A Patent Pool's White Knight: Individual Licensing Agreements and the Procompetitive Presumption

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A PATENT POOL’S WHITE KNIGHT: INDIVIDUAL LICENSING AGREEMENTS AND THE PROCOMPETITIVE PRESUMPTION

ABSTRACT

After decades of volatile treatment, patent pools have gained traction with U.S. antitrust enforcement agencies. In 1995, the Department of Justice (DOJ) and the Federal Trade Commission (FTC) published guidelines that identified numerous procompetitive benefits of intellectual property licensing arrangements. As the U.S. Patent and Trademark Office continues to grant patents at a swift rate, patent pooling arrangements increasingly provide for an effective means of “navigating the patent thicket.” However, parcel to the agencies’ reluctance to move past their foundational statements, today’s crowded intellectual property markets have been plagued by a lack of patent pool formation. Consequently, the enforcement agencies’ static policy with respect to intellectual property licensing may ultimately frustrate efficient means of innovation.

In response to what the author views as a growing problem, this note argues for a legal presumption favorable to patent pools that adopt individual patent licensing schemes. Individual licensing internalizes a market-based form of analysis concerning the competitive characteristics of patents included within a pool as an alternative to the manually applied essentiality standard—a linchpin of today’s rule of reason analysis. Through the internalization of regulation, the proposed presumption stands to provide a more efficient means of organizing and regulating patent pools.

I. INTRODUCTION

With the issuance of the 1995 Antitrust Guidelines for the Licensing of Intellectual Property\(^2\) (1995 Guidelines), the Department of Justice (DOJ) and the Federal Trade Commission (FTC) set out on a dizzying expedition to balance the principles of the antitrust and intellectual property laws. Competing theories concerning the competitive benefits of patent pools have placed such licensing arrangements squarely in the expedition's crosshairs.\(^3\) Designed to reduce the transaction and search costs associated with intellectual property licensing agreements, patent pools consolidate costs into a one-stop-shopping experience.\(^4\) Furthermore, patent pools act to offer firms a solution to the threat of hold-up—a common fear in today's crowded intellectual property markets.\(^5\)

The hold-up problem refers to a situation in which two or more firms hold patents essential to a given process.\(^6\) A licensee wishing to implement the process must negotiate individual licenses with each firm.\(^7\) As the licensee acquires individual licenses, subsequent licensors may extract increasingly more in terms of fees.\(^8\) When the licensee attempts to negotiate a license for the last remaining essential patent, the licensor has an incentive to demand a fee up to the monopoly profit for the given technology.\(^9\)


\(^3\) Shapiro, supra note 1, at 127 ("Under a patent pool, an entire group of patents is licensed in a package, either by one of the patent holders or by a new entity established for this purpose, usually to anyone willing to pay the associated royalties.").

\(^4\) Id. at 134.

\(^5\) See id. at 124-26.

\(^6\) See id. at 124-25.

\(^7\) See id.

\(^8\) See id. In such a case, "[t]he patentee can credibly seek far greater royalties, very likely backed up with the threat of shutting down the [licensee] if the Court indeed finds the patent valid and infringed and grants injunctive relief." Id. at 125.

\(^9\) See id.
The social costs associated with the hold-up problem are enormous—licensing fees are determined by a licensor's position in the negotiation process rather than on the underlying value of the patent. A patent pool alleviates the hold-up problem to the degree that the pool contains a complete set of patents essential to a particular technology. Moreover, licensors of essential patents welcome the formation of a patent pool as a way to avoid the complements problem, which occurs when two firms holding essential inputs fail to internalize complementary effects. The problem refers to the inefficiencies that result from the build up of patent royalty fees. In sum, a patent pool arrangement achieves greater profits for licensors while reducing the overall licensing cost to the licensee.

The benefits announced above are, however, countered by several antitrust concerns. Such concerns focus on pooling arrangements that, through market division or price-fixing, may harm competition between potential competitors in a relevant market, resulting in higher prices, lower output, or a reduced incentive to innovate. In an attempt to sift through the pros and cons of pooling arrangements, the 1995 Guidelines promulgated a "rule of reason" approach designed to assess whether the pool improves the competitive conditions of a market. Under the rule of reason approach, the Agency inquires whether a particular restraint on trade "is likely to have anticompetitive effects and, if so, whether the restraint is reasonably necessary to achieve precompetitive benefits that outweigh those anticompetitive effects." Floundering in its application of the rule of reason, the Justice Department has in practice committed to a stricter standard—a standard that frustrates efficient means of innovation through patent pool formation. The inefficiency results from an imperfect classification system that operates to assign character to

10. See ABA SECTION OF ANTITRUST LAW, INTELLECTUAL PROPERTY AND ANTITRUST HANDBOOK 135 (2007).
11. See id.
12. See id.
13. See id. at 133.
15. See id. § 3.4.
16. Id.
the competitive relationship among patents included within a pooling arrangement.17 This note argues that a *procompetitive presumption*, granted to patent pools that offer individual patent licensing agreements, presents a more efficient means of organization and regulation than does the current rule of reason approach. The term *procompetitive presumption*, as used throughout this note, means a legal inference that the patent pool does not present a realistic threat to competition. In a more accurate reflection of a dynamic market, the presumption internalizes regulation relying on the market-like function of individual licensing in order to identify the competitive relationship between patents.

This note proceeds in six parts: Part II discusses patent character designations and the associated classification problem. Part III provides a brief overview of the common law history behind patent pools and today's antitrust policies. Part IV introduces the tension created in applying traditional antitrust principles to contemporary intellectual property markets. Part V outlines a Justice Department business review letter issued in conjunction with the DVD-6 patent pool. Part VI explains the structure and function of the procompetitive presumption advanced by this note. Lastly, part VII examines possible ancillary effects spawned by the presumption.

**II. PATENT PEDIGREE**

Whether a patent pool improves a market's transactional efficiency depends on the competitive characteristics of the patents included within the pool's offering.18 Consequently, a complete understanding of the competitive relationship between patents is crucial to any analysis of pooling arrangements.

*A. Substitute Patents*

Substitute patents are two or more patents that may be used

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17. See id. ("Application of the rule of reason generally requires a comprehensive inquiry into market conditions.").

interchangeably by a prospective licensee. Similar to horizontal competitors in traditional markets, the owners of substitute patents compete on terms of price and quality, which presents the opportunity for firms to price above competitive levels by entering into anticompetitive agreements.

B. Blocking Patents

Blocking patents represent the nature of innovation in today’s intellectual property markets—"cumulative investigation combined with hypothesis testing." A patent is said to be blocking when a subsequent technology unavoidably infringes upon the prior patent. The result is illustrated by analogizing the process of cumulative innovation to the construction of a pyramid. As the pyramid rises, each block rests on the support of the many beneath it. Similarly, a firm, in designing what it hopes to be a more desirable technology, "must gain the permission of each person who previously placed a block in the pyramid, perhaps paying a royalty . . . to gain such permission." As a result, a firm’s transaction costs associated with obtaining "permission" from prior inventors increases as the technology’s foundation broadens. The rise in transaction costs is paralleled by a growing risk of unintentional infringement. The cost of unintentional infringement lies with the remedy that protects patent rights—

19. See Steven C. Carlson, Patent Pools and the Antitrust Dilemma, 16 YALE J. ON REG. 359, 365 (1999). Substitute patents may also be referred to as rival or competitive patents: “[c]ompeting patents result when inventors devise totally novel products or processes that provide market substitutes for patented goods, or when inventors sufficiently modify existing patented goods so that the original patent is deemed ‘invented around’ and not infringed.” Id.

20. See 1995 Guidelines, supra note 2, § 3.2. “However, antitrust concerns may arise when a licensing arrangement harms competition among entities that would have been actual or likely potential competitors in a relevant market in the absence of the license (entities in a “horizontal relationship”).” Id. § 3.1.

21. Shapiro, supra note 1, at 119.

22. See id. at 120

23. Id.

24. Id.

25. Id.


27. Shapiro, supra note 1, at 125.
injunctive relief and the patent holder’s ability to halt the business operations of the infringing company.\textsuperscript{28}

The Patent and Trademark Office’s grant of improvement patents, issued to provide further incentives to innovate, adds even more blocks to the pyramid.\textsuperscript{29} The result is an improvement patent that is “subservient” to the underlying “dominant” patent—both patent holders are restricted from exploiting the other’s technology.\textsuperscript{30} A classic example involves the pioneers of flight, the Wright Brothers, and the invention of Glenn Curtiss and Alexander Graham Bell.\textsuperscript{31} The Wright Brothers owned a patent covering the wing-warping design of an aircraft’s wings—a method for stabilizing flight.\textsuperscript{32} Subsequently, Curtiss and Bell obtained a patent on the use of wing flaps, an improvement on the Wright Brothers’ wing-warping design.\textsuperscript{33} In 1916, at a time when all airplanes featured wing flaps, the Curtiss patent was found to infringe on the Wright patent.\textsuperscript{34} Therefore, both the Curtiss and Wright patents were reciprocally blocking and consumers were denied access to the commercially successfully stabilizing device.\textsuperscript{35}

C. Complementary Patents

Complementary patents are similar to blocking patents in that the functionality of a patented technology requires the cooperation of one or more additional patent holders.\textsuperscript{36} The complementary relationship arises when two firms independently develop and patent technology processes that are later incorporated into a larger product.\textsuperscript{37} Development of the larger product necessitates

\begin{itemize}
\item \textsuperscript{28} Id.
\item \textsuperscript{29} See Carlson, supra note 19, at 363.
\item \textsuperscript{30} See id.
\item \textsuperscript{32} See id. at 231.
\item \textsuperscript{33} See id.
\item \textsuperscript{34} See id.
\item \textsuperscript{35} See id.
\item \textsuperscript{36} See Carlson, supra note 19, at 364.
\item \textsuperscript{37} Id. at 364-65.
\end{itemize}
permission from both of the patent holders.  

A common example is the manufacture of a light bulb, which requires the manufacturer to utilize elements from patents covering both vacuum bulbs and tungsten filaments. Without a license from both patent holders, production will not occur.

D. The Classification Problem

Although the definitions of the competitive relationships shared between patents may be neatly titled, defining a particular relationship is difficult. Initially, the competitive quality of patents will depend on how broadly the scope of the pool’s purpose is drawn. If a pool purports to collectively license patents related to the manufacturer of jet airplanes, one can hardly imagine labeling a particular patented technology as blocking. Additionally, the rate at which firms invest in research and development often renders patented technologies obsolete within a relatively short time period. A patented technology that is essential to manufacturing a product today may be replaced within six months by a cheaper and more efficient alternative.

Legal factors associated with the U.S. patent laws also serve to complicate the classification process. First, a patent that contains multiple or broad claims may initially appear to block newly developed technology. However, if, through litigation, certain claims are invalidated, the patent may subsequently be deemed

38. Id. at 365.
39. Id.
40. Id.
41. See id. at 365. “One scholar noted that the lines of demarcation among the three kinds of patents ‘are very narrow’ and that ‘in many instances, a mere shift of focus or frame of reference will result in a different categorization for the same patents’.” Id.
43. Id.
45. See id.
46. See Carlson, supra note 19, at 366.
competitive. 47 Second, under the doctrine of equivalents, a patent is read more broadly than the plain meaning of its claim(s). 48 Intended to deter a would-be infringer, the doctrine creates further uncertainty regarding the competitive relationship between patents. 49 Third, despite the efforts of the Federal Circuit, patent law remains a collage of doctrinal interpretations leaving courts without a unified standard to measure the scope and enforceability of patents. 50

The preceding discussion highlights the complexity of the patent character classification process facing firms, experts, enforcement agencies, and courts. The relevant factors require a speculative analysis of future market conditions and the success of patent litigation. As a result of its undue reliance on a manual analysis of the foregoing factors, the current rule of reason approach lacks predictability and, consequently, fails to provide adequate guidance for the formation of pooling arrangements. Alternatively, the procompetitive presumption supplies an objective means of organization and regulation through a pool’s elective adoption of individual licensing. 51 Subsequently, the complex factors relevant to defining the competitive quality of a pool’s offering are filtered through market-based principles. 52

III. FROM THE INDUSTRIAL REVOLUTION TO TODAY’S FEDERAL CIRCUIT

Since the turn of the 20th Century, a fierce debate has raged over the development of a cohesive doctrine that embodies the underlying principles of the intellectual property and antitrust laws. For over 100 years, patent licensing schemes have ridden
the tide of this debate. The following discussion attempts to summarize the unstable history of patent licensing as a backdrop to the contemporary phenomenon of patent pools.

A. Freedom of Contract

Initially, patent licensing enjoyed sweeping protection under the theory of freedom of contract as illustrated by the Supreme Court’s decision in *E. Bement & Sons v. National Harrow, Co.* Organized as a holding company, National Harrow owned and licensed eighty-five patents relating to the manufacture of float spring tooth harrows. The licensing agreements were challenged under the Sherman Act as unlawful restraints on competition. Although the licensing agreements had the effect of fixing the price of harrows sold throughout the United States, the Court gave complete deference to a patent holder’s “absolute freedom in the use or sale of rights under the patent laws of the United States.” After *National Harrow*, enforcement of the antitrust laws was limited so as not to impede a patent holder’s ability to contractually maintain his monopoly or fix prices.

B. Anticompetitive Until Proven Competitive?

The *laissez-faire* treatment of patent licensing was substantially curtailed by the Supreme Court’s decision in *Standard Sanitary Manufacturing, Co. v. United States*. In ordering the dissolution of a patent pool that covered eighty-five percent of the enameled ironware manufacturing market, the Court placed limits on a patent holder’s “absolute freedom” of contract announced a decade earlier. The subject patents were licensed pursuant to agreements

53. For the purpose of this section, the phrase “patent licensing schemes” is used as an all encompassing term that includes patent pools.
54. For a similar historical discussion, see Carlson, supra note 19, at 373-78.
56. *Id.* at 71.
57. *Id.* at 84.
58. *Id.* at 91.
59. *Id.*
61. *Id.* at 35.
that fixed a minimum sales price, restricted licensees' ability to
deal with third parties, and placed further restrictions on secondary
markets.\textsuperscript{62} Justice McKenna, writing for the majority, stated that
the licensing agreements "transcended what was necessary to
protect the use of the patent or the monopoly which the law
conferred upon it."\textsuperscript{63} However, \emph{Standard Sanitary}
avoided trampling the "definite and extensive" rights conferred by the
patent laws by recognizing that such rights may be pushed to "evil
consequences" without limitation.\textsuperscript{64} The Sherman Act, enacted for
the purpose of restraining the potential "evil consequences" of
private contracts, was viewed as an appropriate limitation of those
rights.\textsuperscript{65} With this pronouncement, courts began to analyze patent
licensing schemes through a balance of antitrust principles and the
existing intellectual property laws.

With the rhetoric of \emph{Standard Sanitary} in-hand, the scale was
tipped in favor of a more antitrust-based analysis of such licensing
schemes. In \emph{Standard Oil Co. v. United States} the Court
announced that patent licensing raises antitrust concerns when
cross-licensing agreements aggregate competing processes and the
licensors possess market power.\textsuperscript{66} However, no opinion highlights
the antitrust trend more than \emph{Hartford-Empire Co. v. United States};
in that case, the Supreme Court was confronted with an egregious
pool comprised of over 600 patents.\textsuperscript{67} Contentious litigation
between major competitors in the glass manufacturing industry
spurned the formation of the Hartford-Empire Company that
quickly amassed patents for automated glass manufacturing
machines.\textsuperscript{68} The pervasive nature of the pool prompted Justice
Hugo Black to comment: "The history of this country has perhaps
never witnessed a more completely successful economic tyranny

\begin{flushleft}
\textsuperscript{62} Id. at 45-47.
\textsuperscript{63} Id. at 48.
\textsuperscript{64} Id. at 49.
\textsuperscript{65} Id.
\textsuperscript{66} Standard Oil Co. v. United States, 283 U.S. 163, 175-78 (1931).
\textsuperscript{67} Hartford-Empire Co. v. United States, 323 U.S. 386, 400 (1945). It is
important to note that the competitive relationship between the 600 patents,
rather than the volume of patents, is disturbing to antitrust law.
\textsuperscript{68} Id. at 394-95. "The result was that 94% of the glass containers
manufactured in this country on feeders and formers were made on machinery
licensed under the pooled patents." \textsuperscript{Id. at 400.}
\end{flushleft}
over any field of industry than that accomplished by these appellants. 69 Designed to stifle “initiative, invention, and competition,” the patent pool was struck down as a prohibited use of patent ownership rights. 70

Yet it was not until the late 1960s that the high water mark of hostility towards patent licensing schemes crested. 71 At that time, the DOJ “applied a presumption of market power to the grant of a patent, and therefore gave no consideration to the structural characteristics of the markets in which patented products competed.” 72 Subsequently, with the announcement of the “Nine No-Nos,” 73 patent licensing schemes including patent pools were viewed as per se illegal.

C. The Reemergence of Patent Pools

The authoritative per se disapproval of patent licensing practices substantially retarded the formation of patent pools until the publication of the 1995 Guidelines. The Guidelines highlight the

69. Id. at 436-37 (Black, J., dissenting in part).
70. Id. at 407.
71. See Carlson, supra note 17, at 375.
72. Id. at 375.
73. The “Nine No-Nos” include:
   (i) Requiring a licensee to purchase unpatented materials from the licensor [tying]; (ii) Requiring a licensee to assign to the licensor patents issued to the licensee after the licensing arrangement is executed; (iii) Attempting to restrict the purchaser of a patented product in the resale of that product; (iv) Restricting a licensee’s freedom to deal in products or services not within the scope of the patent; (v) Agreeing with a licensee that the licensor will not, without the licensee’s consent, grant further licenses, to any other person; (vi) Requiring the licensee to take a package license; (vii) Requiring the licensee to pay royalties, including total sales royalties, in an amount not reasonably related to the licensee’s sales of products covered by the patent; (viii) Attempting to restrict a process patent licensee’s sales of products made by the patented process; and (ix) Requiring a licensee to adhere to any specified or minimum prices in the sale of the licensed products.

Id. at 375 n.130.
Agencies’ understanding that the intellectual property and antitrust laws “share the common purpose of promoting innovation and enhancing consumer welfare.”

Under the guise of three general principles, the Guidelines set out a framework through which the procompetitive benefits of intellectual property licensing arrangements are weighed against potential anticompetitive harms.

Although less restrictive than the *per se* rule embodied in the “Nine No-No’s,” the Guidelines set forth circumstances in which patent pool arrangements raise antitrust problems: (1) pooling arrangements that collectively set price or restrain output; (2) pooling arrangements in the form of settlement agreements involving cross-licensing arrangements between horizontal competitors that diminish competition; (3) pooling arrangements that contain exclusive dealing agreements between parties that collectively possess market power; and (4) pooling arrangements that act to deter or discourage members from investing in research and development.

As a common thread, the 1995 Guidelines evoke an implied rule of patent pool formation that heavily favors pooling arrangements comprised strictly of essential (or complementary) patents versus the inclusion of competitive patents. Business review letters issued by the Department of Justice integrate a strict essentiality standard into the Agency’s

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74. *1995 Guidelines, supra* note 2, § 1.0. The IP laws and antitrust laws effectuate the common purpose through different means: the IP laws accomplish the common purpose through the establishment of enforceable property rights; the antitrust laws do so by prohibiting anticompetitive behavior. *See id.*

75. *Id.* § 2.0. The general principles are:

(a) for the purpose of antitrust analysis, the Agencies regard intellectual property as being essentially comparable to any other form of property; (b) the Agencies do not presume that intellectual property creates market power in the antitrust context; and (c) the Agencies recognize that intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive.

*Id.*

76. *See id.* § 5.5 at 28.

77. *See id.*

78. *See id.* § 5.5 at 28-29.

79. *See id.* § 5.5, at 29.

rule of reason-like analysis. Given the indoctrinated per se rule against naked price fixing and market division agreements, the standard comes as no surprise. However, the backbone of the standard rests on a transitory distinction derived from an expert’s static analysis of dynamic market conditions. Stripped of its technical ambiance, the strict essentiality standard merely imparts an air of certainty on an incalculable problem.

The Federal Circuit has recently questioned such blind adherence to a rule that advocates for the formation of pooling arrangements comprised strictly of complementary patents. The court’s decision in U.S. Philips Corporation works to emphasize the inherent procompetitive nature of patent licensing packages comprised of both essential and nonessential patents. As distinguished from per se illegal product tying arrangements, the Federal Circuit determined that the package licensing of essential and nonessential patents was procompetitive. The licensing arrangement was analogized to situations in which a licensor licenses only essential patents and announces that it does not intend to enforce its rights with respect to nonessential patents.

82. 1995 Guidelines, supra note 2, § 3.2.2 (The Agency, in order “[t]o identify a technology’s close substitutes and this to delineate the relevant technology market . . . will, if the data permit, identity the smallest group of technologies and goods over which a hypothetical monopolist of those technologies and goods likely would exercise market power . . .”).
83. See Part I(D), supra.
84. See U.S. Philips Corp. v. Int’l Trade Comm’n, 424 F.3d 1179 (Fed. Cir. 2005). Although the Commission brought a cause of action for patent misuse based on an impermissible tying arrangement, the principles of patent misuse mirror those of the antitrust laws. Id. at 1185.
85. See id. at 1192-93. Such arrangements reduce transaction costs, reduce the licensor’s administrative and monitoring cost, and insure “that a single licensing fee will cover all the patents needed to practice a particular technology . . . .” Id.
86. Id. at 1190.
87. Id. Package licensing of essential and nonessential patents does not “foreclose [a] competitor from licensing his alternative technology; it merely puts the competitor in the same position he would be in if he were competing with unpatented technology.” Id.
The obvious ideological gap discussed in the Federal Circuit’s opinion underscores the present disagreement over the competitive realities concerning the structure of patent pools. Today’s pooling arrangements target innovation through efficient inter-firm coordination. The rule of reason approach, rooted in the anticompetitive fears born in Hartford-Empire Co., encumbers patent pool architects with burdensome oversight and arbitrary distinctions. A snapshot of contemporary intellectual property markets reveals that both patent holders and the antitrust enforcement agencies need a simpler alternative. Coupling a procompetitive presumption with individual licensing schemes provides an answer.

IV. OLD POLICIES AND CONTEMPORARY PROBLEMS

Recent discussion has focused on whether traditional antitrust principles are pliable to the fast-paced technology markets roamed by modern intellectual property laws. Patent pools challenge traditional antitrust principles in that firms utilize horizontal-like arrangements to facilitate innovation within highly technical product markets. Speaking out on the issue, the 1995 Guidelines state that contemporary antitrust concerns generated by intellectual property “can be taken into account by standard antitrust analysis, and do not require the application of fundamentally different principles.” In fact, through a long run approach, as Professor Lemley argues, the antitrust and intellectual property laws share a narrow degree of separation. Both bodies of law strive to maximize wealth through the attainment of allocative and productive efficiencies. Nonetheless, the distinct means of

88. See Shapiro, supra note 1, at 126 (stating that “[t]o solve the complements problem generally, and to cut through the patent thicket specially, requires coordination among rights holders”).
89. See Posner, supra note 44, at 939.
90. See 1995 Guidelines, supra note 2, § 3.3.
91. Id. § 2.1.
92. Mark A. Lemley, A New Balance Between IP and Antitrust, 13 Sw. J. L. & TRADE AM. 237, 247 (2007) (“Indeed, when one departs from the static view of markets and takes a longer-run approach, it is even plausible that IP and the antitrust laws share a common goal.”).
93. See WARD S. BOWMAN, JR., PATENT AND ANTITRUST LAW: A LEGAL AND
carrying out each of these laws often places them at odds with one another.\textsuperscript{94}

Antitrust law strictly condemns collusive action among horizontal competitors by placing agreements to fix price or divide markets on its list of \textit{per se} illegal conduct.\textsuperscript{95} In traditional markets, horizontal relationships are readily identified and the anticompetitive effects of horizontal collusion are often obvious; however, in contrast, intellectual property markets often feature relationships that lack definitive classifications—firms enjoy multilevel business relationships and the degree of competition among products is unclear at best.\textsuperscript{96} Consequently, these variables produce erroneous distinctions and a corresponding threat of Type I errors.\textsuperscript{97}

Sensitive to the complexities of intellectual property markets, enforcement agencies advocate a rule of reason approach to avoid flawed analyses.\textsuperscript{98} Nonetheless, because the analysis utilizes an inexact method of placing a competitive label on patents, the rule of reason functions as an inefficient means of assessing the competitive consequences of pooling arrangements.\textsuperscript{99} As a result, the unpredictable nature of current antitrust review frustrates a firm’s decisions with respect to pool structure and membership. Therefore, the rule of reason, as a means of effectuating traditional antitrust principles, may, in some instances, be ill-suited for

\begin{footnotesize}
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\item \textsuperscript{93}ECONOMIC APPRAISAL 1-3 (1973). Allocative and productive efficient are maximized when output is unrestricted. Output may be restricted through “monopolization which diverts production from more urgent to less urgent use or from legal rules requiring inefficient methods of production.” \textit{Id.} at 3 (emphasis added).
\item \textsuperscript{94} See 1995 Guidelines, supra note 2, § 1.0.
\item \textsuperscript{95} \textit{Id.} § 3.4. “Among the restraints that have been held \textit{per se} unlawful are naked price-fixing, output restraints, and market division among horizontal competitors . . . .” \textit{Id}.
\item \textsuperscript{96} See Part I(D), supra.
\item \textsuperscript{97} In antitrust law, a Type I error occurs when competitive acts are wrongly condemned as anticompetitive behavior. A Type II error, in contrast, occurs when anticompetitive behavior is found to be competitive. In general, the law favors Type II errors over Type I. \textit{See} Frank H. Easterbrook, \textit{The Limits of Antitrust}, 63 TEX L. REV. 1, 12 (1984) (stating “[f]or a number of reasons, errors on the side of excusing questionable practices are preferable.”).
\item \textsuperscript{98} 1995 Guidelines, supra note 2, § 3.4.
\item \textsuperscript{99} See Part I(D), supra.
\end{enumerate}
\end{footnotesize}
application in the present context. Cognizant of the difficulties identified above, the procompetitive presumption advanced herein relies upon basic market functions to bring about old antitrust principles while providing an alternative means of analyzing contemporary problems.

IV. CURRENT POLICY: DVD-6 PATENT POOL

Current antitrust enforcement policy produces a strict essentiality view that patent pooling is permissible only when it involves blocking or complementary patents. Strict essentiality has created a risk-adverse environment in which firms structure patent pools in a prohibitive least restrictive manner regardless of patent characteristics.100 This trend diverges from the 1995 Guideline’s approach that was intended to assess whether the proposed pooling arrangement improves overall competitive conditions of the market.101 Firms’ cautionary approach to pooling arrangements is illustrated through the following discussion of a business review letter issued by the Justice Department.

In 1999, the DOJ approved a patent pool related to the manufacture of DVD-ROM and DVD-Video formats.102 Six individual firms claimed ownership of patents related to an established manufacturing standard.103 The patent pool offered licenses to potential third party manufacturers under a licensing agreement replete with safeguards to competition including a pool definition of “essential” patents and a quadrennial review of the pool’s offering conducted by an “independent” expert104—representative of the pool members’ cautionary approach to pooling arrangements.

Acting as the independent licensing administrator, Toshiba, a pool licensor, assembled and offered the pool to potential licensees.105 The pool was licensed as a package of “essential” patents defined as those patents necessarily infringed, or having no

100. See Shapiro, supra note 1, at 129.
101. See 1995 Guidelines, supra note 2, § 3.1.
102. See DVD Letter, supra note 81, at 2.
103. Id. at 1.
104. Id. at 2-10.
105. Id. at 1.
realistic alternative, in implementing the standard as determined by an independent expert.\textsuperscript{106} The royalty rate, set by the pool, was allocated to licensors in proportion to the individual characteristics of each patent.\textsuperscript{107} As a complement to the single pool license, licensors were free to offer individual patent licenses on “fair, reasonable and non-discriminatory terms, whether or not [a licensee] intend[ed] to manufacture and/or sell DVD Products in conformity with the DVD Standard Specifications.”\textsuperscript{108} Lastly, a licensee was obligated to grantback\textsuperscript{109} any “essential” patents it may own or control during the term of license” on reasonable and non-discriminatory terms.\textsuperscript{110}

In its prefatory remarks, the Justice Department stated that the purpose of the review process is to determine “(1) whether the proposed licensing program here at issue is likely to integrate complementary patent rights and (2), if so, whether the resulting competitive benefits are likely to be outweighed by competitive harm posed by other aspects of the program.”\textsuperscript{111} This two-prong standard outlines the Agency’s rule of reason-like analysis. Irrespective of the reverent balancing purpose, the review immediately pulls the importance of patent essentiality to the forefront.\textsuperscript{112} The DOJ is critical of the stated definition of essentiality in that “the definition introduces a degree of subjectivity into the selection process.”\textsuperscript{113} Nonetheless, the agency did not offer a more concrete definition other than to state that, “essential patents have no substitutes.” Instead, the DOJ operates under the assumption that experts will apply the definition

\begin{itemize}
  \item \textsuperscript{106} Id. at 3. The independent expert was also employed to conduct quadrennial reviews concerning the essentiality and validity of the patents included within the pool. Id. at 4.
  \item \textsuperscript{107} Id. at 7.
  \item \textsuperscript{108} DVD Letter, supra note 81, at 8.
  \item \textsuperscript{109} A grantback is an agreement “under which a licensee agrees to extent to the licensor of intellectual property the right to us the licensee’s improvements to the licensed technology.” 1995 Guidelines, supra note 2, § 5.6.
  \item \textsuperscript{110} DVD Letter, supra note 81, at 8.
  \item \textsuperscript{111} Id. at 10.
  \item \textsuperscript{112} See id. at 11
  \item \textsuperscript{113} Id. at 12.
\end{itemize}
“scrupulously” and “independently.” In the end, the Justice Department determined that, because of the small royalty rate and non-discriminatory licensing provisions, the pool arrangement would not harm competition in related markets. Lastly, the review endorsed the narrow scope of obligations imposed by the grantback provision on the licensees.

Although the Justice Department ultimately reached an agreeable conclusion on the competitive nature of the patent pool, it does so with the furtiveness of a heavyweight boxer in a ballet class. The review process misplaces its focus on essentiality as the proper and efficient means to a procompetitive end. In turn, the process dedicates cursory review to the regulatory potential of objective provisions such as the independent licensing and royalty rate schemes. As a consequence of the Agency’s obtuse review of such schemes, the Justice Department unnecessarily complicates its analysis of latent anticompetitive harms to related markets and the competitive implications of the grantback provision. The remainder of this note features the DVD-6 patent pool and related review as a template from which to compare and analyze potential alternative means of cultivating a procompetitive end.

VI. THE PROCOMPETITIVE PRESUMPTION

Although intuitively obvious in terms of competitive effect, the distinction between complementary and substitute patents for a given process is often blurry even to the well-trained eye. Today’s rule of reason approach teeters on a static analysis, subjectively undertaken by independent experts. The uncertainty that lies with dissecting the subtle distinction between complementary and substitute patents chills the formation of patent pools as firms, and agencies alike, struggle with the problem of characterization. The consequence of this struggle is that regulatory interference obstructs the free market attainment of allocative and productive efficiencies. However, recognition of the procompetitive

114. Id.
115. See id. at 14.
116. See D VD Letter, supra note 81, at 15-16.
117. See Carlson, supra note 19, at 365-67.
118. See Easterbrook, supra note 97, at 12.
tendency exhibited by specific objective criteria will obviate the need for contentious line drawing. Rather than implementing a rule of reason approach to which all facts are relevant and none dispositive,\textsuperscript{119} antitrust agencies should observe a presumption of legality in favor of patent pool arrangements that feature individual licensing schemes.

\textit{A. Arguments Against a Per Se Rule}

Although the procompetitive characteristics of patent pools are widely endorsed, a \textit{per se} rule in favor of certain pooling arrangements has not gained traction. First, opponents object that because firms currently market products in violation of others' patent rights, many patents are legally blocking but factually competitive; therefore, “pools provide a direct means for restoring monopoly prices to a competitive market.”\textsuperscript{120} Second, firms often acquire blocking patents for the purpose of frustrating competition, using the bilateral monopoly process to strategically retard competition.\textsuperscript{121} Third, pools provide a shelter for invalid patents from litigation.\textsuperscript{122} Licensees and other pool members often do not challenge patents due to the expense of litigation or the potential deterioration of their long-term relationship with the pool.\textsuperscript{123} Fourth, pools provide a platform for firms that hold both blocking and substitute patent for competing process to act in cahoots.\textsuperscript{124} Even though these concerns are valid,\textsuperscript{125} unwavering oversight is

\textsuperscript{119} Judge Easterbrook comments that with respect to rule of reason-like formulations “everything is relevant, nothing is dispositive. Any one factor might or might not outweigh another, or all of the others, in the factfinder’s contemplation.” \textit{Id.}

\textsuperscript{120} Carlson, \textit{supra} note 19, at 386.

\textsuperscript{121} \textit{See id.} at 385. This objection refers to patent trolls—firms that, although not engaged in innovation, collect patents and seek to profit through the threat of infringement suits.

\textsuperscript{122} \textit{See id.} at 386-87.

\textsuperscript{123} \textit{See id.} at 387. This concern may be dismissed based upon the observation that royalty rates are often calculated to encourage the members of a patent pool to challenge the validity of other patents.

\textsuperscript{124} \textit{See id.} at 388.

\textsuperscript{125} For a further discussion, \textit{see} U.S. Dep’t of Justice & Fed. Trade Comm’n, \textit{Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition} 66 (2007), \textit{available at} http://www.usdoj.gov/
unnecessary to fetter out anticompetitive abuse. By acknowledging these objections to a per se rule in favor of certain pooling arrangements, the procompetitive presumption fosters a compromise between the ideals of strict essentialist and the realities of a dynamic and technically complex marketplace.  

B. Individual Licensing

Patent pools that elect to implement individual licensing should escape the heavy hand of antitrust scrutiny. Under an individual licensing requirement, a potential licensee is offered the option to purchase (1) a single license to the patent pool package and (2) the option to individually license specific patents (a partial pool license). The dichotomic nature of individual licensing encourages procompetitive behavior while efficiently dismantling any potential for anticompetitive abuse.

Apart from the transaction costs of individual licensing, a pool consisting purely of complementary or blocking patents is indifferent to the presence of the licensing scheme. The pool’s indifference arises from the fact such patents are not in direct competition with one another. Given an incentive to offer individual licensing, a procompetitive pool will elect to include the licensing provision when its anticipated benefit outweighs its cost.

In contrast, to the extent a pooling arrangement contains competitive patents, pools provide a means for competitors to restore supracompetitive prices to a competitive market. In this

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126. See Part V(D) infra.
128. See Part V(D) infra.
129. Lerner, supra note 127, at 3.
130. See id.
131. See id.
context, a patent pool operates as a traditional price fixing cartel whereby competitors collectively remove price competition. However, a pool comprised of, or one that contains, substitute patents is highly unsuitable to individual licensing.

C. Patent Pools as Cartels

The antitrust laws stand as proof of the dire consequences collective action among horizontal competitors presents to basic principles of market competition. For the moment let us put aside antitrust law’s *per se* treatment of explicit horizontal collusion and examine the underpinnings of cartel behavior that enable competitors to set price, fix output, and inflate competitive prices. At its most basic level, cartelization provides firms selling homogenous products the opportunity to eliminate price competition that consumes potential profits. Similarly, intellectual property markets offer holders of substitute patents the opportunity to eliminate price competition through agreement. Therefore, coordinated behavior among horizontal competitors in intellectual property markets may arise when the benefits of coordination outweigh the costs.

Several market environments give rise to a greater probability of cartelization including product homogeneity and low market concentration. First, collusive behavior is more likely to appear when the demand for a product is inelastic to price. Under elastic conditions, the monopoly price is set relatively close to the competitive price—collusive efforts to raise price return marginal benefits. However, with respect to intellectual property rights, calculating the probability of cartelization *ex ante* is a difficult task as determining the number of substitute technologies a particular

133. See id.
137. See Posner, *supra* note 132, at 1569. “The costs of collusion have two main components: coordination costs and enforcement costs.” *Id.* at 1570.
138. See id. at 1569.
139. See id.
140. See id.
technology faces requires a fact intensive inquiry.141

Another important factor affecting firms’ propensity to engage in collusive behavior is the likelihood of new entry.142 An increase in expected profits will encourage new firms to enter the market, and thus, a cartel must include new entrants to avoid harmful price competition.143 Furthermore, any growth in cartel membership complicates coordination efforts and increases post-cartel competition.144 Likewise, new entrants into intellectual property markets face the exclusionary powers of patents, the costs of research and development, and natural entry barriers such as powerful network effects.145 However, innovation within new technology markets often lacks transparency and takes place in leapfrog progression, complicating any effort to forecast new entry.146 Thus, one may not conclude with confidence that firms in contemporary technology markets face a lesser threat of entry than those engaged in traditional commodity market exchanges.147 Although natural entry barriers may deter new entry to a degree, firms in technology markets face a continuing threat of innovation driven by consumers’ hunger for technologically superior products.148 This is perhaps best illustrated by the peculiar male-rapture of owning the largest high definition television among his inner circle.

Given that varying combinations of market conditions favor collusive behavior, coordination and enforcement costs act as a

141. See Posner, supra note 44, at 936-37. Moreover, the inquiry into the elasticity of demand for a patented technology is admittedly a “comprehensive” one as it involves the analysis of complex technical data. See 1995 Guidelines, supra note 2, § 3.4.
142. See Posner, supra note 132, at 1569.
143. An additional risk to consider is that, “should the cartel eventually break down, the market will find itself with too many firms, leading to ferocious competition and many failures.” Id.
144. Id.
146. See id. at 930 (commenting that “[w]e have seen all manner of firms rise and fall in this industry—falling sometimes from what had seemed a secure monopoly position”).
147. See id. at 929. Discussing the paradox of the new economy, Judge Posner points out “that competition to obtain a monopoly is an important form of competition.” Id.
148. See id. at 938.
grave deterrent to cartelization. Coordination costs post a common problem for all inter-firm organizational efforts, including procompetitive patent pools. In addition, the presence of enforcement costs, directed at deterring an individual firm’s incentive to cheat, severally impact the viability of collusive efforts. Cheating is a natural offspring of a cartel’s supracompetitive or above marginal cost price level, as member firms may choose to undercut its competitors by increasing output in order to realize short term gains. Although destructive to the cartel’s long term interests, such behavior stems from a lack of trust among cartel members and uncertainty regarding the long term success of the cartel itself. Thus, in theory, cartels are more likely to organize through efficient contractual relationships that impose penalties on cheating firms. However, the antitrust laws generally disfavor these types of contractual relationships and specifically prevent such explicit agreements.

**D. An Effective Litmus Test**

Within the world of patent pools, individual licensing is an institutionalized version of cheating. Pools of substitute patents know *ex ante* that cheating is eminent and therefore, the pool faces a known startup risk of deterioration. The individual licensing regulatory proposition rests on the observation that “[o]wners of substitute patents do not allow independent licensing as this would re-create competition with the pool’s offering.” subsequently,

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150. See *id.* “Like any agreement, a price fixing agreement requires bargaining among the parties, and bargaining is not costless.” *Id.*
151. *Id.*
152. *Id.*
153. *Id.* at 1570.
154. *Id.* at 1571.
155. See Posner, *supra* note 132, at 1571 (describing “section I of the Sherman Act as a device for increasing the costs involved in establishing and maintaining noncompetitive prices”).
156. See *id.* at 1570. A Posner states that “without assuming that any sellers are stupid, one can suggest a number of plausible reasons for expecting cheating to occur.” *Id.*
157. See Lerner, *supra* note 127, at 5
independent licensing should be readily endorsed by enforcement agencies.

On the other hand, within the high-stakes game of intellectual property licensing, transaction costs often serve as the decisive factor in the viability of a particular technology. Pooling arrangements reduce prohibitively high transaction costs, allowing for improved allocative and productive efficiencies. Yet, the suggestion of individual or partial pool licenses reintroduces, to some extent, the transaction costs previously eliminated.

However, a potential transaction-specific increase in licensing costs is not fatal to the procompetitive presumption. Presented as an alternative to the norm, prospective pool creators may weigh the benefits of streamlined antitrust review under the procompetitive presumption against the anticipated transaction costs of individual licensing. Where the perceived frequency of individual licensing requests is minimal, the benefits of the presumption will likely outweigh its costs. Furthermore, transaction costs in a multilateral licensing agreement are borne by the licensee and licensor. As a result, patent pool licensors have an incentive to reduce the likelihood of individual licensing requests through the elimination of non-essential patents from the pool’s offering—a welcomed result.

A second plausible objection to viewing individual licensing as a litmus test of competition is that, by definition, a pool of purely complimentary patents will not feature individual licensing—any

158. See Jeffery Fromm, Patent Pools and Cross Licensing: Statement for FTC/DOJ Hearing on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy 5 (April 17, 2002) available at http://www.ftc.gov/opp/intellect/020417jefferyfromm.pdf. The impediments of individual licensing include: “major transaction costs and time required for multiple negotiations; holders’ disincentives to entertain negotiations; likelihood that the sum of individually negotiated royalties would significantly exceed the prescribed package license royalty; and the likely necessity of exchanging competitively sensitive information with one’s competitors in the administration of individual licenses.” Id.

159. Id.

160. Id.

161. See Posner, supra note 132, at 1569.

162. See id. at 1570.

163. See Carlson, supra note 19, at 388 (discussing the possibility that patent pools may be used to eliminate competition).
rational licensee will purchase the pool license because all of the patents are required to practice the technology. However, individual licensing is important even in purely complementary contexts as a potential licensee may wish to develop an innovative technology independent of the pool's general purpose.\textsuperscript{164} Furthermore, pools that offer complementary patents are indifferent to the presence of individual licensing.\textsuperscript{165} Such indifference is proven by the fact that a licensee, faced with a pool comprised solely of complementary patents, will purchase the entire pool license at the pool's profit maximizing price.\textsuperscript{166} This observation combined with favorable antitrust policy will encourage patent pools to incorporate, as an option, individual licensing when the efficiency degrading costs of such licensing are minimal.

As a litmus test, individual licensing asks whether a patent pool is procompetitive or anticompetitive. Predictably, assuming a minimal degree of candor, a uniform pool of either complementary or substitute patents will be either procompetitive or anticompetitive.\textsuperscript{167} But what answer does a pool with an identity crisis give? A hybrid pool, one comprised of both complementary and substitute patents, raises competitive concerns because it facilitates a reduction in competition between substitute patents included within the pool and the alternative technology outside of the pool.\textsuperscript{168} The competitive advantage enjoyed by substitute patents included within the pool risks a spillover effect of reducing a competitor's willingness to innovate.\textsuperscript{169}

For the purpose of analysis, a pool that contains a blend of complementary and substitute patents is analogous to a tying arrangement.\textsuperscript{170} The anticompetitive underpinning of a tying arrangement forces a consumer to purchase something the consumer would not otherwise have selected.\textsuperscript{171} The key inquiry

\begin{footnotesize}
\begin{enumerate}
\item[164.] See id. at 4.
\item[165.] Lerner, supra note 127, at 3.
\item[166.] See id.
\item[167.] See id.
\item[168.] See Carlson, supra note 19, at 388.
\item[169.] See id.; see also 1995 Guidelines, supra note 2, §3.1.
\item[170.] U.S. Philips Corp., 424 F.3d at 1190.
\item[171.] Id. at 1190.
\end{enumerate}
\end{footnotesize}
in evaluating a patent-to-patent tying arrangement is whether the licensee is forced to purchase something more.\textsuperscript{172}

The value of a patent pool, to both the licensor and licensee, is derived from the pool’s essential patents.\textsuperscript{173} Hence the profit maximizing price charged by the pool is based on market demand for the essential patents.\textsuperscript{174} The inclusion of nonessential patents restructures the intra-pool division of profits, rather than increasing the price paid by a licensee. Therefore, the licensee is not forced to purchase something more; the licensee receives more for his purchase price.\textsuperscript{175} Nevertheless, opposite a consumer-based focus, the immediate potential harm that results from a patent-to-patent tie may directly affect competitors.\textsuperscript{176} If a licensee acquires access to a technology covered by a nonessential patent through its patent pool license, the licensee may choose not to license a competitor’s alternative technology. However, the pool’s combination of both essential and non-essential patents has not adversely harmed competition any more than had the licensor decided to package only essential patents and guarantee a licensee that it would not enforce its patent rights with respect to the nonessential patents.\textsuperscript{177} In both situations, a competitor must persuade the licensee to purchase a license for its alternative technology over a freely available process.\textsuperscript{178} This response parleys to answer concerns that hybrid patent pools harm a competitor’s incentive to innovate.

In addition to leaving the competitive environment unscathed, hybrid pool offerings also generate procompetitive benefits. The inclusion of alternative patented processes reduces the licensee’s search and transaction costs associated with implementing a

\begin{itemize}
  \item \textsuperscript{172} See id. at 1190-91.
  \item \textsuperscript{173} See id. at 1191-92.
  \item \textsuperscript{174} See id. at 1192. The court stated that “[i]t is entirely rational for a patentee who has a patent that is essential to particular technology, as well as other patents that are not essential, to charge what the market will bear for the essential patent” and to offer the nonessential patents free of charge. \textit{Id}.
  \item \textsuperscript{175} See id. at 1190.
  \item \textsuperscript{176} See \textit{U.S. Phillips Corp.}, 424 F.3d at 1190.
  \item \textsuperscript{177} See \textit{id}. “By analogy, if [the licensor] had decided to surrender its ‘nonessential’ patents or had simply announced that it did not intend to enforce them, there would have been no way for the [licensee] to decline or reject [the licensor’s] decision.” \textit{Id}.
  \item \textsuperscript{178} See \textit{id}.
\end{itemize}
specific technology. Further, as the number of patents within
the pool rises and the probability of unintentional infringement
decreases, a licensee is able to reduce its uncertainty with respect
to investment decisions. Similarly, the licensor is able to reduce
monitoring costs of its patent inventory, since the incorporation of
the licensor’s inventory into the patent pool’s portfolio provides
the licensor with a reliable method of collecting on the use of its
patents. Therefore, it is important to consider that the fractional
presence of competitive patents within a pooling arrangement
should not undercut the value of a simplified review process
supplied by the procompetitive presumption.

E. Perfect Information

The transactional efficiency of intellectually property markets is,
unremarkably, hindered by a lack of perfect information. Perfect
information describes a state of complete knowledge over the
actions of firms engaged in a market—an unattainable outcome in
real world circumstances. Nonetheless, firms and consumers
may, and do, collect useful information related to competitive
products through price and objective quality comparisons.
However, it is difficult to make these types of comparisons in the
intellectual property world because of the closed and proprietary
nature of the market. Therefore, the regulatory function of
individual licensing fails to climax under conditions of imperfect
information, thereby reducing the ability of a licensee to
distinguish between complementary and substitute patents—an
ability that would otherwise significantly dilute the capacity of a
pool to market factually competitive patents as complements.
Yet licensees of patents are generally sophisticated businesses
operating within the same sphere of technology as the licensor.

179. 1995 Guidelines, supra note 2, § 5.5.
180. See U.S. Philips Corp., 424 F.3d at 1193; see also Carlson, supra note 19, at 381.
182. See, e.g., Lerner, supra note 127, at 3–4 (discussing the startup problems
a patent pool faces when determining what patents and technology are required
to complete the pool’s offering).
183. See id.
184. See id.; see also 1995 Guidelines, supra note 2, § 3.2.2.
Individual licensing schemes afford these sophisticated licensees a choice and allow potential licensees to differentiate between complementary and substitute patents versus a technically inexperienced court. These licensees are, unlike the judicial system, well suited to make this determination. Likewise, they provide a much more cost-efficient means of assigning patent character, the alternative being that these determinations would be made during contentious litigation.

F. A Rebuttable Presumption

The procompetitive presumption granted to pools containing individual licensing schemes is a powerful tool that mitigates the deleterious effects of rigorous antitrust scrutiny. However, such power should not be wielded blindly. The presumption, in order to promote the overall goal of designing a more efficient means of pool formation and regulation, should provide an opportunity for focused rebuttal. The avenues of rebuttal must be carefully construed so as not to invite litigation that could be used to falsely condemn procompetitive behavior.

As a precondition for attacking this presumption, a plaintiff must demonstrate that the pool members collectively possess market power within a relevant market. Without market power the pooling arrangement does not present a discernable threat to competition, as the pool may not profitably raise price or reduce output if a competitor stands willing to sell or produce at the competitive level. Since a patent no longer carries a presumption of market power, the standard applied to intellectual

185. See Posner, supra note 44, at 937.
186. See id. at 939.
187. See Easterbrook, supra note 97, at 14-16. Judge Easterbrook points out that “[t]he economic system corrects monopoly more readily than it corrects judicial errors. There is no automatic way to expunge mistaken decisions of the Supreme Court. A practice once condemned is likely to stay condemned, no matter its benefits. A monopolistic practice wrongly excused will eventually yield to competition, though, as the monopolist’s higher prices attract rivalry.” Id. at 14.
188. See id. at 19.
189. See id. at 20.
property markets mirrors that applied in traditional markets.\textsuperscript{190} Consistent with the market power standard applied in traditional markets, the relevant intellectual property market inquiry can be defined either through a product, technology, or geographic market (depending on the nature of the technology).\textsuperscript{191} Meanwhile, a pooling arrangement may defend against a finding of market power by demonstrating that other firms have the incentive and innovative capacity to compete in the future.\textsuperscript{192} Overall, the underlying purpose of the market power standard stems from the desire to remove judicial interference in circumstances apt to market correction (i.e., restraints imposed by a pool that lacks market power).\textsuperscript{193}

A finding of market power alone does not warrant stripping the patent pool of its procompetitive presumption. The plaintiff must next demonstrate that the individual licensing scheme presents a realistic threat of harming consumers through higher price or lower output.\textsuperscript{194} Anticompetitive harm may result when individual licensing has decreased the transactional efficiency of the pool, thereby increasing the overall price, or decreasing the output, of a technology.\textsuperscript{195} Here an important dividing line is needed between individual licenses taken for use in conformity with the pool’s purpose and those licenses purchased for independent technology development. The costs associated with purchases made for independent development are distinct from the costs of licenses purchased for use in conformity with the pool’s purpose and scheme. Here, for the purpose of demonstrating anticompetitive effects, the analysis should be limited to the overall increase in the cost of licenses taken for use in conformity with the pool’s primary purpose.

The procompetitive presumption may also be rebutted where

\begin{itemize}
  \item \textsuperscript{190} 1995 Guidelines, \textit{supra} note 2, § 2.1.
  \item \textsuperscript{191} Id., § 3.2.
  \item \textsuperscript{192} See Posner, \textit{supra} note 44, at 930. Further, as Judge Posner suggests, the competition for monopoly power is an important form of competition in the new economy. \textit{Id.} at 929.
  \item \textsuperscript{193} See Easterbrook, \textit{supra} note 97, at 21. Judge Easterbrook notes that “when there is no market power, the market is better than the judicial process in discriminating the beneficial from the detrimental.” \textit{Id.}
  \item \textsuperscript{194} See \textit{id.} at 23-24.
  \item \textsuperscript{195} See \textit{id.}
\end{itemize}
individual licenses are awarded on a systematic basis masking an anticompetitive agreement between competing technologies. Vertical arrangements between firms including tying and restricted dealing are examples of systematic anticompetitive behavior. In this scenario a plaintiff must prove that, absent the systematic agreement, licenses would be offered at lower prices. Ultimately, the party challenging the procompetitive presumption is charged with the burden of demonstrating a logical relationship between the patent pool’s profits and harm to competition.

The avenues of rebuttal are not designed to create an insurmountable barrier to well-grounded challenges. However, as individual licensing provides a pool with an economic incentive to act procompetitively, one should be mindful of a standard that permits judicial interference based on an anticompetitive hunch.

VII. ANCILLARY EFFECTS OF INDIVIDUAL LICENSING

The various elements of a patent pool—individual licensing, the independent expert, the royalty rate scheme, and the grantback provision among others—do not function in a vacuum. Therefore, an analysis of the competitive qualities of a specific pooling arrangement should not examine the elements in isolation. With the aid of the Justice Department’s DVD business review letter, the following discussion highlights possible spillover effects created by individual licensing with respect to various aspects of patent pools.

A. The Independent Expert’s Role

The Justice Department’s DVD-6 business review letter expresses speculative concern over (first) the independent expert’s ability to reliably distinguish between complementary and substitute patents, and (second) the expert’s degree of

196. See id. at 29-31.
197. Id. at 30.
198. Id. at 23-24
199. See Easterbrook, supra note 97, at 23-24.
200. See id. at 14.
The regulatory role of individual licensing should obviate, to a large degree, the Department of Justice’s concern with a subjective selection process. Additionally, the fact that two patents are complementary or essential today is not determinative of the patents’ future competitive relationship. Technology developments or price fluctuations, among many factors, may alter the relationship between two patents in terms of substitutability. In turn, this may decrease the value of any static analysis conducted by experts. Alternatively, allowing the market, through individual licensing to conduct the process provides for a more responsive and cost-effective means of review by reducing the independent expert’s role. Moreover, the lack of “truly neutral competent experts” casts doubt over the value and utility of any expert review process to being with. Moving the role of the independent expert into the background may also lessen the burden on pool members to divulge competitively sensitive proprietary information.

B. Royalty Rate Schemes

The intra-pool division of royalty fees also works to eliminate competitively degrading elements from patent pools. In general, and as is evident from the structure of the DVD-6 pool, royalty rate schemes are generally designed to allocate fees among member licensors in proportion to the frequency of licensee “infringement” with respect to a specific patent. A licensor garners a royalty fee in proportion to the number of infringed patents owned by the licensor. The desire of each licensor to grab a larger share of the collected royalty fees creates a monetary incentive, on the part of all members, to remove unproductive patents from the pool. Given that the value of a patent pool is positively related to the percentage of total essential patents

201. See DVD Letter, supra note 81, at 12-13.
204. Id. at 937.
205. See DVD Letter, supra note 81, at 7.
206. See id.
207. See id. at 13.
included, pool members will encourage the removal of nonessential patents. Although the Justice Department has recognized the procompetitive outcome generated by royalty rate schemes, this issue deserves a greater focus.

C. Grantback Provisions

In a standard patent pool arrangement, grantback provisions generally require a licensee to license back to the pool the (1) rights to any improvements developed by the licensee and (2) patents held by the licensee that are essential to the pool’s underlying purpose or standard. However, these provisions generate concern because of the possibility that they may reduce a licensee’s incentive to innovate. In particular, these provisions may dilute a licensee’s ability to recapture, through exclusive patent rights, the high costs often associated with research and development. Nonetheless, grantback provisions provide a number of procompetitive benefits to pools that utilize individual licensing schemes.

Remember that patent pools comprised of complementary (or blocking) patents generally form to avoid the hold-up problem such that the licensor and licensee can reduce costs. Ideally, a patent pool will contain a complete set of complementary patents in order to maximize cost savings, but imperfect information with respect to intellectual property rights and the proprietary nature of such information, restricts the formation of a complete set. However, a grantback provision may be utilized to form a complete set of complementary patents where a patent pool desires to protect itself from falling victim to the hold-up problem—a grant provision insures that the pool will have rights to the necessary technology. Because grantback provisions encourage the initial formation of as well future participation in patent pools,
they are a necessary component of competitive patent pools.\textsuperscript{215}

The current patent system, when it grants improvement patents, often tends to undercompensate entrepreneurial patent holders while overcompensating those holding the improvement patent.\textsuperscript{216} By analogy, in the context of patent pools, licensors are entrepreneurial patent holders and licensees represent improvement patent holders. A grantback provision will, in some circumstances, permit a licensor (or entrepreneurial patent holder) to capture a greater portion of its patent’s value when a licensee later includes improvement patents in the patent pool.

Finally, a grantback provision will not automatically reduce a non-licensee’s incentive to innovate. The value of an essential patented process (i.e., a monopoly), and the associated bargaining power that often follows, provides adequate assurance for the continuation of outside innovation.\textsuperscript{217} Any anticipated reduction in a licensee’s incentive to innovate must be correspondingly setoff by an outsider’s willingness to invest in the research and development process.\textsuperscript{218}

The Justice Department has extended favorable treatment to grantback provisions when they are tailored to further the underlying purpose of the patent pool and do not serve to stifle competition.\textsuperscript{219} The DVD-6 patent pool agreement required licensees to license-back their present and future essential patents.\textsuperscript{220} In this context, the Department endorsed the grantback provision on the basis that by bringing other essential patents into the patent pool, no licensees would present a hold-up threat in the future.\textsuperscript{221} Given the facilitative role that individual licensing requirements play in the formation and maintenance of procompetitive patent pools, grantback provisions—limited in

\begin{itemize}
\item \textsuperscript{215} See id.
\item \textsuperscript{216} See Mark A. Lemley & Carl Shapiro, \textit{Patent Holdup and Royalty Stacking}, 85 Tex. L. Rev. 1991, 2044 (2007). The authors conclude that “under current law patentees whose inventions are only one component of a larger product are systematically overcompensated.” Id.
\item \textsuperscript{217} See Posner, supra note 44, at 929-30.
\item \textsuperscript{218} See id.
\item \textsuperscript{219} See \textit{DVD Letter}, supra note 81, at 15-16; see also 1995 Guidelines, supra note 2, § 5.6.
\item \textsuperscript{220} \textit{DVD Letter}, supra note 81, at 8.
\item \textsuperscript{221} See id. at 15-16.
\end{itemize}
scope to present and future essential patents—should be readily endorsed when coupled with such licensing requirements.

D. Reasonable and Nondiscriminatory Terms

When a patent pool elects to offer individual licenses it must determine a price standard at which licensors will offer their patents. The contemporary approach adopts the often cited, but never squarely defined, standard of fair, reasonable and nondiscriminatory (RAND) terms. The reasonableness requirement of RAND is difficult to calculate and even more difficult to bargain for as intellectual property rights are not traded within ready markets capable of supplying price comparisons. In its attempt to define a reasonable price in the context of intellectual property licenses, the Second Circuit has negatively defined the term as unreasonable when the price for the license is higher than the value of the intellectual property rights obtained. Rather than solving the RAND puzzle, this definition merely rephrases the inquiry related to the value of the subject patent. In addition, other more pointed questions must be asked: (1) if the subject patent does not face substitute competition, may the licensor charge a price equal to the complete pool royalty fee? (2) if the subject patent faces competition, is the price properly constrained by such competition? and (3) should antitrust meddle at all with the price an individual patent holder charges for licensing rights?

The answers to these questions are beyond the scope of this note, but patent pools, like other commercial entities, are constrained by the following business realities that may prevent individual licensing regimes from sliding into a pit of complicated price negotiations. First and foremost, the licensor’s reputation always precedes it. As such, a licensor has an incentive to transact fairly with a licensee as the transaction is but one of many repeated

223. As an illustration, the New York Stock Exchange provides a ready market for the exchange of securities.
225. See id.
business interactions. Secondly, a most-favored-nations clause may be implemented to settle difficulties and conflicts found during repeated RAND negotiations. Ultimately, the final price of an individual license should be surveyed to preclude the facilitation of downstream price coordination.

A patent pool that elects to adopt an individual licensing requirement will, optimally, have weighed the costs of negotiating price terms against the benefits of the procompetitive presumption. The concerns associated with RAND, therefore, should not interfere with the efficiency enhancing prospects of the presumption.

VIII. Conclusion

Technology industries now frequently use patent pool arrangements because they allow firms to pursue innovation while reducing high licensing costs and the threat of patent hold-ups. At this time, the Department of Justice and Federal Trade Commission analyze patent pools under a rule of reason approach; as such, patent pools must satisfy a strict essentiality standard, which unfortunately presupposes doubt on such agreements and chills future efforts to form the same. If firms do not have a predictable, static definition of essentiality, the application of this strict essentiality standard within a dynamic intellectual property market may produce unharmonious outcomes.

As an alternative, patent pools that elect to adopt an individual licensing provision should escape the intrusive audit conducted pursuant to the current standard and should instead enjoy a procompetitive presumption. The presumption diverts from the rule of reason not in purpose, but in function. Rather than relying on a subjective classification of patent characteristics, the presumption utilizes market-based principles to eradicate competition-reducing patents from the pool’s portfolio. An internalization of the rule of reason’s regulatory function will permit more efficient formation and maintenance of procompetitive patent pools while avoiding the threat of false-positives invoked by today’s patent characterization system.

However, an agency split between the DOJ and FTC concerning Section 2 of the Sherman Act may spell, albeit indirectly, a
derailment of free market antitrust policies including the procompetitive presumption suggested by this note. The Justice Department has released a statement concerning the Department’s approach to analyzing single-firm conduct that aptly reflects a reliance on market-based principles to correct inefficient and anticompetitive behavior. In response, the FTC issued a statement indicating its intent to fill the enforcement gap created by the DOJ’s new (radical) standard. The FTC’s statement, and general disagreement with the DOJ, strikes at the foundation of the procompetitive presumption’s reliance on market-based principles as a substitute for intrusive antitrust enforcement. Prior to the publication of the 1995 Guidelines, concerns about the antitrust laws constrained any innovation through licensing agreements. With the past in mind, a more hands-off approach to antitrust enforcement would appear to facilitate long-run innovation at minimal costs to short-run competition. Whatever the outcome of the current debate, the coming future of the relationship between the antitrust and intellectual property laws is guaranteed to be interesting. For the sake of tech-savvy consumers, however, one can only hope that the enforcement agencies do not revert back to the 8-track days of the Nine No-Nos.

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