 903 (1971) (discussing a constitutional mandate for a competitive economy and describing federal law monopolies as models for refinement of state laws); Product Simulation: A Right or a Wrong?, 64 Colum. L. Rev. 1178 (1964) (symposium issue including articles by Professors Brown, Bender, Derenberg, Handler, and Leeds); Note, Patent Preemption of Trade Secret Protection of Inventions Meeting Judicial Standards of Patentability, 87 Harv. L. Rev. 807 (1974) (summarizing competing federal and state laws protecting intellectual property and suggesting that Congress intended to preempt trade secret protection of patentable ideas).

[50] Portions of *Lear* also suggested that the Court had determined that the public interest in stimulating innovation was poorly served by giving exclusive rights to inventors. Even if the Court adopted this view in the early 1970's, however, it had abandoned it by the time it decided Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974). See infra notes 51-54 and accompanying text.

inventiveness spectrum.

Perhaps because of these problems, regime three proved to be short-lived. In *Kewanee Oil Co. v. Bicron Corp.*,[51] the Court was asked to decide whether state trade secret law could be used to protect an invention that might have been—but was not—patented. The *Kewanee* Court rejected the *Sears-Compco* dicta that federal law preempted all state law protection of unpatented inventions. Instead, it acknowledged that even unpatentable inventions produce social benefits[52] and resurrected the national interest in broad-ranging intellectual property protection.[53] Recognizing the role of state trade secret law in encouraging research across the entire range of the inventiveness spectrum, *Kewanee* laid to rest the notions that the Supreme Court believed exclusive rights were not a useful means of stimulating invention or that it considered the goal of encouraging future innovation through exclusivity as secondary to the public interest in the free use of existing inventions. In short, *Kewanee* returned the law to the upper half of the matrix and moved it into square four.[54]

But if the *Kewanee* Court was correct that the national interest in encouraging invention is best served by awarding property rights in all types of inventions, then the "patent/state law/no es-

---

[51] 416 U.S. 470 (1974).

[52] Id. at 485-86.

[53] The Court considered but rejected the argument that trade secret law should be enforceable for unpatentable subject matter but not for patentable discoveries. Id. at 492-93. According to this argument, state protection of unpatentable inventions furthers the goals of patent law because it removes the incentive for their inventors to waste resources on intensive security measures in order to protect themselves against free riders. Id. at 485-86. Furthermore, enforcement of trade secret law in these cases furthers federal interests by discouraging the filing of frivolous patent applications. Id. at 488. This reasoning, however, applies only in cases where the discovery is unlikely to be patentable. If the discovery is patentable, there is a danger that providing trade secret protection will encourage inventors to ignore the patent system and rely solely on state law. Although the Court acknowledged this possibility and recognized that its eventuality would frustrate the disclosure goal of patent law, it felt that the "possibility that an inventor who believes his invention meets the standards of patentability will sit back [and] rely on trade secret law . . . is remote indeed," id. at 490, because the protection offered by trade secret law is generally much more limited than that of patent law. Trade secret protection does not give the holder protection against one who reverse engineers the invention from a product embodying it, nor does it offer protection against one who discovers the invention independently. See Restatement of Torts § 757 (1939). Because patent law offers protection against both these occurrences, the Court assumed that the creator of a patentable invention would always seek a patent. The validity of this assumption is explored in greater depth infra text accompanying notes 208-23.

[54] See supra note 42.

toppel" regime of square four is problematic. Like regime two, it deals with only a portion of the inventiveness spectrum. At the upper end, it relies on federal patent law to balance the interests of inventors against the public-access interest. At the lower end, it permits the states to adjust these interests as they see fit. Between these two extremes, however, is a gray area. An inventor whose discovery falls into this middle range—where patentability is difficult to predict—is required to choose between state and federal law. If he follows the patent route, *Lear* requires him to bear a significant risk: if the patent issues but is later invalidated, he will be left with nothing to exploit, because the secrets of his invention will have been revealed to the public in the patent specifications. If, on the other hand, the inventor chooses not to patent but rather to rely on state trade secret protection, the disclosure goal of the federal patent law will be frustrated.

Harmonizing the interests protected by *Lear* with the principles underlying *Kewanee* has proved to be elusive. Yet *Aronson v. Quick Point Pencil Co.*,[55] which considered the enforceability of contracts protecting inventions found unpatentable by the PTO, may have "closed the circle"[56] on this issue. In that case, an agreement negotiated prior to the decision in *Lear* gave Quick Point the exclusive right to manufacture and sell a novel keyholder invented by Aronson. In exchange, Quick Point agreed to pay royalties at a rate that varied depending on whether a patent issued on the invention. Although the patent application was rejected, Quick Point honored this agreement (paying royalties at the reduced rate after the patent was denied) for nineteen years. After making sales in excess of $7 million (on which Aronson received over $200,000), Quick Point sought a declaratory judgment that the royalty agreement was unenforceable as contrary to the policies enunciated in *Lear* and *Brulotte*.[57]

The Supreme Court rejected Quick Point's arguments. Drawing

---

[55] 440 U.S. 257 (1979).

[56] Cf. Goldstein, Kewanee Oil Co. v. Bicron Corp.: Notes on a Closing Circle, 1974 S. Ct. Rev. 81, 89 n.33 (arguing that the overly broad preemption doctrine announced in *Sears* and *Compco* was reversed by *Kewanee* but that *Kewanee* overruled neither *Brulotte* nor *Lear*). This article, by contrast, argues that *Aronson* at least partially overruled *Brulotte* and suggested policies supporting modification of *Lear*, thus closing the circle depicted in the matrix by returning the law to regime one.

[57] *Aronson*, 440 U.S. at 259-61.

heavily upon its decision in *Kewanee*, the Court reiterated the principle that state law touching on intellectual property is not automatically preempted by federal patent law.[58] It found that the keyholder was a trade secret at the time Aronson confided her invention to Quick Point.[59] Because Quick Point received the right to be the first to exploit this secret, there was sufficient consideration to sustain the contract under state law. Enforcement of the agreement, moreover, would further the goals of patent law, because the consideration flowing to the inventor would provide economic incentive to invent, exploit, and make public desirable innovations.[60] Furthermore, enforcement would not withdraw any ideas formerly in the public domain, for the public was free to copy the keyholder from the product marketed by Quick Point.[61]

The Court easily dismissed the argument that the contract was void under *Lear*: "neither the holding nor the rationale of *Lear* controls when no patent has issued, and no ideas have been withdrawn from public use."[62] Nor did the Court find enforcement to be inconsistent with *Brulotte*:

> The principle underlying [*Brulotte*] was simply that the monopoly granted *under a patent* cannot lawfully be used to "negotiate with the leverage of that monopoly." . . . Here the reduced royalty which is challenged, far from being negotiated "with the leverage" of the patent, rested on the contingency that no patent would issue within five years.[63]

Thus, the Court held the agreement to be enforceable notwithstanding federal patent law.

Kewanee and *Aronson* do not, however, entirely resolve the problems posed by *Lear* and its related cases. Because *Kewanee* and *Aronson* dealt with the preemptive effect of patent law only in the context of discoveries that were never patented, they clarify only the rights of inventors of unpatented discoveries. Inventors of patented discoveries may also wish to invoke state law protection for their inventions, often by entering into hybrid agreements that

---

[58] Id. at 262.
[59] Id. at 263.
[60] Id. at 262-63.
[61] Id. at 263.
[62] Id. at 264.
[63] Id. at 265 (quoting *Brulotte*, 379 U.S. at 33).

simultaneously license both patented inventions and related trade secrets.[64] In considering the enforceability of the trade secret portions of these contracts, the implications of *Brulotte* and *Lear* cannot be dismissed as easily as they were in *Aronson*. Thus, even after *Aronson* and *Kewanee*, the enforceability of contractual agreements that, in one way or another, foreclose licensees from challenging the validity of their patents is unclear, and the lower courts have had difficulty with the issue.[65]

B. Enforcing Hybrid Agreements

Hybrid agreements combining patent licenses and other elements are popular.[66] Yet a number of courts have held them unenforceable after patent lapse under either *Lear*[67] or *Brulotte*.[68] This

---

[64] Another way to avoid the results in *Lear* and *Brulotte* may be to assign the patent (rather than license it) in exchange for a promise to pay royalties for a given period of time, because some courts continue to apply a doctrine of assignee estoppel despite *Lear*. See Roberts v. Sears, Roebuck & Co., 573 F.2d 976 (7th Cir.) (preventing the assignee from asserting patent invalidity in an action for fraud brought by the inventor), cert. denied, 439 U.S. 860 (1978); Coast Metals, Inc. v. Cape, 205 U.S.P.Q. (BNA) 154 (D.N.J. 1979). But see Roberts v. Sears, Roebuck & Co., 723 F.2d 1324 (7th Cir. 1983) (en banc) (permitting assignee to assert patent invalidity in infringement action brought by the patentee); cf. Meehan v. PPG Indus., Inc., 30 Pat. Trademark & Copyright J. (BNA) No. 745, at 465 (N.D. Ill. July 3, 1985) (analyzing an assignment requiring royalty payments after patent lapse as equivalent to a license). If *Lear* is still good law and the licensees of a patent are allowed to question the consideration for which they agreed to pay, it is anomalous to forbid those who purchase the patent outright from asserting its invalidity as a reason for rescission.

[65] See cases cited infra notes 75, 110, 111. Of course, inventors of patentable discoveries may protect themselves under *Aronson* by simply failing to apply for patents and keeping their inventions as trade secrets. This possibility is dealt with in greater depth infra text accompanying notes 199-223.

[66] A recent survey of 150 randomly selected corporations designed to elicit information relating to licensing agreements, although too limited to yield statistically significant conclusions, reveals some interesting trends. See Rostoker, PTC Research Report: A Survey of Corporate Licensing, 24 Idea 59 (1983). A majority of all licenses contained both patent and know-how components, id. at 63, with compensation usually provided by royalties, sometimes coupled with an initial lump sum payment, id. at 64. In the chemical, mechanical, and pharmaceutical industries, royalties were lower for know-how licenses than patent licenses; in the electrical, petroleum and transportation industries, however, royalty percentages for know-how and patent licenses were almost identical. Id. at 64-71; see also Lightman, Comparative Income Roles of U.S. Industrial Property Rights Licensed Abroad, 14 Idea 352, 359 (1970) (noting prevalence of know-how licensing in licensing of American industrial technology abroad); Lightman, Compensation Patterns in U.S. Foreign Licensing, 14 Idea 1, 3 (1970) (same).

[67] See infra note 75.

[68] See infra note 110.

section considers the possible grounds for not enforcing hybrid agreements and demonstrates that *Aronson* has undermined these rationales.

1. The Lear *Problem*

Typical of the cases testing the enforceability of hybrid agreements is *Timely Products, Inc. v. Costanzo*,[69] which was decided while *Aronson* was pending before the Supreme Court. Constanzo had developed electrically heated socks. While his patent application was pending, he entered into an agreement with an investor for the manufacture and sale of his invention. In return for an exclusive license, the investor agreed to pay (subject to certain minima) ten percent royalties on net sales, to be reduced to five percent if no patent issued or if any claim in the issued patent were subsequently declared invalid. After operating under this agreement for four years, during which time a patent on the socks was issued, the parties modified the contract to require a uniform royalty of five percent, with minimum payments to be reduced if any claim in the patent were invalidated. A relation-back clause in this agreement provided that if the licensee withheld royalties, Costanzo could void the second agreement and enforce the first.[70]

Almost five years after the second agreement was made, the patent was declared invalid in unrelated litigation. Timely Products, the investor's assignee, immediately notified Costanzo that it would continue to practice the invention but would no longer remit royalties as required by the agreement. Costanzo invoked the relation-back clause and sought enforcement of the earlier contract. Soon thereafter, Timely Products brought an action to declare the contract unenforceable. Costanzo defended on the grounds that royalties were owed regardless of the validity of the patent because the initial agreement required him to disclose a trade secret, for which the licensee had agreed to pay royalties.[71] Then-District Judge Jon Newman rejected this defense, holding that it conflicted with the policies underlying *Lear*:

> If no patent had issued to the inventor, the licensee might well

---

[69] 465 F. Supp. 91 (D. Conn. 1979).

[70] Id. at 94.

[71] Id. at 94-96.

> have been obligated to pay the prescribed royalty rate for as long as it manufactured the licensed sock device. Although the inventor had already filed a patent application on the licensed product at the time of the 1965 agreement, the subject matter of the application was still secret, and as such could have been understood by the parties to be a protectable trade secret. . . . Here, however, a patent *did* issue. This critical difference is the reason why the federal patent policy articulated in *Lear* is applicable. . . . [O]nce a patent issues, *Lear* precludes enforcement of any contract provision that eliminates the licensee's incentive to challenge the patent's validity.[72]

The court acknowledged that the required minimum payments would be reduced if the patent were declared invalid, but it reasoned that "*Lear*'s concern for some *positive* monetary incentive to attack patent invalidity [was] not sufficiently met."[73] The court suggested this concern could never be met by an agreement that required the licensee to continue paying royalties—no matter how low—after the patent was invalidated.[74]

Timely Products was decided before *Aronson*, so it is understandable that the logic of the latter case was not applied to the facts of the former. Most courts that have since considered the enforceability of hybrid agreements after lapse of the licensed patent, however, have reached the same result as the *Timely Products* court. These courts have concluded that *Aronson* did not alter the mandate laid down in *Lear* that licensees be given strong incentives to challenge patents.[75]

---

[72] Id. at 96.

[73] Id. at 97.

[74] Id. at 98 n.9. Looking to the second contract, the court reasoned that a declaration of invalidity would not provide the licensee with any benefit unless sales fell below the minimum, because the royalty rate was fixed at five percent. Id. at 96-97. Even if the relation-back clause triggered application of the first agreement, the licensee would have no incentive to challenge the patent because the royalty rate after invalidation would still be five percent, the rate he was already paying under the second contract. Indeed, the court indicated that it would have difficulty with any hybrid agreement because "there may be no principled ground on which the court could draw a line to determine the minimum discount from a royalty rate that would provide a sufficient economic incentive." Id. at 98 n.9. The court conceded, however, that in some circumstances a reduced royalty rate might serve the public interest in invention and disclosure and provide the licensee with adequate incentives to serve the public interest in disclosure. Id.

[75] As the court noted in Span-Deck, Inc. v. Fab-Con, Inc., 677 F.2d 1237 (8th Cir.), cert. denied, 459 U.S. 981 (1982):

> If the "hybrid" royalty were held enforceable, any licensor could undermine *Lear* by

That conclusion is highly dubious. As demonstrated in the preceding discussion of the case law, the Court's perception of the role of patent law in defining the federal interest in innovation has changed fundamentally in the years since *Lear* was decided.[76] During regimes two and three, while the law was in the bottom half of the matrix discussed above,[77] it could be persuasively argued that the protection offered by the Patent Act exhausted the federal interest in encouraging invention. Because *Kewanee* shifted the law back into the upper half of the matrix, however, that argument is no longer tenable. This shift signaled the Court's understanding that the patent system is but a single "string in the bow" of private subsidy for invention and that there is little federal interest in its being the only subsidy. As *Kewanee* recognized the importance of state trade secret law,[78] *Aronson* rediscovered the role of state contract law in allowing the inventors of "subpatentable" inventions—those that fall below the congressional standard for patentability yet are valuable to the consuming public—to recoup their costs.

> simply combining patent rights with other consideration in a royalty agreement and by providing no differentiation between the two considerations. If held enforceable despite patent validity [sic], such an agreement would prevent the "unmuzzling" of royalties to aid the licensee in the expense of challenging patent validity, which achieves a result directly contradictory to that sought in *Lear*.

Id. at 1246-47 & n.12; accord St. Regis Paper Co. v. Royal Indus., 552 F.2d 309, 314 (9th Cir.), cert. denied, 434 U.S. 996 (1977); In re Power Swing Partners, 9 Bankr. 512, 519-20 (S.D. Cal. 1980) ("In *Quick Point* the Supreme Court did nothing to limit *Lear* . . . ."); Veltman v. Norton Simon, Inc., 425 F. Supp. 774 (S.D.N.Y. 1977); cf. Boggild v. Kenner Prods., 776 F.2d 1315, 1319-20 (6th Cir. 1985) (*Aronson* applies only when no patent issues); Pitney Bowes, Inc. v. Mestre, 701 F.2d 1365, 1371-73 (11th Cir.) (same), cert. denied, 464 U.S. 893 (1983); Meehan v. PPG Indus., Inc., 30 Pat. Trademark & Copyright J. (BNA) No. 745, at 465 (N.D. Ill. July 3, 1985) (trade secret portion of hybrid agreement unenforceable after lapse of the patent); Stanfield v. Osborne Indus., 232 Kan. 197, 654 P.2d 917 (1982) (patent licensing agreement did not authorize payment of royalties on sales occurring after the patent application was rejected).

Some courts will, however, attempt to determine the value of the trade secrets and know-how transferred and require payment for their use on a contract or unjust enrichment theory. See, e.g., Chromalloy Am. Corp. v. Fischmann, 716 F.2d 683, 685-86 (9th Cir. 1983); *St. Regis*, 552 F.2d at 315. But see Christianson v. Colt Indus. Operating Corp., 609 F. Supp. 1174 (C.D. Ill. 1985) (refusing to enjoin use of stolen trade secrets relating to invention whose patent had expired on the ground that the patent itself was invalid under 35 U.S.C. § 112 (1982) because those secrets had not been disclosed).

[76] See supra text accompanying notes 51-65.

[77] See supra note 42.

[78] See Goldstein, supra note 56, at 91-92.

Once the role of contract law in encouraging innovation is appreciated, several flaws in *Lear*'s reasoning are exposed. The *Lear* Court simplistically equated the public interest in access to inventions with the notion that *every* member of the public must be free to practice the patent without paying tribute to the inventor. In holding Quick Point to its contract, the *Aronson* Court implicitly recognized that the public interest in access is adequately protected so long as a discovery is in the public domain and can be used by *someone* free of tribute to the inventor.[79] That there are certain parties—such as Quick Point, Timely Products, and Lear—who are contractually bound not to use the invention without paying royalties is largely irrelevant.[80] If these licensees price their goods significantly above their marginal costs or fail to meet consumer demand, competitors will enter the market, fill demand, and lower the price. If, on the other hand, the licensees can continue to compete effectively while paying royalties under a hybrid agreement to the patentee,[81] permitting the inventor to realize some of these economic rewards serves the public interest in encouraging innovation.

A second rationale lurking in *Lear* was the notion that once the licensed invention is found unpatentable, the contract somehow becomes unfair, albeit not unfair enough to say that it fails for lack of consideration: "[A]lthough licensee estoppel may be consistent with the letter of contractual doctrine, we cannot say that it is compelled by the spirit of contract law, which seeks to balance the claims of promisor and promisee in accord with the requirements of good faith."[82]

This point, too, is conclusively refuted by both the facts and the

---

[79] See *Aronson*, 440 U.S. at 263.

[80] See supra text accompanying note 61.

[81] The licensee's ability to compete may require renegotiation of the royalty provisions. If the license provided for computation of royalties as a percentage of sales, patentees will have an incentive to enter into renegotiations to adjust royalties downward when the licensee's sales fall as a result of competition. Although licenses can provide for other measures of royalties, licensees are likely to agree to be bound to pay royalties after patent lapse only if royalties are tied to some measure of their business success.

[82] *Lear*, 395 U.S. at 670; see also id. at 669 ("Under ordinary contract principles the mere fact that some benefit is received is enough to require the enforcement of the contract, regardless of the validity of the underlying patent. Nevertheless, if one tests this result by the standard of good-faith commercial dealing, it seems far from satisfactory."); id. at 670 ("the licensor's equities are far from compelling").

underlying rationale of *Aronson*. Quick Point bound itself to perpetual royalties in exchange for the revelation of a secret—an actual secret, known only to Aronson. It exploited that secret for over a decade as the exclusive manufacturer of her keyholders.[83] Even after imitating competitors eroded Quick Point's market-share, its sales and profits continued to increase.[84] In short, even though Aronson's invention was not patentable, Quick Point had received a valuable commodity—lead time. Although it could have agreed to make all its payments to Aronson during the time the invention was its exclusive possession, it chose to spread them out over the lifetime of its utilization of the invention. This choice was not unreasonable, for Quick Point incurred substantial start-up costs in preparing to manufacture the keyholder and may have preferred to minimize other expenditures in the initial period by deferring its payments to Aronson.

Nor was the lead time advantage enjoyed by Quick Point unique. A study of product introductions in the United States found that the margin between the first introduction of a nonpatented product or process and the time that a large percentage of competitors copy it is often fairly wide, allowing the first producer to earn substantial supracompetitive profits on the innovation even in the absence of patent or trade secret protection.[85] Several factors may contribute to this phenomenon. First, the originator begins with the advantage of secrecy. Even if the invention is easily reverse engineered, others cannot begin to analyze it until it is marketed. In the interim, the first producer can prepare its production facilities and arrange for distribution of the product. Later entrants must, at a minimum, expend this time to set up their rival facilities, during which time the first producer has exclusive rights to

---

[83] Quick Point was the exclusive manufacturer from 1956 until the late 1960's. *Aronson*, 440 U.S. at 260.

[84] Brief of the United States as Amicus Curiae at 3, *Aronson*.

[85] See F. Scherer, supra note 6, at 444-45 (citing E. Mansfield, Industrial Research and Technological Innovation: An Econometric Analysis 134-35 (1968)). Scherer gives as examples the time between first introduction and imitation by 60% of relevant producers for the following innovations: packaged beer in tin cans, one year; high speed beer bottle filler, seven years; continuous wide strip steel mill, nine years; by-product coke oven for steel mills, 18 years; continuous annealing of tin-plated steel, 20 years; continuous coal mining machinery, four years; diesel locomotives, 11 years. Id; see also Machlup, supra note 6, at 16, 38-39 (explaining theories that natural headstart advantages allow innovators to recover expenses of developing products and markets).

the innovation.[86] If some of the materials needed to practice the invention are scarce and the initial producer manages to monopolize them, this period of exclusive control may be quite significant.[87] Second, for some innovations, reverse engineering is not simple, and the know-how transferred along with the invention may significantly reduce the amount of time required to set up rival facilities.[88] Third, being first carries with it a psychological advantage. Many consumers prefer to buy from the first producer even when others offer the identical product at a lower price.[89] Finally, knowledge is imperfect. Potential competitors may be unaware of the new innovation for a while, and once they learn of it,

---

[86] F. Scherer, supra note 6, at 444.

[87] Of course, an attempt to monopolize raw materials may violate § 2 of the Sherman Act. See 15 U.S.C. § 2 (1982). The costs of mounting an antitrust challenge, however, are often so significant that a competitor is better off to try to secure access to the materials himself.

Although it is true that the originator may be able to restrict output in the ways described in text, it is important to note that this power does not stem from the licensing agreement itself, but rather from the power of being first. Failing to enforce the agreement will not increase production of the product at times removed from its introduction. Thus, the analysis here is not in conflict with the statement in text following supra note 80. In any event, a side benefit of enhancing the rewards of the patent system relative to the trade secret system is that technology users are less able to corner markets for resources needed to practice inventions if the necessary materials are disclosed in specifications. See infra note 202.

[88] F. Scherer, supra note 6, at 445. The need for know-how depends on qualities inherent in the innovation. A great deal of information may be required to practice certain highly technical inventions; process inventions may be virtually non-usable except by someone taught by the inventor. Even inventions that are easily reverse engineered may not be imitated in practice due to other factors. One example is the M-16 rifle. Although Colt Industries' patent on the rifle has expired, rivals cannot sell rifles manufactured according to the specifications filed with the patent office because the specifications do not reveal manufacturing details. Without the latter, the parts of "imitation" M-16 rifles are not interchangeable with those manufactured by Colt. Because rifle parts are easily destroyed in use, buyers will not purchase non-interchangeable M-16s, and as a practical matter Colt has retained its exclusive right to manufacture and sell the M-16 even after expiration of the patent. But see Christianson v. Colt Indus. Operating Corp., 609 F. Supp. 1174 (C.D. Ill. 1985) (refusing to enforce Colt's trade secrets); cases cited supra note 75.

[89] These "first mover advantages" have been illustrated by Scherer who, citing R. Bond & D. Lean, Sales, Promotions, and Product Differentiation in Two Drug Markets, Federal Trade Comm'n Staff Report (1977), gives the example of the diuretic Diuril. Although patented by Merck, the patent was easily invented around, so that within two years others were offering substitutes. Nonetheless, 19 years later Merck retained a 33% share of the market despite higher advertising expenditures by its rivals. F. Scherer, supra note 6, at 384. The image of being an innovative firm may even enhance a firm's performance permanently. Id. at 428; cf. Singer Mfg. Co. v. June Mfg. Co., 163 U.S. 169, 181 (1896) (recognizing the importance of removing the first mover's trademark advantages to enable entry into its product market after patent expiration).

may decide to watch the market develop before undertaking production themselves. If the first producer's pricing strategy is to take only a small profit on the innovation, competitors may decide it is not worth their while to imitate, leaving the field—even for a nonpatented invention—to the innovator and his licensees.[90]

These observations are applicable not only to the *Aronson* situation, where a patent has been denied, but also to the situation where an existing patent is declared invalid.[91] Once the patent is invalidated, others may begin to offer the invention to the public free of royalty charges, just as the public was free to use Aronson's invention once the PTO rejected her application. If competitors enter the market, the profits accruing to the licensee—and the inventor—will be reduced; but if they do not, the licensee will continue to earn a significant return on the invention. Requiring the licensee to continue to honor its agreement compensates the inventor for developing a subpatentable (yet valuable[92]) discovery. At the same time, the licensee receives a benefit—the lead time advantage.[93] Thus, the contract is not "unfair."

The "private attorney general" theory emphasized in *Timely Products* fares no better. The *Timely Products* court refused to enforce the hybrid agreement because it thought that *Lear* meant the licensee must "be free of any legal obstacles that remove all incentive to mount . . . an attack [on the patent],"[94] and that the provision for reduced royalties in the event the patent was declared invalid would be insufficient incentive to guarantee licensee challenges.[95] It is unclear, however, whether the private attorney general argument survives *Aronson*. The *Lear* Court thought that

---

[90] F. Scherer, supra note 6, at 445; see also Griliches, Hybrid Corn: An Exploration in the Economics of Technological Change, 25 Econometrica 501, 516, 522 (1957) (noting the effect of awareness of profitability on the dissemination of new technology in corn growing).

Interestingly, the facts in *Lear* also bear out the observations made in text. See *Lear*, 395 U.S. at 682 n.2 (White, J., concurring in part); Respondent's Brief at 59-60, *Lear*.

[91] See Note, supra note 10, at 1208.

[92] If the invention lacked value, it would not be purchased and issues relating to the enforcement of the licensing agreement would not arise.

[93] Cf. Boggild v. Kenner Prods., 576 F. Supp. 533, 539 (S.D. Ohio 1983) (permitting enforcement of agreement to pay royalties after patent expiration in exchange for trade secrets divulged before the patent had issued on the ground that "enforcing a contract for royalties does not conflict with the policy against withdrawing ideas from the public domain" (citing *Aronson*, 440 U.S. at 263)), rev'd, 776 F.2d 1315 (6th Cir. 1985).

[94] *Timely Products*, 465 F. Supp. at 95.

[95] Id. at 97-98 & n.9; see supra note 74.

licensees should be encouraged to challenge patents because they were in the best position do so.[96] Yet the *Aronson* Court refused to free the party best positioned to assure public access to the keyholder—Quick Point—from its obligation to Aronson. Instead, the Court thought it safe to rely on parties not as advantageously situated as Quick Point to provide the public with the keyholder. There is little reason to believe that the public interest in challenging patents could not be equally well served by challengers slightly less well positioned than licensees.[97]

Furthermore, it is far from clear that licensees are in the best position to serve the public interest. The uneasy case for considering licensees surrogates for the public is demonstrated by a series of post-*Lear* cases dealing with the question whether the holders of patents that are declared invalid are required to return prechallenge royalties to their licensees.[98] Although return of prechallenge

---

[96] See *Lear*, 395 U.S. at 670.

[97] See Note, supra note 10, at 1214 (arguing that so long as the cost of litigating the patent suit is less than the royalty payments, competitors and potential competitors of the licensee will challenge the patent rather than accept a license from the patentee, if one is offered). But the universe of patent challengers is probably quite small in view of the high cost of patent litigation. See H.R. Rep. No. 1307, pt. I, 96th Cong., 2d Sess. 4, *reprinted in* 1980 U.S. Code Cong. & Ad. News 6460, 6463 (citing a figure of $250,000 expended by each party in litigating patent validity). With the institution of the new reexamination procedure, see 35 U.S.C. §§ 301-307 (1982 & Supp. II 1984); infra text accompanying notes 302-21, however, challengers need no longer bear the same cost burden that they did at the time of *Lear*. Expanding the number of non-licensees with sufficient economic resources to challenge the patent in itself militates in favor of permitting patentees to limit the ability of licensees to challenge their patents.

It may well be that the Court considered patent challenges to require a great deal of technical knowledge and thought the licensee less equal to the task of engaging in technically complex evaluations. There is little reason, however, to suspect that the licensee is so poorly situated. After all, the patent is in a field in which the licensee operates. Furthermore, it is likely that before the licensee began its negotiations with the patentee, it investigated alternatives to the invention. This investigation may have left the licensee in a better position than the patentee to evaluate the patent in light of prior art. In *Lear*, for example, it is difficult to believe that the manufacturer of jet aircraft was not as well situated as its employee to evaluate his invention. Cf. Roberts v. Sears, Roebuck & Co., 573 F.2d 976 (7th Cir.) (inventor was 18 year-old Sears employee; assignee was large company well aware of uniqueness of invention), cert. denied, 439 U.S. 860 (1978).

[98] See St. Regis Paper Co. v. Royal Indus., 552 F.2d 309 (9th Cir.), cert. denied, 434 U.S. 996 (1977); see also Bristol Locknut Co. v. SPS Technologies, Inc., 677 F.2d 1277 (9th Cir. 1982) (licensee not entitled to refund of royalties paid under invalid patents before validity contested); Zenith Laboratories, Inc. v. Carter-Wallace, Inc., 530 F.2d 508 (3d Cir.) (licensee not entitled to recoup royalties paid before invalidity of patent determined by adjudication), cert. denied, 429 U.S. 828 (1976); Atlas Chem. Indus., Inc. v. Moraine Prods., 509 F.2d 1

royalties would enhance licensees' willingness and ability to finance litigation in the public interest, their interests seriously diverge from those of the public. The public interest favors early challenge of patents so that the discoveries are available sooner for use free of tribute to their inventors. If royalties paid before a patent is challenged are returned to the licensee, however, the licensee will prefer to delay litigation until the patent expires. In the interim, it will use its exclusivity to charge a supracompetitive price,[99] and after the challenge, get a refund on the portion of the profits it paid over to the patentee.[100] Accordingly, courts faced with claims for refund of royalties have held that the spirit of *Lear* demands that putative patentees be allowed to retain their royalties.[101] These courts have, in short, recognized the fallacy in *Lear*'s

---

(6th Cir. 1974) (licensee challenging patent and depositing royalties in escrow pending adjudication entitled to recoupment if patent declared invalid); Troxel Mfg. Co. v. Schwinn Bicycle Co., 465 F.2d 1253 (6th Cir. 1972) (licensee not entitled to recoup royalties already paid); Hearings, supra note 41, at 219 (statement of Jackson B. Browning, Vice President-Technology, Carbon Prods. Div. of Union Carbide Corp., on behalf of the U.S. Chamber of Commerce) (principles of fairness should prevent licensee claiming the benefit of two inconsistent positions). But see Cordis Corp v. Medtronic, Inc., 228 U.S.P.Q. (BNA) 189, 192 (Fed. Cir. Dec. 17, 1985) (noting in dictum that licensees may have the right to royalties paid pendente lite), cert. denied, 54 U.S.L.W. 3758 (U.S. May 19, 1986) (No. 85-1443). For a review of the many variations on this theme, see McCarthy, supra note 40, at 440-55.

[99] The patent discourages competition because some potential competitors may believe it to be valid—or lack enough understanding of the invention to decide whether the patent is valid—and so will not even consider practicing the invention. Others may suspect that the patent is invalid but prefer to invest in other technology rather than risk an infringement action (or seek a license from the patentee). If the invention is indeed a valuable one, this de facto exclusive right in the licensee enables it to set prices above its marginal cost. In short, the public pays more for the invention because of the patent. The issue, therefore, is how these extra profits should be distributed between the patentee and the licensee.

[100] A licensee's competitive position under a patent license is especially strong when it has bargained for the right to prosecute infringers. See, e.g., Sherman Theaters, Ltd. v. Ahlbrandt, 607 F. Supp. 939, 943-45 (D.D.C. 1985). If the law permitted licensees to obtain a refund of royalties paid, a licensee could keep the license in force and prosecute infringers with no risk. If it won, it would continue to enjoy its rights under the license until the patent expired, at which point it would then challenge the patent and obtain a full refund of royalties; if it lost, it would turn around and sue the patentee for back royalties immediately. See Coast Metals, Inc. v. Cape, 205 U.S.P.Q. (BNA) 154, 158 (D.N.J. 1979) (patent assignee estopped from attacking the validity of the patent).

[101] See cases cited supra note 98. This result is correct for other reasons as well. First, the patent discourages competition and confers upon the licensee the lead time benefit already discussed. The patentee could have retained that benefit by holding the invention as a secret and exploiting it himself. Instead, he divulged the secret to the licensee, who should pay for it. The prechallenge royalty is appropriate consideration for that benefit as its magnitude reflects both the inherent value of the patent and the length of time that the licensee

assumption that licensees are at all likely to protect the public interest in exposing invalid patents.

Indeed, so long as the patentee does not extract all the extra profit the licensee can charge, a licensee will almost always have as strong an interest as the patentee in avoiding a patent challenge and will therefore not function in the public interest.[102] As long as the patent is thought to be valid, the licensees and the patentee

---

enjoyed the exclusive right to practice it. But see Treace v. Marmor, 209 U.S.P.Q. (BNA) 697, 698 (6th Cir. 1981) (order) ("There is no evidence to support a determination that royalties equal to the royalties provided in the now-defunct license agreement equals the value of what [the licensee] actually received."); Machlup, supra note 6, at 60 (because the amount of use an invention enjoys depends on the royalty rate, the fee paid does not indicate the value of the invention). But even if the royalty rate is not a precise indicator of the value of the invention to the licensee, it may be the best proxy available.

There are two analogous contexts in which courts should consider the dangers of overvaluing the degree to which the licensee protects the public. In the first, the question is whether a patentee has the right to terminate a licensing arrangement after the licensee has begun to withhold royalties and announced its intent to challenge the patent. On the one hand, the risk of termination acts as a severe disincentive to challenge the patent—should the challenge fail, the licensee will be barred from practicing the invention and may face treble damages liability for willful infringement pendente lite. See 35 U.S.C. § 284 (1982). On the other hand, barring the patentee from terminating a contract that is being dishonored by the licensee deprives him of the income he needs to defend the patent and allows the licensee to garner the economic surplus of the invention. Holding that the public policy announced in *Lear* does not extend to insulating the licensee from the economic consequences of its actions, the CAFC recently vacated an order enjoining a patentee from terminating a license agreement. Cordis Corp. v. Medtronic, Inc., 228 U.S.P.Q. (BNA) 189 (Fed. Cir. Dec. 17, 1985), cert. denied, 54 U.S.L.W. 3758 (U.S. May 19, 1986) (No. 85-1443).

The second issue is whether the case or controversy requirement of art. III is met when a licensee brings a declaratory judgment action without terminating its license. Partially resolving this controversy by allowing such actions where the patentee has the right to terminate the agreement, see C.R. Bard, Inc., v. Schwartz, 716 F.2d 874 (Fed. Cir. 1983), the CAFC again has chosen to recognize that *Lear* cannot be read as an unmitigated endorsement of the licensee's ability to fully protect the public interest in invention. See generally Note, Patent Licensee Standing and the Declaratory Judgment Act, 83 Colum. L. Rev. 186, 198-204 (1983) (arguing that procedural advantages given licensees by *Lear* and Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971) (permitting licensee to collaterally estop patentee from asserting the validity of patents if patentee has lost on the issue in prior litigation against third party) tips the balance too far against patentees; if the patent system is to endure as an incentive to innovate, patentees need better means to protect their income stream).

Congress too has recognized the need to clarify the patentee's rights to demand royalties pendente lite and to consider a license terminated when the licensee challenges patent validity. See supra note 23; Hearings, supra note 41, at 188, 231.

[102] See Note, supra note 101, at 204 n.88 ("Characterizing the licensee who wishes to sue for patent invalidity as the champion of the public interest may . . . be incorrect . . . ."); see also Painten & Co. v. Bourns, Inc., 442 F.2d 216, 225 (2d Cir. 1971) (many licensees will prefer to pay a modest royalty for an invalid patent rather than challenge it).

are the only parties with the legal right to practice the invention. The patent confers exclusivity;[103] a successful challenge to it invites competition.[104] Certainly, it is possible that an infringer will

---

[103] Of course, the patent may have such close substitutes that supracompetitive profits cannot be charged. Cf. Lowell v. Lewis, 15 Fed. Cas. 1018, 1019 (C.C.D. Mass. 1817) (No. 8568) (Story, J.) ("If [the patent] he not extensively useful, it will silently sink into contempt and disregard."). In that event, however, the public has little need to invalidate the patent, so the rule in *Lear* is unnecessary to protect the free-access interest and serves only to prevent the parties from reaching the best bargain possible. The text assumes that the patent does confer some market power because that poses the more difficult case.

[104] See supra note 99; cf. United States v. Singer Mfg. Co., 374 U.S. 174 (1963) (rivals in a patent office interference proceeding settled in order to prevent the PTO from learning of prior art that would have invalidated patents belonging to each of them); Crane Co. v. Aeroquip Corp., 364 F. Supp. 547, 560-61 (N.D. Ill. 1973) (estopping licensee who had marked product with patent markings from contesting patentee's right to royalties), aff'd in part, rev'd in part, without reaching marking issue, 504 F.2d 1086 (7th Cir. 1974).

It could be argued that if *Lear* were modified to permit licensees to bind themselves to pay royalties regardless of patent validity, it would be easy for a patentee to create an oligopoly by licensing all potential rivals under agreements requiring forebearance from challenging patent validity. While this is certainly a possibility, it is important to note first that there are many ways to use a valuable patent to achieve market dominance. See, e.g., United States v. General Elec. Co., 272 U.S. 476 (1926) (price-restricted licenses and cross-licensing agreements did not violate antitrust laws); Priest, Cartels and Patent License Arrangements, 20 J.L. & Econ. 309, 314-16 (1977). Antitrust law can be used to combat those arrangements that restrain trade rather than legitimately exploiting the patent. See, e.g., Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172 (1965); United States v. Chas. Pfizer & Co., 426 F.2d 32 (2d Cir. 1970), aff'd by an equally divided court, 404 U.S. 548 (1972); Machlup, supra note 6, at 74-76; Kaplow, The Patent-Antitrust Intersection: A Reappraisal, 97 Harv. L. Rev. 1815, 1855-67 (1984); Priest, supra; cf. American Cyanamid Co. v. FTC, 363 F.2d 757, 770 (6th Cir. 1966) (conduct before PTO in violation of Federal Trade Commission Act, 15 U.S.C. § 45(c) (1982)).

Second, the patentee can achieve the same result under current law by suing his rivals and entering into consent decrees or settlement agreements that acknowledge infringement of a valid patent, as these agreements are generally accorded res judicata effect. See infra text accompanying notes 149-53; see also F. Scherer, supra note 6, at 453 ("[T]he patent recipient merely elects unilaterally to license only rivals able to endanger its patent position, restricting the size of the 'club' to sufficiently few sellers that an awareness of mutual interdependence makes tacitly collusive pricing likely."). Again, these agreements are subject to the antitrust laws. See, e.g., *Singer*, 374 U.S. at 200 ("such collusion to secure a monopoly grant runs afoul of the Sherman Act's prohibitions against conspiracies in restraint of trade") (White, J., concurring); Duplan Corp. v. Deering Milliken, Inc., 444 F. Supp. 648 (D.S.C. 1977) (cross-licensing agreement invalidated), aff'd in part, 594 F.2d 979 (4th Cir. 1979), cert. denied, 444 U.S. 1015 (1980); cf. Nestle Co. v. Chester's Mkt., Inc., 756 F.2d 280 (2d Cir. 1985) (vacating judgnment invalidating trademark pursuant to agreement between the parties). But cf. Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc., 105 S. Ct. 3346 (1985) (permitting arbitration of international antitrust claim despite potential for interference with domestic antitrust law). See generally L. Schwartz, J. Flynn, & H. First, Free Enterprise and Economic Organization: Antitrust 1033-35 (6th ed. 1983) (agreements in settlement of patent validity dispute are subject to antitrust laws).

enter into competition with the licensee and, unhampered by royalties, undersell the licensee. In that event, the licensee may be inclined to assert its *Lear* right to challenge validity in order to avoid paying royalties. But at this point, the public has little need for an unmuzzled licensee. Judicial review of the patent will occur when the infringer asserts invalidity as a defense to an infringement action brought by the patentee or by licensees who have the right to sue for infringement.[105] Thus, the issue of the patent's validity will be raised no sooner than (and no later than) it would be raised under *Lear*,[106] but without the complications involved in permitting a party to avoid the royalty provisions of a contract entered into after arms'-length negotiation.[107]

---

[105] Of course, licensees involved in hybrid licensing agreements may have less incentive to sue infringers because they may fear that if they lose such actions, they will continue to be bound by the license even after the litigation has freed everyone else to compete without paying royalties to the patentee. The public-access interest, however, will not suffer. If the licensee permits the infringer to practice the patent without challenge, prices will be competed down and demand met without costly litigation. See Note, supra note 10, at 1214 (noting that competitors of the licensee also have a substantial incentive to challenge patents that appear to be invalid).

[106] It is impossible to know what percentage of the patent challenges brought by licensees exercising their *Lear* rights are instituted after third parties have entered into the licensees' markets; in most cases raising *Lear* issues, there is no reason for either side to bring up the existence of third parties. Nonetheless, in a significant number of these cases, it is clear that the issue of validity was raised, or would have been raised shortly thereafter, in actions against nonbound third parties. See, e.g., PPG Indus., Inc. v. Westwood Chem., Inc., 530 F.2d 700, 701-03 (6th Cir.) (licensee filed suit after a district court had declared the patent invalid in other litigation), cert. denied, 429 U.S. 824 (1976); Zenith Laboratories, Inc. v. Carter-Wallace, Inc., 530 F.2d 508, 510 (3d Cir.) (patent held invalid in unrelated litigation), cert. denied, 429 U.S. 828 (1976); Kraly v. National Distillers & Chem. Corp., 502 F.2d 1366, 1372 (7th Cir. 1974) (royalty payments withheld after patentee failed to sue infringers); Ransburg Electro-Coating Corp. v. Spiller & Spiller, Inc., 489 F.2d 974, 976-77 (7th Cir. 1973) (licensee's challenge begun after court refused to find that a competitor of the licensee had infringed the patent); Troxel Mfg. Co. v. Schwinn Bicycle Co., 465 F.2d 1253, 1254-55 (6th Cir. 1972) (licensee's challenge filed after the patent had already been held invalid by a final judgment of a court of appeals in third-party litigation); Drackett Chem. Co. v. Chamberlain Co., 63 F.2d 853, 855 (6th Cir. 1933) (patent declared invalid in unrelated litigation); *Timely Products*, 465 F. Supp. at 94 (patent held invalid in unrelated litigation); Atlas Chem. Indus., Inc. v. Moraine Prods., Inc., 350 F. Supp. 353, 359 (E.D. Mich. 1972) (refusing to refund postchallenge royalties because the licensee had concealed facts showing the patent invalid while encouraging the patentee to prosecute infringement actions), rev'd in relevant part, 509 F.2d 1 (6th Cir. 1974); see also McCarthy, supra note 40, at 442, 448-49 (questioning whether licensee challenges encourage early adjudication of invalidity).

[107] Cf. Easterbrook, The Limits of Antitrust, 63 Tex. L. Rev. 1, 33-39 (1984) (arguing that antitrust actions should not be maintainable by parties whose interests are not aligned with those of consumers because the litigation can have its own anticompetitive consequences).

Enforcement of hybrid licenses of the sort condemned in *Timely Products* may actually induce in-depth review of patent validity sooner than the issue would be reached in a suit against an infringer. If the licensee is bound to pay royalties for practicing the invention regardless of whether the patent has lapsed, the value of the license to the licensee depends heavily on the likelihood that the patent will be judicially upheld if challenged. Thus, a rational

---

Admittedly, where the patentee is a competitor of the licensee, there is social value in freeing it from the agreement so that it may compete with the patentee to drive down prices and increase output to the socially optimal level. If entry barriers (apart from the patent) are low, however, substantial unmet demand will attract competitors. Thus, the licensee will not challenge validity whenever the license provides it with protection against competition from third parties that is more valuable than the right to compete against the patentee. In other words, the licensee will rarely have incentive to challenge the patent until others have already entered its market. Because these third-party competitors will bring down prices and increase output themselves, there is little to be gained by freeing the licensee from its agreement.

The situation is more problematic if the right to compete against the patentee is more valuable than the protection afforded by the patent and the license (taking into account the licensee's litigation expenses), a circumstance that would obtain if the royalty rate were high and there were substantial barriers preventing others from entering the market even if the patent were invalidated. In that case, social welfare would be increased by freeing the licensee from its promise, but the social costs of unsettling the patentee's expectations probably would be quite high. If competitors cannot easily enter the market, it is likely that the patentee could have made significant profits by exploiting the invention as a trade secret. Assuming that transaction costs for licensing trade secrets are not significantly different from the cost of licensing patents, see infra note 179, releasing patent licensees from their promises in such circumstances would lead rational inventors to choose trade secret protection over patent protection in the future, thereby thwarting the disclosure objective of the patent law. See infra text accompanying notes 212-22. In addition, any rule that contributes to the inventor's uncertainty as to whether he will garner a profit from his investment diminishes the ability of the patent system to stimulate innovative activities. See infra text accompanying notes 192-225; Priest, supra note 104, at 359.

If the patentee is not a competitor of the licensee, it is hard to imagine any circumstance in which the costs of releasing the licensee fail to outweigh the benefits. If there are no entry barriers (apart from the patent), others will enter the market when the patent is declared invalid and meet demand. If they do not do so, the supracompetitive profits generated by the invention should accrue to the inventor under his agreement with the licensee. Regardless of whether the discovery meets the standard of patentability, permitting the inventor to share in the economic surplus generated by the invention will stimulate further inventive activity.

An interesting sidelight to *Lear* is that the case apparently settled. (At least, there is no record of the California Supreme Court's decision on remand.) If that was the case, then the public interest that the *Lear* Court sought to advance was frustrated. The patent remained in force (because it was not invalidated) and Lear presumably retained (or could have retained) its exclusive right. Adkins, however, was forced to give up some of his profits, thereby thwarting the goal of encouraging innovation. One can only conjecture as to whether the savings experienced by Lear were passed on to consumers.

licensee who wishes to determine the value of the license he is considering entering into will review the patent or the patent application to assess the likelihood that it would be upheld on review or granted.[108] While the *Lear* rule forces the public to wait for reassessment at a time convenient to the licensee—after some supracompetitive profits have been paid and output restrictions suffered—enforcing these agreements would induce immediate and rigorous review by a party whose interests are adverse to those of the patentee.[109]

2. *The* Brulotte *Problem*

Even after it is recognized that enforcing hybrid agreements does not violate the interests protected by *Lear*, it may still be argued that such agreements are barred by *Brulotte*. The *Brulotte* objection, which views post-lapse royalty provisions as wrongful extensions of the patent monopoly, comes up relatively infrequently because most courts dispose of hybrid agreements on *Lear* grounds. When it has arisen, some courts have deemed hybrid agreements unenforceable on the grounds that the patent was used as leverage to obtain royalties for the trade secret and thereby to extend the benefits of the patent beyond its term.[110] It is, however,

---

[108] The distinction between judicial review and review by the prospective licensee is discussed infra note 153.

[109] In 1983, a survey of corporate counsel was conducted by the PTC Research Foundation to determine the effect of *Lear* on licensing practice. Although response was poor, one observation is most revealing:

> Licensees more readily agree to a license, without thoroughly questioning validity since they know they can always challenge later if the economic situation warrants. This has been my outlook. (Note that this is a reverse effect from the policy upon which *Lear* is based, i.e., facilitating the challenge of bad patents!)

PTC Research Foundation, A Survey Regarding the Lear Decision, 25 Idea 5, 6 (1984); see also Rifkind, supra note 10, at 699, 701 (arguing that while *Lear* is a bonanza to the patent bar, it works against the public interest by delaying patent challenges).

It can be argued that allowing licensees to avoid the cost of rigorously examining patent validity furthers the public-access goal by facilitating dissemination of innovations. This argument, however, suffers from the same defects noted in *Lear*. By focusing on a static model of innovation that asks how cheaply the public can obtain discoveries that have already occurred, the dynamic effects of frustrating the inventor's expectations are obscured. Under the dynamic view, the appropriate question to ask is how the legal rule affects inventors' *future* investment decisions. This model is discussed in greater depth in Part II, infra.

[110] See, e.g., Boggild v. Kenner Prods., 776 F.2d 1315, 1321 (6th Cir. 1985) ("The terms of the licensing agreement compel the conclusion that, at the time the parties executed the license, the plaintiffs exerted considerable leverage from the anticipated patents."); Pitney

doubtful that the per se rule enunciated in *Brulotte* is good law after *Aronson*.[111]

Aronson is inscrutable on this point. The majority dealt summarily with *Brulotte*, dismissing the leverage argument with the statement that "whatever role the pending application played in the negotiation of the 5% royalty, it played no part in the contract to pay the 2½% royalty indefinitely."[112] The Court provided no factual support for its statement. Its rationale may have been that the parties discounted the value of the patent by the risk that it would never issue; if they considered that risk substantial, the discounted value of the patent could not have played a significant role in their negotiations. If that is what the Court meant, it has created a rule that requires courts to decide what role the patent played in the parties' negotiations in each case.[113] To do so, a court would have to determine first the value the parties assigned to the probability that a patent would issue, and second, whether that value was so low that the patent could not have been used as leverage to obtain royalties on the trade secret. It seems unlikely, however, that the Supreme Court could have envisioned such case-by-case decisionmaking. Courts have a hard enough time deciding whether patents are valid;[114] they would have a great deal more

---

Bowes, Inc. v. Mestre, 701 F.2d 1365, 1373 (11th Cir.) ("[I]t is reasonable to assume that at least some part of the post-expiration payments constituted an effort to extend payments for patent rights beyond the patent period."), cert. denied, 464 U.S. 893 (1983); Veltman v. Norton Simon, Inc., 425 F. Supp. 774, 776 (S.D.N.Y. 1977) (rejecting patentee's argument that post-expiration royalties were solely for know-bow, on the ground that the patentee failed to prove the parties intended the contract to be divisible); Modrey v. American Gauge & Mach. Co., 339 F. Supp. 1213, 1218 (S.D.N.Y. 1972), rev'd on other grounds, 478 F.2d 470 (2d Cir. 1973); see also Meehan v. PPG Indus., Inc., 30 Pat. Trademark & Copyright J. (BNA) No. 745, at 465 (N.D. Ill. July 3, 1985) (refusing to enforce post-expiration payment provisions in a contract assiguing the patent).

[111] See discussion of *Veltman* and *Modrey* in Pitney Bowes, Inc. v. Mestre, 701 F.2d 1365, 1372-73 n.12 (11th Cir.) (reading these cases as failing to follow *Brulotte* because they envision the possibility that a patentee could prove that his license was negotiated without leverage), cert. denied, 464 U.S. 893 (1983); see also Note, supra note 10, at 1211 & nn. 93-94 (although licenses covering multiple patents often involve agreements that violate the *Brulotte* rule, some circuits have upheld them); cf. Coast Metals, Inc. v. Cape, 205 U.S.P.Q. (BNA) 154, 158 (D.N.J. 1979) (agreement negotiated without leverage).

[112] *Aronson*, 440 U.S. at 265.

[113] See, e.g., Boggild v. Kenner Prods., 776 F.2d 1315, 1320-21 (6th Cir. 1985).

[114] Although it is impossible to measure the difficulty courts have with patent validity issues, an indication of the maguitude of the problem may be gleaned by inspecting the records of the courts of appeal. Because there is no reason to suspect that patents litigated on any one circuit are less valid than the patents litigated on any other circuit, the percent-

difficulty determining the parties' reasonable assessments of validity.[115] Thus it is likely that *Aronson* overruled sub silentio the leverage theory of *Brulotte*, or at least limited use of the leverage argument to cases in which the patent expires rather than fails to issue.

Current economic understanding also favors interpreting *Aronson* as overruling or limiting *Brulotte*. In refusing to enforce the post-expiration royalty agreement, the *Brulotte* Court relied heavily on an analogy between extending a patent beyond its term and tying the sale of one product to the sale of another.[116] The latter practice is condemned as a per se violation of the antitrust laws because it is thought to permit a monopolist in one market to extend its power into a second market,[117] thereby increasing the scope of the monopoly and foreclosing competition in the second market. This reasoning in *Brulotte* is vulnerable on several counts.

First, the analogy itself is unsound. Tying the sale of two products is not the same as tying the right to practice the patent before it lapses to the right to practice the invention after the patent's expiration. In the first case, there are two product markets, and tying arguably permits the holder of a monopoly position in one market to permanently change the structure of the second market to his advantage by, for example, making it difficult for new en-

---

age of patents declared invalid by different circuits should be fairly constant. Yet they are not—over a 25-year period from 1953-1977, the percentage of patents declared invalid varied from a low of 39.5% on the Tenth Circuit to a high of 88% on the Eighth Circuit. G. Koenig, Patent Invalidity, Statistical and Substantive Analysis, App. 13 (rev. ed. 1980); see also Kitti, Patent Invalidity Studies: A Survey, 20 Idea 55, 70 (1979) (showing percentages of total patents adjudicated declared invalid). Although the reversal rate of PTO decisions by the circuit courts is not perfectly analogous to the reversal of district court decisions by the circuit courts, it is somewhat instructive to note that the appellate courts are not nearly as variable in their rates of reversing trial court decisions. For the 10-year period from 1953-1962, the overall average reversal rate varied from a low of 20.6 % on the Second Circuit to a high of 29.3% on the Fifth Circuit. See Director of the Administrative Office of the United States Courts, Annual Reports 1953-1962; infra note 254.

[115] Cf. *Kewanee*, 416 U.S. at 492 ("Partial pre-emption . . . could well create serious problems for . . . the administration of trade secret law. As a preliminary matter in trade secret actions, . . . courts would be obliged to distinguish between what a reasonable inventor would and would not correctly consider to be clearly patentable. . . .").

[116] See *Brulotte*, 379 U.S. at 33.

[117] See, e.g., International Salt Co. v. United States, 332 U.S. 392, 396 (1947). See generally Butler, Lane, & Phillips, The Futility of Antitrust Attacks on Tie-In Sales: An Economic and Legal Analysis, 36 Hastings L.J. 173, 174-80, 176 n.15 (1984) (containing a compendium of articles espousing the traditional view).

trants to compete.[118] Yet even if the market foreclosure proposition is true in the two-product case, it is difficult to see how it is true for temporal tying. Consider, for example, the facts of *Brulotte*, where the licensee, a hops farmer, had agreed to pay royalties for use of a hop-picking machine for a time period longer that the terms of the patents covering it. In what sense can it be said that this agreement forecloses the market in hop-picking machines? Unless the royalty charged for use of the machine is greater than the cost of an unpatented substitute, the farmer will continue to use the original purchase for its useful life whether or not the patent continues in force. Accordingly, there is no true second market in which a competitor may compete.[119] Once the useful life of the machine ends, the obligation to pay royalties terminates, and everyone can compete for the next sale on an equal footing.[120] In other words, temporal tying does not have any greater implications for post-expiration control over the market for the formerly patented product than does the initial sale of the product.[121]

---

[118] See, e.g., Kaplow, Extension of Monopoly Power Through Leverage, 85 Colum. L. Rev. 515, 540-43 (1985).

[119] See Taylor, Licensing in Theory and Practice: Licensor-Licensee Relationships, 53 Antitrust L.J. 561, 569 (1984). Alternatively, it could be said that there are not two products being tied.

[120] The patentee is somewhat advantaged because the user has experience with his product, but that is not the result of the agreement; it is the result of having made the first sale. Even if *Brulotte* had required the patentee to disgorge the entire royalty, that advantage would not have disappeared.

It is important to note that post-expiration royalty provisions do not entirely circumvent the limited-time provision of the Patent Act or the Constitution. The 17-year patent term influences the price that the licensee will pay for the product in two ways. Knowing that the product will eventually be available royalty-free may induce the licensee to pay less for it in the first place. The licensee will also bargain down the royalty rate because it knows that after the patent lapses it will have to compete with rivals who enjoy free use of the invention.

[121] Admittedly, the situation is more complicated in the case of a process patent, where competitors of the patentee are more likely to be foreclosed from competing for the licensee's business. In the case of process patents, however, foreclosure occurs because the invention never physically wears out (as a product does) and switching processes is generally costly. But if that is the case, it is unlikely that competitors would be successful at capturing the licensee's business in any event. Furthermore, process discoveries are easier to keep as trade secrets than product discoveries (because they can be used in secret and need never be put on the market where they can be reverse engineered). See Lunn, The Role of Property Rights and Market Power in Appropriating Innovative Output, 14 J. Legal Stud. 423, 425-36 (1985) (arguing that patent rights are less important to process innovators who can appropriate the economic values of their inventions by utilizing them in secret). For that reason, it is even more important to make patent law attractive to the inventors of patenta-

On a more fundamental level, the leverage theory upon which the tying doctrine rests has come under increasing scrutiny.[122] The tying product has a particular value to the purchaser, who is willing to pay that price and no more. If the purchaser does not want the tied product but the seller refuses to sell the tying product except on the condition that the tied product be purchased as well, the purchaser has a choice. If the sum of the selling prices of the two products is equal to or less than the price he is willing to pay for the tying product, he will consummate the sale (and throw away the tied product). If the total price is too high, he will buy neither product. But the result is precisely the same as if the seller had sold only the tying product at the amount set for the tying and tied product together.[123] In the *Brulotte* case, for example, the

---

ble processes. Thus, even if the costs of enforcing post-lapse agreements are higher (for example, because the license may induce the licensee to restrict output), they should be enforced to prevent inventors from choosing trade secret law over patent law. See infra text accompanying notes 195-223; infra note 224.

[122] See R. Bork, The Antitrust Paradox 372-75 (1978); W. Bowman, Patent and Antitrust Law 55 (1973); R. Posner, Antitrust Law: An Economic Perspective 172-73 (1976); Butler, Lane, & Phillips, supra note 117, at 190-93. But see Kaplow, supra note 118, at 527-31 (objecting to the relaxation of anti-tying rules and arguing that antitrust rules should depend on a dynamic rather than static analysis of the effects of tying). Under the dynamic view, tying is bad because it inhibits competition by altering the structure of the market for the tied product. Id. at 524. Where, however, the tying product is patented, tying has the secondary dynamic effect of enhancing the impact of the patent system in encouraging future investment in research and development. Of course, it is virtually impossible to determine whether these two phenomena balance each other out, but it is interesting to note that the Justice Department has also begun to realize that both effects must be considered in deciding which restrictive practices to condemn under the antitrust law. See R. Andewelt, Deputy Director of Operations, Antitrust Div., U.S. Dep't of Justice, The Antitrust Division's Perspective on Intellectual Property Protection and Licensing—The Past, The Present, and The Future, Remarks to the American Bar Association (July 16, 1985), *reprinted in* 30 Pat. Trademark & Copyright J. (BNA) No. 739, at 319, 321 (1985); infra note 123.

Finally, tying can be an effective form of price discrimination, permitting the patentee to maximize revenue by more fully capturing the consumer surplus created by the invention. See, e.g., R. Posner, supra, at 177-80. When so used, the tie reduces the deadweight social loss normally engendered by exclusivity. See Bowman, Tying Arrangements and the Leverage Problem, 67 Yale L.J. 19, 23-24 (1957); R. Andewelt, supra, at 322.

[123] See Jefferson Parish Hosp. v. Hyde, 466 U.S. 2, 14 (1983) ("When the seller's power is just used to maximize its return in the tying product market, where presumably its product enjoys some justifiable advantage over its competitors, the competitive ideal of the Sherman Act is not necessarily compromised."). Indeed, the Justice Department has recently taken the position that "[t]ying arrangements generally do not have a significant anticompetitive potential" and that they "often serve procompetitive or competitively neutral purposes" such as redistributing risk. Vertical Restraints Guidelines, 50 Fed. Reg. 6263, 6271 (1985). Under the new guidelines, tying agreements will only be prosecuted if conditions exist that

hop-picking machine had one value to the farmer, who paid no more than that value, but did so over a time period greater than the terms of the patents.[124]

3. *The Argument for Enforcement*

In a short concurrence to *Aronson*, Justice Blackmun acknowledged the inadequacy of the majority's treatment of *Brulotte*[125] and offered his own explanation for enforcing Aronson's contract: "[L]icensing of this sort . . . encourages patent applications, promotes early disclosure, and allows parties to structure their bargains efficiently."[126]

Justice Blackmun captured the true policy implications of *Aronson*. Having recognized that the public is adequately protected by parties other than licensees, the Court had in reality shifted its focus from the costs of the patent system—for example, the market foreclosure problem presented in *Brulotte*—to its potential benefits—namely, public disclosure of inventions and stimulation of future investment in innovation.[127] This new concern for the

---

indicate that the arrangements may have anticompetitive effects in the tied product. Id. at 6271-73. Although these guidelines are not law, they have influenced judicial decisions. See, e.g., Miller Insituform, Inc. v. Insituform of N. Am., 605 F. Supp. 1125, 1136 n.7 (M.D. Tenn. 1985); cf. Note, supra note 10, at 1218 (tying will not have an anticompetitive effect where market substitutes for the patented invention exist). The guidelines and their applicability to patent law are discussed further infra note 225.

[124] See Baxter, Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis, 76 Yale L.J. 267, 327-29 (1966). Baxter draws a distinction between licenses that calculate post-expiration royalties based on pre-expiration use and those that base these royalties on post-expiration use. He argues that the former are the equivalent of long-term loans to the licensee (deferred payments) and should not be condemned. Id. at 327-28. The latter, however, should not be tolerated because they continue to exert an output-restraining effect after expiration. Id. at 328-29. Although it may be true that output is reduced after expiration, Baxter himself notes that stretching out the computation period decreases royalties during the patent period and may operate to increase output during that time. Id. at 328. A priori, there is no reason to believe that this benefit does not at least partially offset the cost. Furthermore, it may not be true that output is reduced after expiration. Once the patent has expired, competitors of the licensee can compete free of the royalty restraint and meet demand.

[125] *Aronson*, 440 U.S. at 266-67 (Blackmun, J., concurring).

[126] Id. at 267.

[127] One commentator has suggested that the Justice Department's shift in thinking about the anticompetitive effects of patents dates from its brief in *Aronson*. R. Andewelt, supra note 122, at 323 & n.19. In that brief, however, the Solicitor General took a highly unusual position. It entered the case on the side of Aronson but argued that her contract should be enforceable only because a patent failed to issue: "We believe, however, that the rationale of

benefits of the patent system, however, cannot adequately be served by limiting enforcement to agreements concerning nonpatentable inventions. The objectives cited by Justice Blackmun are endangered not only by failure to enforce an *Aronson*-type contract covering an unpatented invention; they are equally—if not more easily—frustrated by failure to enforce contracts, like hybrid licensing agreements, that concern patented inventions. Justice Blackmun felt enforcement of Aronson's agreement was necessary to encourage future inventors to disclose their discoveries to licensees. If, however, enforcement of royalty provisions were limited to agreements that did not concern patented inventions, inventors might more often choose to rely on trade secret law and fail to patent their inventions. As a result, patent specifications would never be filed, and fresh ideas would not be disclosed.

Even more significant is the efficiency objective to which Justice Blackmun referred. Hybrid agreements serve an important economic function—they allow the parties to allocate between themselves the risks associated with bringing new products to market. The agreement between Aronson and Quick Point, for example, permitted the parties to allocate the risk that competitors would be able to drive down the price of the keyholder. Consider the result if the parties had known during their negotiation that a continued royalty provision would be unenforceable. In that event, Aronson would have required Quick Point to pay a lump sum in exchange for revealing her keyholder "secret." At the negotiation stage, however, the parties would have had difficulties calculating the value of the keyholder to the public and the value of the lead time to Quick Point. Had they assigned too low a value, Aronson would have been undercompensated for the benefit she bestowed on Quick Point. The public would have paid tribute for the invention but would have paid it to the licensee rather to the inventor, thus thwarting the patent law's goal of permitting inventors to capture the economic surplus created by their inventions. If, on the

---

Lear would invalidate any license that called for the payment of reduced royalties if a patent were issued and then held invalid." Brief for the United States as Amicus Curiae at 21 n.8, *Aronson*. The Solicitor General did not, however, deal with the paradoxical result of giving the inventor of a nonpatentable discovery greater assurance of receiving a reward than is given the inventor of a patentable discovery. Because patents are theoretically granted for the inventions that are the most socially useful, it might be thought more important to reward the latter rather than the former.

other hand, they had assigned a value too high, the public would have either overcompensated Aronson for her invention or used an inferior invention, because hers was not for sale at a price that reflected its utility. By negotiating a continuing royalty provision based on the selling price of the keyholder, Quick Point was able to pay an amount that better reflected the value to it of exploiting the secret. Had competitors entered the market sooner, Quick Point's sales would have decreased—and so would its payments to Aronson.[128] In fact, others did not enter the market. The invention was thus more valuable to Quick Point, and Aronson's tribute was higher.[129] In other words, keying payment to Quick Point's use of the invention allowed the manufacturer to allocate to Aronson the risk that the holder would prove noncommercial. In exchange, Quick Point accepted some of the risk that the holder would prove unpatentable.[130]

Most hybrid agreements function in the same way. They permit the parties to allocate between themselves the risk that the patent will be declared invalid in the same manner that the parties to an *Aronson*-type contract can allocate the risk that no patent will issue. They are more important to the patentee, however, because a declaration of invalidity is more harmful to him than a failure of

---

[128] Ironically, the argument that enforcement of agreements such as the one at issue in *Aronson* should be preempted by federal patent law probably stems in part from the superficial resemblance between the payment provisions for the patent and those for the trade secret. Had Quick Point paid a flat sum in advance for use of the trade secret, the preemption argument would probably never have been made. But the similarity between the payment provisions did not arise because Aronson attempted to develop an extra-legal alternative to the patent law; the two were the same because the objectives of the patent law and Quick Point were identical—to pay the inventor an amount that approximated the value of the invention.

[129] It may seem at first that Aronson should not have benefited from the lead time advantage created by the superior marketing characteristics of the licensee, but this argument does not withstand scrutiny. Others may have refrained from competing with Quick Point because the royalty was set so low that competitors did not think they could significantly undersell Quick Point. Thus, Quick Point's lead time advantage was maintained in part because of Aronson's sacrifice of royalties. See F. Scherer, supra note 6, at 445 ("[T]he speed of imitation depends upon the innovator's pricing policy. Companies pricing their new products to make a quick killing will encourage rapid imitation, while those pursuing a limited pricing strategy will experience slow imitation. Depending upon the circumstances, either strategy may suffice to yield substantial profits.").

[130] Cf. Butler, Lane, & Phillips, supra note 117, at 191-92 (noting the function of tying in spreading risk); Note, supra note 10, at 1229 n.186 (noting that licensing agreements specifying that royalty payments are to continue after patent is declared invalid are an effective form of risk spreading).

issuance. If no patent issues, the inventor can keep his discovery secret.[131] Under *Kewanee*, he retains the exclusive right to exploit that secret until it is reverse engineered or independently discovered. When a patent is issued, however, the secret is made public in the specifications the patentee must file.[132] If the patent is then invalidated, the patentee is left with little to exploit.

If this is true, *Lear* should be modified to return, at least partially, to the stability of regime one—that is, to permit patentees to bargain for agreements requiring licensees to pay royalties after patents have lapsed. These contracts could be structured as hybrid agreements in which at least some of the royalties are payable regardless of whether the patent remains in force, but resort to the sham of a package license should not be necessary;[133] a patentee should be equally able to bargain for an enforceable promise, based solely on the patent, of continued royalties in the event the patent

---

[131] Patent applications are kept in confidence by the PTO. 35 U.S.C. § 122 (1982). If the patent does not issue, the application is returned, and the inventor may choose to keep the information as a trade secret.

[132] See 35 U.S.C. § 112 (1982).

[133] It has been suggested that one way to avoid the problems engendered by *Lear* and *Brulotte* is to allocate royalties between the trade secret and patent portions of the contract in a "realistic" manner. See Altman, supra note 40, at 318. Such a scheme would still be vulnerable to the argument that the licensee lacks sufficient incentive to attack the patent and would not apply to contracts in which there were no trade secrets to license. See supra note 74. Furthermore, if this were the only way to avoid *Lear*, inventors would be encouraged to withhold part of their inventions for licensing as trade secrets, which would frustrate the disclosure goal of the patent law. In addition, if the invention could not be practiced without knowledge of the trade secret, a court might find the patent itself invalid for failure to make adequate disclosure under 35 U.S.C. § 112 (1982). See Christianson v. Colt Indus. Operating Corp., 609 F. Supp. 1174, 1184 (C.D. Ill. 1985) (refusing to enjoin use of stolen trade secret because associated patent invalid for failure to disclose). Finally, splitting contracts up in this manner might have unintended consequences in countries that place restrictions on technology transfers. See Altman, supra note 40, at 318 n.30.

Another alternative for avoiding *Lear* is to assign the patent rather than license it. See supra note 64. An assignee who pays a lump sum for the rights may be estopped from challenging validity later, see infra note 154, or may not be entitled to disgorgement by analogy to the cases discussed supra text accompanying notes 98-101. Lump-sum assignments, however, require the parties to assume the risk of wrongly evaluating the rights assigned. See supra text accompanying note 128. If, on the other hand, the parties avoid that problem by agreeing to compensation in the form of continuing royalties, their contract may be analyzed as equivalent to a license. See, e.g., Meehan v. PPG Indus., Inc., 30 Pat. Trademark & Copyright J. (BNA) No. 745, at 465, 466 (N.D. Ill. July 3, 1985). If it is not, then *Lear* becomes a trap for the unwary that is hardly an efficient way to protect either the public-access interest or the interest in encouraging innovation.

is declared invalid in later litigation.[134] In addition, promises to refrain from challenging the validity of patents should be enforceable. These agreements would allow patentees to use the patent system with increased confidence that they would be able to share in the economic surplus generated by their inventions.[135]

The proposed modification would give licensees sufficient flexi-

---

[134] If there are lingering suspicions that post-expiration royalty provisions permit exploitation of the patent monopoly beyond the statutory time period permitted by Congress, enforcement of these agreements could be limited to the 17-year term permitted by the Patent Act. In other words, patentees would be unable to bind licensees to pay beyond the date on which the patent would have expired had it not been declared invalid. But see supra note 120.

[135] Even before *Lear*, the Court had carved out exceptions to the doctrine of licensee estoppel. Any proposal for modification of the rule in *Lear* must therefore decide whether to perpetuate the exceptions to it.

The first limitation was announced in Westinghouse Elec. & Mfg. Co. v. Formica Insulation Co., 266 U.S. 342 (1924), in which an assignor accused of infringment was permitted to argue that his practice fell outside the scope of the patent if that patent were narrowed to avoid prior art. Id. at 353; see also Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 258 (1945) (assignor not estopped from basing infringement action defense on the grounds that patent involved had expired). The *Lear* Court, which treated assignor estoppel as equivalent to licensee estoppel, rightly thought that there was little distinction between abrogating licensee estoppel entirely and drawing a narrow exception for claims like the one made in *Westinghouse*. *Lear*, 395 U.S. at 666. But see *Scott Paper Co.*, 326 U.S. at 258-64 (Frankfurter, J., dissenting) (defending rule of assignor estoppel based on the principle of fair dealing). Accordingly, if *Lear* were modified as suggested in text, this pre-*Lear* exception should also be eliminated. See infra note 155 for further discussion of this problem.

A second limitation on licensee estoppel was the antitrust exception articulated in Sola Elec. Co. v. Jefferson Elec. Co., 317 U.S. 173 (1942). That case involved a contract containing price-fixing provisions that were per se illegal under the antitrust laws if and only if the patent to which the agreement pertained was invalid. Id. at 175-76. The holding that the licensee could challenge the validity of the patent in order to further the policies underlying the antitrust law, id. at 177, was later applied to permit licensees to attack their patents even where the patentee did not seek to enforce the price-fixing clause of the agreement. MacGregor v. Westinghouse Elec. & Mfg. Co., 329 U.S. 402 (1947); Edward Katzinger Co. v. Chicago Metallic Mfg. Co., 329 U.S. 394 (1947). The legality of price-fixing clauses in licenses for valid patents has remained in doubt. See, e.g., United States v. United States Gypsum Co., 333 U.S. 364, 389 (1948) (industry-wide price fixing agreements violate antitrust laws even where patent is valid); United States v. Line Material Co., 333 U.S. 287, 314-15 (1948) (cross-licensing agreements maintaining price of finished products violate antitrust laws); United States v. Univis Lens Co., 316 U.S. 241, 252-53 (1942) (invalidating certain features of licensing scheme that maintained resale prices); Ethyl Gasoline Corp. v. United States, 309 U.S. 436, 455-57 (1940) (invalidating licensing scheme that has effect of maintaining resale prices). Accordingly, the licensee's ability to mount an antitrust challenge to the license may not turn on whether it can challenge the validity of the patent. A limited exception to the rule suggested here, however, may be in order to deter patentees from entering into price-fixing arrangements where there is doubt as to the vitality of the patent.

bility to protect themselves. As noted earlier, licensees would scrutinize patents with care during negotiations, because the value of the license would depend heavily on the vitality of the patent. A licensee that decided the patent was very strong would presumably enter into the agreement proposed by the patentee. If the licensee had less confidence in the patent, it would have several options. It could agree to a no-contest clause but refuse to be bound to pay if the patent were declared invalid in litigation brought by others. Such an agreement would provide some comfort to the patentee while enabling the licensee to compete effectively against parties who are not bound to the patentee. On the other hand, if the licensee determined that its lead time advantage, coupled with a lower royalty rate, would enable it to compete even after the patent lapsed, it could agree to continue payments at a reduced rate even after the patent was declared invalid. Alternatively, the licensee could allocate some of the risk of invalidity to the patentee and exchange its promise to pay after lapse for a reduction in royalties for the entire time the invention was used.[136] Finally, if the licensee thought the patent invalid, it could refuse to enter any agreement that required royalty payments after lapse; refuse to agree not to challenge the patent itself; refuse to license the patent and instead bring an action to have it declared invalid;[137] initiate the patent's reexamination by the PTO;[138] or simply begin to infringe.

The public interest would not be unduly compromised by modifying *Lear* to permit these arrangements. When the patent was strong, there would be no reduction in social welfare because the

---

[136] If the licensee made an inaccurate estimate of the royalty rate that would enable it to compete even if the patent were invalidated, it could (assuming a rational patentee) always renegotiate the contract. See supra note 81.

[137] The efficacy of this suggestion turns in part on the availability of declaratory judgment procedures. That issue is treated in Part III. See infra text accompanying notes 282-301.

[138] See 35 U.S.C. §§ 301-307 (1982 & Supp. II 1984). This reexamination procedure introduced in 1980, Pub. L. No. 96-517, § 1, 94 Stat. 3015-16 (1980) (codified as amended at 35 U.S.C. §§ 301-307 (1982 & Supp. II 1984)), which permits parties other than the patentee to request the PTO to reexamine the validity of a patent, is significant. When *Lear* was decided, only patentees had the right to return to the PTO for reconsideration of an issued patent. See 35 U.S.C. §§ 251-252 (1982); infra note 319. Thus *Lear* is premised, in part, on the notion that litigation is the only avenue a nonpatentee can pursue to obtain review of the patent. Institution of the reexamination procedure is in itself sufficient reason to justify reconsideration of the *Lear* doctrine. This point is developed in Part III. See infra text accompanying notes 302-28.

public would, under either rule, compensate the inventor. When the patent was weak, the modified-*Lear* rule might actually induce earlier exposure of the weakness than obtains under *Lear*, because review of the patent during negotiation might induce the potential licensee to infringe (or challenge) the patent rather than license it.[139] If the licensee chose to go forward, it would still have an incentive to bargain down the royalty rate and thus might bring the invention to the market at a cheaper price.[140] When the patent was so weak that the licensee would refuse to enter into an agreement to pay despite the lapse of the patent, it would remain unmuzzled.[141]

C. No-Contest Clauses

Outside the context of hybrid agreements, courts have recognized estoppel-type interests that outweigh *Lear*'s goal of encouraging early judicial review of patent decisions. To evaluate the merits of permitting patentees to bargain for arrangements that discourage licensees from challenging patent validity, it is useful to consider the rationale these courts have given for imposing rules of estoppel.

The clearest instance in which policies favoring estoppel have overcome *Lear* interests lies in the enforcement of consent decrees

---

[139] Cf. Easterbrook, supra note 107, at 14-17, 29 (arguing that because courts cannot precisely determine the anticompetitive effect of the monopolist's (or patentee's) conduct, they should err on the side of permitting arguably anticompetitive conduct where the effects will be abated by the market in any event).

[140] Of course, the licensee may try to capture the consumer surplus itself. It is likely, however, that the product will sell at a lower price. First, the licensee who is worried about competing with others after the patent has lapsed may adopt a pricing strategy that avoids attracting competitors. Second, the licensee may be better able to bear the risk of unpatentability if it is better diversified than the patentee and can spread the risk over more business ventures. In this case, the cost to the licensee of bearing the risk of uncertainty may be lower than the price that the patentee would charge the licensee for bearing the same risk.

[141] One puzzling aspect of the decision in *Lear* is that *Brulotte* was never cited, even though that case was arguably relevant to the decision not to enforce the payment provision of Lear's contract after lapse of the patent. See Goldstein, supra note 56, at 86. Justice Harlan, the author of *Lear*, had dissented in *Brulotte* and apparently felt the cases distinguishable on the ground that the federal policy in challenging patent validity underlying *Lear* was not at issue in *Brulotte*. Without a strong federal interest at stake, state law should control. See Hanna v. Plumer, 380 U.S. 460, 474-75 (1965) (Harlan, J., concurring). It would be interesting to know how Justice Harlan would have balanced the public-access interest of *Lear* against the interests of the licensor after *Aronson*.

in infringement suits. *American Equipment Corp. v. Wikomi Manufacturing Co.*[142] is a typical case. Litigation there began when American Equipment Corp., the patent holder, sued Wikomi for infringement. Three years after the action was filed, the parties entered into a consent decree in which Wikomi agreed that the patent was valid and infringed. The judgment included an injunction against future infringement, and the parties simultaneously entered into a licensing agreement. Three months later, Wikomi's successor-in-interest ceased royalty payments while continuing to practice the patent. In a second infringement action, the licensee attempted to challenge the validity of the patent, arguing that under *Lear* it could not be estopped by the consent decree between its privy and the patentee.[143]

The trial court allowed the challenge, reasoning that Wikomi, like the licensee in *Lear*, served the important public function of testing the validity of a patent. The United States Court of Appeals for the Seventh Circuit reversed, ruling that the policies that generally favor according res judicata effect to consent decrees outweigh the interests enunciated in *Lear*.[144] Binding a licensee to a decree in which it admits to infringing a valid patent conserves judicial resources, avoids abuse of the judicial process, and limits

---

[142] 630 F.2d 544 (7th Cir. 1980).

[143] Id. at 545.

[144] Id. at 548-49. The rule that consent decrees may be accorded res judicata effect predates *Lear*. See Addressograph-Multigraph Corp. v. Cooper, 156 F.2d 483, 485 (2d Cir. 1946) (setting forth conditions under which res judicata effects will be granted); see also McCarthy, supra note 40, at 484-86 (discussing res judicata effect of consent decrees before and after *Lear*). Courts have reconsidered the preclusive effects of these decrees in light of the policies announced in *Lear* but, like the Seventh Circuit in *Wikomi*, have unanimously concluded that those reciting both validity and infringement should be enforced. See Humanetics, Inc. v. Kerwit Medical Prods., Inc., 709 F.2d 942 (5th Cir. 1983); USM Corp. v. SPS Technologies, Inc., 694 F.2d 505, 508 (7th Cir. 1982) (no exception from res judicata for claim of fraud on the PTO), cert. denied, 462 U.S. 1107 (1983); Vulcan, Inc. v. Fordees Corp., 658 F.2d 1106 (6th Cir. 1981), cert. denied, 456 U.S. 906 (1982); Interdynamics, Inc. v. Firma Wolf, 653 F.2d 93 (3d Cir.), cert. denied, 454 U.S. 1092 (1981); Schlegel Mfg. Co. v. USM Corp., 525 F.2d 775 (6th Cir. 1975) (per curiam), cert. denied, 425 U.S. 912 (1976); United States ex rel. Shell Oil Co. v. Barco Corp., 430 F.2d 998, 1001-02 (8th Cir. 1970); Wallace Clark & Co. v. Acheson Indus., Inc., 394 F. Supp. 393 (S.D.N.Y. 1975), aff'd, 532 F.2d 846 (2d Cir.), cert. denied, 425 U.S. 976 (1976). They have, however, continued to adhere to the pre-*Lear* rule of *Addressograph*, 156 F.2d at 485, that decrees admitting validity in the absence of infringement are not entitled to res judicata effect on the validity issue. See Crane v. Aeroquip Corp., 504 F.2d 1086, 1092 (7th cir. 1974); Kraly v. National Distillers & Chem. Corp., 502 F.2d 1366 (7th cir. 1974); Business Forms Finishing Serv., Inc. v. Carson, 452 F.2d 70 (7th Cir. 1971).

excessive litigation.[145] Furthermore, enforcement encourages good-faith settlement of disputes and provides the parties with certainty.[146] The *Wikomi* court considered the applicability of *Lear* but concluded that enforcement does not necessarily interfere with *Lear* interests and may even further them. Because third parties are not bound by the decree and are free to challenge the patent, the public interest in nullifying worthless patents is adequately protected.[147] Furthermore, by depriving licensees of a second chance to attack the patent when other infringers enter its markets, enforcement actually encourages "earlier and more vigorous challenges to the validity of patents."[148]

A closely analogous situation involves enforcement of settlements in patent license disputes, where again policies favoring nonjudicial resolution of controversies suggest that licensees should be foreclosed from reopening the issue of patent validity. Courts, however, disagree on the enforceability of these agreements. Some equate them with contracts and refuse enforcement based on *Lear*, while others treat them as equivalent to consent decrees to which res judicata effect must be accorded.[149] One court has suggested that while *Lear* might necessitate voiding settlements if the patent at issue constitutes a "tax on the public" and a party to the settlement is the only likely challenger to validity, the public interest in settling lawsuits ordinarily outweighs that favoring the elimination of invalid patents.[150]

---

[145] *Wikomi*, 630 F.2d at 548-49.

[146] Id. at 549.

[147] See id.

[148] Id. at 548. In support, the court cited Schlegel Mfg. Co. v. USM Corp., 525 F.2d 775, 781 (6th Cir. 1975) (per curiam), cert. denied, 425 U.S. 912 (1976).

[149] Compare Warner-Jenkinson Co. v. Allied Chem. Corp., 567 F.2d 184, 188 (2d Cir. 1977) (invalidating settlement) and Massillon-Cleveland-Akron Sign Co. v. Golden State Advertising Co., 444 F.2d 425, 427-28 (9th Cir.) (same), cert. denied, 404 U.S. 873 (1971), with Aro Corp. v. Allied Witan Co., 531 F.2d 1368, 1372 (6th Cir.) (settlement enforced), cert. denied, 429 U.S. 862 (1976).

One commentator has suggested that settlements should be treated like consent decrees because "the very availability of [the latter] may turn largely upon the temperament of the granting judge" and there is a public interest in conserving judicial resources where the parties think the patent is valid. Note, supra note 31, at 727; see also *Wikomi*, 630 F.2d at 549 ("This 'case-by-case' approach [to enforcement of consent decrees] would 'leave the parties at the mercy of what inevitably would be an imprecise and uncertain test.' ") (quoting *Warner-Jenkinson*, 567 F.2d at 188).

[150] See Aro Corp. v. Allied Witan Co., 531 F.2d 1368, 1374 (6th Cir.), cert. denied, 429 U.S. 862 (1976). It should be noted that this decision was authored by Judge Markey, now

The consent decree and settlement cases differ in several respects from the rule proposed here. Most obviously, they involve situations in which the judicial system has been previously invoked. Thus the rules they announce serve to protect the judicial process from continued reconsideration of the same dispute.[151] Second, in each case the court assumed there were others capable of attacking patent validity even if the party before the court was foreclosed.[152] Nonetheless, there are significant parallels between the reasoning in these cases and the rationale for allowing bargaining for post-lapse payments and no-contest clauses. In both instances, estoppel encourages early and careful evaluation of the patents by the adverse parties. This furthers the goals of *Lear* by insuring review of PTO decisions by adverse counsel, if not by courts.[153] Moreover, these cases recognize that the interests of

---

Chief Judge of the CAFC. Because most patent challenges will in the future be heard by this court, it is likely that the rule announced in *Aro* will become applicable on all the circuits.

If the exceptional case postulated in *Aro* in fact exists and only bound parties are available to challenge the patent, the exception proposed by Judge Markey could be incorporated into the proposal made here. Thus, if the licensee could show that it was the ouly one capable of challenging the patent, its earlier promise to forbear from such a challenge would not be enforced. It is hard to believe, however, that this situation occurs very often (or at all). First, if the licensee has such a dominant position, it is unlikely it will wish to lose it by challenging validity. Moreover, if a truly excessive royalty is being charged for a weak patent, there is a strong incentive for others to compete by infringing it. If several licensees have agreed not to challenge validity, there may be grounds for bringing an antitrust challenge to their conduct. See Addressograph-Multigraph Corp. v. Cooper, 156 F.2d 483, 488 (2d Cir. 1946) (Clark, J., dissenting). In the antitrust action, validity issues would be aired. Finally, the public-access interest is partially protected by the right of tbe Commissioner of Patents to seek reexamination when tbe puhlic interest is at stake and no one else has the right to seek reexamination. See 37 C.F.R. § 1.520 (1985); U.S. Patent and Trademark Office, Manual of Patent Examining Procedure § 2212 (5th ed. 1983) [hereinafter cited as Procedure Manual]; infra note 304.

[151] See Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313, 348-49 (1971).

[152] See supra note 150.

[153] The difference between review in the context of litigation and review in the course of negotiation may argue for a narrower modification of *Lear* than tbe one discussed in text. When patent litigation bas commenced, the parties have plenary rights of discovery under Fed. R. Civ. P. 26-37. Because some of tbe facts needed to challenge patentability are uniquely within the control of the patentee, discovery gives the licensee tools to equalize tbe parties' access to information that may reveal the invention to be nonpatentable. For example, the patentee may possess evidence that the invention was on sale more tban a year hefore he applied for the patent. Without the rigbt provided in Fed. R. Civ. P. 34 to examine documents, a potential licensee may be unable to protect bimself against a judgment of invalidity based on the on-sale bar of 35 U.S.C. § 102(b) (1982). Accordingly, it may be wise to limit the patentee's capacity to bind tbe licensee to pay royalties after lapse of the

licensees are not necessarily aligned with those of the public and that the right to challenge validity, standing alone, will not stimulate early patent challenges. Rather, that incentive is better furnished by a rule that warns licensees that if they do not challenge at the first opportunity, they may lose that right forever.[154] Be-

---

patent (or to refrain from challenging the patent) to situations in which the parties are equally able to assess validity. This limitation would not significantly weaken the proposal here because information to which both parties have equal access plays a role in two-thirds of the cases of patent invalidation. See G. Koenig, supra note 114, § 1, at 4 ("With a confidence coefficient of 95 percent, it was found that the proportion of invalid patents wherein uncited prior art figured into the result is between 66 and 80 percent."), § 5, at 37 ("between 10 and 22 percent of patents which are held invalid are so held on the basis of cited prior art alone"), § 5, at 49-50 ("with a confidence coefficient of 95 percent, the proportion of patents held invalid in which the decision is reached without the discussion of any prior art is between 5 and 15 percent, the proportion of invalid patents in which the decision is based on cited prior art is between 10 and 22 percent, the proportion of invalid patents in which the decision is based on both cited and uncited prior art is between 37 and 53 percent, and the proportion of invalid patents in which the decision is based on uncited prior art is between 20 and 34 percent"). Furthermore, narrowing the scope of the patentee's capacity to foreclose the licensee would dovetail nicely with the availability of reexamination. See infra text accompanying notes 322-25. Foreclosing licensees only in situations in which reexamination is available to challenge validity would have two salutary consequences. First, it would enable licensees to protect themselves by seeking reexamination before entering into licensing agreements. Second, it would protect the public interest underlying *Lear*. With cheap alternatives to litigation available to challenge the patent, there would be little need to rely on licensees.

Alternatively, the asymmetry between the licensee's knowledge and that of the patentee could he dealt with by providing the licensee with an action for misrepresentation or breach of warranty if the patentee misstated relevant information in response to direct questioning during the license negotiations. The disadvantage would be that these actions would reopen the patentee's vulnerability to suit and destroy the certainty provided by the no-contest provision.

[154] There are a few other situations in which patent challengers are estopped. First, courts have apparently continued to estop licensees who have lost their challenge rights through procedural errors. See Standard Indus., Inc. v. Tigrett Indus., Inc., 397 U.S. 586 (1970) (per curiam affirmance of 411 F.2d 1218 (6th Cir. 1969) by an equally divided court); Goldstein, supra note 49, at 884 n.59. But see Keller v. Clark Equip. Co., 715 F.2d 1280, 1288 (8th Cir. 1983) (licensee required to pay royalties despite declaration of invalidity based on negligent prosecution of patent; *Lear* issue not raised in lower courts), cert. denied, 464 U.S. 1044 (1984); American Sterilizer Co. v. Sybron Corp., 526 F.2d 542, 543 (3d Cir. 1975) (licensee's failure to exercise termination provision in license does not preclude it from challenging scope and validity of patent).

Second, assiguees may be prevented from challenging the patent they have purchased in an action for fraud brought by the assiguor. See Roberts v. Sears, Roebuck & Co., 573 F.2d 976 (7th Cir. 1978); cf. Coast Metals, Inc. v. Cape, 205 U.S.P.Q. (BNA) 154 (D.N.J. 1979) (action for rescission brought by assignee). Third, assiguors may be equitably estopped by their own misconduct from contesting the validity of the patents they have sold. See, e.g., Marvacon Indus., Inc. v. Thermacon Indus., Inc., 209 U.S.P.Q. (BNA) 932, 935 (D.N.J.

cause this encourages challenges before the public has been called upon to pay tribute to the inventor and protects the settled expectations of the parties, it does not interfere with, and in fact may better serve, the policies *Lear* sought to advance.

It is important to note that the rule suggested here differs in one crucial respect from the situation that actually confronted the *Lear* Court. At the time *Lear* was decided, estoppel was derived from general principles of contract law. The proposed modification of *Lear* would require patentees to bargain for the promise that creates the estoppel (or the disincentive to challenge validity). Although it could be argued that this distinction is of no significance,[155] the negotiation phase would serve as a warning to licensees to scrutinize patents and would provide them with an opportunity to bargain down royalty rates. Modifying *Lear* would simply put licensees in the same position as the parties to a consent decree or settlement. Once the agreement had been made, the patentee would be relieved of the uncertainty that his income stream might be abruptly halted by the unilateral act of his licen-

---

1980); Minnesota Mining & Mfg. Co. v. Blume, 533 F. Supp. 493, 517 (S.D. Ohio 1978), aff'd, 684 F.2d 1166 (6th Cir. 1982), cert. denied, 460 U.S. 1047 (1983); Brand Plastics Co. v. Dow Chem. Co., 267 F. Supp. 1010, 1013 (C.D. Cal. 1967), aff'd in part, rev'd in part sub nom. Dow Chem. Co. v. Dart Indus. Inc., 475 F.2d 124 (9th Cir.), cert. denied, 414 U.S. 1039 (1973).

[155] So long as the parties know what the legal rules are, it should be irrelevant whether the licensee must bargain for a right to later challenge the patent or the patentee must bargain for the right to foreclose the licensee from making such a challenge. See Coase, The Problem of Social Cost, 3 J. L. & Econ. 1, 9-10 (1960). This is true, however, only in a world of perfect information and costless transactions. Even before *Lear*, there were situations in which licensee estoppel could be avoided. See *Lear*, 395 U.S. at 664-68; supra note 135. Because the limits to these exceptions were vague, the parties to a licensing negotiation could not know ex ante whether a challenge would fall into one of the exceptions. By limiting licensee estoppel to cases in which it has been bargained for, the parties are put on notice concerning what legal rules will apply later. Putting the burden on the patentee to bargain for estoppel also furthers the public-access interest because if the parties fail to reach an agreement on the issue, the "default" position is in favor of no estoppel. Finally, the *Lear* Court was concerned that it may be difficult to differentiate between a claim that the accused infringer's practice is beyond the scope of the patent and a claim that the patent is invalid based on prior art. See *Lear*, 395 U.S. at 665. If this difficulty is a real one, it is alleviated by a rule binding the parties contractually rather than by operation of law. In a contract, the parties are free to specify what the licensee's rights are. For example, in American Sterilizer Co. v. Sybron Corp., 526 F.2d 542 (3d Cir. 1975), where the licensee decided to challenge validity after it had developed an improvement on the patented process, the parties could have avoided litigation by specifying in the agreement when the licensee would be estopped.

see. As the next part demonstrates, the public cost entailed by this suggestion would be more than offset by the benefit that would accrue from enabling the patentee to assure his ability to recapture his investment.

II. The Innovative Process: A Conceptual Framework

The *Lear* Court was caught in a familiar dilemma. The public clearly has a strong interest in encouraging innovation. While this interest may be furthered in a variety of ways—by subsidizing research with government grants, by providing tax deductions and credits for research activities, or by awarding prizes to inventors[156]—the nation's primary strategy is to grant inventors exclusive rights to their inventions for a limited period of years. The interest in stimulating research is, however, modulated by another principle. Research is encouraged only because it is thought that widespread use of new discoveries will enrich society. Because a competitive market for an invention tends to bring its price down to its marginal cost, the *Lear* Court framed the licensee estoppel issue as a choice between two competing goals, research promotion and widespread use ("public access"). Writing in an antipatent, antimonopoly milieu[157] and taking a static view of the interests

---

[156] See J. Jewkes, D. Sawers, & R. Stillerman, The Sources of Invention 189 (2d ed. 1969) (citing Polanvyi, Patent Reform, 11 Rev. Econ. Stud. 61 (1943-1944)). Polanvyi suggests that the government determine the social value of every new invention and award an amount proportional to that value to the inventor. James Madison had a similar idea. See Machlup, supra note 6, at 15. Jewkes, Sawers, and Stillerman favor increasing public respect for inventors, J. Jewkes, D. Sawers, & R. Stillerman, supra, at 189, and restructuring the tax law to encourage research and development and to benefit individual inventors. Id. at 192. Scherer suggests government sponsorship of research. F. Scherer, supra note 6, at 457-58; see also Role of Patents, supra note 6, pt. 2, at 22-23, 48-49 (tax incentives), 44, 57 (bounty system whereby government is given the opportunity to buy patents to dedicate them to the public, with the current patent system available for inventions whose patents are not purchased); Comm'n Report, supra note 1, at 23, 33 (suggesting government support of university-based research); K. Arrow, supra note 16, at 149, 161 (noting role of prestige accorded inventors), 160-63 (government subsidy).

Many of these strategies are followed to some extent in existing policy, but they raise problems of their own, such as determining ex ante the value of an invention (or inventor). See J. Jewkes, D. Sawers, & R. Stillerman, supra, at 190-91. This article is not, in any case, meant to suggest that the patent system is a better way to stimulate innovation; it merely suggests that a modification of current practice will enhance whatever effectiveness it has.

[157] See R. Andewelt, supra note 122, at 320-23 (arguing that the Antitrust Division of the Department of Justice has repeatedly presented the Court with an unduly narrow view of the function of patent law within a competitive economy); Goldstein, supra note 49, at 892; Note, supra note 10, at 1222-34.

that favor immediate access to existing innovations, the Court ignored the need to create rules that stimulate future investment in innovation. Thus, the Court found the public-access interest, which it thought was protected by licensees, weightier than the interests of inventors, and it accordingly decided the case in favor of Lear.[158]

As Part I showed, it is not clear that the Court accurately assessed the public-access interest, properly appreciated the extent to which the licensees' interests diverge from those of the public, or fully understood the value of estoppel to inventors.[159] More fundamentally, the Court erred in the way it framed the question. Because there are no standards by which to judge whose interest is more weighty, it is more fruitful to focus on the rewards the system offers patentees and to ask whether providing them with a particular reward (for example, enforcement of a contract term that restricts access to the invention) is likely to be such an effective stimulant to innovation that its social cost is justified.[160] In making this inquiry, two factors must be considered: a reward stimulates innovation only insofar as it can influence the person whom the system seeks to encourage, and then only if that person perceives the reward as useful at the time that he must make the crucial decisions the system hopes to influence. In assessing the patent system, then, the important questions are: What characteristics of the inventor is the system trying to influence? When are his investment decisions made? How valuable are the system's rewards to him when measured at that time? These three questions are examined in the following subsections. The remainder of this part presents an alternative method of balancing the competing concerns of *Lear*. It concludes that modifying *Lear* would facilitate

---

[158] See generally Goldstein, supra note 49, at 894-903 (*Lear* was a result not only of a bias against monopolies and in favor of free competition but also of a swing in favor of preemption of state law touching on federal issues). Because that pendulum has since begun to move in the other direction, see, e.g., Goldstein v. California, 412 U.S. 546 (1973); see Goldstein, supra note 56; Note, The Preemption Doctrine: Shifting Perspectives on Federalism and the Burger Court, 75 Colum. L. Rev. 623 (1975) (examining divergent approaches to preemption), it is possible that if *Lear* were to come up today, Adkins would prevail purely on preemption grounds.

[159] See supra text accompanying notes 79-81, 98-104, 128-35.

[160] See Kaplow, supra note 104, at 1821-22; Ordover, Economic Foundations and Considerations in Protecting Industrial and Intellectual Property, 53 Antitrust L.J. 503, 512 (1984).

more efficient allocation of patent risks and at the same time discourage the use of trade secret law in preference to patent protection.

A. The Inventor

Much ink has been spilled on the question of which firm size and market structure best promote technological development.[161] Although resolution of these issues is beyond the scope of this article, some of the observations made in the course of these debates are highly relevant. Firm size per se does not appear to be correlated with success at innovation; large firms are not necessarily the most innovative.[162] Although they have certain clear resource advantages in the race to bring innovations to market,[163] their size can also be a detriment. Bigness implies a more organized research structure, which often means more memoranda must be written to get a particular project off the ground. In large firms, the most creative people often seek status positions as managers rather than bench-line jobs as research fellows,[164] and creative suggestions are often disfavored by an internal merit system that punishes improvident experiments more than it rewards fruitful ones.[165] In small

---

[161] See generally J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 132-33 (data indicate that in "slightly concentrated industries" little research and development takes place, but in more concentrated industries no general pattern can be identified); F. Scherer, supra note 6, at 413-22 (assessing the relationship between the size of firms in a particular industry and the amount of research and development they undertake); Lunn, supra note 121, at 428-33 (arguing that market power increases a firm's incentives to invest in process research and development where it can appropriate the gains through secrecy); Markham, Concentration: A Stimulus or Retardant to Innovation?, *in* H. Goldschmid, H. Mann, & J. Weston, Industrial Concentration: The New Learning 247 (1974) (assessing effect of restrictive merger policy on incentives for innovation).

[162] J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 205-09 (citing computers, printing, aluminum, and petroleum as examples of industries in which size has historically not been correlated with innovative performance); F. Scherer, supra note 6, at 418; see J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 225 n.2 and sources cited therein.

[163] Large firms can bring greater resources to bear on a promising research effort and take advantage of economies of scale. Their greater diversification means both that there are more varied skills available to apply to a project and that there is less chance of the firm being unable to utilize an invention once it is reduced to practice; their more highly developed distribution channels may permit earlier and better market penetration, which in turn may affect the profitibility of an innovation. See F. Scherer, supra note 6, at 413-14; Nelson, supra note 6, at 302-03.

[164] F. Scherer, supra note 6, at 414-15.

[165] See id. at 414.

firms,[166] by contrast, researchers generally have more flexibility to take risks in their projects and need not persuade several levels of management that an idea is a good one. Moreover, creative individuals simply may not like working for large companies,[167] where the chance of spectacular personal success is diminished, freedom of action is curtailed, and the isolation necessary to see things in a new and fresh way does not exist.[168]

The difference in inventiveness between small firms and larger concerns that hold significant market shares in concentrated industries may be even more pronounced. The latter may have greater financial and personnel resources to devote to research and development, be better situated to take advantage of lead time, and be more adept at long-range planning.[169] Yet these firms may consider it less necessary to innovate because they are already in control of their markets.[170] The only incentive for a monopolist or an oligopolist to adopt a vigorous research program may be to foreclose others from taking away its leadership position.[171] For a small

---

[166] The term "small firm" encompasses both individual inventors and small firms. Research firms exist on a continuum from single-inventor operations to huge conglomerates, and it is difficult to mark the exact point on the spectrum that separates "big" and "small." As a rule of thumb, small firms are those that cannot integrate vertically to take advantage of their own discoveries without considerable infusion of outside resources. See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 81-83; cf. 37 C.F.R. § 1.9(c) (1985) (defining "independent inventor" as "any inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation . . . to assign, grant, convey, or license, any rights in the invention . . . ."). Nothing said in text, however, depends on making this differentiation precise.

[167] See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 209 n.2 (giving as an example Seymour Cray, founder of Control Data). The classic counter-example is Wallace H. Carothers, who discovered nylon for E.I. du Pont de Nemours. Carothers, however, was hired away from his instructorship at Harvard only after du Pont tried and failed to recruit several more established professors and agreed to give him freedom to pursue his theoretical organic chemistry interests without reference to commercial applicability. See Smith & Hounshell, Wallace H. Carothers and Fundamental Research at Du Pont, 229 Science 436, 437 (1985). When du Pont broke its promise during the Depression and required Carothers to work on marketable projects, he considered leaving, had a nervous breakdown, and committed suicide two days before his forty-first birthday (and before his discovery of nylon was publicly announced). Id. at 440.

[168] Role of Patents, supra note 6, pt. 2, at 131, 134-36; J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 96, 179-81.

[169] F. Scherer, supra note 6, at 424.

[170] Id. at 423-30. The exception is cost-reducing innovations, which are as desirable to monopolists as to competitors.

[171] Id. at 428; see K. Arrow, supra note 16, at 156-60 (except for the fact that a monopolist is better situated to utilize new discoveries, its incentive to engage in research is always less

firm, on the other hand, innovation represents a major opportunity—often the only opportunity—to break into an industry.[172]

Several conclusions follow from these observations. First, it is clear that small firms play an important role in stimulating innovation in general.[173] Second, they play a critical role in producing those inventions that require an "uncommitted mind" and a willingness to pursue unorthodox ideas.[174] Because it is these latter inventions—the "bold, risky departures from known technology"[175]—that often have the greatest impact on the quality of life,[176] any system aimed at stimulating invention should be designed in part to encourage the small research firm.[177]

---

than that of a competitor); Lunn, supra note 121, at 426 (monopolists are especially likely to be more innovative than competitors in areas where appropriation is difficult); Sherer, Research and Development Resource Allocation Under Rivalry, 81 Q.J. Econ. 359, 388-89 (1967).

[172] See Panel Discussion, The Value of Patents and Other Legally Protected Commercial Rights, 53 Antitrust L.J. 535, 537 (1984) (statement of Jack E. Brown, member of Arizona Bar). The difference in the value of innovations to new and established firms may account for the fact that smaller firms often spend a larger portion of their revenue on research and development than large firms. See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 222, 226.

[173] F. Scherer, supra note 6, at 416 ("small firms and independent inventors play a prominent and perhaps even a disproportionate role in generating the new ideas and concepts upon which technological advances rest").

[174] J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 96, 98; see also Role of Patents, supra note 6, pt. 2, at 157-58 (large concerns are better at organizing orderly investigations of known problems than at taking the "cerebral popcorn approach" that characterizes radical departures from known technologies).

[175] F. Scherer, supra note 6, at 454.

[176] Id.

[177] The views of those who think the patent system is unnecessary to stimulate invention may be reconciled with the views of those who think that the system is crucial to innovation by noting that the two factions may be considering different types of inventors. Thus, while Professor Schmookler may be correct when he says that "the prospect of patents directly induces substantially less than half of current research and development activity," Role of Patents, supra note 6, pt. 2, at 18, he is ignoring the disparate effects that the patent system has on different kinds of inventors. He relies on a study by Frederic Scherer to support his statement, see id. at 41-42, yet Scherer's survey dealt only with the effect that the absence of patent protection would have on large corporations. It did not address the concerns of the individual inventors who, according to Schmookler, account for 40% of the patents granted in the United States. Id. at 155; see also id. at 42-43 (expressing opinions of other experts that patents are more important for small firms than large ones); J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 186, 203-05 (discussing the role of the independent inventer); Lunn, supra note 121 (arguing that little innovation occurs if inventors cannot appropriate the economic values of their inventions). If patent law is inadequate, research and development will be limited to diversified firms in concentrated industries, which do not need intellectual property rights to internalize the benefits of their innovations.

These observations may support an even stronger conclusion: the design of the patent system should be uniquely structured to suit the needs of small, non-integrated firms that can neither profit from secret use of their innovations nor recapture their investment costs during the time before others come into the market.[178] Although these firms may be successful at developing innovative processes, they may not have the manufacturing arms to use the processes they have invented. Although they may be uniquely well situated to invent new products, they may not be positioned to market their developments effectively and thus may not be able to exploit lead time at all or to stretch it into a period in which their investment can be recouped.[179] Accordingly, to insure an adequate return on investment for these smaller firms, it is especially important to grant them exclusive rights to their inventions for a fixed period of years and to allow them sufficient flexibility in their licensing arrangements to enable them to capture the economic surplus that their inventions generate.[180]

Even if one were to accept the argument that large firms are the more innovative, see, e.g., Markham, supra note 161, at 268, patent protection is especially necessary to encourage risky innovations. Following Ravenshear, Machlup draws a distinction between " 'originative inventions,' " which " 'produce a result not previously attained' " and " 'inteusive inventions,' " which merely improve known products. See Machlup, supra note 6, at 36 (quoting A. Ravenshear, The Industrial and Commercial Influence of the English Patent System 52-55 (1908)). Lead time is of limited significance for the former because much of the head start is devoted to creating a market. Accordingly, the introducer's dominant position must be artificially extended. Inventions that improve known products, on the other hand, are easily understeod by the end-consumer, so it is easier for the first mover to market them effectively.

[178] See supra text accompanying notes 83-90, 131-32; cf. Lunn, supra note 121, at 432 ("The crucial determinant of innovative effort is the extent of property rights an inventor has to his invention.").

[179] See, e.g., Milgrim, supra note 40, at 26. The small inventor also has more to gain from the patent system than the large firm because one of the benefits of the patent system is that it lowers the transaction costs of licensing. Because large firms usually have the option to exploit their inventions themselves, the ability to license is less important to them. Conversely, the ease of licensing—which is the critical issue in *Lear*—is a more significant consideration for the small inventer. See F. Scherer, supra note 6, at 416; Arnold & Goldstein, supra note 40, at 1249-50, 1257. Commentators who believe that large firms are more innovative than small ones often cite as an important reason the ability of large firms to exploit innovations efficiently. See, e.g., Lunn, supra note 121, at 426; Markham, supra note 161, at 248. Accordingly, the freedom to enter into beneficial licensing arrangements is of special significance to smaller firms.

[180] Role of Patents, supra note 6, pt. 2, at 178 ("The patent application is a tool which makes it possible for the individual inventor to deal with the corporate entity with some reasonable assurance of being protected," giving the example of Polaroid); J. Jewkes, D.

B. Timing

Timing is a second crucial determinant of the effectiveness of the patent system. The patent system is sometimes criticized as unsuited to the task of stimulating innovation because its rewards are negligible when the would-be inventor discounts them by the risk that he will not succeed in conceiving an invention.[181] But the period before conception is not the point at which the inventor contemplates the rewards available under the patent law.[182] To locate that point, it is helpful to analyze innovation as a four-staged process: invention, development, entrepreneurship, and investment.[183]

In the first step, the inventor attains an insight that may produce a technological advance.[184] Often, these insights arise fortuitously;[185] they are generally mental processes whose soundness is determined, if at all, in a "quick and dirty" experiment. Beyond providing an atmosphere in which discoveries can take place, attempts to use legal rules to encourage these insights are unlikely to succeed.[186] Furthermore, because achieving insight requires little funding and may at the least produce public recognition, the in-

---

Sawers, & R. Stillerman, supra note 156, at 186-93; F. Scherer, supra note 6, at 449; C. Rule, Deputy Assistant Attorney General, Antitrust Div., U.S. Dep't of Justice, Technology Licensing and the Second American Revolution: Storming the Ramparts of Antitrust and Misuse, Statement at John Marshall Law School (Feb. 22, 1985), at 7 ("Licensing may sometimes be the only way an inventor can develop and bring his technology to the market place.") (unpublished manuscript on file with Virginia Law Review Assoc.); see also Dibner, supra note 13, at 1230 (licensing is chief means used by many small biotechnology firms to raise capital to finance further research).

[181] See, e.g., K. Arrow, supra note 16, at 138, 153; Nelson, supra note 6, at 300; Priest, supra note 104, at 359.

[182] See Picard v. United Aircraft Corp., 128 F.2d 632, 643 (2d Cir.) ("The controversy between the defenders and assailants of our patent system may be about a false issue—the stimulus to invention. The real issue may be the stimulus to investment."), cert. denied, 317 U.S. 651 (1942); see also F. Scherer, supra note 6, at 440-41 (same).

[183] F. Scherer, supra note 6, at 411.

[184] This is the phenomenon of "conception." See 35 U.S.C. § 102(g) (1982).

[185] See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 184; Nelson, supra note 6, at 299 (citing W.H. Perkin's invention of mauve, the first analine dye, while trying to synthesize quinine), 301 (citing L. Pasteur's discovery of the value of inoculation during research on chicken cholera); Smith & Homshell, supra note 167, at 438 (citing W.H. Carothers' accidental discovery of neoprene).

[186] See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 107-14; F. Scherer, supra note 6, at 412 ("there is a substantial random component in fimdamental invention").

ventor is unlikely to be deterred at this stage by the risk of not receiving a material reward.[187]

In contrast, during the development stage that follows the attainment of insight, the inventor is called upon to make many crucial—and costly—decisions. In stage two, the inventor must develop his invention by verifying the insight and by rendering it commercially feasible.[188] At first, this may involve building scale models and working out technical problems by applying other technologies to the invention or by making collateral inventions.[189] Later, the inventor will have to solve the problems raised by scaling up to production size. As the inventor moves through stage two, expenditures of time, effort, and money typically escalate.[190]

At some point, the small inventor will no longer be able to finance these efforts alone and will be required to move into stages three and four, entrepreneurship and investment. To continue the developmental process of reducing the invention to practice and bringing it to market, the inventor will need to risk substantial funds of his own or seek financial backing from others. During this period significant decisions must be made. Should the inventor give up? Should he organize in a fashion that permits him to exploit the invention himself? Should he proceed further on his own and then license the invention to others? Should he approach established concerns that might buy the invention outright and risk further investment themselves? It is thus at this stage that the patent system is likely to influence the inventor.[191]

---

[187] At this stage, there is a risk that the insight may be wrong or not adaptable for commercial exploitation. Presumably, innovation would be further encouraged if this risk were also subsidized, but neither patent law nor trade secret law does so. Indeed, both systems encourage inventors to weed out ideas that are unlikely to be successful by rewarding only inventions that are marketable.

Because the patent system has little effect at the initial stage, permitting inventors to shift their risks to their licensees in the manner suggested here would not reduce inventors' incentive to succeed as Arrow fears. See K. Arrow, supra note 16, at 143.

[188] See 35 U.S.C. § 102(g) (1982) ("reduction to practice").

[189] See J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 28-29.

[190] See Kitch, supra note 6, at 276-77; Note, supra note 10, at 1230 ("On average, the cost of development is ten times the cost of invention.").

[191] This is particularly true in the case of the small inventor:

> [T]he patent system was originally intended to be, and still is, the bridgehead between the inventor and the entrepreneur and the risk capital he represents. Because of the temporary monopoly it provides, it encourages those with inventive minds to spend their time and effort in creative activity with the hope and expectation that, as a result, they and the capitalists associated with them will be able to secure material rewards for their efforts and their originality.

Role of Patents, supra note 6, pt. 2, at 128.

C. The Reward

There are, accordingly, two key decisions in the innovative process that intellectual property law should be structured to influence: whether to go forward and how to go forward. To address the first issue, the system must reduce the risk that the investor will be unable to recapture his investment because of the free-rider problem. By permitting him to exclude others from practicing the invention, the patent law reduces this risk somewhat.[192] This is not, however, a complete solution, because at the time that the inventor is forced to decide whether to make the effort required to commercialize his discovery, it may be impossible for him to predict whether the invention will meet the standard of patentability. But *Kewanee*'s reaffirmation of the vitality of trade secret law reduces the risk still further.[193] By allowing the inventor to exclude those who have not sunk comparable costs into independent invention or reverse engineering, state trade secret law assures that he will be able to compete effectively.[194]

The availability of state trade secret law is not without its drawbacks, however. While it may spur the inventor onward, it may also prompt him to organize in a socially nonbeneficial manner. Protecting trade secrets may misallocate resources, for the inventor may safeguard his secret by hiring guards and building impregnable factories, thereby incurring expenses that provide little social

---

Large-firm inventors face many of the same concerns. They may, however, be less risk-averse, see F. Scherer, supra note 6, at 414, 423-30, and so may be less discouraged by the risk that their investment will not be recaptured.

[192] See Priest, supra note 104, at 359.

[193] See Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 485 (1974) ("Trade secret law will encourage invention in areas where patent law does not reach, and will prompt the independent innovator to proceed with the discovery and exploitation of his invention."); see also id. at 493 ("Trade secret law promotes the sharing of knowledge, and the efficient operation of industry; it permits the individual inventor to reap the rewards of his labor by contracting with a company large enough to develop and exploit it.").

Of course, reducing the standards of patentability would accomplish the same result, but the dual system has a great advantage. Because trade secret law does not protect the inventor against the possibility that his competitor will reverse engineer the product or make the same invention independently, the exclusive right created is much weaker. Id. at 490. In other words, the dual system creates a spectrum of protection—in theory, more is afforded highly innovative inventions than is provided for those that are less innovative.

[194] See Sidak, Debunking Predatory Innovation, 83 Colum. L. Rev. 1121, 1141-42 (1983).

benefit.[195] Resources are misallocated in other ways as well. Trade secrets inhibit the bidding process and so reduce the economic payoff of the invention to the inventor.[196] To prevent information leaks, the inventor may decide to forgo licensing opportunities in order to keep knowledge of the invention confined to those he trusts or those whose security precautions he can monitor. If these producers cannot expand output to meet demand, less than optimal output may be achieved because of the need for secrecy.[197] Similarly, if certain usages of the information present a greater risk of discovery than others, the inventor may avoid that usage entirely, and the full economic value of the invention may never be realized. Finally, trade secrets are often protected by binding employees to covenants not to compete or not to use the information learned during the course of employment. These covenants make it difficult for employees to change jobs, which hurts the workers themselves and deprives society of the highest and best use of their skills.[198]

Protection of trade secrets has wider implications as well. Under the patent system, the quid pro quo for the exclusive right of a patent is that the invention be fully described in specifications publicly filed in the patent office.[199] By informing others of what has already been discovered, these filings permit researchers to avoid duplication of effort,[200] provide a foundation upon which fur-

---

[195] The situation would be even worse if trade secrets were not legally protected and no one could be enjoined from using information obtained by way of espionage and breaches of confidential information. Organizing in a fashion that permitted exploitation without any revelation of the information would involve massive expenditures of money and would certainly restrict output drastically. See Posner, The Right of Privacy, 12 Ga. L. Rev. 393, 410 (1978); Robinson, The Confidence Game: An Approach to the Law About Trade Secrets, 25 Ariz. L. Rev. 347, 354 & n. 38 (1983); Wydick, Trade Secrets: Federal Preemption in Light of Goldstein and Kewanee (pt. 2), 56 J. Pat. Off. Soc'y 4, 23-24 (1974); Note, supra note 101, at 212-13.

[196] See Kitch, supra note 6, at 278; Ordover, supra note 160, at 506.

[197] See K. Arrow, supra note 16, at 151; Kitch, supra note 6, at 282.

[198] See Robinson, supra note 195, at 364-69. Robinson argues that wide use of covenants not to compete will exact an enormous cost in human capital by forcing workers to stay at their first jobs or to forgo the use of the training they have acquired. Id. at 348. He recommends strictly limiting such protection in the employment context. Id. at 368-69. Enhancing the value of federal patcnt protection relative to state law protection would also alleviate this problem. See id. at 353-54.

[199] 35 U.S.C. § 112 (1982). Indeed, disclosure is cited by some commentators as a major justification for the patent system. See Machlup, supra note 6, at 31-32.

[200] Paradoxically, duplication of effort is one cost often attributed to the patent system,

ther developments can be made,[201] and enable competitors to prepare their facilities for the time when the patent will expire.[202] Furthermore, the patent expedites dissemination of the information discovered by the patentee because he is protected against free-riders by operation of law rather than by withholding crucial

---

because it is thought that competitors of the patentee (and his licensees) devote substantial effort to "inventing around" the patent, that is, trying to utilize its ideas in a manner that avoids infringement. See Role of Patents, supra note 6, pt. 2, at 19-20; F. Scherer, supra note 6, at 446-47. If inventing around produces only inventions that would be superfluous but for the exclusive right enjoyed by the patentee, then it does indeed produce a deadweight social loss. On the other hand, it is not clear that duplicative activity is as great as alleged. Besides, some duplication results in new insights and better inventions. Id. at 452. Furthermore, the costs of the system should not be assessed in a vacuum. The choice is not between a patent system and freely available inventions; it is between a patent system and a secrecy system. After all, no one can force an inventor to reveal his ideas if he chooses to withhold them. See Wydick, supra note 195, at 17. Duplicative research occurs under a trade secret system as well, but in the form of reverse engineering or unintentional repetition of experiments others have already performed. Although it can be argued that the patent system does not lead to adequate disclosure either, see, e.g., Machlup, supra note 6, at 32-33, the solution lies in enforcement of § 112, not in making patent law less attractive. Cf. Christianson v. Colt Indus. Operating Corp., 609 F.Supp. 1174, 1184 (C.D. Ill. 1985) (refusing to enjoin use of stolen trade secrets because information should have been revealed in specifications).

[201] See PTC Research Report, But Does Any One Bother to Read Them? A Study of the Role of Patent Disclosures and Research Literature in Stimulating Invention and Innovation, 21 Idea 141, 146 (1980) (concluding that given the frequency with which patents are cited in other patents and by researchers, they must be useful in stimulating further research); G. Mossinghoff, Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, The Importance of Intellectual Property in International Trade, Remarks to the American Patent Law Assoc., in Washington, D.C. (Oct. 13, 1983), *reprinted in* 26 Pat. Trademark & Copyright J. (BNA) No. 651, at 546-47 (1983) (patents provide a vital source of technological information for researchers); cf. Editorial, Scientists Who Hog Data, N.Y. Times, July 28, 1985, at E20, col. 1 (scientists who fail to publish data inhibit research efforts of others).

[202] See, e.g., Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, title II, § 202, 98 Stat. 1603 (amending 35 U.S.C. § 271 (1982) to reverse Roche Products, Inc. v. Bolar Pharmaceutical Co., 733 F.2d 858 (Fed. Cir.), cert. denied, 105 S. Ct. 183 (1984)). The defendant in *Roche Products* was a generic drug manufacturer who was interested in marketing a patented drug after the patent expired. Because the Food and Drug Administration (FDA) requires premarket clearance of generic drugs, the defendant began using the patented drug to perform the tests required for FDA approval before the patent had expired. The court held that this was infringement. *Roche Products*, 733 F.2d at 864. The 1984 legislation reversed this rule, thus permitting generic drug companies to "gear up" to enter into competition with the patentee as soon as the patent expires. Even if *Roche Products* had not been reversed, the specifications at the very least permit others to protect themselves from finding, when the patent expires, that the patentee (or his licensee) has cornered the market in raw materials.

parts of his discovery.[203] Finally, because improvements on the patent cannot be practiced without the permission of the patentee, the patentee becomes a clearinghouse for information concerning his innovation. This concentration of information, in turn, facilitates the continuation of research.[204]

In contrast, trade secrets keep information hidden. The wheel must be continually reinvented because no one knows where other inventors have been or what they have discovered. As a result, research resources are misallocated as the same discoveries are made over and over,[205] and insights are lost because the bases for them are hidden in confidential files. Competitors may be worse off with secrecy than with a patent.[206] Moreover, the public is unable to

---

[203] Kitch, supra note 6, at 276-79. Kitch discounts the reward function of the patent system in favor of a prospect theory. Under this view, the value of the patent law is said to lie in its tendency to concentrate research in new technologies in the hands of the patentee, much like a mining claim gives the first prospector the freedom—and incentive—to develop and exploit his mine. Id. at 276. Furthermore, the patent system facilitates the interchange of information by permitting the patentee to fully reveal his ideas to others without the fear that the recipients will free ride on the discovery. Id. at 278. Neither result can be achieved under a trade secret system. Id. at 279. Thus, even under Kitch's prospect theory, the system should be structured to encourage the inventors of patentable subject matter to use the patent system over trade secret protection. As Kiteh apparently realizes, *Lear* is inconsistent with this objective. See id. at 282-83; K. Arrow, supra note 16, at 151-52; see also Hearings, supra note 41, at 199 (statement of S.W. Herwald, Vice President, Westinghouse Electric Corp.) (under a secrecy system, inventor would not be able to deal candidly with potential licensees because that would jeopardize his exclusive right; because licensees would be unable to evaluate the information, they would pay less than its value).

[204] Kitch, supra note 6, at 278; Priest, supra note 104, at 359 n.184.

[205] The availability of trade secret law may also misallocate research resources by encouraging inventors to work on projects leading to inventions that could be kept as trade secrets instead of inventions that would need to be patented in order to be legally protected. Kitch, supra note 6, at 279; Lunn, supra note 121, at 425-26.

[206] See, e.g., Berkey Photo v. Eastman Kodak Co., 603 F.2d 263, 281 (2d Cir. 1979) (rejecting claim that Kodak had violated the antitrust laws by keeping secret film format information needed by other camera manufacturers to compete), cert. denied, 444 U.S. 1093 (1980); ILC Peripherals Leasing Corp. v. IBM Corp., 458 F. Supp. 423, 436-37 (N.D. Cal. 1978) (no duty on the part of IBM to disclose interface information to peripherals producers after *Kewanee* reaffirmed vitality of state trade secret law), aff'd sub nom. Memorex Corp. v. IBM Corp., 636 F.2d 1188 (9th Cir. 1980), cert. denied, 452 U.S. 972 (1981); see also Sanger, Will IBM Shift Strategy?, N.Y. Times, March 22, 1984, at D2, col. 1 (noting the advantages to software programmers and IBM competitors when IBM decided to use an open architecture operating system rather than a "proprietary" system). Even other parties in the distribution chain may be adversely affected by trade secrets. See, e.g., Coca-Cola Bottling Co. of Elizabethtown, Inc. v. Coca-Cola Co., 227 U.S.P.Q. (BNA) 18, 27 (D. Del. 1985) (ordering Coca-Cola to disclose to bottlers the formula for its syrups to determine the applicability of consent decree).

scrutinize the operation of trade secret holders to protect itself from the harmful consequences of their inventions.[207]

It is not insignificant that when *Lear* was decided, the suspicion was that state trade secret law was preempted by federal patent law.[208] Accordingly, the possibility that the inventor would reject the patent system in favor of trade secret protection was not considered to be one of the costs of permitting licensees to avoid their patent agreements.[209] The *Kewanee* Court did recognize this potential problem, but the majority concluded that the weakness of the protection offered by trade secret law would discourage inventors from avoiding the patent system.[210] The concurrence disagreed on this point,[211] and there is much to be said for its position.

First, it is not clear that trade secrets are as vulnerable to discovery as the *Kewanee* majority apparently assumed. Not all trade secrets are embodied in products that must be placed on the market if the information is to be exploited. Inventions of processes or products used in industrial processes may be exploited in secret,

---

[207] See D. Nelkin, Science as Intellectual Property: Who Controls Scientific Research? 3 (1984) (citing conflict between the right to control research findings and "right to know" legislation enacted out of "public concern about the health effects of toxic wastes, environmental carcinogens, and chemicals in the workplace . . . ."); cf. Dow Chem. Co. v. United States, 54 U.S.L.W. 4464 (U.S. May 19, 1986) (No. 84-1259) (sustaining EPA's right to overfly chemical plant against trade secret challenge); Ruckleshaus v. Monsanto Co., 467 U.S. 986 (1984) (upholding data-sharing provisions of the Federal Insecticide, Fungacide and Rodenticide Act against a trade secret challenge).

[208] See Lear, Inc. v. Adkins, 395 U.S. 653, 677 (1969) (Black, Warren, Douglas, JJ., concurring in part and dissenting in part); supra note 158.

[209] Similarly, when Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971), abrogated the doctrine of mutuality of estoppel, id. at 328-30, there was little concern that the increased cost of losing a lawsuit would discourage an inventor from using the patent system.

[210] See Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 490 (1974) ("The possibility that an inventor who believes his invention meets the standards of patentability will sit back, rely on trade secret law, and after one year of use forfeit any right to patent protection, 35 U.S.C. § 102(b), is remote indeed."); see also Painton & Co. v. Bourns, Inc., 442 F.2d 216, 224 (2d Cir. 1971) (Friendly, J.) ("We think it is rather fanciful to assume that [where an owner believes his trade secret is patentable] there will be a substantial withholding of patent applications in favor of trade secret agreements."). But see Note, supra note 49, at 821-22 (inventor may opt for trade secret protection for certain patentable inventions).

[211] Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 494 (1974) (Marshall, J., concurring in the result on the ground that Congress did not intend, in enacting the patent laws, to preempt state trade secret law) ("I have no doubt that the existence of trade secret protection provides in some instances a substantial disincentive to entrance into the patent system, and thus deprives society of the benefits of public disclosure of the invention which it is the policy of the patent laws to encourage. This case may well be such an instance.").

where they remain immune from reverse engineering.[212] Even if exploitation requires that the invention be placed on the open market, the product may be impractical to reverse engineer.[213] Furthermore, if courts enforce "shrink-wrap" license provisions of the type used by computer software manufacturers,[214] it may be possible to sell the physical embodiment of an invention under a promise not to sell reverse-engineered imitations.[215]

Second, trade secret law may be more desirable to inventors than the *Kewanee* majority assumed.[216] So long as reverse engi-

---

[212] Id. at 497 n.2 (Douglas, J., dissenting) (citing Adelman, Secrecy and Patenting: Some Proposals for Resolving the Conflict, 1 Am. Pat. L.Q.J. 296, 298-99 (1973)); see Lunn, supra note 121, at 425; Robinson, supra note 195, at 353.

[213] See, e.g., B. Wilder & I. Diamond, One, Two, Three (a Mirish Production for United Artists) (1961) (formula for classic Coca-Cola not reverse-engineerable). Coca-Cola itself apparently considers the formula for its syrup not amenable to reverse engineering, because it has chosen to defy discovery orders and accept sanctions under Fed. R. Civ. P. 37(b) rather than reveal the formula. See Coca-Cola Bottling Co. of Shreveport, Inc. v. Coca-Cola Co., 32 Pat. Trademark & Copyright J. (BNA) No. 783, at 123 (D. Del. May 23, 1986); Coca-Cola Bottling Co. of Elizabethtown, Inc. v. Coca-Cola Co., 227 U.S.P.Q. (BNA) 18 (D. Del. 1985); Note, Trade Secrets: How Long Should an Injunction Last?, 26 UCLA L. Rev. 203, 230 n. 109 (1978). The formula for Chartreuse liqueur which has been known only to the Carthusian monks for over 400 years, is apparently similarly immune to reverse engineering. See Noone, Trade Secret vs Patent Protection, 21 Research Mgmt. 21, 22 (May 1978). More often, trade secrets remain secret because it is impractical to reverse engineer the product. See, e.g., Tabor v. Hoffman, 118 N.Y. 30, 23 N.E. 12 (1889). In that case, the defendant stole the patterns used to make plaintiff's rotary pump. Although the pump was on the open market, the court found the patterns were a trade secret because they could not be discovered by measuring the pieces of the completed pump, as the latter were not the same size due to the metal's shrinkage in cooling after casting. Id. at 32, 23 N.E. at 12-13; see also Christianson v. Colt Indus. Operating Corp., 609 F. Supp. 1174, 1177 (C.D. Ill. 1985) (reverse-engineered M-16 rifle will not produce parts interchangeable with original rifle).

[214] Most software packing contain examples of "shrink-wrap licenses" that require the software user to agree, upon opening the cellophane wrapper, not to disclose the contents to third parties. See, e.g., G. Davis, Software Protection: Practical & Legal Steps to Protect and Market Computer Programs 210-14 (1985); Stern, Shrink-Wrap Licenses of Mass Marketed Software: Enforceable Contracts or Whistling in the Dark?, 11 Rutgers Computer & Tech. L.J. 51 (1985); Comm. on Computer Law, Assoc. of the Bar of the City of N.Y., Computer Law Reports 754, 770-85 (1985).

[215] For this reason, courts may hold that shrink-wrap licenses are preempted by the patent and copyright laws. Such licenses on consumer products are probably also vulnerable to challenges based on unconscionability and lack-of-notice arguments, but inventions sold only to industrial users may be protectable in this manner, absent preemption.

[216] It is difficult to obtain empirical information about preferences for reliance on trade secret protection over patent protection, see J. Jewkes, D. Sawers, & R. Stillerman, supra note 156, at 88-89, but there is some evidence of a trend towards relying on trade secret protection. In a study of corporate patenting, for example, it was found that among firms that have had first-hand experience with judicial antipathy toward their patents, there is a

neering or independent invention does not occur, the exclusive right endures indefinitely, not just for the seventeen years accorded patents.[217] Unless the trade secret is misappropriated, the holder is never burdened with the expense of litigation.[218] In contrast, successful patents attract litigation.[219] Under the Declaratory Judgment Act,[220] competitors who "reasonably apprehend" an infringement action may challenge the patent without ever incurring the costs associated with infringing,[221] and *Lear* allows even licen-

---

reduction in the rate of patenting relative to unaffected firms. See F. Scherer, supra note 6, at 441.

[217] See, e.g., Warner-Lambert Pharmaceutical Co. v. John J. Reynolds, Inc. 280 F.2d 197 (2d Cir. 1960) (contract requiring perpetual payment of royalties for use of the formula for Listerine is enforceable despite the fact that the formula is public knowledge); Shellmar Prods. Co. v. Allen-Qualley Co., 87 F.2d 104 (7th Cir. 1936) (defendant who acquires a trade secret improperly can be enjoined from using it forever), cert. denied, 301 U.S. 695 (1937).

The contrary rule is that of Conmar Prods. Corp. v. Universal Slide Fastener Co., 172 F.2d 150 (2d Cir. 1949), where the court restrained the defendant from using the improperly-acquired secret only until the information was generally available to others. Id. at 155-56. Some courts have concluded that less restrictive rules such as *Conmar* are more consistent with the Court's mandate in *Sears* and *Compco*. See, e.g., Forest Laboratories, Inc. v. Pillsbury Co., 452 F. 2d 621, 624 n.4 (7th Cir. 1971); Schulenburg v. Signatrol, Inc., 33 Ill. 2d 379, 388, 212 N.E.2d 865, 870 (1965) (trade secret owner protected only so long as it would take to reverse engineer the product), cert. denied, 383 U.S. 959 (1966); see also American Can Co. v. Mansukhani, 742 F.2d 314, 329 (7th Cir. 1984) ("the law should not be used to suppress legitimate competition"); Poly Enviro Laboratory, Inc. v. Foster Chems., Inc., 223 U.S.P.Q. (BNA) 1124, 1131 (N.D. Ill. 1984) (injunction to run for "a reasonable period of time [in which] an alternative formula could [be] developed"). See generally Altman, A Quick Point Regarding Perpetual Trade Secret Royalty Liability, 61 J. Pat. Off. Soc'y 510, 524-30 (1979) (arguing that these cases are good law after *Aronson* but that the result in patent cases is not the same because *Aronson* does not overrule *Lear* or *Brulotte*). But even if these courts are correct, and trade secret injunctions must be of limited duration, trade secrets that are not reverse engineered or independently discovered may exist perpetually.

Finally, agreements from licensees to hold the secrets in confidence are enforceable so long as they are reasonable. See, e.g., Wexler v. Greenberg, 399 Pa. 569, 160 A.2d 430 (1960).

[218] Validity issues are rarely dispositive of the trade secret holder's rights. See, e.g., Restatement of Torts § 757 comment (b) (1939), which defines a trade secret as "any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it." All that is required to receive protection is proof that the information was held in secret, misappropriated, and used. See, e.g., Forest Laboratories, Inc. v. Formulations, Inc., 299 F. Supp. 202, 210 (E.D. Wis. 1969), aff'd in part, rev'd in part on other grounds sub. nom. Forest Laboratories, Inc. v. Pillsbury Co., 452 F.2d 621 (7th Cir. 1971).

[219] See, e.g., Rifkind, supra note 10, at 701 ("Patents have been called licenses to sue.").

[220] 28 U.S.C. §§ 2201-2202 (1982 & Supp. II 1984).

[221] See, e.g., Japan Gas Lighter Ass'n v. Ronson Corp., 257 F. Supp. 219, 237 (D.N.J. 1966); see infra text accompanying note 286.

sees to sue for a declaration of invalidity.[222] Finally, with the death of mutuality of estoppel in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*,[223] patentees must treat each lawsuit as if it were the last for a patentee who loses a patent challenge will be collaterally estopped in a subsequent lawsuit from claiming that the patent is valid, yet one who wins cannot assert the judgment against future challengers.

In sum, the objective of the patent system is not merely to spur inventors to go forward; it must also promote the use of the patent system for inventions that meet the standard of patentability.[224] Although these objectives might be fulfilled by eliminating trade secret protection (to promote use of the disclosure-based patent law) and lowering the standard of patentability (to reduce the risk that inventors will fail to recoup their investments and to encourage innovations at the low end of the inventiveness spectrum), this alternative would entail considerable costs. Without trade secret protection, inventors and their licensees would devote more resources to safeguarding their secrets, and lower patent standards would give some discoveries more protection than is desirable. Moreover, a better means of achieving these twin goals is available.

If inventors are given a great deal of flexibility in their negotiations with licensees and assignees, the patent system will be attractive to them because they can contractually assure themselves of adequate compensation from their patented discoveries.[225] Of

---

[222] See infra text accompanying notes 291-97.

[223] 402 U.S. 313 (1971).

[224] See, e.g., Altman, supra note 40, at 312. It may also be helpful to think of the problem of inducing the inventor to use the patent system as involving a second appropriation issue. The patent and trade secret laws are classically thought of as means of allowing the inventor to appropriate the economic surplus created by his invention by turning what otherwise would be public property into private property. The inventor who uses the patent system, however, also provides the public with a second commodity—the specifications he files (ideally) provide the public with a basis for further research. Because the inventor receives nothing for releasing this information (other than the exclusive right to use his invention, which he could also get by protecting it as a trade secret), he lacks incentive to do so. Thus, less than optimal production of information is obtained. Cf. K. Arrow, supra note 16, at 154-55 (citing inventors' difficulties in appropriating the value in information they produce as a reason for suboptimal production of research).

[225] An appreciation of the importance of encouraging innovation through use of the patent system has led the Justice Department in recent years to relax its efforts to have certain vertical restraints declared violative of the antitrust law. See, e.g., Vertical Restraints Guidelines, 50 Fed. Reg. 6263, 6264 (1985) (suggesting new analysis of non-price restraints). The Justice Department feels that even less stringent guidelines are appropriate in intellec-

course, giving patentees carte blanche would not be appropriate, because they might choose to license in ways that would create serious external effects and impose burdens on society out of proportion to the benefits to patentees. Ideally, the options open to inventors would be perfectly tailored to permit capture of a reward exactly calibrated to induce innovation, but that is not possible. Courts make rules on a case-by-case basis, and there is insufficient information to decide how much reward is exactly correct. In any event, the calculus may turn on the characteristics of the particular inventor, market, or invention, making the application of a single rule to all cases impossible.

But modifying *Lear* to give patentees flexibility is not the same as according them free rein. After all, licensees' interests are generally adverse to those of patentees. As long as both have equal bargaining power, there is little reason to suspect that the arrangements that they arrive at together will not represent the best possible accommodation of the interests at stake.[226] While allowing licensees to challenge patent validity may have the superficial appeal of protecting the public-access interest, that protection is obtained at costs the *Lear* Court failed to acknowledge. Inventors may be discouraged from sinking future investment into innova-

---

tual property cases. Id. at 6266; see Andewelt, Analysis of Patent Pools Under the Antitrust Laws, 53 Antitrust L.J. 611 (1984) (arguing that antitrust per se principles are inapplicable to patent pools); R. Andewelt, supra note 122, at 320-23; W. Baxter, Assistant Attorney General, Antitrust Div., U.S. Dep't of Justice, Remarks before the National Assoc. of Mfrs. (May 10, 1983), *reprinted in* 5 Trade Reg. Rep. (CCH) ¶ 50,447, at 56,047-48; Lipsky, Current Antitrust Division Views on Patent Licensing, Remarks before the ABA Antitrust Div. (Nov. 5, 1981) (unpublished manuscript on file with Virginia Law Review Assoc.).

An extended treatment of the relationship between antitrust law and patent law is beyond the scope of this article. It is useful, however, to note that the Supreme Court has also moved from a period of regarding patents as barely tolerable "monopolies" to be austerely circumscribed to a realization of the importance of the patent system's benefits. See Goldstein, supra note 49, at 875-80; Kaplow, supra note 104, at 1846-47.

[226] See, e.g., Baxter, supra note 124, at 277-78 ("As a class patent licensees are unlikely candidates for 'ward of the court' status, and cases that rest on the premise of overreaching are likely to be unsound.") (citing *Brulotte* as an example of unsound reasoning); cf. Easterbrook, supra note 107, at 15 (courts should err on the side of excusing certain questionable practices because the market can correct anticompetitive conduct more readily than it can expunge mistaken court decisions), 33-39 (suggesting that antitrust actions should not be maintainable where the plaintiff's interests are significantly divergent from the interests of consumers). Easterbrook also suggests that the Court has begun to move in a more tolerant direction, at least to the extent of using rules of reason rather than simply declaring certain practices unlawful per se. See id. at 10.

tion, and if they do continue to do research, may choose projects more susceptible to protection as trade secrets. Where both patent and trade secret protection are available, they may opt for the latter. When they choose the patent system, it may be because they have compensated for the increased risk it requires them to bear by charging more for the licenses, a cost that their licensees will pass on to the end-consumers. The public receives private attorneys general to look after its interests, but as explained earlier,[227] these private attorneys general may fail to challenge early. During the delay, the public will pay more for the inventions than it would have had the licensees agreed to lower royalties in exchange for bearing part of the risk of patent lapse.[228] Furthermore, the marginal benefit of freeing the licensees may be quite low in view of the fact that by the time they bring a challenge, other market entrants may have already provided the public with sufficient access to the invention.

Another way to adjust the relationship between the public-access interest and the goal of stimulating innovation with property rights is to examine the ratio between the reward a given property right confers on the inventor and the social loss suffered by conferring that right.[229] This ratio measures the potential incentive of the right per unit of social cost; when coupled with an evaluation of the extent to which the reward is pure transfer,[230] the portion of it that accrues to the patentee,[231] and the usefulness of it as an incentive,[232] the ratio yields a good indication of which rewards are worth their cost. This test may be used, for example, to compare the incentive potential per unit of social cost of increasing the patent term with the right to engage in various restrictive practices.[233]

---

[227] See supra notes 102-04 and accompanying text.

[228] The licensee will, of course, increase its price to the public to compensate for the risk it accepts from the patentee. The price the licensee must charge to cover this risk, however, is probably less than the price the inventor must charge, at least if the inventor is not vertically integrated to use the discovery. If the patent is invalidated, the inventor who bears the risk loses everything; the licensee loses only his dominant market position. It is therefore likely that the licensee can bear the risk of invalidity more cheaply.

[229] Kaplow, supra note 104, at 1831.

[230] Id. at 1835.

[231] Id. at 1835-37.

[232] Id. at 1837-39.

[233] For example, the creator of the ratio test has used it to analyze the advisability of permitting patentees to practice resale price maintenance, cross-licensing, and price discrimination; to control nonpatented end products; and to engage in certain settlement practices. See id. at 1855-87.

The test is also a helpful way to examine the costs and benefits of modifying *Lear* as suggested here.[234]

A rule permitting patentees to bargain for royalty payments notwithstanding patent lapse imposes the social cost of removing from the arena a party "with enough economic incentive to challenge the patentability of an inventor's discovery."[235] Although this may mean that invalid patents persist for their full seventeen-year period, the costs of estopping licensees may not be as great as the *Lear* Court imagined, as explained in Part I. Competitors of the licensee may already have adequate incentive to evaluate the patents and to infringe or challenge those that appear weak.[236] In addition, new developments in patent law discussed in Part III,[237] notably the establishment of the reexamination procedure and the creation of the Court of Appeals for the Federal Circuit, may remove the disincentive to undertake such challenges and reduce the prevalence of invalid patents. Finally, because modifying *Lear* in this manner creates a strong link between the vitality of the patent and the value of the license, it will actually encourage licensees to review patentability and bring challenges earlier than they would under *Lear*.

The increased social cost of allowing free bargaining for post-lapse payments and no-contest clauses, therefore, is likely to be minimal. It is even possible that the social cost of exclusivity always associated with patents will actually be reduced if such bargains are allowed.

On the benefit side, modifying *Lear* would allow the patentee to increase total profits from his invention by charging rents for its use even after the patent has lapsed. This not only increases the numerator used in the ratio test but also does so in a highly desirable manner. The rent paid by the licensee in the post-lapse period represents a pure transfer of consumer surplus from the end-consumer of the invention to the patentee. An arrangement between the patentee and the licensee allocating the risk of invalidity or

---

[234] See id. at 1829 n.39. As with Kaplow's analysis, the standard reservations concerning the use of cost-benefit analysis apply. See id. at 1823 n.23. For a criticism of the ratio test, see Ordover, supra note 160, at 514.

[235] Lear, Inc. v. Adkins, 395 U.S. 653, 670 (1969).

[236] See supra text accompanying note 105.

[237] See infra text accompanying notes 267-77, 304-26.

unpatentability to the licensee insures that more of the garnered surplus will accrue to the patentee. As noted earlier, a licensee is often in a position to charge a supracompetitive price even after the patent lapses, due to its lead time advantage.[238] Because this profit is in part attributable to the efforts of the inventor, it is desirable to allow him to capture some of it.

Modification of *Lear* would also enhance the effectiveness of the other incentives offered by the patent system. At the time that the inventor is deciding how and whether to finance further research and development, he must discount the rewards that the patent system offers—the numerators in the ratios—by the probability that his patent application will be rejected or the patent issued but subsequently declared invalid.[239] By precluding the patentee from binding his licensee to pay royalties beyond the period that the patent is in effect, *Lear* distorts the picture that the inventor sees when poised on the brink of that decision. Because *Lear* prohibits him from shifting certain business risks vertically, he must discount his expected income stream by the probability that the licensee will avoid royalty payments by successfully challenging the patent. This means that the inventor will not perceive his reward as equal to the supracompetitive price the public will pay if the invention generates consumer benefit. As a result, he may not be willing to engage in innovative activities in certain situations, even though the social value of the invention exceeds the cost of its development. If, however, the inventor can shift to his licensee some of the risk that the patent will lapse, he will not discount his expected return so sharply and will perceive the potential reward as closer to the figure society is willing to pay for the invention. Thus, society will get more "bang for its buck" in terms of direct influence on inventors[240] than it does under *Lear*. In sum, modifying

---

[238] See supra text accompanying notes 85-93.

[239] See supra text accompanying notes 181-91; Kaplow, supra note 104, at 1838 (measurements of the rewards of a particular patent practice should be "based on [inventors'] perceptions of potential rewards *before* they undertake the activity, not on the reward they in fact receive afterward"); see also R. Andewelt, supra note 122, at 320 (impact of the law depends on anticipated benefit at the time research and development decisions are made).

[240] It could be argued that under *Lear*, even though the benefits to the inventor are lower, so are the costs to society, because patent royalties will not be paid if the patent lapses. If that were strictly true, modifying *Lear* would have little effect in some cases because both the numerator and the denominator would be increased. It must be noted, however, that the two discount rates are not necessarily the same. If the licensee enjoys significant first mover

Lear would yield a higher ratio primarily by increasing the discounted value of rewards to inventors without greatly affecting social costs.[241]

Of course, licensees will not accept the risk of patent invalidity without exacting a price. In exchange for the promise to continue royalty payments beyond the lapse of the patent, licensees will bargain for a lower royalty rate. Because patentees must discount the value of the royalties by the probability that their licensees will bargain them down, the perceived benefits of the patent system will be reduced somewhat. Nevertheless, a risk-averse inventor may prefer to forgo higher royalties in exchange for certainty, and modifying *Lear* will allow him to do so. Because this option is most likely to appeal to small inventors, who are more often thinly capitalized and poorly diversified and, moreover, ill-equipped to engage in costly patent litigation, modification of *Lear* also furthers the goal of gearing the system to the special needs of the small inventor[242] while leaving large (or less risk averse) patentees free to forgo certainty in exchange for higher royalties. In other words, modification of *Lear* increases the investment choices available to inventors.[243]

---

advantages, the public will pay a supracompetitive price even if the patent lapses—but under *Lear*, it will pay this to the licensee rather than the patentee. Modifying *Lear* merely shifts this benefit from the licensee to the patentee without materially affecting the cost society pays. Thus, the expected return (the reward, as viewed at the time the patentee makes his crucial investment decisions) increases, but the social cost remains the same.

[241] Cf. K. Arrow, supra note 16, at 141 (failure of the market to achieve adequate risk shifting favors creation of large businesses, which can handle the risk internally, and "decrease[s] the flexibility and responsiveness of the system to change and innovation"); Priest, supra note 104, at 359 (noting that the uncertainty an inventor faces diminishes his expected return).

[242] See K. Arrow, supra note 16, at 147, 153 (diversification is a form of insurance, but one not available to the small firm); Note, supra note 10, at 1216 n.118.

[243] Under *Lear*, inventors utilizing the patent system are forced to make investments with high dispersions in their returns. For highly diversified inventors (as for highly diversified securities holders), such investments may be acceptable—and even desirable. Small inventors, on the other hand, may have only one product in their "portfolios" and may be deterred from making any investment at all if their only option is a very risky one. These inventors may be willing to exchange a lower expected return for less dispersion, and modifying *Lear* will allow them to do so if they can find licensees willing to accept the risk that the invention will be held unpatentable. For licensees sufficiently diversified to accept this risk, this investment may be an attractive one. The lower royalty rate will permit the licensees to capture a portion of the supracompetitive profits. Moreover, providing licensees with bargaining chips that can be exchanged for lower royalties will enable them to compete effectively despite the lapse of the patent and may benefit society by reducing the price it

Equally important, modification of *Lear* shifts the calculus between trade secret and patent protection in favor of the latter. It does so by permitting the inventor who licenses his patent to capture the supracompetitive prices that the public is willing to pay for inventions it values, regardless of whether the invention is later found unpatentable. The inventor who knows that his invention is unpatentable can avoid losing the right to trade secret protection by not applying for a patent. Modification of *Lear* would allow the inventor who is unsure of the patentability of his invention to accept a patent if one issues and yet retain the right to royalties should his licensee continue to enjoy a dominant market position even after the patent is invalidated.

Furthermore, even the patentee who is confident that his invention is patentable will be more willing to use the patent system if *Lear* is modified. No matter how clear matters may seem to that inventor, he still bears the risk that a court will misapply patent doctrine to find his invention unpatentable. Errors in this direction are traditionally not considered great social costs because they give the public free access to an invention that has already been created.[244] They do, however, contribute to the risk that the inven-

---

must pay, or the resource misallocation it must suffer, because of the patent.

[244] The notion that it is a social good for the public to avoid paying the cost of inventions that are already in existence explains Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971), which collaterally estops patentees from asserting the validity of their patents after they have unsuccessfully litigated that issue with third parties. While nonmutual collateral estoppel benefits the judicial system by reducing the number of times a particular issue is litigated, it also magnifies the effect of an incorrect judgment because it deprives the loser of a chance to correct the mistake in subsequent lawsuits.

The principle that mutuality was an unnecessary requirement for estoppel was developed in the context of tort law, see, e.g., Good Health Dairy Prods. Corp. v. Emery, 275 N.Y. 14, 17-18, 9 N.E.2d 758, 759 (1937), and estate administration, see Bernhard v. Bank of Am. Nat'l Trust & Sav. Ass'n, 19 Cal. 2d 807, 811, 122 P.2d 892, 894 (1942). In both areas, perpetuating an incorrect decision may actually further underlying goals of the substantive law. Actors may be more deterred from engaging in dangerous activities if they know that a decision against them will be applied in later litigation (even though a decision in their favor will be relitigatable); beneficiaries may be more vigilant about protecting their rights before the death of the benefactor if they are given only one opportunity to claim the estate. Although the Supreme Court first considered the mutuality problem in the context of a patent case, nowhere did the *Blonder-Tongue* Court consider the effect this magnification of the impact of an incorrect decision might have on the goal of encouraging innovation. Rather, the Court focused exclusively on the benefits attendant to nullifying patents. *Blonder-Tongue*, 402 U.S. at 334-48; see also id. at 338 ("the patentee is expending funds on litigation to protect a patent which is by hypothesis invalid"). The Court never paused to consider the contrary hypothesis that the patent is valid. The public interest in upholding valid

tor will not receive a return from his investment and thereby detract from the ability of the patent system to encourage innovation. Modifying *Lear* to allow the inventor to shift the risk of error to his licensee restores some of the system's advantages by permitting the inventor to receive an income stream from the invention despite a mistake in the determination of patentability. Instead of allowing the declaration of invalidity to operate as a windfall to the licensee, permitting him to avoid paying for the lead time benefits he has enjoyed, the modification in effect creates a private incentive scheme funded by the estopped licensee.[245]

This examination of the innovative process bears out the conclusion derived from the analysis of *Lear*'s progeny. Far from creating a social benefit, *Lear*'s rule denying inventors—particularly small inventors—a mechanism for assuring the income stream from their invention chills innovation and may lead inventors to use a mode of property protection far less socially desirable than the patent law.[246]

III. A Closer Look at Costs

In the preceding analysis several assumptions have been made regarding patent challenges and the costs of modifying *Lear*. First, patent challenges are no longer as necessary as they were when *Lear* was decided because the CAFC has made patent law easier to apply. Second, potential licensees have available to them adequate mechanisms to challenge the validity of patents before they enter into agreements. Finally, patent challenges are not so onerous that

---

patents has, however, been recognized. See Aro Corp. v. Allied Witan Co., 531 F.2d 1368, 1372-73 & n.3 (6th Cir.), cert. denied, 429 U.S. 862 (1976). At this point, however, reversing *Blonder-Tongue* would have little effect on patentees. Because most patent challenges are now heard on appeal by the CAFC, see infra note 268, it is unlikely that a second opportunity to establish validity would be of any use.

[245] Permitting negotiation for licensee estoppel may also have the side benefit of discouraging certain practices that have come under increasing attack. First, the Patent Act permits patentees to suppress their inventions, which they will do if the cost of implementing the invention is more than the benefits the patentee will realize. But the patentee then bears the risk that someone who wishes to use the invention will successfully challenge the patent. A patentee may be slightly more willing to permit others to exploit the invention if he can eliminate the cost of defending the patent. Similarly, the patentee who has chosen to exploit the invention himself or to exclusively license another may be somewhat more willing to license widely if he can thereby buy immunity from costly litigation to defend his rights.

[246] See Note, supra note 101, at 213.

special incentives to bring them must be given to protect the public interest. This part examines the recent developments in patent law that support these assumptions.

A. The Role of the CAFC

The Court's thinking in *Lear* was dominated by a perceived need to "permit judicial scrutiny into the validity of the Patent Office's grant."[247] When *Lear* was decided, the necessity for such scrutiny was unquestioned. Just three years earlier, the Court had emphatically deplored the work of the PTO in *Graham v. John Deere Co.*:[248] "We have observed a notorious difference between the standards [of patentability] applied by the Patent Office and by the courts. While many reasons can be adduced to explain the discrepancy, one may well be the free rein often exercised by Examiners in their use of the concept of 'invention.' "[249]

Given the *Lear* Court's belief that PTO decisions were notoriously wrong, it is apparent why it sought to create a "private attorney general" with an incentive to bring the PTO's decision before a judicial tribunal. Every time a patent issues on a discovery that does not represent a significant improvement over prior art, an invention that was once in the public domain is withdrawn. The public, which would otherwise be free to use the discovery, must pay tribute to the patentee until a court reverses the PTO's judgment and declares the patent invalid. One cost of modifying *Lear* is the loss of these potential litigants. If, however, it can be shown that there is less need for judicial intervention in the patent system now, that cost may be lower than the *Lear* Court supposed.

The first question to ask is why the PTO's decisions are so often wrong (or why the *Lear* Court thought this to be the case). In most areas of the law, administrative agency decisions are accorded a presumption of correctness.[250] Deference is thought appropriate

---

[247] Lear, Inc. v. Adkins, 395 U.S. 653, 664 (1969).

[248] 383 U.S. 1 (1966).

[249] Id. at 18. The Court had been even more vociferous in its criticism of the PTO in the past. See, e.g., Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147, 156-58 (1950) (Douglas, J., concurring). See generally Kitch, Graham v. John Deere Co.: New Standards for Patents, 1966 S. Ct. Rev. 293 (discussing the historical development of standards of patentability).

[250] See, e.g., Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 87 (1975); Ethyl Corp. v. EPA, 541 F.2d 1, 34 (D.C. Cir.) (en banc), cert. denied, 426 U.S. 941 (1976); id. at 67 (Bazelon, C.J., concurring).

when an agency composed of experts interprets the law that it has been charged to administer, particularly when that law is highly technical in nature. Because the PTO is an expert agency charged with the principal responsibility for administering the highly technical Patent Act, it is somewhat surprising that its decisions are not accorded this same respect, especially in light of the presumption of validity created by the Patent Act.[251]

A clue may be taken from the *John Deere* case itself. *John Deere* represented the first time in fifteen years that the Court had considered the issue of invention and the first time that it had interpreted section 103 of the Patent Act.[252] In the twelve years that this provision had been part of the Act, it had caused exceptional confusion in the lower courts.[253] In the absence of Supreme Court guidance, each circuit had applied its own concept of invention,[254] which gave rise to rampant forum shopping as patentees and challengers sought the most accommodating circuit in which to litigate patents. As a result, it was difficult for inventors and their licensees to predict the vitality of a patent without knowing where it would be litigated.[255]

---

[251] 35 U.S.C. § 282 (1982 & Supp. II 1984); see Fortas, supra note 10, at 576; Rifkind, supra note 10, at 699.

[252] *John Deere*, 383 U.S. at 3-4. The invention issue had last been considered in Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147 (1950); see Kitch, supra note 249, at 293.

Section 103 provides in part that:

> [a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103 (1982 & Supp. II 1984).

[253] See Kitch, supra note 249, at 293-97. Kitch gives an excellent description of the evolution of the law in this area and of the three tests of nonobviousness in vogue prior to the decision in *John Deere*. See id. at 297-303.

[254] The patent at issue in *John Deere* had been declared valid by the Fifth Circuit, Graham v. Cockshutt Farm Equip., Inc., 256 F.2d 358 (5th Cir. 1958); Jeoffroy Mfg., Inc. v. Graham, 219 F.2d 511 (5th Cir.), cert. denied, 350 U.S. 826 (1955), and invalid by the Eighth Circuit, John Deere Co. v. Graham, 333 F.2d 529 (8th Cir. 1964), aff'd, 383 U.S. 1 (1966). Statistical surveys of circuit court decisions show that the fate of the *John Deere* patent is not atypical. See supra note 114.

[255] A standard casebook gives the patent challenger advice on where to shop for a desirable decision:

> One study of patentability decisions revealed that "the Fourth and Fifth Circuits have been the places to sue on a borderline patent. They held approximately 40%

Unfortunately, *John Deere* and related cases did little to clarify the concept of invention. Enunciating a three-part test for determining when an invention is a nonobvious improvement over the prior art,[256] *John Deere* rejected the notion that certain secondary considerations that had previously dominated the thinking in this area were dispositive.[257] In *Sakraida v. Ag Pro, Inc.*,[258] the Court added the concept of "synergism" to the analysis of nonobviousness in combination patents.[259] But although the tests announced by the Court in these cases appeared clear and simple to apply, they failed to bring consistency to the lower courts' treatment of patentability questions.[260] Among other issues, these cases left unsettled questions concerning the precise role of synergism[261] and

---

> valid and infringed in [the] period [1945-1957]. The First, Third, Sixth, Seventh, Ninth and Tenth Circuits are fairly close together at 19% plus or minus 2.4%. And finally, the Second and Eighth Circuits held approximately 6% of the patents coming before them valid, the Second Circuit being the lowest with 4.8%."

P. Goldstein, Copyright, Patent, Trademark and Related State Doctrines 449-50 (2d ed. 1981) (quoting Cooch, The Standard of Invention in the Courts, *in* Dynamics of the Patent System 34, 56, 59 (W. Ball ed. 1960)).

[256] "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." *John Deere*, 383 U.S. at 17. Once these questions are decided, the issue is whether a person with the ordinary level of skill in the art could have bridged the gap between the prior art and the claims. If not, the discovery is nonobvions.

[257] "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy." Id. at 17-18.

[258] 425 U.S. 273 (1976).

[259] Id. at 281-82. Combination patents consist of new combinations of old elements. They are said to pose a special problem because it is the combination rather than any new element that constitutes the "invention." Thus, their patentability cannot (according to the Court) be determined simply by examining prior art. Id. But see H. Markey, supra note 10, at 4 ("virtually *all* inventions are 'combinations' ").

[260] See Markey, The Phoenix Court, 10 APLA Q.J. 227, 232 (1982).

[261] After *Ag Pro*, courts split on whether synergism was an independent condition of patentability or merely an indication of nonobviousness. Compare Reed Tool Co. v. Dresser Indus., Inc., 672 F.2d 523, 528 (5th Cir. 1982) (adopting synergism test); Champion Spark Plug Co. v. Gyromat Corp., 603 F.2d 361, 372 (2d Cir. 1979) (same), cert. denied, 445 U.S. 916 (1980); International Tel. & Tel. Corp. v. Raychem Corp., 538 F.2d 453, 457 (1st Cir.) (same), cert. denied, 429 U.S. 886 (1976); with Sarkisian v. Winn-Proof Corp., 688 F.2d 647, 649-50 (9th Cir. 1982) (en banc) (per curiam) (rejecting synergism test); Clark Equip. Co. v. Keller, 570 F.2d 778, 788-89 (8th Cir.) (same), cert. denied, 439 U.S. 825 (1978). See Goldstcin, Conflicting Rules of Patent Law Within the Federal Judicial System, 12 Intell. Prop. L. Rev. 135, 139-41 (1980).

secondary considerations[262] in nonobviousness decisions. It also remained uncertain whether nonobviousness was a question of fact or law.[263]

Of course, nonobviousness is just one of many questions that may arise in a patent challenge. Indeed, if *John Deere* had any salutary effect on the system at all, it lay in its demonstration of the futility of relying on Supreme Court precedent to achieve uniformity or predictability in patent law.[264] In addition, the Court lacks the capacity to review every federal issue that splits the lower courts and refuses to grant certiorari to many patent cases.[265] Given those realities, it is understandable that the *Lear* Court was suspicious of the PTO's ability to decide patentability questions accurately—there was simply no uniform national law for it to apply.[266] The burdens *Lear* placed on the patentee were, under this view, cheap as compared to the cost of permitting the PTO to issue trivial patents based on the examiners' choices among conflicting patent rules.

With the establishment of the CAFC, however, this conclusion must be reexamined. This specialized court, staffed with judges versed in patent law[267] and given appellate jurisdiction over most

---

[262] For various expressions of the relevance of secondary considerations, see Bristol Locknut Co. v. SPS Technologies, Inc., 677 F.2d 1277, 1281 (9th Cir. 1982); Reed Tool Co. v. Dresser Indus., Inc., 672 F.2d 523, 527 n.11 (5th Cir. 1982); Medical Laboratory Automation, Inc. v. Labcon, Inc., 670 F.2d 671, 674-75 (7th Cir. 1981); Digitronics Corp. v. New York Racing Ass'n, 553 F.2d 740, 748-49 (2d Cir.), cert. denied, 434 U.S. 860 (1977); International Tel. & Tel. Corp. v. Raychem Corp., 538 F.2d 453, 457 (1st Cir.), cert. denied, 429 U.S. 886 (1976); Stevenson v. International Trade Comm'n, 612 F.2d 546, 553 (C.C.P.A. 1979).

[263] See Goldstein, supra note 261, at 136-39. Compare Central Soya Co. v. Geo. A. Hormel & Co., 645 F.2d 847, 850 (10th Cir. 1981) (question of fact); Rosen v. Lawson-Hemphill, Inc., 549 F.2d 205 (1st Cir. 1976) (same), with Systematic Tool & Mach. Co. v. Walter Kidde & Co., 555 F.2d 342, 348 (3d Cir.), cert. denied, 434 U.S. 857 (1977) (question of law); Julie Research Laboratories, Inc. v. Guild Instruments, Inc., 501 F.2d 1131, 1136 (2d Cir. 1974) (same). This point is significant because it determines whether the issue, if litigated, will go to the jury or the court and what the scope of review will be.

[264] See Markey, supra note 260, at 233-35 (giving 13 examples of areas where there is need to clarify the law).

[265] See generally Estreicher & Sexton, A Managerial Theory of the Supreme Court's Responsibilities: An Empirical Study, 59 N.Y.U. L. Rev. 681 (1984) (assessing the Supreme Court's workload and recent reform proposals); Goldstein, supra note 261, at 135-36 (stating that the Supreme Court very rarely chooses to decide conflicting rules of patent law).

[266] See Interview with Former PTO Comm'r Mossinghoff, 29 Pat. Trademark & Copyright J. (BNA) No. 720, at 490 (March 7, 1985) [hereinafter cited as Mossinghoff].

[267] One characteristic that makes patent law a special problem is the technical nature of the issues the court must tackle. Even if the Supreme Court could review every circuit con-

cases raising patentability issues,[268] was created with the avowed purpose of bringing greater uniformity and predictability to the patent law.[269] Although the CAFC has been in existence for only a

---

flict in patent law, it is not clear that it has the expertise to clarify the law. But the CAFC is well positioned to do better because its judges were drawn, in part, from the Court of Customs and Patent Appeals, which had heard appeals from decisions of the PTO. 28 U.S.C. § 44 (1982 & Supp. II 1984). In addition, the CAFC is authorized to employ technical assistants to aid the judges in patent cases. 28 U.S.C. § 715 (c)-(d) (1982). See generally Adams, The Court of Appeals for the Federal Circuit: More Than a National Patent Court, 49 Mo. L. Rev. 43, 64 (1984) (describing the composition of the CAFC).

[268] The CAFC has exclusive jurisdiction over appeals of all federal district court decisions in patent cases where the trial court's jurisdiction "was based, in whole or in part," on 28 U.S.C. § 1338 (1982). 28 U.S.C. § 1295(a)(1) (1982). Furthermore, it can assert jurisdiction over patent appeals where the plaintiff has sought to avoid its jurisdiction hy relying on diversity. Chemical Eng'g Corp. v. Marlo, Inc., 754 F.2d 331, 333 (Fed. Cir. 1984) (the grant of exclusive jurisdiction "is intended to alleviate the serious problems of forums [sic] shopping") (citing S. Rep. No. 275, 97th Cong., 2d Sess. 1, 19, *reprinted in* 1982 U.S. Code Cong. & Ad. News 11, 29).

The CAFC does not, however, have control over all patentability decisions. If a patentee sues a licensee for failure to pay royalties under an agreement, patent invalidity comes up only as a defense. This is a contract action that, absent diversity, cannot be brought in federal court hy the patentee. See, e.g., In re Oximetrix, Inc. 748 F.2d 637, 639-44 (Fed. Cir. 1984); Krantz, supra note 31, at 3. Because of the well-pleaded complaint rule, see Louisville & N.R.R. v. Mottley, 211 U.S. 149, 152-54 (1908), such cases cannot be removed even after the licensee pleads invalidity as a defense. See Adams, supra note 267, at 68-72 (describing the CAFC's treatment of the well-pleaded complaint rule). *Lear*, of course, was just such a case. Ultimate review of the decision on patentability in that case would have been in the Supreme Court of California, with a right to petition the United States Supreme Court for a writ of certiorari. A side benefit of modifying *Lear* is that remuzzling licensees would reduce the number of cases challenging patents over which the CAFC lacks jurisdiction. Congress could, of course, eliminate the problem more directly by abrogating the well-pleaded complaint rule for patent cases.

[269] See S. Rep. 275, 97th Cong., 2d Sess. 1, *reprinted in* 1982 U.S. Code Cong. & Ad. News 11. Docket overload, circuit conflicts, and the resulting disarray in legal doctrine are not unique to patent law. Id.; see Estreicher & Sexton, supra note 265. In recent years, two separate groups were convened to study these problems. In 1971, Chief Justice Burger appointed a study group known as the Freund Committee under the auspices of the Federal Judicial Center. In 1975, Congress initiated a study of its own led hy Senator Hruska. Both groups recommended establishment of a national court of appeals. Under the Freund plan, that court would have screened cases for the Supreme Court. See Report of the Study Group on the Caseload of the Supreme Court (1972), *reprinted in* 57 F.R.D. 573 (1972) [hereinafter cited as the Freud Report]. Under the Hruska plan, it would have decided cases transferred to it hy the Supreme Court. See Commission on Revision of the Federal Court Appellate System, Structure and Internal Procedures: Recommendations for Change (1975), *reprinted in* 67 F.R.D. 195 (1975) [hereinafter cited as the Hruska Report].

Although neither proposal was enacted, Congress did take note of a second finding of the Hruska Commission—that there was a special problem in patent law, where the lack of national law created significant forum shopping and uncertainty in the business community. See id. at 236; S. Rep. 275, supra, at 5-6. As a result, in 1982 Congress passed the Federal

short time, its record in bringing order to federal patent law has been illuminating.

To continue with the invention issue treated in *John Deere*, the CAFC has made great strides in clarifying the test for nonobviousness. For example, in *Chore-Time Equipment, Inc. v. Cumberland Corp.*,[270] it discarded the synergism requirement, in part because it found the concept too confusing to be applied with any consistency.[271] Recognizing the inherent difficulty in making ex post judgments of what is obvious, the CAFC has rehabilitated secondary considerations, making their application mandatory in section 103 cases.[272] Furthermore, it has made the nonobviousness issue fully reviewable on appeal by holding that the question is ultimately one of law, not fact.[273] Because review will normally take place in the CAFC, this holding enables the court to maintain control over the lower courts on this issue. The CAFC's deft treatment of the question of nonobviousness is not an isolated success; it has resolved many other circuit court conflicts with similar sensitivity to the goal of making the law both uniform and easy to apply.[274]

Courts Improvement Act, Pub. L. No. 97-164, title I, 96 Stat. 25 (codified as amended at 28 U.S.C. §§ 41, 44, 46, 48, 1295-1296 and 35 U.S.C. §§ 141-146 (1982 & Supp. II 1984)), which established the CAFC. See Adams, supra note 267, at 43-50; Comment, Patent Law Reform Via the Federal Courts Improvement Act of 1982: The Transformation of Patentability Jurisprudence, 17 Akron L. Rev. 453, 453-56 (1984).

[270] 713 F.2d 774 (Fed. Cir. 1983).

[271] Id. at 781. The CAFC clarified matters even further in Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530 (Fed. Cir. 1983), where it rejected the concept of a combination patent because "[v]irtually *all* patents are 'combination patents' if by that label one intends to describe patents having claims to inventions formed of a combination of elements." Id. at 1540.

[272] See Richdel, Inc. v. Sunspool Corp., 714 F.2d 1573, 1580 (Fed. Cir. 1983); see also Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1538 (Fed. Cir. 1983) ("evidence of secondary considerations may often he the most probative and cogent evidence in the record").

[273] SSIH Equip., S.A. v. United States Int'l Trade Comm'n, 718 F.2d 365, 377 (Fed. Cir. 1983); Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1535 (Fed. Cir. 1983). But see Dennison Mfg. Co. v. Panduit Corp., 54 U.S.L.W. 3695 (U.S. April 21, 1986) (No. 85-1150) (per curiam) (holding that even if the ultimate determination of nonobviousness is a question of law, penultimate questions concerning the relationship hetween the invention and prior art are questions of fact, subject to Fed. R. Civ. P. 52(a) and reviewable only under a clearly-erroneous standard).

[274] See generally Sokal, Impact of Decisions of the Court of Appeals for the Federal Circuit on the Duty of Disclosure, 66 J. Pat. Off. Soc'y 29 (1984) (describing the CAFC's development of standards for fraud and inequitable conduct in patent suits); Comment, supra note 269, at 460-71 (discussing the CAFC's resolution of several controversial issues: whether the inventor must have subjective or objective intent when engaging in experimental use; the meaning of the "late claiming" doctrine; and the test for materiality of withheld information in fraud-on-the-patent-office claims).

This early track record holds out substantial hope that order will shortly be made of the chaos that the *John Deere* and *Lear* Courts confronted.[275] As the law is clarified, the need to protect the public-access interest by encouraging licensees to breach their contractual obligations decreases. Fewer "private attorneys general" are needed if the PTO is given a clear indication of the standard upon which patentability decisions should be made. With good guidance from the CAFC, the PTO should issue fewer erroneous patents for the courts to invalidate. If *Lear* is modified to permit the parties to allocate between themselves the risk of invalidity, the public will benefit even more from the work of the CAFC. After all, the clearer standards the CAFC establishes for the PTO can also be used by the parties to assess more accurately the likelihood that their patents will be upheld when judicially reviewed, especially now that forum shopping has been eliminated.[276] If the value of

---

[275] See, e.g., Markey, supra note 260, at 232-34; Mossinghoff, supra note 266 (claiming that the CAFC has resolved 10 of 13 areas in which a conflict had previously been noted).

Of course, future experience may reveal that the CAFC is equally unable to write decisions that lower courts—or subsequent panels of the CAFC—can apply uniformly and predictably, or it may be that the court will achieve such a pro-patent bias that Congress will abolish it or the Supreme Court will reverse many of its decisions. Cf. Dennison Mfg. Co. v. Panduit Corp., 54 U.S.L.W. 3695 (U.S. April 21, 1986) (No. 85-1150) (per curiam) (requiring CAFC to review obviousness decision under clearly-erroneous standard of Fed. R. Civ. P. 52(a)); Schmitt, Judicial Shift in Recent Patent Cases, N.Y. Times, Jan. 21, 1986, at D2, col. 1-2 (citing as evidence of pro-patent bias recent infringement actions decided in favor of patentees Polaroid, Pfizer, and Hughes Tool).

The problem of bias especially troubled the Hruska Commission and the Freund Committee. Both recommended against the establishment of a specialized court of appeals for this reason. See Hruska Report, supra note 269, at 234-35; Freund Report, supra note 269, at 585-86; see also Posner, Will the Federal Courts of Appeals Survive Until 1984? An Essay on Delegation and Specialization of the Judicial Function, 56 S. Cal. L. Rev. 761, 777-89 (1983) (discussing the dangers of subject-matter specialization by courts); Rifkind, A Special Court for Patent Litigation? The Danger of a Specialized Judiciary, 37 A.B.A. J. 425 (1951) (warning that the creation of a specialized patent court would lead to "decadence of [patent] law"). To forestall the development of "tunnel vision," the CAFC was given jurisdiction over some cases outside the patent law area, including appeals from the Court of Claims, 28 U.S.C. § 1295(a)(3) (1982); appeals of cases arising under the Contract Disputes Act of 1978, 28 U.S.C. § 1295(a)(10) (1982); and appeals of final orders of the Merit Systems Protection Board, 28 U.S.C. § 1295(a)(9) (1982). See Adams, supra note 267, at 59, 65-68. Chief Judge Markey claims that the CAFC has already proven itself to be "neither pro nor anti patent validity" by invalidating close to half the patents that have come before it. CAFC Holds Third Annual Conference, 30 Pat. Trademark & Copyright J. (BNA) No. 733, at 131 (1985). It is, however, somewhat difficult to see why this statistic substantiates his claim.

[276] First, it can be hoped that the PTO will conform its application of law to the decisions

the license depends on the validity of the patent, the parties will take advantage of this opportunity. Potential licensees will use their resources to investigate patents more thoroughly before they obligate themselves contractually, and because they will be less likely to accept licenses for weak patents, the public may enjoy these discoveries without paying unjustified tribute to their inventors. Patents of doubtful validity will probably be licensed, but patentees may agree to a reduced royalty rate, thus permitting the public to enjoy patented products at prices that more accurately reflect their true value.[277]

---

of the CAFC. If it does, the CAFC and lower courts will be more willing to accord to patents the statutory presumption of validity. See, e.g., In re Caveney, 761 F.2d 671, 674 (Fed. Cir. 1985) (holding that because of the presumption of validity, evidence that supported rejection of an application may be inadequate to overturn a patent that has issued); American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359 (Fed. Cir.) ("When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents."), cert. denied, 105 S. Ct. 95 (1984). Second, if the PTO errs in applying the law or omits consideration of relevant references, these errors should be evident to the parties, who will be able to negotiate on the basis of correct information.

[277] The text assumes that the licensee would pass some of its savings on to the end-consumer, in order to avoid attracting competition.

The special benefits that would accrue if patent users were encouraged to challenge patents early and given access to a centralized, specialized patent decisionmaker has been recognized by other commentators. See Gelfand, Expanding the Role of the Patent Office in Determining Patent Validity: A Proposal, 65 Cornell L. Rev. 75 (1979). Gelfand proposes a rule requiring manufacturers to prosecute an "opposition" before they begin to produce items protected by patents they think are invalid. Id. at 98-107. An infringer who failed to make inquiries or to file an opposition immediately would be required to pay royalties for practice of the patent from the time he began to infringe until the patent was successfully challenged. Id. at 98-99. Gelfand cites three benefits that would flow from this proposal. First, patent decisions would be centralized in the PTO, which has far greater expertise to decide patent cases than the judges of the regional courts of appeals. Second, patents would be reviewed earlier. Third, the burdens placed on patentees would be reduced by having an administrative agency hear patent challenges in the first instance. Id. at 102-07.

With the establishment of the CAFC, a modification of *Lear* would accomplish many of the same results. Giving the CAFC the responsibility for developing federal law is even more desirable than relying on the PTO because the decisions of an article III court are entitled to greater respect than those of an administrative agency, especially when both bodies are composed of specialized decisionmakers. As stated in text, the goal of encouraging early challenges would be achieved by permitting patentees to bargain for promises to pay despite a declaration if invalidity. Presumably, licensees would scrutinize patents carefully before they bound themselves to pay patentees despite a later declaration of invalidity. Patentees would be less burdened because they would be able to achieve certainty in their affairs. The

B. Mechanisms for Challenging Patent Validity

Even if the CAFC brings order and predictability to the patent law, mistakes at the issuance level will continue to occur. Patent applications are prosecuted ex parte and, although the PTO keeps extensive files of prior art, the absence of an interested party adverse to the patentee makes it improbable that every argument against patentability will be considered in every case.[278] It would, moreover, be inefficient for the PTO to indulge in such intensive scrutiny of every application. Not all discoveries have commercial value, and the effort required to scrutinize those that do not would be wasteful.[279] Accordingly, it is important to preserve adequate access to an adversarial form of review. Of course, the issue of patentability can always be litigated in an infringement action brought by the patentee,[280] but relying on actions by patentees will not sufficiently protect the public-access interest. The existence of the patent—and the fear of an infringement action—may deter some potential rivals from competing with the patentee and his licensees. Entering the field in which a patent is necessary entails start-up costs that will not be recaptured if the patent is upheld and the patentee refuses to license the invention. Moreover, the potential competitor risks liability for treble damages if he practices the invention without a license.[281] Protection of the public-access interest, in short, requires a means for parties other than the patentee to bring about an early adjudication of validity. In addition, if *Lear* is modified as suggested, potential licensees will also need an expeditious avenue to test the validity of patents before they bind themselves to licenses.

---

reexamination procedure discussed in the next section would further ease the litigation burden placed on patentees.

[278] See, e.g., Windmöller v. Laguerre, 289 F. Supp. 178, 182 (D.D.C. 1968) ("The weight to be given action of the Patent Office is, in any event, less where the materials submitted to that Office on an ex parte basis are brought into sharper focus, as they have been here, through the adversary process."); Note, supra note 101, at 210 & n.129.

[279] P. Goldstein, supra note 255, at 452-53.

[280] See 35 U.S.C. § 282(2) (1982) (invalidity is a defense to infringement). Licensees may also have the right to sue infringers. See supra note 100.

[281] See 35 U.S.C. § 284 (1982); Note, supra note 101, at 190 n.23.

1. Declaratory Judgment Actions

The declaratory judgment action is one solution to this problem. Under the Declaratory Judgment Act,[282] actions that meet the constitutional requirement of presenting a "case or controversy"[283] may, at the court's discretion, be heard in federal court if the declaratory plaintiff could have been made a defendant to a coercive action properly within the court's jurisdiction.[284] Because an infringer could be sued in federal court by the patentee, he may use the Declaratory Judgment Act to initiate the challenge himself, provided that he has a "case" in the constitutional sense. In general, declaratory actions are permitted to go forward if the issues have been sufficiently crystallized that no further facts are necessary to determine the parties' rights.[285] To protect patentees, however, many courts have interposed more stringent requirements and required plaintiffs seeking declaratory relief to prove "reasonable apprehension" of being sued,[286] by, for example, demonstrating that the patentee has written threatening letters[287] or that he has a history of prior litigation.[288] At the very least, potential infringers must show that they have taken some action—such as designing a machine, building parts, or soliciting orders—that is col-

---

[282] 28 U.S.C. §§ 2201-2202 (1982 & Supp. II 1984). Section 2201 provides that "[i]n a case of actual controversy within its jurisdiction, . . . any court of the United States, . . . may declare the rights and other legal relations of any interested party . . . ." Id. § 2201.

[283] U.S. Const. art. III § 2; see Aetna Life Ins. Co. v. Haworth, 300 U.S. 227, 239-40 (1937).

[284] See Public Serv. Comm'n v. Wycoff Co., 344 U.S. 237, 241-44, 248 (1952); Skelly Oil Co. v. Phillips Petroleum Co., 339 U.S. 667, 671-72 (1950); Note, Removal Doctrine Reaffirmed: *Franchise Tax Board v. Construction Laborers Vacation Trust*, 70 Cornell L. Rev. 557, 563-67 (1985).

[285] See, e.g., Maryland Casualty Co. v. Pacific Coal & Oil Co., 312 U.S. 270, 272 (1941); Keener Oil & Gas Co. v. Consolidated Gas Utils. Corp., 190 F.2d 985, 989 (10th Cir. 1951).

[286] Note, supra note 101, at 191-94; see, e.g., Westinghouse Elec. Corp. v. Aqua-Chem, Inc. 278 F. Supp. 975, 978 (E.D. Pa. 1967) (the "mere existence of patents which might limit commercial activities of the plaintiff is not sufficient to support a complaint for a declaratory judgment"); Japan Gas Lighter Ass'n v. Ronson Corp., 257 F. Supp. 219, 237 (D.N.J. 1966).

[287] See, e.g., Broadview Chem. Corp. v. Loctite Corp., 417 F.2d 998, 1000 (2d Cir. 1969), cert. denied, 397 U.S. 1064 (1970).

[288] See, e.g., Sherwood Medical Indus., Inc. v. Deknatel, Inc., 512 F.2d 724, 728 (8th Cir. 1975); Sweetheart Plastics, Inc. v. Illinois Tool Works, Inc., 439 F.2d 871, 874 (1st Cir. 1971).

orably inconsistent with the patent grant,[289] and that the patentee has manifested an intent to sue.[290]

Interestingly, the showing required of infringing competitors or potential licensees who wish to bring declaratory judgment actions against patentees is generally more rigorous than the showing required of the licensees unmuzzled by *Lear*.[291] For example, in *Warner-Jenkinson Co. v. Allied Chemical Corp.*,[292] the United States Court of Appeals for the Second Circuit held that a licensee need not terminate its licensing agreement before bringing a declaratory judgment action to have the patent declared invalid. While the court acknowledged that, absent termination, there was no real controversy because the contract prevented the patentee from suing the licensee for infringement, it reasoned that imposing a duty to terminate would thwart the goals of *Lear*[293] by discouraging licensees from challenging validity.[294] Although the Second Circuit held that a licensee who did not terminate must continue to pay royalties to the patentee,[295] other courts have permitted chal-

---

[289] See, e.g., Super Prods. Corp. v. DP Way Corp., 546 F.2d 748, 752-55 (7th Cir. 1976); Heerema Marine Contractors v. Sante Fe Int'l Corp., 582 F. Supp. 445, 449 (C.D. Cal. 1984) ("Although the availability of declaratory relief in patent actions . . . often enables a potential infringer to avoid economically wasteful activity, this remedy does not allow him to avoid *all* potentially wasteful activity.").

[290] See, e.g., International Harvester Co. v. Deere & Co., 623 F.2d 1207, 1215 (7th Cir. 1980). But see Dewey & Almy Chem. Co. v. American Anode, Inc., 137 F.2d 68, 70-71 (3d Cir.) (actual controversy exists even though patentee did not know of plaintiff), cert. denied, 320 U.S. 761 (1943).

[291] See Note, supra note 101, at 197-98.

[292] 567 F.2d 184, 187-88 (2d Cir. 1977).

[293] Id. at 188. But see Thiokol Chem. Corp. v. Burlington Indus., Inc., 448 F.2d 1328, 1331 (3d Cir. 1971) (requiring termination), cert. denied, 404 U.S. 1019 (1972); Poles, Inc. v. Estate of Beecker, 461 F. Supp. 878, 882 (E.D. Pa. 1978) (same).

In C.R. Bard, Inc. v. Schwartz, 716 F.2d 874 (Fed. Cir. 1983), the CAFC considered the issue whether licensees must terminate their licenses to bring declaratory judgment actions, but it refused to issue a bright-line rule. Instead, the court permitted declaratory suits by licensees who have not terminated their agreements if they can demonstrate "a reasonable apprehension of an infringement suit even though the license agreement [is] still in effect." Id. at 880; see also In re Certain Fluidized Supporting Apparatus and Components Thereof, 225 U.S.P.Q. (BNA) 1211, 1216 (Int'l Trade Comm'n 1984) (interpreting *Bard*).

[294] The licensee would presumably be discouraged from suing because loss of the license would deprive it of the right to practice the patent should it be upheld. Furthermore, if the licensee continued to use the invention pendente lite, it could be liable for treble damages if the patent was upheld. See generally McCarthy, supra note 40, at 440-61 (exploring a licensee's options after *Lear*). Some courts have also used this argument to conclude that patentees may not terminate these agreements when the licensee seeks a declaration of invalidity. See, e.g., Crane Co. v. Aeroquip Corp., 356 F. Supp. 733, 738-39 (N.D. Ill. 1973).

[295] *Warner-Jenkinson*, 567 F.2d at 188; see Nebraska Eng'g Corp. v. Shivvers, 557 F.2d 1257, 1259-60 (8th Cir. 1977); USM Corp. v. Standard Pressed Steel Co., 524 F.2d 1097,

lenging licensees to withhold such payments[296] or to pay them into an escrow account pendente lite.[297]

One commentator has suggested that the difference between the standard imposed on licensees and infringers (or potential licensees) may stem from the courts' desire to protect patentees from continuous litigation.[298] If that is the case, the law has developed in precisely the wrong direction. The standard for allowing licensees to bring declaratory judgment actions should be raised, and the standard for nonlicensees lowered. There is no reason to treat the risk of litigation differently from other risks of doing business; patentees' protection against patent challenges should come from their own ability to negotiate with licensees for protective contract provisions.[299] But no licensee should be allowed to take the benefit of the license, challenge the patent, and simultaneously withhold royalties. To bring a declaratory judgment action, a licensee should be required to create a "case" by terminating its agreement and taking the associated risks. At the very least, a court that permits the licensee to continue to work the patent should also require it to pay royalties to the patentee during the litigation. After all, the patentee has invested in bringing the invention to market and should be able to use income from it to defend his rights against the licensee.[300]

1099 (7th Cir. 1975); Telectronics PTY, Ltd., v. Cordis Corp., 533 F. Supp. 453, 455-56 (D. Minn. 1982).

[296] See, e.g., Qume Corp. v. Xerox Corp., 207 U.S.P.Q. (BNA) 621, 623-24 (N.D. Cal. 1979); Lee v. Lee Custom Eng'g, Inc., 476 F. Supp. 361, 364 (E.D. Wis. 1979).

[297] See, e.g., Precision Shooting Equip. Co. v. Allen, 646 F.2d 313, 321 (7th Cir.), cert. denied, 454 U.S. 964 (1981); Atlas Chem. Indus., Inc. v. Moraine Prods., 509 F.2d 1, 7 (6th Cir. 1974).

[298] See Note, supra note 101, at 193-98.

[299] Cf. McCarthy, supra note 40, at 461 (ordinary principles of contract law should control patentee's right to terminate license when licensee challenges patent).

[300] See Cordis Corp. v. Medtronics, Inc., 228 U.S.P.Q. (BNA) 189, 191 (Fed. Cir. Dec. 17, 1985), cert. denied, 54 U.S.L.W. 3758 (U.S. May 19, 1986) (No. 85-1443). Requiring a licensee to finance litigation concerning the patent is not unfair because it too directly benefits from the patent's existence.

Funding the patentee is particularly urgent in light of the inequality between the two litigants created by Blonder-Tongue Laboratories, Inc. v. University of Ill. Found., 402 U.S. 313 (1971). See supra text accompanying note 223 and supra note 244. One curious aspect of the cases involving the right to royalties pendente lite is that they tend to display greater concern for the ability of the licensee to finance the litigation than the ability of the patentee. See, e.g., Cordis Corp. v. Medtronic, Inc., 606 F. Supp. 132, 134 (S.D. Fla. 1985) (failing to see any interest in allowing inventor to receive royalties pendente lite), rev'd, 228

Nonlicensees, on the other hand, should have greater access to judicial review. If a nonlicensee could bring an action without making substantial investment in practicing the patent, it could "test the waters" before entering into a licensing agreement that would bind it to pay royalties even if the patent later lapses. Lowering the standard for bringing such actions would reduce the need to provide certain parties with special incentives to protect the public interest in exposing invalid patents. In addition, the lower standard would be more consistent with the Declaratory Judgment Act's policy of permitting resolution of controversies before damages have accrued.[301]

2. *Reexamination*

Because declaratory judgment actions were available when *Lear* was decided, the Court presumably viewed these actions as inadequate substitutes for unmuzzling licensees, probably because such actions are expensive and slow.[302] Even increasing the availability of declaratory judgment actions to infringers or potential licensees might not completely satisfy the public-access concerns of *Lear*. However, a more efficient method for reviewing patent validity has been recently instituted.[303] As of July 1981, any person, including

---

U.S.P.Q. (BNA) 189 (Fed. Cir. Dec. 17, 1985), cert. denied, 54 U.S.L.W. 3758 (U.S. May 19, 1986) (No. 85-1443). One reason for this phenomenon may be that the law is not terribly concerned with the risk that a patent will be wrongly declared invalid, because that result will benefit the public by putting important discoveries in the public domain. But ignoring this risk also erodes the value of patents and undermines the system's ability to encourage innovation. See supra text accompanying notes 244-46. A second explanation may be that patent owners are believed to be rich as compared to patent users. See *Blonder-Tongue*, 402 U.S. at 334-36. This perception is inaccurate, particularly with regard to the small research firms over whom the patent system has the greatest influence. See F. Scherer, supra note 6, at 453 (giving the example of Lee de Forest and Edwin Armstrong, who were forced to sell the rights in their radio patents because of the cost of defending the patents against challengers); see also supra text accompanying notes 173-80 (discussing the role of small firms in generating innovations).

[301] See S. Rep. No. 1005, 73d Cong., 2d Sess. 3 (1934). Of course, a licensee's ability to utilize this procedure before licensing is substantially impaired by the delay caused by crowded federal dockets.

[302] See Industrial Innovation and Patent and Copyright Law Amendments: Hearing on H.R. 6033, H.R. 6934, H.R. 3806, and H.R. 2414 Before the Subcomm. on Courts, Civil Liberties, and the Administration of Justice of the House Comm. on the Judiciary, 96th Cong., 2d Sess. 574, 579 (1980) (statement of Sidney A. Diamond, Comm'r of Patents and Trademarks) [hereinafter cited as Diamond].

[303] This procedure was, however, proposed as early as 1967. See id. at 576.

the patent owner, may initiate a reexamination of a patent in the PTO.[304] A request for reexamination, which must be accompanied by a $1,500 fee,[305] will be granted if prior art contained in patents or printed publications raises a "substantial new question of patentability."[306] The scope of the proceeding, which is ex parte in nature,[307] is limited to a determination of patentability in light of

---

[304] See 35 U.S.C. §§ 301-307 (1982 & Supp. II 1984); 37 C.F.R. § 1.501 (1985). The Commissioner of Patents may initiate reexamination himself. 37 C.F.R. § 1.520 (1985); Procedure Manual, supra note 150, § 2212 ("Reexamination will be initiated by the Commissioner on a very limited basis such as where a general public policy question is at issue and there is no interest by 'any other person.' "). The Commissioner's right to seek reexamination further protects the public-access interest from being thwarted by a modification of *Lear*. The public is also protected by the fact that once reexamination is requested, the process cannot be stopped by the patentee (or by the requesting party). Id. § 2210; see, e.g., Houston Atlas, Inc. v. Del Mar Scientific, Inc., 217 U.S.P.Q. (BNA) 1032, 1037 (N.D. Tex. 1982) (refusing to enjoin reexamination proceeding despite the fact that party requesting it was held in contempt for violating consent degree).

[305] 35 U.S.C. § 302 (1982); 37 C.F.R. § 1.20(c) (1985).

[306] 35 U.S.C. § 303(a) (1982).

[307] Procedure Manual, supra note 150, § 2209. The actual reconsideration of the patent is ex parte in the sense that no one but the patentee can participate in the reexamination process, 37 C.F.R. § 1.550 (1985), but the party requesting reexamination has some opportunity for input. First, the request itself cites the prior art and explains its pertinence to the claims of a particular patent. 35 U.S.C. § 301 (1982). Second, if the patent owner files a statement in response to the request, as he is given two months to do, 35 U.S.C. § 304 (1982); 37 C.F.R. § 1.530 (1985); Procedure Manual, supra noto 150, § 2249, the requester has a right to reply, 35 U.S.C. § 304 (1982). The reply need not be limited to issues raised in the owner's statement and may include citations to additional prior art patents and printed publications. Procedure Manual, supra note 150, § 2251. If, however, the patent owner chooses not to file a statement, no reply or other submissions from the requester will be considered, 37 C.F.R. § 1.535 (1985), and although any office actions issued during reexamination are sent to both the owner and the requester, only the owner may respond, 37 C.F.R. § 1.550 (1985).

The limitations placed on third-party participation detract from the ability of the reexamination procedure to fully protect the public-access interest at issue in *Lear*. Cf. Mossinghoff, supra note 266, at 492 (limited third-party participation may lead to fewer requests than expected). Indeed, a survey conducted by two committees of the American Intellectual Property Law Association indicates that the reexamination procedure is being used less than Congress had anticipated, for this very reason. AIPLA Reviews Recent Developments, Proposed Intereference Practice Rules, 28 Patent, Trademark & Copyright J. (BNA) No. 704, at 28-29 (1984). If Congress were to modify *Lear*, it should simultaneously review reexamination with an eye towards using it as a device to protect the public-access interest.

While the preceding discussion may seem to point to the desirability of expanding reexamination to better protect the public-access interest, the past experience of the PTO indicates that such expansion may not be feasible. In 1977 the PTO revised its rules in an effort to "broaden the public's opportunity for participation" in the reissue process of 35 U.S.C. §§ 251-252 (1982), which permits patentees to obtain reissue of certain defective patents. See

prior patents or publications; issues such as fraud and public use are not considered.[308] The consideration of claims or amendments that would enlarge the scope of the patent is also precluded.[309] At the conclusion of the proceeding, the Commissioner issues a certificate canceling, confirming, or amending the various claims of the patent in accordance with the reexamination results.[310] If the request for reexamination is denied, the requesting party may petition the Commissioner for review but may not otherwise appeal that decision.[311] The results of a reexamination proceeding are, however, appealable only by the patent owner.[312]

The reexamination procedure is tailormade to address the concerns protected by *Lear*. In instituting reexamination, Congress acknowledged the PTO's limited ability to search for evidence that an invention is not new and so provided an avenue for interested parties to bring their own resources to bear in discovering relevant prior art.[313] In so doing, it recognized the need to balance the interest in freeing discoveries for public use[314] against the need to protect the patent system from the debilitating effects of continuous litigation.[315] Yet because the procedure is cheap[316] and expedi-

---

42 Fed. Reg. 5,588 (1977). Under these revisions, third parties were permitted to file rebuttals to the applicant's statements, and the examiner was given discretion to request additional information from the protester. 42 Fed. Reg. 5,588, 5,589, 5,595 (1977). By 1982, however, the PTO had concluded that increased third-party participation had increased the time and cost involved. It accordingly sharply cut back participation, again making the proceedings essentially ex parte. See 37 C.F.R. § 1.291 (1985). Because the virtue of reexamination lies in its expeditious and inexpensive nature, see infra text accompanying notes 316-18, any attempt to broaden the proceeding may be undesirable. Furthermore, it is not clear that PTO examiners are adequately equipped to "referee" more adversarial proceedings. Cf. 47 Fed. Reg. 21,746 (1982) (third-party participation in issue and reissue proceedings curtailed in part because "the patent examiners in the Office are not trained as hearing examiners and have no substantial experience in handling inter partes matters").

[308] 37 C.F.R. § 1.552 (1985).

[309] 35 U.S.C. § 305 (1982 & Supp. II 1984); 37 C.F.R. § 1.552(b) (1985).

[310] 35 U.S.C. § 307 (1982).

[311] 35 U.S.C. § 303 (1982); 37 C.F.R. § 1.515(c) (1985). A final decision denying the request is accompanied by a refund of $1,200. 37 C.F.R. § 1.26(c) (1985).

[312] 35 U.S.C. § 306 (1982); Procedure Manual, supra note 150, § 2273.

[313] Diamond, supra note 302, at 576-78.

[314] Id. at 576.

[315] Id. at 574-75; see also H.R. Rep. No. 1307, supra note 97, at 2-3 (examining the decline in the nation's productivity and in private industry's willingness to finance research).

[316] The $1500 fee should he compared with the cost of litigation, which can reach $250,000 for each side. H.R. Rep. No. 1307, supra note 97, at 4.

tious,[317] it does not place an undue burden on inventors, and indeed provides them with greater certainty that their investment will be legally protected.[318]

With the advent of reexamination, modifying *Lear* to allow bargaining over no-contest clauses and hybrid agreements is more feasible. When reexamination is available, it can reduce the risk that a licensee bears by permitting it to assess the validity of a patent before entering into a licensing agreement binding it to pay royalties beyond the patent's lapse.[319] By providing courts with added assurance that the PTO has considered the patent fully,[320] reexamination also strengthens the value of the patent and with it the value of the license. At the same time, the public interest is safeguarded even when the licensee cannot challenge the patent, because third parties are free to request reexamination.[321] And be-

---

[317] Id. The PTO has three months from the filing date of the request to decide whether it will be granted. 37 C.F.R. § 1.515(a) (1985); Procedural Manual, supra note 150, § 2240. The patent owner and requesting party are each given two months to file statements. 35 U.S.C. § 304 (1982); 37 C.F.R. §§ 1.530, 1.535 (1985); Procedure Manual, supra note 150, § 2249. At that point, the PTO is to conduct the reexamination with "special dispatch." 37 C.F.R. § 1.550(a) (1985); Procedure Manual, supra note 150, § 2254. The PTO estimates that the average time of pendency of a request for reexamination is 16 months. D. Quigg, Acting Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, Presentation to the Section on Patent, Trademark and Copyright Law of the ABA, in Washington, D.C. (July 8, 1985), 30 Pat. Trademark & Copyright J. (BNA) No. 738, at 293, 294 (1985).

[318] Diamond, supra note 302, at 575, 579.

[319] Id. at 581. Reexamination will not be available in every case. For example, in *Lear* itself, there would have been no opportunity for the licensee to have Adkins' patent reexamined—even if the procedure had been available then—because the licensing agreement was entered into before the patent issued. In such situations, however, it is especially important to allow the patentee to bind the licensee, because at the time the information is revealed it could be equally well kept as a trade secret. Licensees who are concerned about the validity of the patent could, however, condition their obligation on the results of a reexamination. The same mechanism could be used in situations in which the parties wish to begin operations before the PTO could complete the reexamination.

[320] Id. at 580. Reexamination is essentially de novo, as the presumption of validity of 35 U.S.C. § 282 (1982 & Supp. II 1984) is not applied. See In re Etter, 756 F.2d 852, 856 (Fed. Cir.) (en banc) ("Reexamination is . . . neutral, the patentee and the public having equal interest in the issuance and maintenance of valid patents."), cert. denied, 106 S. Ct. 88 (1985). But see Diamond, supra note 302, at 580 (Commissioner advocates a presumption of validity to apply to art cited during reexamination).

[321] In keeping with the suggestion that patentees be given maximum flexibility to negotiate licenses, they could be permitted to foreclose licensees by contract from requesting reexamination. Because the procedure was instituted to help patentees, see Diamond, supra note 302, at 574, such provisions should not be considered to thwart congressional intent. Cf. Houston Atlas, Inc. v. Del Mar Scientific, Inc., 217 U.S.P.Q. (BNA) 1032, 1034 (N.D. Tex. 1982) (holding a party to a consent decree that acknowledged the validity of the patent in

cause the fee is low, they need not be uniquely positioned or especially encouraged to do so.

Reexamination is not, however, a substitute for litigation; it is efficient only because the scope of the proceeding has been circumscribed[322] and the rights of parties other than the patentee limited. While this should not be of major concern, because the procedure permits other parties to file replies and allows reconsideration of the most popular grounds for invalidation,[323] it may argue for a more narrow modification of *Lear* than initially proposed. In keeping with the narrow scope permitted by reexamination, patentees perhaps should be permitted to bind their licensees to continue royalty payments only if the patents remain in force or are invalidated based on prior art—that is, based on issues that can be determined in reexamination. This limitation on the patentees' flexibility would also accord with the asymmetry in the knowledge of the parties. As noted earlier,[324] licensees are as well-equipped as the patentee to discover evidence of prior art that will adversely affect the validity of the patent, and modifying *Lear* would encourage licensees to engage in this task early on. Licensees are not, however, well-situated to discover other evidence relating to patent validity, such as evidence that the patentee marketed the product more than a year before applying for the patent[325] or committed fraud on the PTO.[326] Accordingly, the public-access interest may be best furthered by modifying *Lear* to bind licensees to their own patentability determinations only when the evidence on which these decisions are based is equally accessible to both parties.

On the other hand, novelty and nonobviousness are the two

---

contempt for requesting reexamination). But see 37 C.F.R. § 1.501(b) (1985) (permitting citations of prior art to be made anonymously).

[322] The only issue open for redetermination is whether the invention is patentable in light of prior art consisting of patents or printed publications. 35 U.S.C. § 301 (1982); 37 C.F.R. § 1.501 (1985). So, for example, a patent cannot be challenged for violating the on-sale or public-use bars of § 102(b); for having been known or used before its invention by the patentee, § 102(a); for failure to disclose under § 111; or because the patentee committed fraud on the PTO.

[323] Diamond, supra note 302, at 577; G. Koenig, supra note 114.

[324] See supra note 153; see also Note, supra note 10, at 1215-16 (arguing that *Lear* should be limited to cases where the licensees are the only parties with the incentive and information to challenge the patent).

[325] See 35 U.S.C. § 102(b) (1982).

[326] See 37 C.F.R. § 1.555(c) (1985); Procedure Manual, supra note 150, § 20001.

hardest issues to decide.[327] There may be little cost attached to requiring licensees to rely on their own judgment with respect to other validity issues.[328] If that is the case, patentees could be allowed the flexibility to bargain for either the promise to pay royalties despite a declaration of invalidity on any ground, or for the more narrow promise to pay despite invalidation of the patent based on prior art.

IV. Conclusion

The rule of *Lear, Inc. v. Adkins* that abrogated licensee estoppel has enjoyed wide application. It has been used not only to permit licensees to challenge the patents they are working, but also to prevent patentees from bargaining for no-contest clauses and from enforcing hybrid licenses after patent lapse. *Lear*, however, stemmed from a narrow view of the federal interest in innovation and a static model of how best to further that interest. Examination of the inventive process reveals that the patent system's primary significance lies in providing incentives to small inventors who cannot independently capture the economic surplus generated by their discoveries. To stimulate invention on the part of these firms adequately, the system must provide a spectrum of protection that enables inventors to structure their relations in ways that minimize the risk that their exclusive rights will be destroyed.

By reaffirming the vitality of state trade secret law, the Supreme Court has taken an important step toward this goal. It has created, however, the possibility that investors will, if they can, choose trade secret law rather than patent law to protect patentable inventions, undermining the disclosure objectives of the patent system. To prevent this, the law must offer inventors ways to reduce the risk that is unique to the patent law—that after the specification is filed and the invention dislosed to the public, the patent will be invalidated.

The uncertainties associated with patent lapse can be reduced in a number of ways. Under the rule proposed here, patentees would

---

[327] Diamond, supra note 302, at 577.

[328] Alternatively, Congress could widen the scope of reexamination to encompass a broader range of issues. But see supra note 307 (past experience of PTO indicates that the added costs may undermine the advantages offered by the reexamination procedure as currently constituted).

be permitted to shift the risk of patent invalidation to their licensees by bargaining for a no-contest clause or an agreement to pay royalties regardless of whether the patent is invalidated. While this proposal would require a partial overruling of *Lear*, the public-access interest protected by *Lear* would not be frustrated. Clarification of the law by the CAFC should eliminate the cause for the issuance of many invalid patents. Moreover, reexamination, which was not available at the time of *Lear*, offers a new avenue for invalidation of patents. The access interest could be further protected by refusing to enforce licensing agreements beyond the term that the patent would have been in effect had it not been invalidated or by refusing to enforce agreements that deny licensees access to reexamination.

More modest modifications of *Lear* are also possible. Courts that are unwilling to enforce no-contest clauses because they continue to view unmuzzled licensees as necessary guardians of the access interest should at least consider enforcing the trade secret and know-how portions of hybrid licenses. Permitting inventors to recoup part of their investments in this way would enhance the influence of the patent system on investment decisions and offset the procedural disadvantages engendered by the death of mutuality of estoppel. Alternatively, courts might consider releasing licensees from their contracts only when the licensees themselves protect the access interest by challenging their patents. When patents are invalidated by third parties, the licensee has not acted as a private attorney general; requiring that licensee to continue to share its profits with the patentee again furthers the interest in stimulating innovation.

The ramifications of this analysis should be considered by Congress. Were Congress to strike a new balance between the interests protected by *Lear* and the needs of inventors and investors in technological innovation, it could also consider the interplay between partially remuzzling licensees and reexamination. By broadening reexamination to cover all patentability issues and widening the scope of third-party participation, Congress could fully protect the access interest while permitting patentees to share with their licensees the risks inherent in the innovative process.