SELECTIVE REFUSALS TO SELL PATENTED GOODS: THE RELATIONSHIP BETWEEN PATENT RIGHTS AND ANTITRUST LAW

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On the issue of whether a patent right includes the right to selectively refuse to sell, differing viewpoints have been taken among the Circuits, in addition to, the Federal Trade Commission ("FTC"), on whether such refusals violate antitrust law. This article takes the position that patent rights are limited to the extent of balancing the promotion of a competitive marketplace and granting incentives for continued development of intellectual property ("IP"). The article analyzes its position in the context of technologically innovative markets. The article first provides a background on antitrust law on refusals to deal outside the context of IP rights. Next, a study is made of the effects of changing technology on the patent system. This is done by first looking at the first-sale, repair, and patent misuse doctrines. An economic analysis and empirical study is then made looking specifically at innovation and competition within the context of the patent system. From the perspective of high-technology markets, studies have shown that innovation is generally driven more by competition that by patent rights. The author therefore suggests that a patent holder's right to refuse should be redefined when viewing high-technology markets. An alternative approach is proposed for redefining a patent holder's rights of refusal by looking to the first-sale and repair doctrines, actual business reliance, dynamic competition and public interest arguments. This alternative approach is then applied to the case law with the intention of reconciling the differing viewpoints among the courts and the FTC to provide a clear line between circumstances where refusals to deal by an IP holder will and will not be subject to antitrust scrutiny. The article finally offers what a proper remedy would be in the case of an unlawful unilateral refusal

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to license by a patent holder. This includes looking at some of the potential remedies used to restore competition in the case of illegal refusals to deal such as trebling of damages, injunctive relief, compulsory licensing, price regulation, duties to deal and non-discriminatory selling. The author concludes that pure refusals to deal by an IP holder will as a general rule promote innovation and competition. An IP holder will be scrutinized from an antitrust perspective, however, where it engages in conditional or selective refusals to deal.

I. INTRODUCTION

The interface of antitrust laws and intellectual property laws ("IP laws") has always presented obvious tension because the former curbs anti-competitive conduct and fosters a competitive marketplace, while the latter promotes innovation by granting a patent or copyright holder the right to limit competition. Nevertheless, both antitrust and IP laws share a common economic goal: maximizing consumer welfare and encouraging innovation and competition.

A significant conflict between these two bodies of law has recently arisen in cases where an IP holder selectively refuses to sell or license a patent or copyright, thereby harming the competitive process in downstream or related markets. The general antitrust rule is that firms are free to refuse to do business with anyone they choose, absent the purpose or effect of monopolizing. However, if a patent holder exploits its dominant position in one market to expand its monopoly into another,

this action may give rise to antitrust liability. In contrast, the right to exclude has been construed as granting patentees the right to refuse to sell patented goods even if that refusal allows the patentee to increase monopoly profits.

In four recent cases, courts have presented differing viewpoints regarding whether the patent exclusive right includes the right to selectively refuse to sell as part of a scheme to monopolize. In Image Technical Services, Inc. v. Eastman Kodak Co. [Kodak II], Kodak refused to sell its patented and copyrighted photocopier parts to independent service organizations ("ISOs"). The Ninth Circuit held that an IP holder's right of exclusion had limits. The court created a rebuttable presumption that an IP owner's desire to profit from leveraging its IP was presumptively legitimate. Showing that the leveraging is a pretext hiding a subjective intent to monopolize could rebut the presumption. In contrast, despite the factual similarity to Kodak I and Kodak II, the Federal Circuit in In re Indep. Serv. Org. Antitrust Litig. [Xerox] expressly declined to follow the Ninth Circuit's approach in Kodak II and affirmed the judgment of the district court that the IP owner was entitled to profits derived from denying its IP in as many markets as the denial was profitable.

Similarly, in Intergraph Corp. v. Intel Corp., the Federal Circuit overturned a district court decision that had significantly
widened the reach of antitrust laws in curtailing an IP holder’s freedom to refuse to deal. On the other hand, in 1998, the Federal Trade Commission ("FTC") instituted an action against Intel, claiming that this conduct constituted unlawful monopolization, unlawful attempts to monopolize, and unfair methods of competition, in violation of Section 5 of the Federal Trade Commission Act ("FTCA"). The FTC alleged that Intel used its monopoly power in the microprocessor market to force at least three customers to grant Intel royalty-free licenses to microprocessor-related technology developed and owned by its customers. Because the selective refusal to deal had chilled innovation in the microprocessor field, the litigation resulted in a consent decree which prevented Intel from unlawfully withholding information from the customers when there was an intellectual property dispute.

Most cases involving unilateral refusal to deal claims decided before the 1980's deferred to analysis under the lens of IP law when construing an IP right to exclude in relation to antitrust duty to deal. This deferral is consistent with the recognition that the short-term burdens of protection are justified by the long-term benefits of disclosure and widespread access to ideas.

As we learned from the Microsoft and Amazon.com cases however, the recently excessive protectionism of IP powered by the legal system has created a significant problem of monopoly power, and this ex-

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24. For example, according to recent data from the NIHCM Foundation, the drug industries seem to take advantage of excessive IP protection because "[o]ver the past two decades, Congress has enacted a series of laws that have greatly increased the 'effective patent life' enjoyed by brand name prescription drugs." NAT'L INST. FOR HEALTH CARE MGMT. FOUND., PRESCRIPTION DRUGS AND INTELLECTUAL PROPERTY PROTECTION: FINDING THE RIGHT BALANCE BETWEEN ACCESS AND INNOVATION (Aug. 2000) at http://www.nihcm.org/prescription.pdf.
2000 Pipeline Drug Proposals are being considered by Congress to provide up to three years patent extension to selected drugs.
1999 The Patent Term Guarantee Authority Act requires the federal Patent and Trademark Office (PTO) to compensate for delays of over three years in processing patents.
1997 The Food and Drug Administration Modernization Act (FDAMA) enables firms to reduce clinical study time and offers six months of additional IPP to drugs that companies test in children.
Ccessive monopoly has unnecessarily stifled competitive markets in the 21st century. The fundamental question is whether existing patent right paradigms can accommodate the high technologies which have changed quickly and are complicated in nature. In the high-tech industry, because of the mutual dependence of manufacturers or the so-called “network effect,” inventions are not discrete; instead, technology advances through a succession of incremental improvements. Moreover, a product which encompasses a single patent has increasingly transformed to a multi-patent product. For example, some of the replacement parts for Kodak’s photocopiers and micrographics equipment are patented, but others are not. As a result, innovations in such industries are less of a public good if a large number of distinct participants cannot employ the ideas simultaneously. Because of this characteristic in high technology industries, antitrust/patent tensions may be particularly acute. Many empirical studies and economic analyses on innovation and competition conclude that protecting competition is unlikely to reduce innovation, but instead enhance it.

1994 The Uruguay Round Agreements Act (URAA) changes term of all patents in U.S. from 17 years from the date of issue to 20 years from date of application. Allows longer of the two terms for some drugs already on the market.

1992 The Prescription Drug User Fee Act (PDUFA) authorizes user fee support for FDA’s pre-market review program, and sets performance goals to reduce approval time.

1986 The Federal Technology Transfer Act authorizes federal agencies doing research to enter into formal cooperative agreements with private industry to help develop, market, and manufacture government inventions.

1984 The Drug Competition and Patent Term Restoration Act (Waxman Hatch) authorizes patent extensions of up to five years for new drugs and up to two years for drugs in development at the time. Provides three years of market exclusivity for qualifying drugs. Streamlines FDA review process for generic drugs.

1983 The Orphan Drug Act provides seven years of market exclusivity to drugs for rare diseases, and tax credits for 50% of the cost of researching and developing such drugs.

Id.; See also Michael A. Heller & Rebecca S. Eisenberg, Can Patents Deter Innovation? The Anticommons in Biomedical Research, 280 SCI. 698 (1998) (Regarding the problem of IP rights stacking, a proliferation of IP rights upstream might be stifling life-saving innovations further downstream in the course of research and product development.); Justin Gillis, Drug Companies, Gene Labs to join Forces, WASH. POST, Apr. 15, 1999, at E-1. (A group of pharmaceutical producers planned to fund a group of laboratories to do detailed studies of human genes and publish those results regularly. The excessive enclosure of a common pool of knowledge aims to insure that no one can patent any of these genes.)

25. See Peter Carstensen, Remediing the Microsoft Monopoly: Monopoly Law, the Rights of Buyers, and the Enclosure Movement in Intellectual Property, THE ANTITRUST BULLETIN (Fall 1999) at 577; Mark Lemley, Reconcepting patents in the age of venture capital, 4 J. SMALL & EMERGING BUS. L. 137 (Spring, 2000); James Gleick, Patently Absurd, N.Y. TIMES, Mar. 3, 2000 § 6 at 44.


This paper argues that the rights conferred on patent holders are limited rights. IP laws grant certain exclusive rights or monopoly privileges to creators or inventors, but the privileges are ultimately associated with public interests. Thus, courts and the legislature have seen the need to limit the scope of patent monopoly. The "first-sale doctrine" and the "repair doctrine" reflect this need for limitations on IP rights. According to the first-sale doctrine, the first authorized sale of a patented product exhausts the patent owner's exclusive rights, and a purchaser may thereafter make, use, and resell the product without violating the patentee's exclusive rights. The repair doctrine gives an owner who purchased a patented product the right to repair the product by replacing one or more worn, or otherwise unsatisfactory, parts of the product. The underlying rationale behind such doctrines is that IP rights must be limited to those necessary to provide the desired incentive and not endurably harm a competitive marketplace. This article argues that even though the doctrine of first-sale and repair deals with a single patented product, it may also apply when a single machine contains many patented components. However, this is limited to an equal access claim and does not deny the right of the patent holder to be the exclusive source of those components.

For these reasons, I suggest that the scope of a patent holder's rights to refuse be redefined in order to respond to the changing technologically innovative environment and strike a balance between promoting a competitive marketplace and granting desirable incentives to IP holders. This article distinguishes between a "pure refusal" as addressed in Section 271(d)(4) of the Patent Act, and a "selective" or "conditional" refusal based on various public policy considerations, economic analysis of the patent system, and actual business reliance. In addition, market power, anticompetitive effects and a business justification for a patent holder's denial are relatively objective standards to determine whether a unilateral refusal to license or sell IP is absolutely immune from Section 2 of the Sherman Act.

Section II briefly discusses the antitrust law governing refusals to deal where IP rights are not at issue. Section III examines the current patent system in an era of changing technology where the model is quite simple while innovation is very complex in diverse industries. As a

28. The first-sale doctrine is also known as the "doctrine of exhaustion" in patent, copyright and trademark law; Professor Adelman has assigned different meanings to the labels "doctrine of exhaustion" and "doctrine of first sale" in the patent context. See Martin J. Adelman, The Exhaustion Doctrine in American Patent Law, MOLENGRAFICA EUROPEES PRIVAETRECHT 247 (1997).
29. See Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 346 (1961) (the Court held that replacing a worn out convertible top to be used with the mechanism purchased from the patentee was a permissible repair and not a direct infringement of the patent).
31. 35 U.S.C. § 271(d)(4) (2000) (stating that it may not be deemed patent misuse if a patent owner has refused to license or use any rights to the patent).
methodology for this research, I apply economic analysis and empirical studies on innovation, competition and the patent system in order to prove that innovation is generally promoted by protecting competition, especially in the high technology industry. In this section I suggest that the scope of a patent holder’s rights to refuse should be redefined in order to fit high technology industries. Section III also examines the first-sale doctrine and patent misuse doctrine which redefine the rights to refuse intellectual property. These doctrines will be applied to the case analysis in Section IV. Section IV proposes an alternative approach that redefines a patent holder’s rights to deny by applying an expanded first-sale doctrine, the doctrine of repair, actual business reliance, dynamic competition and public interests. The proposed standard will be applied to several refusals to license or sell contexts such as (a) the Kodak or Xerox situation, (b) Intergraph, and (c) SCM & Data General in order to resolve the issue of whether refusals to sell or license by a patent holder should be condemned by antitrust liability. This approach draws a clear line to define the circumstances under which a refusal to license should be permissible or impermissible. Finally, Section V explores what constitutes a proper remedy in the context of an unlawful unilateral refusal to license by a patent holder in order to reconcile intellectual property and antitrust law.

II. ANTITRUST REFUSALS TO DEAL

A. Refusals to Deal in General Rule

Section 2 of the Sherman Act interdicts efforts to “monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states.”32 The offense of monopoly under Section 2 of the Sherman Act requires proof of two elements: (1) the possession of “monopoly power” in the relevant market, and (2) “exclusionary conduct” such as the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.33 Monopoly power, often defined as the ability to control prices or exclude competition, is determined based on market share in a relevant market and other factors such as barriers to entry.34 Exclusionary conduct refers to the use of monopoly power to foreclose competition or otherwise gain a competitive advantage.35 Therefore, unilateral refusals to deal by a dominant firm could

constitute exclusionary conduct, and the dominant firm may be found to have violated the antitrust law against monopolization, or attempted monopolization, if it engages in that type of behavior.

Monopoly leveraging has been viewed as a type of "monopolizing" or "attempting to monopolize." Monopoly leveraging occurs when a competitor holds a lawful monopoly in one market and wields that monopoly power to monopolize or gain a competitive advantage in a separate market. This practice could be illegal either as a tying arrangement or an instance of monopoly leveraging. Tying the sale of a second product to a patented product is generally considered an illegal trade-restricting device or monopolistic exploitation.

Monopoly leveraging can be connected to unilateral refusals to deal in some situations, such as when a monopolist, using power in one market, refuses to sell a product to its competitors in another market, thereby precluding competition in the second market and monopolizing both markets. "Unilateral refusals to deal, unlike tying, do not necessarily involve coercion, but may achieve the same effect." In effect, a monopolist can leverage the condition of the sale of one commodity on the sale of another by unilateral refusals to deal, without requiring an explicit agreement or coercing any buyer's choice. For example, consider a situation in which a monopolist in a primary market excludes competition in a complementary market by preventing competitors in that market from accessing its primary product. In such cases, the monopolist essentially requires buyers of the primary product to also buy the complementary product from it because the refusal leaves buyers with no other choice.

36. See Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 276 (2d Cir. 1979); Alaska Airlines Inc. v. United Airlines Inc., 948 F.2d 536, 547 (9th Cir. 1991); Barry E. Hawk, Attempts to Monopolize - Specific Intent as Antitrust's Ghost in the Machine, 58 CORNELL L. REV. 1121, 1156 (1973); Louis Kaplow, Extension of Monopoly Power Through Leverage, 85 COLUM. L. REV. 515, 516 (1985). (stating that, "[t]raditional leverage theory claims that a monopolist's use of its power in its own market to control activities in another market typically represents an attempt to spread its power to the other market."); 9 PHILIP E. AREEDA, ANTITRUST LAW ¶ 1700d, at 6 (1991) (noting that the House Report explaining the enactment of Section 3 of the Clayton Act clearly expressed fear of the power of a monopolist to leverage into a second market).

37. A firm's use of its power in one market (the tying market) to affect competition in a complementary market (the tied market) by effectively coercing buyers of the tying product to also buy from it the tied product, regardless of the buyer's wishes. See Times-Picayune Pub'l'n Co. v. United States, 345 U.S. 594, 611 (1953) (stating that, "the essence of illegality in tying agreements is the wielding of monopolistic leverage; a seller exploits his dominant position in one market to expand his empire into the next.").


40. Id.

41. See Mark R. Patterson, When is Property Intellectual? The Leveraging Problem, 73 S. CAL. L. REV. 1133, 1151 (2000).

42. See Lao, supra note 39, at 196.
However, a monopolist's refusal to deal cannot be unlawful unless it extends, preserves, creates, or threatens to create significant market power in some market, which could be either the primary market in which the monopoly firm sells or a vertically related or collateral market. Refusals that do not accomplish at least one of these results do not violate Section 2 no matter how much they might harm the person or class of persons declined service. Nor are such refusals an "abuse" of monopoly power in the sense of using power in one market as "leverage" to increase one's advantage in another market. In general, when customers do not pay or fail to honor contracts, refusals to deal are valid and legitimate business decisions even if the refusing party has a monopoly position. 

A monopolist has the right to deal or not to deal with whomever it likes, as long as it does so independently. If the reason for a refusal to deal is not directly related to competition, then even a refusal that is inconsistent with rational competitor conduct is still not a violation of antitrust law. This is, thus, a very strict standard: only if the action is inconsistent with "competition on the merits," is there a monopolization case, that is, only if the monopolist uses its power in an upstream market to secure a monopoly in a downstream or related market, is the action illegal. 

Except for intellectual property issues, the law on unilateral refusals to deal is relatively clear. When the leveraging products are protected by patent or copyright, however, the manufacturer will often claim that the leveraging is a permissible use of its IP rights. Unfortunately, the patent and copyright statutes do not articulate the scope of a patent or copyright grant beyond which the statutory right of exclusion would not apply. Thus, a core issue in cases of unilateral refusal to license an IP right is whether the unilateral refusal to license should be treated like any other refusal to deal by a monopolist if the practice does not merely bring about anticompetitive effects by eliminating competitors in a related market, but also restrains customers' freedom of choice. This approach distinguishes two types of refusals by patent holders - "conditional" or "selective" refusals and "pure" refusals. The latter category of refusals should be given more consideration in terms of antitrust scrutiny if a patentee has market power, excludes or substantially impairs the competitive capacity of a competitor, brings about anticompetitive effects in a related market, or constrains customer choice directly or indirectly, unless the patentee proffers a valid reason to justify its refusal.
In condemning refusals to deal, courts have applied two theoretical tests—"intent" and "essential facility." A combination of these two approaches is also available. First, a prima facie case under Section 2 of the Sherman Act requires showing an intent to monopolize motivates the refusal to deal. In recent decisions, courts have come to evaluate not only subjective intent, but also the business justification for, and the competitive effect of, a monopolist's refusals to deal. Thus, the monopolist's conduct is proscribed if it has an anticompetitive effect. The intent to monopolize can be rebutted by proffering legitimate business justifications for the refusal.

As will be discussed in more detail in Section IV.B, applying the intent test may be inadequate in an antitrust case related to an IP holder's refusal to license or sell a patent or copyright because the IP owner's subjective motivation is always difficult to determine. In *Kodak II*, the court relied on evidence that "Kodak was not actually motivated by protecting its intellectual property rights." In *Xerox*, the court rejected the Ninth Circuit's interpretation of the patent owner's intent and held that the owner was entitled to profits derived from denying access to its IP in as many markets as the denial was profitable. Furthermore, this approach is not incontestable because even if the motivation for creating...
IP is to gain profits unrelated to it, those profits are still an incentive to create the IP. 58

Second, a duty to deal could be asserted by the roughly 90-year-old "essential facilities" doctrine used in legal arguments and judicial decision-making. 59 However, the Supreme Court has gone out of its way not to use this doctrine – which is also criticized by conservative and mainstream academics – because there is no precise definition of what is essential. 60 Broadly speaking, the doctrine holds that "an owner of a crucial input cannot deny access if a firm seeking access cannot practicably obtain the input elsewhere." 61 The elements of this "essential facility test" are as follows: (1) a monopolist controls an essential facility; (2) competitors are practicably or reasonably unable to duplicate the facility; (3) the monopolist unreasonably denies the competitors access to the facility; and (4) shared use of the facility is feasible. 62

Most courts applying the doctrine of essential facilities have imposed a duty to deal, where a single monopolist who competes with the facility user in another market functionally controls the facility, 63 or where the facility is jointly controlled by a monopolistic group of competitors. 64 Only a unique facility can be essential because no feasible alternatives exist. Indeed, a monopolist must possess a facility that is necessary for effective competition at some other levels.

If a facility is essential, then the standard under which potential users can be excluded, as well as the justification for differential treatment among users, is subject to strict review. Unlike exclusion analysis that focuses on ordinary refusals to deal, the concern is the manifest conflict of interest that the owner of the essential facility has in giving access to its competitors at some other level. Hence, the standards for differential treatment or exclusion are subject to focused review based on a framework which asks whether there is a less restrictive alternative that would accomplish the same legitimate goal or protect against a valid risk. If that alternative exists

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58. Patterson, supra note 41 at 1140 n.36.
61. See Ratner, supra note 60 at 330.
62. MCI Communications v. AT&T Corp., 708 F.2d 1081, 1132-33 (7th Cir. 1982).
and would not have resulted in the exclusion or adverse treatment of the plaintiff, then there is a violation.  

As mentioned above, the essential facility that a plaintiff making an antitrust claim must show is an "antitrust injury," which is injury flowing from that which makes the conduct unlawful.

Although the essential facility doctrine has received substantial attention from courts and commentators, considerable uncertainty still exists regarding the antitrust implications of unilateral refusals to deal. It remains unclear whether the essential facilities doctrine, when applied to a single firm, offers a separate theory of liability or simply represents a more rigorous formulation of the intent test. Moreover, it has yet to receive the imprimatur of the Supreme Court.

In the Supreme Court's two most recent unilateral refusals to deal cases, the Court declined to endorse or reject either the essential facilities test or the intent test. In *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, the Court upheld a monopolization verdict against the defendant, Aspen Skiing Co. ("Aspen Skiing"), the owner of three of the four ski areas in Aspen, Colorado, and discontinued its participation in an interchangeable, six-day, all-Aspen lift ticket. For years, Aspen Skiing offered a special ticket jointly with Aspen Highlands ("Highlands") that became very popular among visitors to the resort because of the variety it facilitated. Both companies apportioned revenues based on usage of their respective facilities.

Eventually, Aspen Skiing withdrew from the joint marketing arrangement and took additional actions that made it extremely difficult for Highlands to market its own multi-area package to replace the previous joint offering. Aspen Skiing refused "to sell Highlands any lift tickets, either at the tour operator's discount or at retail." Aspen Skiing also refused to accept an all-area pass marketed by Highlands that contained vouchers, guaranteed by a local bank, that were exchangeable for Aspen Skiing day passes. Highlands brought suit, charging that Aspen Skiing had monopolized the market for downhill ski services in Aspen in violation of Section 2.

The Court affirmed a jury verdict for the plaintiff and held that Aspen Skiing's termination of the six-day ticket qualified as "exclusionary"

65. CARSTENSEN, supra note 44, at 9.
69. *Id.* at 589.
70. *Id.* at 593.
71. *Id.*
72. *Id.* at 593.
73. *Id.* at 595.
conduct, as it resulted in a substantial decline in Highlands' market share and eliminated a product which consumers had deemed superior.74 Moreover, since the defendant could not point to any "normal business purpose" to justify its action, the evidence supported "an inference that Aspen Skiing was not motivated by efficiency concerns and . . . was willing to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival."75

Employing both the intent test and the essential facility test, the Tenth Circuit held that the multi-day, multi-area ticket could be deemed an "essential facility" that Aspen Skiing was obliged to market with Highlands.76 The court also determined that the record contained sufficient evidence to support a finding that Aspen Skiing intended to create or maintain a monopoly, in refusing to market the all-area ticket.77 However, the Supreme Court found "it unnecessary to consider the possible relevance of the 'essential facilities' doctrine, or the somewhat hypothetical question of whether non-exclusionary conduct could ever constitute an abuse of monopoly power if motivated by an anticompetitive purpose."78 The Aspen decision thus expressly declined to either endorse or reject the essential facilities doctrine and only cast doubt on the intent test in Colgate and Photo, which imposed liability on the basis of monopolistic intent alone, without evidence of exclusionary conduct.79 With respect to the intent test, while the Court seemed to eschew reliance on evidence of subjective intent and instead focused on "objective actions and the justifications for them,"80 it emphasized, primarily based on the unusual facts of the case, that the defendant had "elected to make an important change in a pattern of distribution that had originated in a competitive market and had persisted for several years."81 Accordingly, the Court's decision did not result in clear coherence to the refusal to deal approach.

The Court's opinion in Kodak 82 provided some additional clarification in refusal to deal analysis. Kodak manufactured high-volume copiers and micrographic equipment and offered service for both products. Beginning in the early 1980s, Kodak faced competition from independent service organizations (ISOs) in the repair market, and initially, it sold them the necessary inputs. However, in 1985 and 1986, the manufacturer instituted a policy that denied the ISOs access to replacement parts and diagnostic equipment. A number of the ISOs filed suit against Kodak,

74. Id. at 605-09.
75. Id. at 610-11.
76. Aspen Highlands Skiing Corp. v. Aspen Skiing Co., 738 F.2d 1509, 1520-21 (10th Cir. 1984)
77. Id. at 1521-22.
78. Aspen Skiing Co., 472 U.S. at 611 n.44.
79. See Glazer & Lipsky, supra note 50, at 759-60.
alleging, *inter alia*, that this action transgressed Section 2. The main focus of the case was a *per se* tying claim. Kodak allegedly refused to sell parts to any equipment owner who did not also purchase service from Kodak. However, the case was also analyzed as an unlawful refusal to deal under Section 2.

The Court began by citing *Aspen* for the proposition that the right to refuse to deal with competitors "is not absolute; it exists only if there are legitimate competitive reasons for the refusal." In addition, the Court found that "respondents had presented evidence that Kodak took exclusionary action to maintain its parts monopoly and used its control over parts to strengthen its monopoly share of the service market," and therefore, only "valid business reasons" could save Kodak from Section 2 liability. The manufacturer attempted to give such reasons, averring that its new policy served to control inventory costs, protect it from free riding, and assure the quality of service received by purchasers of Kodak machines. However, the Court did not address any particular formula of refusal to deal analysis but merely determined that the ISOs had created sufficient doubt as to the authenticity of these justifications. Furthermore, the Court did not explain what constituted a "valid business reason," or how the analysis of monopolization should proceed in the event that the defendant's business justification is adequate. Neither Aspen Skiing nor Kodak proffered a convincing explanation for their refusals to deal, and the Court did not venture beyond the issues in front of it in either case. Consequently, lower courts are left with a number of important questions regarding whether an inquiry ends when the defendant articulates a legitimate purpose for its actions, or whether a plaintiff can attempt to show that, on balance, the defendant's conduct harms consumers or that the defendant could have achieved its objective through less restrictive means. Accordingly, the decision has provided few guiding principles for courts in the context of refusal-to-deal cases.

83. *Id.* at 456-58.
84. *Id.* at 483 n.32.
85. *Id.* at 483.
86. *Id.* at 483-85.
88. Burling, *supra* note 50, at 533 ("courts have been less than rigorous in identifying the salient facts of the cases before them."); Glazer & Lipsky, *supra* note 50, at 751 ("the basic shortcoming of the refusal to deal cases is courts' failure to identify and to analyze the antitrust significance of key distinctions among the enormous variety of factual patterns that have been encountered in Section 2 litigation involving refusals to deal.").
As Jonathan Baker has pointed out, Kodak and Aspen share three
key features. First, both defendants' conduct substantially excluded a ri-
val from a market in which they competed, meaning that the rival was ei-
ther significantly weakened or forced to exit. Second, both Kodak and
Aspen Skiing achieved this by exploiting another relationship – comple-
mentary and collaborative respectively – between themselves and their
rivals. Third, and most significant, in both opinions the Court inferred
harm to consumers from the exclusion of competitors and the absence of
a "valid business reason." 89

Antitrust duty-to-deal case law has appeared in various analyses,
but some approaches are unclear in such cases. Thus, these diverse and
ambiguous approaches may not provide much guidance for cases in
which an owner refuses to sell or license to competitors its property that
is protected by intellectual property laws. As one of its purposes, this
paper will reinterpret the general duty-to-deal analyses and propose pos-
sible alternative approaches when an IP holder refuses to license or sell
its legally protected property in several contexts. In the next section, it
will also suggest underlying alternatives, by exploring problems of cur-
cent patent systems, three patent doctrines – the first-sale doctrine, the
doctrine of repair, and the patent misuse doctrine – goals of patent and
antitrust laws, and dynamic competition or innovation.

III. LIMITING THE RIGHTS OF A PATENT HOLDER'S UNILATERAL
REFUSAL TO DEAL

IP laws grant certain exclusive rights or monopoly privileges to the
creators, inventors, or discoverers of certain intangible but valuable as-
ets. 90 Article I, Section 8, Clause 8 of the Constitution grants Congress
the power to promote the progress of science and the useful arts by se-
curing for limited times to authors and inventors the exclusive right to
their respective writings and discoveries. The granting of exclusive rights
to IP holders is consideration for creating and disclosing innovations that
benefit the public. The primary purpose of the patent laws is not the
creation of private fortunes for the owners of patents, but to promote the
progress of science and the useful arts. 91 To achieve this socially benefi-
cial end, the IP laws attempt to strike a balance between protecting the
IP holder's exclusive rights and encouraging access to unprotected in-
formation in order to inspire further innovation. For such reasons, pat-

89. See Baker, supra note 87, at 501-03; Ahem, supra note 80, at 159 (arguing there is a duty to
deal "when the monopolist's refusal to deal results in an important change in a competitive market
that negatively affects consumers.").

90. See ROBERT P. MERGES, ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL
AGE, 1105 (2d ed. 2000).

91. Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 511 (1917) (citing U.S.
CONST. art. I, § 8).
ent rights are limited rights.92 In terms of discouraging conduct that disturbs this balance, several patent doctrines have developed. Thus, in analyzing whether unilateral refusals to deal93 by a patent holder are absolutely immune from condemnation by antitrust law, this section primarily discusses public policies behind patent doctrines – the first-sale doctrine, the repair doctrine, and the patent misuse doctrine. These are core principles in developing my approach as well as in resolving the Kodak, Xerox, and Intel situations. In addition, this section generally examines the problems of the current patent system and particularly provides an economic analysis of the relation between innovation and dynamic competition in order to argue the necessity of redefining the scope of patent rights of exclusion.

A. The First-Sale Doctrine

Congress saw the need to create exclusive rights in order to provide an incentive to invent and as a means of rewarding an inventor for disclosure to the public through the patent application process. However, Congress and the courts simultaneously recognized a need to limit the scope of such rights94 since they are afforded to individuals not by virtue of any natural right, but for the specific purpose of promoting the general public welfare.

The “first-sale doctrine”96 reflects this need for limitation of IP rights. The first-sale doctrine allows a lawful purchaser of property, protected by IP laws, to distribute or resell that property without violating the IP owner’s prescribed rights.97 Thus, a party who legally obtains pat-
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Entitled goods has an unrestricted right not only to use the goods, but also to resell them.98 The doctrine applies equally to goods sold directly by the patentee and those sold by the patentee's licensees.99

The following reasons essentially explain the purpose and justification of the first-sale doctrine. IP law ensures that the public benefits from a robust, competitive marketplace. Granting IP rights to individual creators promotes such a marketplace by providing an incentive to create, leading individuals to produce a greater selection of goods and services for public consumption. However, the rights afforded to IP owners must be limited to those necessary to provide the desired incentive. By their nature, IP rights restrict public access to the goods and services to which they attach. If not sufficiently limited, they may encumber rather than enhance a competitive marketplace.

The first-sale rule has its origins in British common law, which abhors unreasonable restraints on alienation of personal property and interferes with restraints imposed on a free market.100 The Supreme Court in Dr. Miles Medical Co. v. John D. Park & Sons Co. held that a general restraint upon alienation of a product, even if produced via secret means, was ordinarily invalid.101 Despite judicial and scholarly misgivings about its wisdom, Dr. Miles has been good law since 1911, standing for the proposition that there is no inherent right (e.g., no property right) to fracture interests in personal property. This holding rejected the claim by Dr. Miles Medical Co. ("Dr. Miles") that it had an inherent right, unrelated to contract, to sell only a limited interest in its products.102 The Court then acknowledged that limits based on contract were potentially lawful depending on the circumstances.103 It rejected Dr. Miles' claim because it found that Dr. Miles had only advanced a naked restraint ex-

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98. United States v. Univis Lens Co., 316 U.S. 241, 250 (1942) ("[S]ale of [a patented article] exhausts the monopoly in that article and the patentee may not thereafter, by virtue of his patent, control the use or disposition of the article."); Intel Corp. v. U.L.S.I. Sys. Tech., Inc., 995 F.2d 1566, 1568 (Fed. Cir. 1993) ("The patent owner's rights with respect to the product end with its sale, and a purchaser of such a product may use or resell the product free of the patent.").

99. See Intel Corp., 995 F.2d at 1568 (holding the doctrine of exhaustion "applies similarly to a sale of a patented product manufactured by a licensee acting within the scope of its license."); Cyrix Corp. v. Intel Corp., 846 F. Supp. 522, 538 (E.D. Tex.).


101. 220 U.S. at 404 (1911). ("The right of alienation is one of the essential incidents of a right of general property in movables, and restraints upon alienation have been generally regarded as obnoxious to public policy, which is best subserved by great freedom of traffic in such things as pass from hand to hand.")

102. See id. at 404-405.

103. Id. at 406-407.
planation for its resale limits, which was unreasonable.\textsuperscript{104} Most critics misread that element of\textit{ Dr. Miles} as saying contracts are not permissible at all, rather than saying there is no inherent right to restrict or subdivide rights in personal property when sold.\textsuperscript{105} \textit{Dr. Miles} is important because it introduced the unilateral or concerted nature of the restraint and the "free rider" thread that have tied together vertical price restraint opinions. Moreover, both the majority and the dissent agreed that competition logic must be subordinated to fundamental property rights.\textsuperscript{106}

The question of property in patent law is whether the seller of a patented product who intends to convey ownership can simultaneously restrict the rights of the buyer. This is the core of the first-sale doctrine. Patent holders can evade the doctrine only to the extent that they convey the sale into a lease or license where they retain title to the product. Extending legal rights to control goods beyond their first sale is unnecessary to accomplish the incentive function, and may unduly interfere with competition and the free movement of goods in the marketplace.\textsuperscript{107}

A recently growing issue concerns the contractual terms in licensing to limit the licensee's trading option. When the subject of licenses is patented technology or some comparable conceptual commodity, and a licen-

dee will produce the patented products or develop the technology under contract,\textsuperscript{108} the parties can impose restrictions reasonably incident to the needs and risks of the primary objective of the relationship.\textsuperscript{109} This kind of transaction is distinguishable from the sale of goods. While a licensor may not impose a restriction on licensees after the first sale of the patented product, the licensing for joint use of the technology can frequently contain restrictive provisions in contracts or agreements based on valid business justifications. For example, the licensor can prevent li-

\textsuperscript{104} The Court held the agreement for resale price maintenance unreasonable because fixing resale prices interferes with individual liberty of action in trading and constitutes a general restraint upon alienation of common law.\textit{ See id.} at 407.

\textsuperscript{105} The ProCD case is consistent with the continued hostility toward non-contractual divisions of ownership in that it relies on contract law to justify its result.\textit{ See ProCD, Inc. v. Zeidenberg, 86 F.3d 1447} (7th Cir. 1996).

\textsuperscript{106} Rudolph J. Peritz,\textit{ A Genealogy of Vertical Restraints Doctrine, 40 Hastings L.J.} 511, 527 (1989).


\textsuperscript{108} "The grant of a patent gives the patent owner the right to exclude others from making, using, or selling the patented invention. A patent 'license' is an agreement by the patent owner (licensor) not to assert this right against the licensee if and when the licensee makes, uses, or sells the patented material."\textit{ H. EINHORN, PATENT LICENSING TRANSACTIONS § 1.01(2)(a)} (1987). The patent owner (licensor) enters such agreements in return for payments usually referred to as royalties. The construction and interpretation of patent licenses are generally a matter of contract law because such agreements are not explicitly controlled by any federal statute.\textit{ Ernest Bainbridge Lipscomb, III, WALKER ON PATENTS § 20:1} (3d ed. 1987).

\textsuperscript{109} Carstensen,\textit{ supra} note 25, at 596.
licensees who produce the licensor's product under contract from selling the product to a buyer for business reasons, such as quality control over the patented product, inventory cost control, protection from free riding, or other similar reasons. If the intrinsic purpose of the restraint is to reduce competition, however, and competition is reduced as a direct result of the restraint, it is futile for the defendant to argue a different, more commendable purpose.

As mentioned above, the idea of redefining the scope of a patent holder's right to refuse is essentially related to the first-sale doctrine in that the courts see the need to limit the scope of the legal monopoly created by a patent holder. Hence, it is proper to explore the economic aspect of limiting the scope of a legally created monopoly. According to Professor Carstensen's opinion on this matter, the limitation of monopoly scope encourages two important economic responses. First, it makes others free to use and build on the prior art in developing alternative concepts that may prove more useful. Thus, the opportunity for innovation and dynamics may well be better served with an open range where all ideas and concepts are freely usable by all. Second, the purpose of patent law is to secure the benefit of an invention and the investment in research and development (R&D) to the patentee because the investment in creating the useful concept, a sunk cost, is not compensated if the idea is used without payment. From the standpoint of the owner of the concept, the greater the scope of exclusion the better. However, from the standpoint of public interest and economic efficiency (dynamic as well as static), no more exclusion is needed than is necessary to call forth a socially desirable level of new ideas.

On balance, granting patentees control over the initial sale of patented articles will benefit the public by providing a financial incentive to invent and disclose inventions to the public. However, extending a patentee's rights beyond the initial sale would exceed what is strictly necessary to provide an incentive to invent and would unduly interfere with the free market.

110. See Image Tech. Serv., 125 F.3d 1195 (9th Cir. 1997) (Kodak secured agreements from suppliers who produced Kodak parts under contract not to sell the parts to ISOs).
111. FTC v. Indiana Fed'n of Dentists, 476 U.S. 447 (1986) (The Court concluded that "the finding of actual substantial adverse effects on competition . . . is legally sufficient to support a finding that the challenged restraint was illegal."); Patent license restrictions commonly imposed by patent-owners may raise antitrust issues. Examples include price-fixing provisions in which the licensor sets the selling price of the patented subject matter; field of use limitations, whereby the licensor limits the licensee's practice of the patent to a particular field; territorial limitations restricting the geographical area in which the licensee may practice the patent; restrictions on the resale of the patented subject matter; or tying arrangements where "the licensor requires the licensee to purchase supplies, component parts, or raw materials [needed] to use or produce the patented product or use the patented process." EINHORN, supra note 108, § 7.02[1][a]-[e].
112. See Carstensen, supra note 25, at 597-98.
113. Id.
With respect to refusals to deal in *Kodak* II and *Xerox*, as I will further examine in detail in Section IV.B.2., because the underlying products have clusters of patents, which are often imbedded in a product that also includes a number of unpatented components, it is different from the past notion of a single patent. In addition, there were no alternative repair parts in the underlying product markets that fit into Kodak and Xerox equipment and that the independent service organizations ("ISOs") could use to service this equipment. This article argues that the first-sale rule, which has been applied in a single patent product, should also be employed to regulate a machine composed of both patented and unpatented parts. If refusals to sell the patented replacement parts are rooted in a discriminatory strategy among buyers, it may result in consumer injury and competitive harm.

After the first sale of patented parts to all buyers, a patent owner has no direct or indirect control over a buyer's right to maintain a purchased machine or right to discriminate against some buyers by refusing to sell or license the parts without reasonable explanation. If this situation is considered from the standpoint of public interest and economic efficiency, the patent owner's refusals to provide repair parts or service information without any business justification would not be within the scope of the socially desirable monopoly. The patent holders might create a greater monopoly power that is outside the scope of the granted monopoly. The purpose of patent law is not to ensure the greatest possible financial return to the patentee. Rather, the ultimate purpose of patent law is to benefit the public. The patent holders' refusals to deal would bar the service providers from freely trading and, therefore, create a barrier not only to patented parts, but also to unpatented parts because without the patented parts, the unpatented parts are not as meaningful to service providers as a whole photocopy machine, for instance. By limiting the access to patented parts, the patent holders will obtain financial returns from all parts including patented parts and unpatented parts in the parts and service markets. Thus, neither patents nor copyrights can or should justify refusals to provide repair parts or service information to the buyer or the buyer's agent such as in *Kodak* and *Xerox* if there is no reasonable business justification. I conclude that the first sale doctrine should be extended to include the product containing multipatented components only in terms of equal access, but the extension does not negate the respective exclusive right of the patent owner for those parts.

**B. The Repair Doctrine**

The doctrine of repair provides a direct guideline for the *Kodak* and *Xerox* situation if it were to be examined from the standpoint of consumer interests. The context of *Kodak* and *Xerox* is a repair situation where the primary transaction involves the sale of the product itself, including patented components requiring copyrighted repair manuals or
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computer programs. For over a century, it has been obvious that a patent holder could not use patent laws to restrain how its customers use patented articles after an authorized sale. As explained above, the first-sale doctrine gives lawful purchasers the ability to use, resell, and repair patented products after they are sold by a patentee. More specifically, the doctrine of repair indicates that a patentee’s right to exclude generally does not give patentees the right to restrict a buyer’s ability to repair or replace broken or worn components of a patented product after the buyer has purchased the product from the patent owner or authorized licensees.\(^{115}\)

However, the right to repair is not absolute. A buyer cannot reconstruct the patentee’s invention. The word “repair,” as used in association with a patented device, means to keep a product in good working order.\(^{116}\) More specifically, “repair” means “to restore to a sound or good state after decay, injury, dilapidation, or partial destruction.”\(^{117}\) In *Wilson v. Simpson*, the Supreme Court first decided the issue of repair and reconstruction.\(^{118}\) The defendant in *Wilson* lawfully obtained a patented wood planing machine from the plaintiff and replaced the cutting knives in the planing machine that wore out within ninety days. The Supreme Court held that the replacement of the knives was a permissible repair of the patented machine because the replacement “did not alter the identity of the machine, but preserved it.”\(^{119}\) In the leading case governing the doctrine of repair, *Aro Manufacturing Co. v. Convertible Top Replacement*,\(^{120}\) the Supreme Court concluded that “mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property.”\(^{121}\)

In contrast, a “reconstruction” is the re-creation of a patented article or making of a new article.\(^{122}\) A reconstruction is considered to be a direct infringement of the patent holder’s right under Section 271 of the patent law.\(^{123}\) In *Southwestern Tool Co. v. Hughes Tool Co.*,\(^{124}\) the plain-
tiff had three valid patents related to conical cutters in rotary drills for drilling oil and gas wells: the first patent was for the assembly of a bushing, a retaining ring, and a cutter; and the second and third patents relate to teeth on the cutter. The defendants purchased worn out and discarded cones - which consisted of the bushing, the toothed cutter, and the retaining ring - from contractors and junk dealers, furnished new bushings and new retaining rings, and added new teeth to the cutters. The furnished parts were specifically covered by the patents. Then, the defendant would sell the cones back to customers of the plaintiff with the intention and purpose of reuse. The Tenth Circuit held that the purchaser of a patented machine consisting of several parts had the right to repair or replace worn or broken parts. However, when the machine as a whole did not retain its identity or the non-patented parts which had been repaired or replaced dominated the structural substance of the whole, it constituted a reconstruction of the patented machine. Indeed, some courts have extended the scope of the impermissible reconstruction to limit the right to repair a patented article. For example, in Mallinckrod, Inc. v. Medipart, Inc., the Federal Circuit held that the repair of a patented device would be impermissible if it was violating a license for “single use” in that any reuse constitutes infringement. Thus, the distinction between the scope of repair and reconstruction is ambiguous and requires consideration of the special circumstances of each case.

As discussed in greater detail later, a non-staple good can be legally controlled by the patentee after Dawson v. Rohm & Haas, but, in the instant cases, the product itself was not patented. Only some of its components were patented, and these were often used to repair or replace the unpatented machine. A seller ordinarily provides customers with repair parts or service for its purchased product because the product will wear out, and some parts will need to be replaced with new ones. Assume that independent repairers provide equally efficient service for the seller’s machine, and that some consumers rely upon the repairers because of geographical convenience, cheaper price, and better service. Then, the seller cuts off the key parts to the repairers, which are essential for them to provide service for the seller’s machine, but provides the parts only to certain buyers. The cutting-off policy of the seller directly or indirectly limits a consumer’s choice to obtain service due to various price, quality, and geographical advantages. The freedom to repair a

125. Id. at 43-44.
126. Id. at 44.
128. 976 F.2d 700 (Fed. Cir. 1992).
129. See id. at 709.
purchased product is limited because the discriminatory refusals to sell the parts eliminates the independent repairers in the service market.

According to the doctrine of repair, buyers have equal rights to access the patented parts, which are necessary to replace broken or worn parts in a machine, at least when those parts are being sold to others. Thus, it is very questionable why Kodak and Xerox refused replacement parts to one buyer who hired ISOs as its agency, but sold them to others. The patentees might insist that the reason Kodak and Xerox refused to sell to buyers using ISOs to service their equipment but sold to buyers doing self-servicing was price discrimination in favor of larger buyers. Yet, such price discrimination was also accompanied by a restrictive behavior which required that buyers getting the lower price would consent not to deal with any third party regarding the patented parts. Although Kodak and Xerox customers may have been satisfied with the policy in the short run, the lack of an independent servicing market also helped Kodak and Xerox to maintain their monopoly in the service market. ISOs used the patented parts only to provide repair services for the patentee's product rather than to reconstruct the parts or machine.

The effect of a discriminatory pricing policy is to exclude equally efficient rivals from the service market. Therefore, in order to provide an acceptable business justification, Kodak and Xerox should explain why their selective refusal scheme was necessary.

C. Patent Misuse Doctrine As a Basis for Antitrust Refusals to Deal

Claims

This section explores the main idea and the scope of the patent misuse doctrine and its relationship to antitrust and patent laws. It is especially important to examine the historical background and interpretation of statutory language in the Patent Misuse Reform Act of 1988 ("Misuse Reform Act") in terms of whether the Misuse Reform Act has removed the unilateral refusals to deal as a basis for any antitrust liability.


In 1988, two subsections were added to the existing three subsections of Section 271(d) of the Patent Act by the Misuse Reform Act. 135

132. See infra text accompanying notes 329-31.
133. See United States v. United Shoe Mach. Corp., 110 F. Supp. 295, 340 (D. Mass. 1953) (faulting United for offering "free" repair because this practice bundled United's repair service with its lease; however, United could not have used such a tie to prevent an equally efficient rival from offering service of its own), aff'd, 347 U.S. 521 (1954).
135. 35 U.S.C. § 271(d) (2001). The amendment was included in authorization legislation for the U.S. Patent & Trademark Office, H.R. 4972, 100th Cong. (1988). A separate Intellectual Property Antitrust Protection Act of 1988, S. 438, 100th Cong., was passed by the Senate on October 4, 1988. When the Senate received H.R. 4972, it approved an amendment adding the text of S. 438 as Title II,
The amendments added Section 271(d)(4) and (5), under which it may not be deemed patent misuse if a patent owner:

(4) has refused to license or use any rights to the patent; or
(5) has conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.36

Section 271(d) was added to the patent statute in 1952, along with Sections 271(b) and (c), which define “inducement of infringement” and “contributory infringement” respectively.37 These two subsections have significantly altered the judicially-fashioned doctrine of patent misuse because the amendment introduces a threshold requirement of “market power” in the patented tying product before the affirmative defense of patent misuse may be asserted.138

Section 271(d)(4) specifically prevents misuse from being found in a refusal by the patentee to license its patent. Prior to the amendment, it is clear that there was no duty to license another to make, use or sell a patented invention,39 which are the basic exclusive rights granted by the patent law.40 Thus, Section 271(d)(4) merely codified the courts' hold-passed the bill as amended on October 14, 1988. On reconsideration, the House deleted the provisions of Title II concerning presumptions of market power from intellectual property rights, and passed the amended bill on October 20, 1988. On October 21, the Senate concurred with the House amendment, and the bill was signed into law on November 19, 1988.

137. Prior to amendment, the first four subsections of 35 U.S.C. § 271 (1952) provided:
(a) Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent.
(b) Whoever actively induces infringement of a patent shall be liable as an infringer.
(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.
(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement.138

138. See Kenneth J. Burchfiel, Patent Misuse and Antitrust Reform: "Blessed Be The Tie!", 4 HARV. J. LAW & TECH 1, 5-6 (1991) (“The two new subsections deal not only with tying arrangements, which will be discussed at length below, but also with refusal to license patent rights, failure to use the patented invention, and package licenses.”)
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Accordingly, the outright refusal to license patent rights has generally been approved when no "extension" of the patent monopoly has been attempted, and the patent "monopoly" has not been secured or augmented by unfair means that violate the antitrust laws. The statutory interpretation of Section 271(d)(4) will be explored more fully in Subsection C ("Impact of the Misuse Reform Act on the Scope of Patent Misuse & Antitrust Refusals to Deal").

Section 271(d)(5) has brought about a significant change in existing law. It prevents a patentee from committing misuse by tying or conditioning a patent license or the sale of a patented article on the purchase or lease of another article or on the taking of another patent license from the patentee, provided the patentee does not have "market power" "in view of the circumstances." The Federal Circuit has recently set forth the analytical framework for a patent misuse in Virginia Panel Corp. v. MAC Panel Co. According to the Federal Circuit, a successful misuse defense requires the alleged infringer to show that a patentee has "impermissibly broadened the 'physical or temporal scope' of the patent grant with anticompetitive effect." The Court has identified certain specific practices as constituting per se patent misuse, including so-called "tying" arrangements in which a patentee conditions a license under the patent on the purchase of a separable, staple good, and arrangements in which a patentee effectively extends the term of its patent by requiring post-expiration royalties. The Court also recognized that the entire tying defense could be tested under a rule of reason because the Misuse Reform Act provides that in the absence of market power, even a tying arrangement does not constitute patent misuse. In short, if the conduct does not involve post-patent expiration royalties, the next step is to review the categories of Section 271(d) of the Patent Act added by the Misuse Reform Act, which set forth the statutory exception to patent misuse. If the patentee’s con-

\[\text{No. 1] 133\]

\begin{itemize}
  \item 142. See Burchfiel, supra note 138, at 7; SCM Corp., 645 F.2d 1195 (2d Cir. 1981).
  \item 144. 133 F.3d 860 (Fed. Cir. 1997).
  \item 145. See id. at 868. (quoting Windsurfing Int'l, Inc. v. AMF, Inc., 782 F.2d 995, 1001, 228 U.S.P.Q. (BNA) 562, 566 (Fed. Cir. 1986); see also USM Corp. v. SPS Techs., Inc., 694 F.2d 505, 510, 216 U.S.P.Q. (BNA) 959, 963 (7th Cir. 1982) ("[i]n application, the doctrine [of patent misuse] has largely been confined to a handful of specific practices by which the patentee seemed to be trying to 'extend' his patent grant beyond its statutory limits.").
  \item 146. See Morton Salt Co., 314 U.S. at 491.
  \item 148. See Virginia Panel Corp., 133 F.3d at 869.
\end{itemize}
duct does not fall within the five exemptions, the next step is to examine whether the patentee has impermissibly broadened the physical or temporal scope of the patent with anticompetitive effect.¹⁴⁹

Accordingly, the effect of the Misuse Reform Act, as interpreted by the Federal Circuit, is to move away from a per se approach to patent misuse and go to the rule of reason approach.

2. Patent Misuse Doctrine & Historical Development

Patent misuse has had a long, uneven, and confusing history. After the Sherman Act of 1890 passed, early efforts focused on developing a defense to patent infringement suits based on the statute. With few exceptions, these efforts failed.¹⁵⁰ The patent misuse doctrine originally evolved not from the antitrust laws, but as a defense to contributory infringement cases.¹⁵¹

However, any question of conflict between the contributory infringement cases and the authority rejecting defenses based on the patent holder’s use of the patent was resolved by the Supreme Court’s opinion in Morton Salt Co. v. G.S. Suppiger Co.¹⁵² In that case, the Court first applied the teaching of Motion Picture Patents to a direct infringement suit,¹⁵³ creating a new defense for the alleged direct infringer based on the patent holder’s use of the patent and effectively extending the contributory infringement case holdings to direct infringement activity.¹⁵⁴

The Court held that patent-extending conduct, such as a tying contract, disqualifies a plaintiff from bringing suit, “regardless of whether the par-

¹⁵¹ Although there were various circumstances that could give rise to the defense, the most common was a situation in which the patentee licensed the patent on the condition that an unpatented component or article be purchased from the patenttee. See, e.g., Wallace v. Holmes, 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100) (the concept of contributory infringement arose from attempts by patent holders to protect their patents from the kind of joint infringement activity at issue); Morton Salt Co., 314 U.S. at 492-94; Motion Picture Patents Co., 243 U.S. 502; George Gordon & Robert J. Hoerner, Overview and Historical Development of the Misuse Doctrine, 2000 A.B.A. SEC. ANTITRUST L. 6 (noting “contributory infringement” refers generally to a situation where an entity supplies alleged infringers with unpatented components or inputs with the intent that these goods be used with a patented product, combination, or process).
¹⁵² Morton Salt Co., 314 U.S. 488. The plaintiff owned the patent on a machine for depositing salt tablets in food cans and leased machines to commercial canners on the condition that the lessees only buy salt tablets from the plaintiff’s subsidiary. The defendant made and leased salt depositing machines, which the plaintiff claimed infringed its patent. Id.
¹⁵³ See Gordon & Hoerner, supra note 151, at 13 –15.
¹⁵⁴ See id. at 13.
ticular defendant has suffered from the misuse of the patent."¹⁵⁵ Moreover, the Court held that the plaintiff’s requirement that lessees buy salt tablets from its subsidiary was an improper attempt to obtain a monopoly over the unpatented salt tablets.¹⁵⁶

According to the Court, the misuse doctrine originated in equity doctrine stating that only patent holders having "clean hands" should gain the court’s assistance to enforce their patent rights.¹⁵⁷ The doctrine of patent misuse has been developed to prevent a patentee from using the patent against public policy — the prevention of anticompetitive effects, protection of licensees from overreaching by patentees, and compliance with the purposes of the patent laws.¹⁵⁸

Over the years following the Morton Salt Co. case, the misuse doctrine has developed, and new misuse categories have been created through judicial decision-making as lower courts have relied upon broad language concerning misuse in Supreme Court cases.¹⁵⁹ Misuse is a catch-all term which comprises a number of conceptually distinct types of substantive conduct. One type of patent misuse is based on a patentee’s literal misuse of its patent, which renders the patent unenforceable until the misuse is purged.¹⁶⁰ Thus, if the patentee’s misuse is purged, the patentee can later enforce the patent for the period during which the patent is enforceable.¹⁶¹ The following examples constitute patent misuse of the type listed above: (1) a patent is used to extend the patent monopoly to other products through tying arrangements;¹⁶² (2) the patentee requires a licensee to promise not to deal in products that compete with the patent.¹⁶³

¹⁵⁶. Id. at 491-92
¹⁵⁷. Id. at 492-93.
¹⁶⁰. See Senza-Gel Corp. v. Seifhartz, 803 F.2d 661, 668 n.10 (Fed. Cir. 1986).
ented product;\textsuperscript{163} (3) the patentee conditions the granting of a license under one patent upon the acceptance of another and different license;\textsuperscript{164} (4) the patentee requires that a licensee pay royalties on total sales of patented and unpatented products or processes;\textsuperscript{165} or (5) the patentee fixes prices.\textsuperscript{166} An antitrust violation may be found where the patentee "has impermissibly broadened the 'physical or temporal scope' of the patent grant with anticompetitive effect."\textsuperscript{167}

A second type of patent misuse occurs when a patentee relies upon a patent that is invalid.\textsuperscript{168} The infringing defendant must prove the other elements of a Section 2 claim in such a situation. For example, (1) patent infringement litigation in bad faith with the knowledge that the patent, though lawfully obtained, is otherwise invalid,\textsuperscript{169} or (2) enforcement of a patent procured by fraud on the Patent Office.\textsuperscript{170}

In short, the patent misuse doctrine means that "if a patent owner exploits his patent in an improper manner by violating the antitrust laws or extending the patent beyond its lawful scope, the courts will withhold any remedy for infringement – even against an infringer who is not harmed by the abusive practice."\textsuperscript{171} A patent holder may restore its patent rights "if and when the misuse is purged and abandoned and its consequences are dissipated."\textsuperscript{172}

The term "patent misuse" refers to an affirmative defense to an action for patent infringement or for royalties under a license. While conduct constituting patent misuse may sometimes be the basis for an affirmative counterclaim,\textsuperscript{173} patent misuse itself is not an actionable tort.\textsuperscript{174}


\textsuperscript{164} See, e.g., Hazeltine Research, Inc. v. Zenith Radio Corp., 388 F.2d 25, 33-34 (7th Cir. 1967) (affirming a district court finding that Zenith misused its patents by attempting to force a licensee to accept a package of licenses); McCullough Tool Co. v. Well Surveys, Inc., 343 F.2d 381, 408 (10th Cir. 1965).

\textsuperscript{165} See, e.g., Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100 (1969). In addition, when a patentee involves discriminatory royalties, patent misuse cases are analyzed as to their anticompetitive effect in order to determine whether the patentee has constituted misuse. International Salt Co., 332 U.S. 392 (1947). See also Bela Seating Co. v. Poloron Prods., Inc., 438 F.2d 733 (7th Cir. 1971).


\textsuperscript{167} See Windsurfing Int'l, Inc. v. AMF, Inc., 782 F.2d 995, 1001 (Fed. Cir. 1986).

\textsuperscript{168} See Burling, supra note 50, at 538-9.


\textsuperscript{171} See 5 CHISUM, supra note 159, at 19-6.

\textsuperscript{172} Id.

\textsuperscript{173} See Senza-Gel Corp. v. Seiffhart, 803 F.2d 661, 668 (Fed. Cir. 1986) (stating that an act constituting misuse "may also serve as an element in a complaint charging [an] antitrust violation").

If an accused infringer bases a counterclaim on conduct also alleged to be misuse, the counterclaim must also satisfy all the elements of the independent cause of action for which the counterclaim is brought. For example, if an alleged infringer brings a counterclaim for attempted monopolization, the conduct claimed to be misuse may also satisfy the anticompetitive conduct element of the attempted monopolization counterclaim. To succeed on the counterclaim, however, the counterclaiming defendant must also establish specific intent to monopolize, dangerous probability of monopolization and all the other elements of a private antitrust cause of action. Patent misuse is, thus, employed as a defense to a patent infringement claim and, in certain contexts, may rise to the level of an antitrust violation.

3. Impact of the Misuse Reform Act on the Scope of Patent Misuse & Antitrust Refusals to Deal

Section 271(d)(4) provides that "no patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . refusal to license or use any rights to the patent." As explained above, if a patentee's conduct falls within the five categories of Section 271(d) of the Patent Act, the conduct may be exempted from patent misuse or antitrust liability. A few courts have held that Section 271(d) may prohibit all antitrust claims and counterclaims premised on a refusal to license a patent and, thus, it cannot constitute an antitrust violation or patent misuse, even though the Act does not mention antitrust claims. At this point, it is important to examine what the correct interpretation of the Misuse Reform Act is and whether the Act has removed unilateral refusals to license a patent as a
basis for any antitrust liability. A scholar has recently criticized as inaccurate the courts' interpretation of the Act. 178 According to Professor Marina Lao, the language of the subsection limits the defenses that could bar a patent owner's recovery in a patent infringement action. However, the statutory language does not compel a reading precluding antitrust liability nor does it address the impact of refusals to license patents in the context of antitrust claims. 179

With respect to the scope of the misuse doctrine and the antitrust laws, a patent misuse defense in infringement cases is also distinguished from antitrust claims based on the conduct considered as misuse. As noted above, conduct underlying a patent misuse defense in a patent infringement case may also serve as a basis for antitrust liability. Under the misuse doctrine, courts might condemn patent practices that they would permit under the antitrust laws because the burden of proof in misuse claims is significantly less stringent than in antitrust claims. 180 Antitrust claims based on conduct considered patent misuse are thus harder to establish, and there is, correspondingly, less of a need to rein them in. For this reason, a patent misuse defense has a much broader scope than antitrust claims based on misuse. 181 Because of the broad scope of the doctrine, Section 271(d)(4) placed limits on its use by providing that a patentee's refusal to license a patent may not be considered misuse under the patent law for patent purposes. 182 Accordingly, there is no inherent inconsistency in a statutory provision that bars an alleged infringer from asserting a misuse defense based on a patentee's mere refusal to deal and yet allows an antitrust claim against a monopolist to be based on the same behavior. 183

The legislative history of the Misuse Reform Act shows Senate Bill 438, which was ultimately rejected in favor of the House version, provided that ownership of an IP right shall not create a presumption of market power under the antitrust laws. 184 It also provided that a patent owner should not be guilty of misuse or illegal extension of a patent unless such practices or actions violate the antitrust laws. 185 Congress,

178. Lao, supra note 39, at 206.
179. See id; see also Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d at 1214 n.7 (9th Cir. 1997).
182. See Lao, supra note 39, at 207.
183. Id.
thus, considered legislation that would have required the finding of an antitrust violation to support a patent misuse defense.

The House bill, H.R. 4972, which ultimately became the Patent Misuse Reform Act of 1988, proceeded on the basis of consensus regarding two categories of misuse: "refusal to use or license" a patented invention and the "tying" of the patented product to another separate product. The Bill merely provided that these two categories should not be the subject of "a rigid per se rule." Accordingly, because little controversy exists over a patent holder's refusals to license, Section 271(d)(4) only codifies existing case law. Specifically, the example cases expressly permitted by the subsection are related not to selective or conditional refusals to deal, but to complete or pure types of refusals. Without considering antitrust claims, Congress focused only on a small portion of patent misuse problems. Thus, the Misuse Reform Act is clearly applicable to patent infringement cases, but not to antitrust claims.

As for the role of antitrust laws in patent misuse, Judge Posner held that "the antitrust laws as currently interpreted reach every practice that could impair competition substantially," and thus should be the basis for any misuse analysis based on economic or competition principles. Judge Posner also argued that antitrust principles should serve at least as the basis for identifying new forms of misuse beyond those clearly identified by specific Supreme Court precedent.

Accordingly, after exploring the legislative history and the language of the Misuse Reform Act, it can be concluded that Congress would not intend to remove unilateral refusals to deal as a potential basis for antitrust liability.

In determining whether unilateral refusals to license or sell patents are absolutely immune from antitrust claims, it is appropriate to consider patent-competition policies related to dynamic innovation. We know that the goal of patent laws, as noted above, is innovation, which is also a critical objective of the antitrust laws. The former serves to encourage invention and bring new products to market by adjusting investment-based risk and the latter serves to promote industrial competition.\footnote{192} Thus, while patent laws provide an inventor the right to refuse to license or sell patents, if refusals would result in undermining the purposes of patent laws, the refusals should not be permitted. One problem considering the patent-competition relationship, however, is that it is difficult to measure exactly how much protection of intellectual property is optimal.\footnote{193} Nevertheless, several commentators have sharply criticized the current patent system\footnote{194} and have suggested that imposing antitrust value should be desirable unless it results in a net decrease in innovation.\footnote{195}

The fundamental question is whether existing patent right paradigms can accommodate the high technologies, which have changed quickly and are characterized as being complicated in nature. The new technologies that pose the most troublesome issues for the patent system are those that do not fit within the existing patent model. As for the

\footnote{192. See Bowman, supra note 2; Goldstein, supra note 2.}

\footnote{193. See William Baxter, Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis, 76 Yale L.J. 267, 271 (1966); Staff of Senate Subcomm. on Patents, Trademarks & Copyrights, Senate Comm. on the Judiciary, 85th Cong., An Economic Review of the Patent System, 64-65 (Comm. Print 1958) (primary author Fritz Machlup) (hereinafter Machlup). If we didn’t have a patent system, it would be irresponsible to create one, but since we have one, it would be irresponsible to eliminate it. Id. at 80.}

\footnote{194. See John Jewkes et al., The Sources of Invention 188 (2d ed. 1969) (The patent system is wasteful and lacks logic. “Its critics have described the patent right as merely ‘something which has to be defended in the courts’ and, because it may put the individual inventor at a disadvantage against the larger corporations, as ‘a lottery in which it is hardly worth while taking out a ticket.’”); Lemley, supra note 25, at 139 (citing John H. Barton, Reforming the Patent System (1999) (unpublished manuscript) John Barton has found that while patents granted per research and development dollar are increasing, that actual R&D expenditures are not necessarily increasing but rather are going down; Machlup, supra note 193, at 79-80.}

\footnote{195. Several approaches have been proposed for analyzing the patent-antitrust interface: Ward Bowman’s “competitive superiority” test proposed that a patent holder be allowed to utilize a restrictive practice to the extent that the reward “measures the patented product’s competitive superiority over substitute.” See Bowman, supra note 2, at x. William Baxter proposed a “comparability” test which provided that “a patentee is entitled to extract monopoly income by restricting a utilization of his invention” as long as the restriction on his invention confines “as narrowly and specifically as the technology of his situation and the practicalities of administration permit.” See Baxter, supra note 193, at 313. Louis Kaplow has criticized the “competitive superiority” test for being focused only on the patentee’s reward without sufficient consideration of the social loss associated with monopolies, and the “comparability” test for being primarily concerned with minimizing social loss without paying adequate attention to rewarding the inventor. See Louis Kaplow, The Patent-Antitrust Intersection: A Reappraisal, 97 Harv. L. Rev. 1813, 1851-53 (1984). Professor Kaplow offered the “ratio” test that examined the ratio between “the reward the patentee receives when permitted to use a particular restrictive practice” and the monopoly loss that results from such exploitation of the patent.” See id. at 1816.}
structural problem of the patent system, Professor Mark Lemley points out that our patent law model is quite simple, while innovation is very complex.\textsuperscript{196} The government grants an inventor the right to exclude competitors from making, using, or selling the invention.\textsuperscript{197} Then, the patentee makes profits by controlling the price, and this fact in turn provides an incentive to create. This very simple model has existed for 200 years.\textsuperscript{198}

On the other hand, several empirical studies and economic literatures have suggested that unlike the unadorned patent system, innovation is very complex and obtained through different routes in different industries. Following are several works analyzing the relationship between patents and competition for achieving dynamic innovation. An empirical investigation conducted by Professor Edwin Mansfield on the basis of data obtained from a random sample of 100 firms from 12 industries reports that roughly 88% of the inventions would have been introduced without patent protection, and that patent protection was considered non-essential for innovations in four industries such as office equipment, motor vehicles, rubber products, and textiles.\textsuperscript{199} Likewise, a study of 130 industries conducted by Professor Richard Levin and others showed that most firms—e.g., food products, metalworking, automobiles, semiconductors, computer software, and the Internet—did not consider patents to be very important assets or strong incentives for innovation. Patents are crucial in industries such as agriculture, chemicals, and pharmaceuticals.\textsuperscript{200} For example, pharmaceutical firms must expend large sums at the outset in a search of new molecules with therapeutic value. Once discovered, such molecules can be quickly described to other scientists and easily copied by other firms. Without patents, there would be little incentive for the necessary up-front research and development.\textsuperscript{201} However, even in these industries, innovation comes from the desire to be first to market in addition to patent protection. In particular, there is a reputation effect associated with being the first in the market, regardless of patent protection.\textsuperscript{202}

The FTC's case against Intel in the computer chip industry provides an example of a legitimate rationale for competition based on shared

\textsuperscript{196} Lemley, supra note 25, at 139.
\textsuperscript{197} 35 U.S.C. § 154 (1999). Currently, the unqualified term refers only to patents of invention, which are defined by the Patent Code as government grants for terms of 20 years of the right to exclude others from making, using, or selling the invention throughout the United States.
\textsuperscript{198} Lemley, supra note 25, at 139.
\textsuperscript{201} Langlois, supra note 26, at 24.
\textsuperscript{202} See Special Report, supra note 27, at 670.
common concepts. Even though the FTC did not give much weight to the benefits of cross-licensing, the case more importantly relies on delicate issues with respect to its dynamics.

That field is cluttered with patents. Hence, when a producer designs a new chip, it is quite likely to infringe on any number of patents. In the early stages of design, many features involve choice; but, once a design is developed, it is very hard to change it. This creates a major problem because the designer will not be able to determine beforehand which patents the particular choice might infringe upon. The general solution has been to enter into non-exclusive cross-license within the industry.

This practice not only provides a direct benefit to consumers by reducing the royalty rates that will be charged to personal computer makers, but it also allows each patent holder to use other patents on the condition that it has shared its own patents. The result is competition not based on rent-seeking by claims of specific property rights, but based on the merits of the products. An IP holder may not use a cross-license regime to discriminate against its competitors or its customers in an anti-competitive way.

Economic literature also suggests that innovation in these patent-crucial industries is best promoted by preserving competitive processes over the long run. According to a study by economist F.M. Scherer, and subsequent studies by other scholars, most surveyed companies ranked patent protection as the least important factor in R&D decisions, with competition being the most important. The impetus for innovation comes from factors other than patent protection, such as the desire to be first to market with an invention, thus reaping the benefits from a head start, or simply the need to innovate in order to remain competitive. Likewise, Professor Richard Langlois, an economist, stated that innovation normally proceeds fastest when a large number of distinct participants are trying multiple approaches simultaneously. The best response to the dynamic innovation in high-tech industries may not be to give overly broad protections to the initial innovator. Rather, the better approach might be to find ways to strengthen incentives and opportun-


204. Id.

205. Carstensen, supra note 25, at 604 (citing a talk given by Marc Schildkraut at the 46th Annual Spring Meeting, ABA, Antitrust Section (April 15, 1999)).


207. Carstensen, supra note 25, at 604.

208. See In re Intel Corp., supra note 203.

209. See Scherer, supra note 27; Special Report, supra note 27, at 670.

210. Id.

211. See Langlois, supra note 26, at 24.
ties for the follow-on innovator.\textsuperscript{212} Society may benefit from emphasizing the encouragement of the potential sequential inventors.\textsuperscript{213} As the experiences of Northern California's Silicon Valley and Boston's Route 128 in recent decades admittedly imply, competition and the dynamic network-based industry system are the most important sources in promoting innovation. Unlike the Route 128 region, in which the system has been based on a culture of secrecy and self-reliance, Silicon Valley has created an intensely competitive marketplace while at the same time promoting collective learning about changing markets and technologies through informal communication.\textsuperscript{214}

Antitrust laws achieve innovation through competition while patent laws achieve innovation by granting an inventor exclusive rights. As previously mentioned, competition is more crucial than patents for innovation in most high-tech industries. In determining whether a unilateral refusal to sell or license patents violates antitrust law, at least in such industries, courts may pay attention to the competition-pivoted innovation.\textsuperscript{215} Generally, no right of exclusion protects an attempt to extend a lawful monopoly beyond the grant of a patent.\textsuperscript{216} Granting a patent holder an absolute exemption from antitrust liability for all unilateral refusals to deal would cost more than the benefits of patenting in the long run because such broad patent protection may create a real possibility of barriers to entry and as a result, stifle competition. Limiting a patent holder's broad right of refusal to license or sell an invention would seem to enhance, rather than decrease, innovation in some contexts. Therefore, we should not necessarily provide the monopolist with additional incentives where a patent holder, who has obtained sufficient reward through dominating its relevant market, exploits its dominant position in one market to expand its monopoly into the next.\textsuperscript{217}

As discussed in greater detail later, there are recent cases challenging the use of patents or copyrights to deny service firms access to an input, such as parts or diagnostic software, that is necessary for those firms


\textsuperscript{214} See generally SAXENIAN, supra note 27.

\textsuperscript{215} See Carrier, supra note 200, at 850-53 (The proposed approach carved out a role for section 2 in industries in which innovation is achieved primarily through competition such as computer software. However, it counsels courts to defer to patents in industries in which patents are critical to innovation, such as pharmaceuticals).

\textsuperscript{216} See Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661, 665 (1944).

\textsuperscript{217} See Lao, supra note 39, at 217-8; Areeda & Hovenkamp, supra note 5, at 229; Image Technical Servs., Inc. v. Eastman Kodak Co., 504 U.S. 451, 480 n.29 (1992); Jewkes et al., supra note 194, at 188 ("It is dangerous in that the monopoly it confers can often be widened by its owner into fields and forms which it was never intended he should possess.").
to compete with the manufacturer of a durable good. If a patent holder refuses to deal as a way of expanding its position, and this results in competitive harms in complementary markets and the restraint of consumer choice, the unilateral refusal should not be allowed. Accordingly, such cases should be examined not under the absolute protection of intellectual property, but through the lens of consumer benefits and the dynamic competitive marketplace.

IV. ANTITRUST DUTY TO DEAL & THE SCOPE OF A PATENT HOLDER’S RIGHTS TO REFUSE

A. Intellectual Property Protectionism in Earlier Cases: Pre-Kodak

Most cases decided before the 1980’s uniformly rejected any obligation to deal in intellectual property. The Supreme Court held in a number of cases that refusal to license a patent is not unlawful since a patentee is doing nothing more than exercising its lawful rights. However, all of these cases involved pure exclusion (i.e. a simple denial of a license), unrelated to conditional or selective licensing practice by a patentee so as to maintain the area of the invention exclusively for itself. Thus, before Kodak II, the Supreme Court had never directly considered the legality of unilateral refusals to license a patent where the practice was used for monopoly leveraging purposes.

The predominant view of antitrust and intellectual property laws holds that there is an obvious tension between them. One body of law creates and protects monopoly power, while the other seeks to proscribe it. Courts and academics alike considered intellectual property rights to be exceptions to antitrust law that must be narrowly construed. Thus, courts construing unilateral refusal to deal claims have generally


220. See Lao, supra note 39, at 199.

221. See Image Technical Servs., Inc., 125 F.3d at 1215.

222. See, e.g., Simpson v. United Oil Co. of Cal., 377 U.S. 13, 24 (1964); United States v. Westinghouse Elec. Corp., 648 F.2d 642, 646 (9th Cir. 1981); SCM Corp., 645 F.2d at 1203.

deferred to the methods of analysis employed under intellectual property precedent when interpreting an intellectual property right to exclude with an antitrust duty to deal. This deferral is consistent with the recognition that the short-term burdens of protection are justified by the long-term benefits of disclosure and widespread access to ideas.\textsuperscript{224} The overwhelming body of case law supports the idea that the owner of a valid patent who has not engaged in any form of patent misuse, such as tying unpatented articles or bringing unjustified infringement claims, has not violated antitrust laws. Consequently, they cannot be compelled by Section 2 of the Sherman Act to license these patents to competitors.\textsuperscript{225}

On the other hand, courts have hesitated before reaching their conclusion and have allowed themselves room for future exceptions. In \textit{Data General Corp. v. Grumman Systems Support Corp.},\textsuperscript{226} the First Circuit initially recognized the possibility of Section 2 liability for a unilateral refusal to sell or license intellectual property.\textsuperscript{227} The court held that the Sherman Act did not explicitly exempt refusals to deal in intellectual property, and it cautioned that implied exemptions were "strongly disfavored."\textsuperscript{228} Although other courts held that a unilateral refusal to license a patent was not exclusionary conduct, no similar precedent existed for copyrights.\textsuperscript{229}

The circuits and academia have recently been quite divided on whether the exclusive right of a patent includes the right to selectively refuse to sell patented goods when the refusal is intended to exclude competition in adjacent or complementary markets. The general antitrust law mandates that refusals to deal are valid and legitimate business decisions unless either their purpose or effect is to monopolize. In contrast, the patentee’s exclusive rights have been construed to give patentees the right to refuse to sell patented goods, even if that refusal allows the patentee to increase monopoly profits. Both IP and antitrust laws, however, permit short-term restraints on competition to obtain long-term consumer welfare benefits.

\textsuperscript{224} See Ladenburg, \textit{supra} note 21, at 1105.
\textsuperscript{225} See \textit{Image Tech. Servs.}, 125 F. 3d at 1218 (noting that jury instructions must ensure that jurors "account for the pro-competitive effects and statutory rights extended by the intellectual property laws" while finding the trial court's error in failing to give such instructions was harmless); \textit{In re Indep. Serv. Org. Antitrust Litig.}, 989 F. Supp. 1131, 1138 (D. Kan. 1997) ("The rationale of the patent system mandates that a patent holder's right to exclude cannot be limited by the definition of the relevant antitrust markets."); \textit{see also Data General}, 36 F.3d at 1187-88 (creating a presumption against unilateral refusals to license intellectual property rights that can be rebutted by showing a legitimate business justification); SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1206 (2d Cir. 1981) (stating that conduct legally permitted under a lawfully acquired patent cannot establish antitrust liability).
\textsuperscript{226} 36 F.3d 1147 (1st Cir. 1994).
\textsuperscript{227} A more detailed discussion of this case will follow subsection 3.B.
\textsuperscript{228} See \textit{Data General}, 36 F.3d at 1185.
\textsuperscript{229} See \textit{id.} at 1186.
There are three distinctive contexts in case laws (a more detailed discussion will follow in upcoming sections): (1) The Kodak-Xerox context is a repair situation where the primary transaction involves the sale of the product itself, which includes patented components, and which requires repair manuals or computer programs that are copyrighted, (2) Intel is a sale context case in which the producer of the patented product proposes to sell it to buyers who compete with one another in downstream markets based on the inclusion of the patented component in their product; the patent holder now discriminates among such buyers by refusing or restricting sales or information, and (3) the SCM context is one in which the inventor refuses to license its product and process so that it can dominate the production of that product.

B. A New Approach for Recent Cases

1. The Alternative Standard

The Ninth Circuit in Kodak II found a new way to challenge an IP holder’s unilateral refusal to sell or license patents by creating a “pretext rebuttal test” and relied on a subjective standard to determine whether or not the defendant’s business justification was pretextual. The exact nature of that test remains unclear and will always be difficult for courts to determine. The Federal Circuit in Xerox expressly criticized the Ninth Circuit’s approach. In addition, the intent analysis conflicts with the analysis set forth by the Supreme Court in Professional Real Estate, which held that state of mind is irrelevant to enforcement rights. Accordingly, courts should focus on objective elements instead of subjective ones.

The striking contrast between Xerox and Kodak arises from the fact that the Federal Circuit has an expansive view of patentees’ rights. Relying on pro-intellectual property perspectives concerning patent rights,

231. See In re Indep. Serv. Orgs. Antitrust Litig., 989 F. Supp. 1131 (D. Kan. 1997) (By encouraging fact-finders to “second-guess the subjective motivation of the copyright holder,” the Ninth Circuit had significantly departed from “the First Circuit’s central premise that rebutting the presumption would be an uphill battle and would only be appropriate in those rare cases in which imposing antitrust liability is unlikely to frustrate the objectives of the Copyright Act.”).
233. The Federal Circuit is much more pro-patent than any previous court. For example, in Rite-Hite v. Kelley Co., 56 F.3d 1538 (1995), the Federal Circuit determined that Rite-Hite was entitled to lost profits for lost sales of its devices that were in direct competition with the infringing devices, but which were themselves not covered by the patent in suit. By allowing damages for sales of competing
the Federal Circuit concluded that a refusal to deal in a lawfully patented product does not violate Section 2 of the Sherman Act in any manner. In Intel, discussed in the following section, the Federal Circuit recognized a lack of business justification for Intel’s refusals,234 but it also held that the antitrust laws did not negate the patentee’s right to exclude others from patent property.235 On the other hand, in Kodak, the Ninth Circuit relied heavily on the definition of the patent grant in deciding the underlying issue of antitrust leveraging liability. Since it recognized that the unilateral refusals to deal might exceed the scope of the grant, the Ninth Circuit supported a narrow definition in terms of the scope of a patent holder’s rights to refuse.

Although the facts of Kodak and Xerox closely resembled each other, the Ninth Circuit and the Federal Circuit reached contrary decisions because they had different views as to the scope of patent holders’ rights to refuse. This paper proposes a plausible alternative approach for the Kodak-Xerox contexts, based upon an idea for redefining the scope of a patent holder’s rights by means of expanding the definitions of the first-sale doctrine and doctrine of repair to conform with patent policy goals. This approach focuses on consumers’ freedom of trade, the relationship between the scope of Section 271(d)(4) & (5) and category refusals to deal, market power, anticompetitive effects, and business justification as the basis for more objective standards. This paper tries to draw a clear line between circumstances where refusals to sell or license by an IP holder will be subject to antitrust liability and where they will not, using this new approach.

a. Category Refusals to Deal

i. Pure (or Complete) Refusals & Selective or Conditional Refusals

A key distinction exists between two types of refusals to license (or sell) by patent holders. The first type is a conditional, or selective, license practice. A conditional refusal to license occurs when a patent holder imposes restrictive terms on licensing; for example, exclusive dealing, cross-licensing contracts, tying, resale price maintenance, etc.236 A refusal based on such licensing is a situation in which a patent holder is dealing only with certain buyers or licensees. The selective dealing is of-

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235. See id. at 1362.
236. See AREEDA & HOVENKAMP, supra note 5, ¶ 704.1, at 229 (discussing potential antitrust liability from refusals to license IP in conditions such as price fixing, reciprocity, and exclusive dealing); HOVENKAMP, supra note 1, at 240 (“Many, but not all, instances of patent misuse are practices analogous to unlawful tying arrangement. . .”); David McGowan, supra note 1, at 491.
ten used to discriminate among licensees or buyers, and such refusals can
give rise to anti-competitive harms.237

The second type of refusal is a complete, or pure, refusal to license. A
pure refusal to license is a refusal by which a patent holder merely ex-
ercises its right to exclude others from making, using, or selling the
invention. For example, a patent holder may exploit its invention by it-
self238 or simply license or sell to some users without being guilty of a
discriminatory practice.239 Exclusive licenses and "partially exclusive li-
censes" are permitted under the patent law.240 The rights to make, use,
and sell under a patent are divisible.241 A patentee can explore some
conditional practices such as "field of use restrictions."242 In B. Braun
Medical Inc. v. Abbott Laboratories,243 the Federal Circuit ruled against a
type of conditional licensing based on Section 271(d)(5). However, it
also held that "field of use restrictions are generally upheld."244 In this
case, Braun was willing to sell its patented, needleless syringe to Abbott
for use in Abbott's primary line and piggy back sets but it would not sell
those same valves for use in Abbott's extension set.245 Although the
courts have generally approved of field of use restrictions in patent li-
censes,246 they have not clearly distinguished the restriction of field of use
from the restriction of product markets in the context of licensing.247
Field of use licenses are analyzed under the rule of reason when the li-

237. E.g., where the condition seeks to control the licensee's resale of the product, a claim of re-
sale price maintenance or allocation of customers may be made. Where the condition is the purchase
or license of a separate product, a tie-in arrangement is likely to be alleged. See Maureen McGuirl,

238. See SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1200-01 (2d Cir. 1981) (Xerox wanted to ex-
plot its copier technology on its own because it had taken the risks, made the investment and con-
ducted the research and development for so long.); Cont'l Paper Bag Co. v. Eastern Paper Bag Co.,
210 U.S. 405 (1908).

239. Even under such circumstances, if a patent holder discontinues its existing licensing or sale of
patented products against whole users, it can also give rise to antitrust claims based on contract issues.


241. A non-exclusive license can be granted to use and sell a product without granting the right to
make it. For instance, a licensor grants to a licensee a non-exclusive license to use and sell, but not to
make, the licensed products in the licensed field under the licensed patents in the Territory. In addition,
a contract manufacturing relationship would call for a division of the rights in a different way,
since the contract manufacturer does not need the right to sell. Thus, a licensor grants to a licensee a
non-exclusive license to make and use, but not to sell, the licensed products in the Territory. See

242. "Field-of-restrictions are usually written as restricting use to a particular field rather than
listing prohibited fields." Thomas C. Meyers, Field-of-Use Restrictions as Procompetitive Elements in
Patent and Know-How Licensing Agreements in the United States and the European Communities, 12

243. 124 F.3d 1419 (Fed. Cir. 1997).

244. Id. at 1426 (citing General Talking Pictures v. Western Elec. Co., 305 U.S. at 127, 127 (2d Cir.
1938)).

245. Id. at 1422.

246. General Talking Pictures Corp., 304 U.S. at 181; see Benger Laboratories Ltd. v. R.K. Laros
Co., 209 F. Supp. 659 (E.D. Pa. 1962), aff'd, 317 F.2d 455 (3d Cir. 1963); B. Braun Medical Inc. v. Ab-
bott Laboratories, 124 F.3d 1419 at 1426.

censor attempts to extend his patent monopoly or when the licensor restricts competition in a field of use outside the scope of his patent. If the only topic of such a field of use license is the right to make, vend, or sell to a limited set of customers, the field of use restrictions would be *per se* illegal under antitrust law as naked restraints on competition. Professor Mark R. Patterson distinguishes true field of use restrictions from restrictions that appear to be based on use but are in fact based on users.

### ii. Public Policies Behind the First-Sale Doctrine & the Repair Doctrine

Various public policies, including the first-sale doctrine, the doctrine of repair, leveraging concerns, economic analysis of the patent system, and actual business reliance, support limiting the practice of redefining the exempted right to refuse in Section 271(d)(4) to pure refusals only. As explained in the interpretations of legislative history in Part III.3., complete, or pure, refusals are expressly permitted by subsection (4) of Section 271(d) of the “Patent Misuse Reform Act of 1988.” Selective or conditional refusals are not exempt and can be the subject of antitrust concerns.

Congress recognized the need to create exclusive rights in order to advance the American economy through the patent system, but the courts have recognized the need to limit the scope of a patent monopoly. The Supreme Court, in *Dr. Miles*, clearly identified the right of alienation as one of the essential elements of a right of general property in movables; restraints upon alienation have generally been regarded as obnoxious to public policy. Thus, the Court rejected the right of owners of trade secrets or differentiated products to control general and unilateral use by third parties. Further, it held that no such privilege to re-

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248. *Id.* at 367. “When the behavior of the patent monopolist restricts competition outside the scope of the patent, there is additional loss of social surplus that is not offset by the greater social value of promoting discovery and disclosure. In such case, the antitrust laws are implicated.” *Id.*

249. In this case, however, an agreement which involves joint product development where the limits may be ancillary to the joint enterprise might be excluded.

250. See Patterson, *supra* note 41, at 1146-49.


252. See Adams v. Burke, 84 U.S. 453 (1873) (concluding that the purchaser of a patented object was not within the scope of the monopoly and could resell the purchased patented item without violating patent law).


254. The Court denied a complainant’s assertion that the restrictions were not invalid either at common law or under the Anti-Trust Act. “With respect to contracts in restraint of trade, the earlier doctrine of the common law has been substantially modified in adaptation to modern conditions. But the public interest is still the first consideration. To sustain the restraint, it must be found to be reasonable both with respect to the public and to the parties, and that it is limited to what is fairly necessary, in the circumstances of the particular case, for the protection of the covenantee. Otherwise re-
strain buyers' freedom of trade existed under the copyright statutes, even
though the copyright owner has the sole right to vend copies of the copy-
righted production.255

The first sale doctrine and the repair doctrine are devices used to
limit the monopolies created by patent law. The underlying rationale
behind the first-sale doctrine is that IP rights must be limited to those
necessary to provide the desired incentive without endurably harming a
competitive marketplace.256 If not sufficiently limited, IP rights may en-
cumber the free market and extract higher rents beyond the incentive
sought by patent law. According to the first-sale doctrine, the first au-
thorized sale of a patented product exhausts the patent owner’s exclusive
rights, and a purchaser may thereafter use, repair, and resell the product
without violating the patentee’s exclusive rights.

Stated broadly, if the first sale doctrine were to be expanded, the
Kodak-Xerox situations could be explained as the refusal by patent hold-
ers to sell or license their IP, which could be characterized as a misuse of
patent rights. Under an expanded definition of the first-sale doctrine, af-
ter the first-sale of a product containing patented components, a patent
holder should neither indirectly limit the existing choices of a buyer nor
constrain a buyer’s right to use, repair, and resell the product, without
reasonable business interests or justifications.

Under the repair doctrine, a purchaser has the right to repair or re-
place one component of a patented product. The right to repair focuses
on the right to replace unpatented components of a patented product.257
In Kodak and Xerox, however, the products were not patented, only the
components were. When a consumer purchases the product, maintaining
the purchased product through repair service should be one of the con-
sumer’s freedoms, whether or not the components of the product are
patented. Once it is sold, some parts of the product will eventually need
to be repaired or replaced in most cases. Thus, the product composed of
patented parts must be treated as primary. After a seller sells a product
and the patented repair parts, a patentee should not be able to restrict
the buyers’ right to repair some components of the purchased product
through repair service, or to refuse to sell to any other buyer on similar
terms, without a business justification.

When the subject of a transaction is a process, technology, or busi-
ness process, a patent owner can impose restrictions on a buyer to make,
use, or sell based upon an agreement or contract. In other words, when a

255. Dr. Miles Medical Co., 220 U.S. at 405 (citing Bobbs-Merrill Co. v. Straus, 210 U.S. 339
(1908)). "Whatever right the manufacturer may have to project his control beyond his own sales must
depend not upon an inherent power incident to production and original ownership, but upon agree-
ment." Id.
256. I discussed this matter in more detail in Parts III.1&2.
patent holder allows a licensee to use its technology and manufacture the patented products under a contract or an agreement, the patentee can limit the licensee's rights. Even with such limitations, if a patentee invokes selective refusals to deal with its Original Equipment Manufacturers ("OEM"), which cause anticompetitive effects in the relevant markets, the patent holder should have some non-market power, reasonable business interests, or valid justifications, such as quality control, protection of a trade secret or essential information, inventory cost control, or preventing competitors from free riding.

The courts should consider a selective refusal in the patent sale or service process not from the standpoint of a patent owner but from the standpoint of a buyer. The patent privilege is associated with public interests. Indeed, one of the common, central economic goals of antitrust and IP law is maximizing consumer welfare. Thus, the definition of the first-sale doctrine must be broadened to limit a patent holder's rights, when those rights which restrict a consumer's choices or freedom of trade and result in a consumer becoming locked into a patent by the patent holder's indirect and socially undesirable business strategy. This approach based on consumer perspectives strikes a better balance between a patentee's legitimate profits and a consumer's benefits than the approach based on the patent holder's perspective. The approach based on the consumer perspective is also consistent with the policy behind patent and antitrust law. However, this approach should be confined within an equal access claim and should not interfere with a patentee's exclusive rights.

Overall public policy goals reasonably support limiting the meaning of Section 271(d)(4) to the pure refusal, not only because the practice in fact does not limit the consumer's freedom of choice, but also because it is expressly exempted from patent misuse liability. A pure or complete refusal to license or sell is not subject to this redefined first-sale doctrine. Nevertheless, the pure refusal to deal is not absolutely exempt from antitrust scrutiny. Only if the underlying conduct included other patent misuse practices or if the patent was obtained by fraud could such a refusal to license be condemned and provide a basis for antitrust liability.258

In Xerox, the Federal Circuit simply relied on the broad interpretation of subsection (4) authority, without showing much concern for the desirable use of patent rights.259 The legislative history shows that Con-

258. The categories of patent misuse were illuminated in the text accompanying notes 140-147; See Burling et. al., supra note 50, at 552 ("Courts should impose a duty to deal on intellectual property antitrust defendants only where the intellectual property holder has misused its rights in some way."); Patterson, supra note 41, at 1135 ("Even if an owner's refusal to deal is truly a denial of the owner's invention or expression, it might be appropriate to condemn the denial for other reasons.").
gress did not intend to make conditional or selective licensing per se legal, the subsection simply refers to complete or pure refusals to license.260

iii. Further Analysis of Selective Refusals to Deal

What characteristics make a selective refusal to deal illegal? As illuminated in detail above, the current patent system fits poorly into today's complicated technology industry, because the symbiotic relationship between the legal incentives of IP law and business strategy poses a serious long-term threat to the dynamic potential of the market.

When determining the significance of a monopolist's unilateral refusal to sell or license a patented product in the context of a Section 2 monopolization claim, the Ninth Circuit framed its arguments on the basis of monopoly leveraging.261 Although its approach was quite complex, the monopoly-leveraging test was valuable. The Supreme Court was quite willing to discourage leveraging in Paramount Pictures262 and International Salt,263 where the tying products involved copyrighted films and patented machines, respectively. Moreover, in Mercoid Corp. v. Mid-Continent Investment Co.,264 the Court applied the misuse doctrine to the leveraging of a patent monopoly and held, "the necessities or convenience of the patentee do not justify any use of the monopoly of the patent to create another monopoly."265 Thus, a patentee's leveraging practice - using selective refusals to deal in one market to obtain a competitive advantage in a second market - should be subject to antitrust concerns.

Accordingly, a selective refusal, where a patentee deals with only certain customers or licensees as a way of discrimination, can give rise to anticompetitive harms. The first-sale doctrine, the repair doctrine, the historical interpretation of Section 271(d)(4), and the leveraging concern all highlight the need for greater examination of such refusals. Thus, a selective refusal to license or sell patent or copyright is not absolutely immune from Section 2 of the Sherman Act. However, not every selective or conditional refusal to deal is illegal. A refusal is illegal if a patent

260. See 134 CONG. REC. H10646, n.4 (daily ed. Oct. 20, 1988), 1998 WL 178092 (citing two cases for examples of “refusal to use or license” a patented invention, Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 426-430 (1908); SCM Corp. v. Xerox, 695 F.2d 1195 (2d Cir. 1981)).

261. See United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966) (Monopolization requires proof of monopoly power and exclusionary conduct); Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451, 480 n.29 (The Court held that "power gained through some natural and legal advantage such as a patent, ... can give rise to liability if a seller exploits his dominant position in one market to expand his empire into the next."). (citing Times-Picayune Publishing Co. v. United States, 345 U.S. 594, 611 (1953)); Image Technical Services, Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1214; Berkey Photo, Inc. v. Eastman Kodak Company, 603 F. 2d 263, 276 (2d Cir. 1979) (Monopoly leveraging under section 2 is defined as "the use of monopoly power attained in one market to gain a competitive advantage in another.").


265. Id. at 666.
SELECTIVE REFUSALS TO SELL

holder: (1) imposes restrictive terms on licensing such as tying, cross-licensing or resale price maintenance, or selectively refuses some buyers in order to discriminate against them, (2) has market power, and (3) excludes or substantially impairs the capacity of a competitor or brings about anticompetitive effects in a related market, or (4) directly or indirectly constrains customer freedoms or choices. Even in such cases, a defendant can defend its refusals by proffering a valid business justification.

b. Market Power

A claim of monopolization under Section 2 requires proof of the possession of monopoly power in the relevant market. In Aspen Skiing Co. v. Aspen Highlands Corp., the Supreme Court held that a lawful monopolist could properly be held liable under Section 2 of the Sherman Act for a refusal to deal only if it had monopoly power and if its refusal to deal sacrificed the profit available from exercising that monopoly power in order to exclude competition on some basis other than efficiency and thereby created additional market power. Monopoly power, often defined as the "ability to control prices or exclude competition," was determined by market share in a relevant market and other factors, such as barriers to entry.

c. Anti-Competitive Effects

Only if the refusal is inconsistent with competition on its merits is there a monopolization case. In other words, if the reason for a refusal to deal is not directly related to competition, then even a refusal inconsistent with rational competitor conduct is still not a violation of antitrust law. A monopolist may not refuse to deal as part of a scheme to monopolize a downstream distribution function in the context of vertical integration. In Paschall v. Kansas City Star Co., the Eighth Circuit articulated that a refusal to deal following a monopolist's vertical integration was anticompetitive when the integration increased barriers to entry, when it facilitated the monopolist's ability to price discriminate, and when it allowed the monopolist to evade rate regulation. Likewise, a refusal to deal with a firm because the firm also does business with the monopolist's actual or potential rival is impermissible.

270. 727 F.2d 692 (8th Cir. 1984) (en banc).
A selective refusal to sell or license patents may threaten competition by foreclosing vertical relationships as a way of preventing the customers who compete with a patentee in a relevant market from finding sufficient distribution sources for their product or service. Indeed, a refusal to sell patented parts to certain buyers—for the reason that they also deal with the monopolist's competitors—may harm competition in the downstream market.

More importantly, antitrust is primarily intended to protect consumers from exploitation by monopolists or conspirators. A patent holder may not directly coerce its buyers or indirectly restrain the buyers' choice by a selective refusal to sell or license its intellectual property. Ordinarily, price discrimination is not necessarily illegal; it is evidence of market power, but not evidence of illegality. However, if the selective refusal allows a patent holder to engage in price discrimination and thereby denies consumers the freedom to choose, the conduct would be subject to antitrust liability. Therefore, a selective refusal that harms competitive processes constitutes prima facie evidence of exclusionary conduct. In *E.L. du Pont de Nemours & Co. (TiO2)*, the FTC stated that "the essence of the competitive process is to induce firms to become more efficient and ultimately to pass the benefits of the efficiency along to consumers." If a patent holder employs its monopoly power to limit the consumers' choice selectively and to distort competition in a market, such impact on the customers and competing suppliers may not be directly covered by the patent.

d. Business Justifications

A patent owner can proffer valid business explanations for its denials, which can exempt it from antitrust liability. The key to justification is to prove that a competitor might have rationally engaged in the same conduct; it is very difficult to declare such conduct unlawful. An essential question regarding a business justification for a patent holder's refusal is whether increasing monopoly profits might justify a business action by a patent holder. Patent and copyright laws grant holders a right to exclude others from their creations in order to ensure that competitors do not "free ride" on their investments in innovation. The right to exclude provides a further carrot by conferring on the patent holder a mo-

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274. Price discrimination is complex because it allows the seller to obtain greater profits, and raises the price for some, but also allows for great output.

275. *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 476 (1992). Kodak established policies that restrained its customers or third parties from acquiring repair parts for its equipment through price discrimination by selling parts to customers who serviced their own equipment, but refused to sell parts to customers who hired ISOs. *Id*.


277. CARSTENSEN, supra note 44, at 5.
nopoly in certain cases. Thus, maximization of profits is a valid business action for the purpose of innovation. However, the profits must be given within the grant and in a socially desirable way, since the ultimate goal of the patent laws is not to give excessive benefit to patent holders but to maximize consumer welfare. According to the "single monopoly profit" theory, businesses need not refuse to deal with competitors in downstream or adjacent markets to secure monopoly rents. For example, the manufacturer of a patented widget, which is a necessary component of output X, does not need to monopolize the production of output X to earn a monopoly profit on its invention, as it can accomplish this by assessing a "toll" on each part sufficient to raise the price of output X to monopoly level. Thus, in a circumstance where a monopolist extends its dominance to a downstream or adjacent market, maximizing profits cannot be a business justification because by securing control of an adjoining market, a firm can erect barriers to entry and can, in certain cases, expropriate greater rents beyond grant.

However, the monopolist may rebut a presumption of illegality by proffering an acceptable business justification, such as a need for quality control and protection from free riding, for its selective or conditional conduct.

If competitors who are using a patentee's products for their business undermine the patentee's reputation or the quality of patented products, the patentee's selective refusals are valid as an acceptable business justification. Similarly, by reducing and eliminating competition in relevant markets from "free riders," a selective refusal encourages others who jointly invest with a patentee to aggressively promote the manufacturer's product and to provide qualified services.

For another common business justification, the patent holder's selective denial should be related to the use of its intellectual property. For example, if a patent owner who has cross-licensed patented technology with its buyer or licensee later disputes the buyer's infringement claim,
the patentee’s selective refusal to grant the buyer or licensee access to its patented technology and information, might not be related to the use of its IP rights.\textsuperscript{282}

2. \textit{Kodak II Case vs. Xerox Case}

Despite the factual similarity between \textit{Kodak} (I\textsuperscript{283} & II\textsuperscript{284}) and \textit{Xerox},\textsuperscript{285} the courts’ conclusions directly conflicted in terms of deciding the circumstances in which patent owners could be subjected to a Section 2 monopolization claim under the Sherman Act for the refusal to sell or license patents to their rivals. Both cases involved repair situations where the primary transaction involved the sale of the product itself, including patented components, and which required copyrighted repair manuals or computer programs. Prior to \textit{Kodak II} no court had ever compelled a patentee to license or sell a valid patent. Therefore, it is important to review the Ninth Circuit’s opinion. However, the Federal Circuit in \textit{Xerox}, and other courts, criticized the Ninth Circuit’s subjective approach. Thus, the underlying cases will be resolved by applying the proposed standard as a more objective approach.

a. \textit{Kodak II}

i. Facts

In \textit{Kodak II}, the defendant, Kodak, manufactured and marketed high volume photocopiers and micrographic equipment, and offered repair service for each under annual or multi-year contracts.\textsuperscript{286} The markets for both products are competitive.\textsuperscript{287} Kodak’s high volume photocopier products face direct competition from companies such as Xerox, IBM, and Canon, while its competitors in the micrographics market include Minolta, Bell & Howell, and 3M.\textsuperscript{288} Despite the similarities in product offerings between the competitors in the two markets, Kodak’s products are unique because its parts are not interchangeable with the parts of other manufacturers.\textsuperscript{289} Kodak dominated the service market for its own products until the early 1980s, repairing at least eighty percent of the machines it manufactured.\textsuperscript{290} In the early 1980s, several independent service organizations ("ISOs") began servicing Kodak machines, directly

\textsuperscript{282} I will discuss this matter in greater detail in the Intel case.
\textsuperscript{283} Eastman Kodak Co., 504 U.S. 451.
\textsuperscript{284} Image Technical Serv., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1998).
\textsuperscript{286} \textit{See Image Tech. Serv.}, 125 F.3d at 1200.
\textsuperscript{287} \textit{id.}
\textsuperscript{288} \textit{id.}
\textsuperscript{289} \textit{id.}
\textsuperscript{290} \textit{See id.} at 1201.
competing with Kodak. Although the ISOs were apparently able to purchase some parts on a limited basis from Kodak, most of the parts used by the ISOs were purchased from other sources, primarily the original equipment manufacturers that produced parts which Kodak did not produce itself. According to some customers, the ISOs provided better and cheaper service.

As the ISOs grew more competitive, Kodak instituted a new parts policy whereby it refused to sell to ISOs replacement parts it manufactured for its machines. In 1985, Kodak stopped selling copier parts to its competitors, and, in 1986 it halted sales of micrographic parts. Additionally, it secured agreements from suppliers who produced Kodak parts under contract not to sell the parts to ISOs. As a result of the inability to obtain replacement parts for Kodak machines, many ISOs went out of business or lost service contracts.

In response, a number of the ISOs, including Image Technical Services and ten others, brought the action in question, alleging, inter alia, that the denial of parts and software constituted monopolization of the sale of service for Kodak machines in violation of Section 2. Put simply, they maintained that Kodak had used its monopoly over photocopier and micrographic parts to create a second monopoly in the service market. After brief discovery, the trial court entered summary judgment in favor of Kodak, but the Supreme Court affirmed a reversal of this disposition by the Ninth Circuit. On remand, a unanimous jury found that Kodak had transgressed Section 2 and awarded the ISOs a total of $71.8 million after trebling. Further, the judge issued a ten-year injunction requiring Kodak to sell “all parts for Kodak equipment” and “all tools or devices essential to servicing Kodak equipment” on “reasonable and nondiscriminatory terms and prices.” The Ninth Circuit largely affirmed the jury decision against Kodak.

ii. The Ninth Circuit’s Decision

The Ninth Circuit considered the relationship between federal antitrust, copyright and patent laws in deciding whether Kodak’s refusal to sell or license its intellectual property to ISOs had violated Section 2 of
the Sherman Act. In reviewing a monopolization claim based on monopoly leveraging under Section 2 of the Sherman Act, the Ninth Circuit noted that the ISOs were required to prove that (1) the defendant possessed monopoly power in a relevant market, and (2) that the defendant had engaged in exclusionary conduct. The defendant, however, could avoid liability by demonstrating that a legitimate business justification could support the exclusionary conduct. Kodak argued that the district court failed to properly instruct the jury that its numerous copyrights and patents provided a legitimate business justification for its exclusionary conduct.

In affirming a jury decision against Kodak, however, the Ninth Circuit rejected Kodak's assertion, and then relied on the famous footnote 29 of the Supreme Court's opinion in Kodak I. The note suggested that "copyright and patent holders may be subject to antitrust liability under a monopoly leveraging approach when a seller exploits a dominant position in one market to expand [the] empire into the next." The Ninth Circuit thus concluded that the mere possession of valid intellectual property rights did not confer an absolute immunity from antitrust claims.

Although the Ninth Circuit recognized that lawful possession of intellectual property rights constitutes a presumptively valid business justification for refusing to deal patented or copyrighted products, it also said that a showing of pretext could rebut the presumption. Applying this rebuttable presumption test, it found that the district court's failure to instruct the jury on the significance of Kodak's intellectual property rights constituted an abuse of discretion, but the court concluded that

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297. See Image Technical Serv. v. Eastman Kodak Co., 125 F.3d 1195, 1214 (9th Cir. 1998). The court felt obliged to harmonize these statutory schemes and then analyzed the principles underlying each of these laws. First, "antitrust law seeks to promote and protect a competitive marketplace for the benefit of the public." Id. Second, "patent law seeks to protect inventions, while inducing their introduction into the market for public benefit." Id. (citing SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1203 (2d Cir. 1981)). Finally, "the Copyright Act grants to the copyright owner the exclusive right to distribute protected work." Id. at 1215 (citing 17 U.S.C. § 106 (1994)).

298. See Image Tech. Serv., 125 F.3d at 1207. The court determined that Kodak's control of 50% of the market (30% from equipment patents plus 20% from tooling contracts) was sufficient to subject Kodak to a monopolization claim.

299. See id. at 1202.

300. See id. at 1214. Kodak holds 220 valid United States patents covering 65 parts for its high volume copiers and micrographics equipment, and all Kodak diagnostic software and service software is copyrighted. Id. The jury instruction on this point provided, in relevant part: "If you find that Kodak engaged in monopolization... by misuse of its alleged parts monopoly... then the fact that some of the replacement parts are patented or copyrighted does not provide Kodak with a defense against any of those antitrust claims." Id.

301. See id. at 1215-16 (quoting Eastman Kodak Co. v. Image Technical Serv., 504 U.S. 451 (1992)).

302. See id. at 1216-17.

303. See id. at 1218 (citing Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1st Cir. 1994)).

304. Id.
this error was harmless.\textsuperscript{305} Kodak's parts manager, the court pointed out, had testified that patents "did not cross [his] mind" when the manufacturer changed its parts policy.\textsuperscript{306} Moreover, Kodak had issued a blanket refusal to deal with the ISOs, making no distinction between those parts and equipment that were patented or copyrighted and those that were not. From this evidence, the court held, "it is more probable than not that the jury would have found Kodak's presumptively valid business justification rebutted on the grounds of pretext."\textsuperscript{307} Therefore, since Kodak was not actually motivated by protecting its intellectual property rights, the court concluded that the jury would have rejected the presumptively valid business justification as pretext.\textsuperscript{308}

b. Xerox

i. Facts

In Xerox,\textsuperscript{309} the Federal Circuit granted patent protection to Xerox. Like Kodak, Xerox manufactured and sold high volume copiers, and it competed with ISOs, including CSU in the service market for Xerox copiers. In 1984, it established a policy of not selling parts unique to its series 10 copiers to ISOs unless they were also end users of the copiers. This policy was expanded to include all new products as well as existing series 9 copiers in 1987. Xerox cut off CSU's direct purchase of restricted parts. The manufacturer then enhanced its enforcement efforts in 1989, implementing an "on-site verification" program designed to ensure that copier owners who purchased parts ostensibly for their own copiers did not resell them to ISOs.\textsuperscript{310} It also extended its refusal to deal to copyrighted manuals and diagnostic software.\textsuperscript{311} Initially, this procedure applied to only the six most successful ISOs, which included CSU.

In 1992, a group of ISOs filed a class action lawsuit against Xerox, alleging a variety of antitrust violations. In 1994, the manufacturer settled the lawsuit, agreeing to suspend its parts policy for six and one-half years and to license its diagnostic software for four and one-half years. One of the ISOs in the class opted out of the settlement and filed the action in question against Xerox, and this matter was consolidated with a substantially identical action pending in another district.\textsuperscript{312} The district court granted summary judgment to Xerox on the claim made by one of

\textsuperscript{305} Id.
\textsuperscript{306} See id. at 1219.
\textsuperscript{307} See id. at 1219-20.
\textsuperscript{308} Id.
\textsuperscript{310} Id. at 1322.
\textsuperscript{311} Id. at 1325, 1329
the ISOs that Xerox's unilateral refusal to sell patented parts and to sell or license copyrighted materials violated Section 2, and the ISO appealed this ruling.\textsuperscript{313}

ii. The Federal Circuit's Decision

In spite of the very similar facts, the Federal Circuit in \textit{Xerox} ruled differently than the Ninth Circuit had in \textit{Kodak II} by affirming the district court's conclusion that Xerox's actions did not constitute monopoly leveraging because refusing to license a patent is a right inherent under the patent grant, which is not limited to a particular antitrust market.\textsuperscript{314}

During this process, the Federal Circuit reviewed the district court's judgment as to CSU's antitrust claims arising from Xerox's refusal to sell its patented parts as a matter of Federal Circuit law, while consideration of the antitrust claim based on Xerox's refusal to sell or license its copyrighted manuals and software was under Tenth Circuit law.\textsuperscript{315} As the Tenth Circuit had not addressed the issue, the court looked to the other Circuits in determining whether Xerox was under any obligation to sell or license its copyrighted material. The \textit{Data General} decision, the court held, contained the most extensive, and the most sound, analysis of the issue. The First Circuit had recognized that in conferring a limited monopoly of copyright holders, Congress had made the empirical assumption that the right to exclude promotes consumer welfare in the long run by "encouraging investment in the creation of desirable artistic and functional works of expression."\textsuperscript{316} If courts endorsed this type of claim, copyright holders would be forced to reprove this assumption every time they refuse to deal, and the system of incentives created by Congress would be undermined. Finding this reasoning convincing, the Federal Circuit adopted the \textit{Data General} standard — a unilateral refusal to license a copyright can qualify as exclusionary conduct, but an author's desire to exclude others from a protected work supplies a presumptively valid business justification for any immediate harm to consumers.\textsuperscript{317}

The Federal Circuit also conceded that this presumption could be rebutted by evidence that the monopolist acquired the protection of IP


\textsuperscript{315} \textit{In re Indep. Serv. Orgs. Antitrust}, 203 F.3d at 1325 ("As a general proposition, when reviewing a district court's judgment involving federal antitrust law, we are guided by the law of the regional circuit in which that district court sits, in this case the Tenth Circuit." (citing Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 1068 (Fed. Cir. 1998)). "We apply our own law, not regional circuit law, to resolve issues that clearly involve our exclusive jurisdiction.") (citing Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1574-75 (Fed. Cir. 1996)).

\textsuperscript{316} \textit{Id.} at 1328-29 (quoting \textit{Data General Corp. v. Gruman Systems Support Corp.}, 36 F.3d 1147, 1186-87 (1st Cir. 1994)).

\textsuperscript{317} \textit{Id.} at 1329 (citing Data General Corp., 36 F.3d 1147.
laws in an unlawful manner. The court challenged the Ninth Circuit's application of this principle because the Ninth Circuit went far beyond the Data General standard. The Federal Circuit held that despite relying on the First Circuit's presumption, the Ninth Circuit significantly extended the possible means of rebutting the presumption to include the subjective evidence of an intellectual property holder, which failed to weigh the intellectual property rights. Yet, since it had great skepticism about rebutting the presumption, the Federal Circuit failed to specify valid means of rebuttal. The court provided nothing more than the vacuous statement that "the rebutting the presumption would be appropriate only in those rare cases in which imposing antitrust liability is unlikely to frustrate the objectives of the Copyright Act."

Drawing a much clearer line, the Federal Circuit held that a refusal to deal in a lawfully patented product does not violate Section 2. A patentee, the court explained, does not violate antitrust laws when he merely exploits commercial advantages stemming from his grant, but only when his conduct exceeds the scope of the patent. The court, thus, concluded that in the absence of any indication of illegal tying, fraud in the Patent and Trademark Office, or sham litigation, the patentee might enforce the statutory right to exclude others from making, using, or selling the claimed invention free from liability under the antitrust laws. However, its opinion was susceptible to varying interpretation because the court also stated that evaluation of a patentee's motivations in refusing to deal would not be appropriate "so long as [the] anticompetitive effect [of refusing to sell or license a patented invention] is not illegally extended beyond the statutory patent grant."

In order to support its finding of an unlimited right of exclusion, the Federal Circuit depended on Section 271(d) of "the Patent Misuse Reform Act of 1988" provided that "[n]o patent owner otherwise entitled to relief shall be denied relief or deemed guilty of misuse by reason of his having . . . (4) refused to license or use any rights to the patent." Further, in their Guidelines for the Licensing of Intellectual Property, the United States Department of Justice and the Federal Trade Commission have stated that market power does not "impose on the intellectual

318. See id. at *7. (quoting Image Technical Servs., 125 F. 3d at 1219); See also Data General 36 F.3d at 1418.
319. As discussed above, the Ninth Circuit adopted a modified version of this Data General standard.
321. Id. (citing Data General, 36 F.3d at 1187 n.64, 1188).
322. Id. at 1325-28.
property owner an obligation to license the use of that property to others."\footnote{325. Id. (quoting Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1362 (Fed. Cir. 1999); See United States Department of Justice and Federal Trade Comm'n Antitrust Guidelines for the Licensing of Intellectual Property 4 (1995).}

The plaintiff pointed to the Supreme Court's observation in \textit{Kodak I} that "power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to liability if a seller exploits his dominant position in one market to expand his empire into the next."\footnote{326. Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 480 n.29 (1992).} This statement, the court explained, appeared in the Court's discussion of a tying claim, and it merely restated the undisputed premise that a patentee cannot refuse to sell patented parts in order to gain a monopoly in a market beyond the scope of the patent. The ISOs also relied on the Ninth Circuit's opinion in \textit{Kodak II}. The court again brusquely declined to inquire into the "subjective motivation" of the patentee so long as it stays within the scope of its grant by simply refusing to sell or license its patent.\footnote{327. In re \textit{Indep. Servs. Org. Antitrust}, 203 F.3d at 1327-28.}

The Federal Circuit concluded that the plaintiff had failed to circumnavigate these barriers to Section 2 liability. The ISOs had not set forth the "definitive rebuttal evidence"—whatever that meant—necessary to overcome the presumption afforded by Xerox's possession of copyrights covering its manuals and diagnostic software.\footnote{328. Id. at 1329.} Similarly, it had failed to demonstrate that Xerox had done anything other than refuse to sell its patented parts; thus, the ability to eliminate competition in the service market, a second antitrust market, was within the scope of the grant.\footnote{329. Id. at 1328-1329.}

c. The Alternative Analysis

A clear boundary will be drawn from the overall discussions and public policy concerns above in order to cover various refusal circumstances in general. In determining under what circumstances a patent owner's denial should be condemned under Section 2, a patent holder has no general duty to cooperate with its business rivals. The owner can refuse to deal with rivals or with rivals' customers if the exclusionary conduct is a pure or complete practice which is expressly allowed by Section 271(d)(4) of the patent law. In such licensing, a patentee can involve some conditional practices such as "partially exclusive licenses" or "field of use restrictions." Even with such a refusal to license, however, it can be condemned under antitrust liability when a pure refusal is involved in other patent misuse practices.
On the other hand, if a patent holder has engaged in a refusal in conditional or selective licensing practices - such as tying, cross-licensing or resale price maintenance, or selective refusal of some buyers in order to discriminate against them - there are three steps to examine the illegality of the refusal to sell or license the patent. If a patent holder who engages in a selective or conditional refusal to deal (1) has market power, (2) such a refusal may harm competition in complementary or relevant markets because it excludes competitors in a circumstance where they have no alternative except to access the patentee’s property. The patent holder indirectly limits the existing choices and restrains the freedom of its customers’ right to use, repair, and resell. In such cases, (3) the patentee should proffer reasonable business explanations for its selective refusals to license the patented invention. Under such circumstances, if a monopolist creates additional market power or maintains its monopoly without valid business justifications, such leveraging practices should not be within the redefined scope of a patent holder’s right to refuse. Thus, this practice should be treated as a category of patent misuse and be subject to Section 2 claims of the Sherman Act. This paper will argue that the proposed approach - as a more objective standard - will better guide courts to determine various refusal to deal cases because it is more consistent with the patent doctrines and fosters the central economic goals shared by antitrust and IP laws – maximizing consumer welfare and encouraging innovation and competition.

On the basis of the proposed standard, this paper will re-examine the Kodak-Xerox situations to determine whether refusals to sell or license by a patent holder should be condemned by antitrust liability. The core subjects in this approach will be as follows: the type of refusal to deal patent owners were involved in; whether the patentees have market power; whether a refusal gives rise to anti-competitive harms in service markets or limits consumers’ rights to repair their equipment; and whether the defendants have provided valid business justifications for their denial.

i. A Selective Refusal to Deal

Kodak and Xerox instituted discriminative policy against ISOs through selective licensing and sale of their patented parts and copyrighted software. The patent owners had sold to ISOs parts which were necessary to repair their products. However, Kodak and Xerox then established a policy of refusing to sell parts for their machines directly to ISOs. Indeed, they were selling their parts to some buyers and not to others. The IP holders selectively sold their parts only to certain equip-
ment owners, but did not deal with even an "end-user" who hired its own ISO as an agent or intermediary.\(^{330}\)

Kodak's refusal to deal is different from field-of-use restrictions, which are generally upheld. Suppose Company X has a patent that allows it a huge competitive advantage in the manufacture of unpatented widgets for which the patented part is a key input (or perhaps it is patented process); the patent is also useful in making widgets. X licenses Y Corporation to use the patent only to make widgets, in order to protect X's ability to secure monopoly profit in the widget market. X's restriction, imposed only on manufacturing the specific widgets, would be legal because it is a legitimate use of exclusive rights granted by patent law. However, the purpose or efforts of Kodak's limitation on the sale of its parts is to discriminate among customers and eliminate its competitors from the service market. The refusal to deal is not based on a specific field-of-use restriction, but on a set of users which is not within the scope of the exclusive patent rights.\(^{331}\)

There were a large number of replacement parts for the equipment produced by each manufacturer. Unlike the single patents of the past, the underlying products had clusters of patents, which also included a number of unpatented components. For example, of the thousands of parts required by Kodak photocopiers and micrographic equipment, Kodak had 220 valid patents that covered 65 parts.\(^{332}\) However, the manufacturers denied all parts to all ISOs, regardless of their status. Thus, according to the standard, Kodak and Xerox's selective refusals to sell patented parts to ISOs should not be *per se* legal.

ii. Market Power

Kodak controlled between approximately fifty and sixty-five percent of the parts markets. This share was sufficient to create a parts monopoly because it had 220 patents and controlled the designs and tools, brand name power, and manufacturing capability.\(^{333}\) Like Xerox, Kodak also controlled the original equipment manufacturers through various contract arrangements and consistently maintained a large share of the service market.\(^{334}\) According to the Supreme Court's opinion in *Kodak I*,

\(^{330}\) *In re Indep. Servs. Org. Antitrust Litig.*, 85 F. Supp. 2d 1130, 1147 (D. Kan. 2000). Xerox established the "On-Site End-User Verification Procedure" to ensure that it would sell parts only to an "end-user." *Id.* at 1146 (defining end user as "a person who (1) owned the equipment for which the parts were to be purchased; (2) used the equipment solely for internal purposes; (3) would use the parts solely to maintain the particular equipment").

\(^{331}\) *See B. Braun Med. Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997).


\(^{333}\) *See Image Technical Servs.*, 125 F.3d at 1208; *See In re Indep. Serv. Antitrust Litig.*, 85 F. Supp.2d 1130, 1149 (D.Kan. 2000) (Xerox did not deny that it had monopoly power in the parts market.).

\(^{334}\) *Image Technical Serv.*, 125 F.3d at 1200-01. Kodak repaired at least eighty percent of the machines it manufactured.
service and parts are separate markets because the relevant market for antitrust purposes is determined by the choices available to Kodak or Xerox equipment owners. Although there are several competitors with Kodak and Xerox in the equipment market, Kodak and Xerox's equipment is unique because their parts are not interchangeable with the parts of their competitors. Thus, the relevant market from the equipment owner's perspective is composed only of those companies that service Kodak or Xerox machines. Thus, this uniqueness of Kodak and Xerox's durable products substantially reinforces their market power in the service market because there are no substitutes readily available. These factors, together with the economies of scale, supported a finding of high barriers to entry by new manufacturers as well as to increased output by established suppliers. The finding that Kodak had monopoly power in the part markets for photocopiers and micrographic equipment was supported by evidence in litigation by ISOs, which alleged that Kodak unlawfully used its monopoly in the parts market to maintain monopolies in related service markets.

In determining Xerox's market power, the district court in Xerox distinguished a "patent monopoly" from an "economic monopoly." The scope of the patent monopoly was defined by the claims of the patent. On the other hand, the term economic monopoly referred to a firm's power to control the price of a product in a relevant antitrust market. Without discussing Xerox's economic power to exclude, the court jumped into the issue of a patentee's legal rights. It held that Xerox's legal right to exclude ISOs in the service markets from using Xerox's patented inventions arose from its patents, not from an unlawful leveraging of its monopoly power in the parts market. The court did not consider the other possible factors that constituted market power, but focused solely on Xerox's patent rights. More broadly, it even insisted that a patent holder could lawfully acquire more than one "inherent" or economic monopoly by exercising the exclusionary power of a single patent. Although the district court did not explicitly address Xerox's market power, such power was implicit from its patent and copyright power. Regardless of the legality of Xerox's refusals, it was apparent that Xerox achieved too much success and had monopoly power in two antitrust

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336. In the photocopier market Kodak's competitors include Xerox, IBM and Canon. Kodak's competitors in the micrographics market include Minolta, Bell & Howell and 3M. Image Technical Serv., 125 F.3d at 1200.
337. Eastman Kodak Co., 504 U.S. at 482.
338. Image Technical Servs., 125 F.3d at 1208.
340. Id.
341. See id. at 1136.
342. A monopolist's market power can be inferred from a patent or copyright. See United States v. Loew's, Inc. 371 U.S. 38, 45 (1962) ("requisite economic power is presumed when the tying product is patented or copyrighted").
markets, the parts market and the service market, through its intellectual property.43 Once the selective refusal was conceded, market power should have been addressed because it is essential to the finding of an antitrust violation under the model this article proposes.

iii. Anti-Competitive Effects

In *Kodak* and *Xerox*, several independent service organizations effectively competed with each other and with the manufacturers in the service market. There is not the slightest doubt that the patented parts are essential for ISOs to compete effectively in the downstream market because they are the only available parts that fit the patentees' products. In situations where the manufacturers selectively denied ISOs access to all parts necessary for the firms to service, those ISOs were unable to obtain the patented parts. As a result, many ISOs lost service contracts or went out of business. Kodak and Xerox's refusals to deal with ISOs justify the presumption of anti-competitive effect, including the extraction of greater rents, the erection of barriers to entry, the elimination of independent market actors, and the stifling of innovation.

In addition to anticompetitive harms to ISOs, harms to consumers also need to be examined because the patent is a privilege which is conditioned by a public purpose. According to the repair doctrine and the first-sale doctrine, the buyer of a product has an unlimited right to repair the product by replacing one or more worn or otherwise unsatisfactory parts. The "on-site end-user verification" procedure implemented by Xerox resulted in limiting the buyer's rights to resell purchased parts and to repair worn-out or broken machines because the consumers had no choice but to go to the original seller for service.344 This is contrary to the public policy behind these patent doctrines, which not only protects a consumer's freedom of trade, but also provides appropriate incentive to a patent holder by limiting the scope of patent rights of exclusion. Then there is the question of whether consumers of patented objects should have a right to buy patented replacements at competitive prices. Hypothetically, suppose Xerox sold a patented part to customers who had their own repair services or used its repair services for $X, but offered the same part to third parties at a price of $2X. To enforce such price discrimination, suppose Xerox required that to get the lower price, buy-

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343. *In re Independent Servs. Orgs. Antitrust Litig.*, 989 F. Supp. at 1137 (holding that "a patent holder's right to exclude others from using its patented invention is not conditioned on the economic success or failure of the patent holder.").

344. ISOs maintained existing business by obtaining source of supply of parts necessary to service Xerox copiers and printers through Xerox, its OEMs, a limited number of customers, and cannibalization of parts from used Xerox equipment. See *In re Indep. Serv. Org. Antitrust Litig.*, 989 F. Supp. at 1133. Xerox did not "deal with an end-user through an independent service organization acting as the user's agent or intermediary." *In re Indep. Serv. Orgs. Antitrust Litig.*, 85 F. Supp. 2d 1130, 1147 (D. Kan. 2000).
ers must agree not to resell the patented part to any third party. This scenario involves patents, and assuming market power in the tying product, this would be illegal tying under antitrust law.

iv. Business Justifications

In the last step of the analysis, the patent holder should bear the burden of properly explaining why the patent's denial is necessary. Since Kodak's and Xerox's refusals to deal harmed competition in service markets, and thereby allowed them to dominate not only parts markets, but also service markets, they are subject to the business justification test. Plausible business justifications for a selective refusal, such as a need for quality or reputation control, the prospect of more efficient distribution, or protection from free riding can justify a patent holder's denials. The patent holders' quality justification, however, appeared inconsistent in this case because there was no evidence that service quality of ISOs was lower and the price higher than that of Kodak and Xerox. As to a free-ride defense, Kodak did not dispute that ISOs invested substantially in the service market with training of repair workers and investment in parts inventories. In contrast to Kodak's argument that the ISOs were free-riding because they failed to enter the equipment and parts markets, the Supreme Court in Kodak I held that "one of the evils proscribed by the antitrust laws is the creation of entry barriers to potential competitors by requiring them to enter two markets simultaneously." On the other hand, there was no discussion of Xerox's business justification, because the Federal Circuit not only had a liberal view of unilateral refusals to deal, but also believed that a patent holder's wish to exclude competitors from use of its patent was a presumptively valid business justification for any immediate harm to consumers. Thus, none of the patent owners' possible business justifications were sufficient to rebut their unlawful denials.

345. See In re Indep. Serv. Org., 989 F. Supp. at 1133 ("CSU alleges that Xerox intentionally set the prices of its patented parts at high levels to act as a weapon against ISOs and to maintain Xerox's monopoly of the service market.").


347. See Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1201 (9th Cir. 1997) (according to some customers, the ISOs provided better and cheaper service).

348. See Eastman Kodak Co., 504 U.S. at 485.

349. See id. (citing Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 14; Fortner Enter., Inc. v. United States Steel Corp., 394 U.S. 495, 509); See also Paschall v. Kansas City Star Co., 727 F.2d 692 (8th Cir. 1984) (en banc) (condemning a monopolist's refusal to deal that harmed competition by increasing entry barriers and facilitating its ability to price discriminate); United States v. United Shoe Machinery Corp., 110 F. Supp. 295 (D. Mass. 1953), aff'd per curiam, 347 U.S. 521 (1954) (finding that the defendant's discriminatory pricing policy made it harder for rivals to enter the market, and thus had illegally monopolized in violation of section 2 of the Sherman Act).

Applying the alternative standard to Kodak and Xerox, yields different results from what the court did in each case. The outcome in Kodak is the same, but the analysis is more consistent with the public policy goals behind patent doctrines and more objectively applied. As explained above, since the Ninth Circuit focused on the intent standard as a plausible approach, it makes it difficult for courts to determine cases using this standard. In Xerox, a different outcome on the merits is reached. The Federal Circuit focused on incentives for the creation of IP by allowing the IP holder to reap profits wherever they were available. However, it only emphasized one side of IP policy - namely, that giving more benefits to a patentee creates more innovations. The other aspect is the limitation of patent rights to prevent overreaching. In this respect, the proposed standard strikes a better balance between the legitimate interests of patent holders and their customers.

3. Intel Cases

As in Xerox, the Federal Circuit in Intergraph Corp. v. Intel Corp. ("Intergraph"), seemed to employ a broad definition of patent rights in determining whether an IP holder should be obligated to deal with other parties. The Federal Circuit reinforced the proposition that a patent holder who lawfully acquired a patent could not be held liable under Section 2 of the Sherman Act for misuse of monopoly power, even by selectively refusing to license the patent to others. In rejecting the district court’s approach, the Federal Circuit held that the district court’s reliance on Kodak was misguided, stating that “[in Kodak] the Ninth Circuit reported that it had found ‘no reported case in which a court had imposed antitrust liability for a unilateral refusal to sell or license a patent or copyright.’ . . . Nor have we.”

Contrary to this approach, the Federal Trade Commission (“FTC”) instituted an action against Intel claiming that Intel’s refusals to provide technical information to Compaq, Intergraph, and Digital Equipment, unless the companies agreed to grant Intel licenses to their microprocessor-related patents, constituted unlawful monopolization and unfair methods of competition, in violation of Section 5 of the Federal Trade Commission Act (“FTCA”). In approaching the Intel case, the FTC relied heavily on the Supreme Court’s Aspen Skiing and Kodak decisions, as the Ninth Circuit had done in Kodak II. The FTC’s main concern was that “Intel has entrenched and threatens to continue entrench-

351. 195 F.3d 1346 (Fed. Cir. 1999).
352. Id. at 1362.
353. All three companies filed patent infringement lawsuits against Intel over their microprocessor technology.
ing its monopoly power in the relevant lines of commerce” by coercing other customers into licensing their innovations to Intel.355 The FTC focused primarily on actual and potential competitive effects in the microprocessor chip technology and innovation markets, while the Federal Circuit narrowly focused on competitive effects in the downstream graphics workstation market.356 More importantly, the situation in Intergraph differs from the Kodak-Xerox situation in that Intergraph had not directly competed with Intel in the workstation market. On March 8, 1999, the day before an administrative hearing was to begin in the FTC’s case against Intel, the FTC and Intel announced that they had reached a settlement.357 The settlement agreement prohibited Intel from withholding advanced technical information from any microprocessor customer with whom it was engaged in an IP dispute, provided that Intel had already been providing the customer with such information at the time of the dispute.358

After the FTC settlement with Intel, several commentators criticized the FTC’s antitrust approaches and positions regarding an IP holder’s monopoly in the semiconductor industry.359 They believed that the settlement would not foster R&D in the semiconductor industry and that it would thereby harm society. The alternative standard proposed in the Kodak-Xerox analysis can be applied to the Intergraph context: the producer used its IP to discriminate among buyers who competed with each other in downstream markets by refusing or restricting sales or information. The FTC limits, however, are appropriate under this model. To decide whether Intel’s discriminatory conduct should be permissible or impermissible, this article will focus on Intel’s type of refusal, its market power, the competitive injury test in relevant markets, the complex business relationship between Intel and Intergraph, and the IP holder’s business justification for its exclusionary dealing. Then, this article will explain how the resolution is different from the Federal Circuit’s decision and the FTC settlement.

a. Facts

Intel is the world’s largest manufacturer of high performance microprocessors used in desktop computers, laptops, servers, and worksta-

355. Id. at ¶ 11.
Intel captured 88% of this global market’s total revenue in 1996.\textsuperscript{361} Intel maintains a specialized relationship with the OEMs that incorporate its processors into their products.\textsuperscript{362} Intergraph Corporation is one such OEM. It develops, makes, and sells computer workstations that are used in producing computer-aided graphics. From 1987 to 1993, Intergraph’s workstations were based on a high performance microprocessor developed by the Fairchild Division of National Semiconductor, embodying what is called “Clipper” technology. Intergraph owns the Clipper technology and patents thereon.\textsuperscript{363} In 1993, Intergraph discontinued use of Clipper microprocessors in its workstations and switched to Intel microprocessors. In 1994, Intel designated Intergraph a “strategic customer” and provided Intergraph with various special benefits, including proprietary information and products, under non-disclosure agreements (“NDAs”).\textsuperscript{364}

Starting in late 1996, Intergraph charged several Intel OEM customers with infringement of the Clipper patents for the unlicensed use of technology related to the Clipper microprocessor in Intel chips.\textsuperscript{365} Intergraph further sought injunctive relief to prevent Intel from selling its flagship microprocessor products. The accused companies sought defense and indemnification from Intel.\textsuperscript{366} Intel contacted Intergraph and the parties began unsuccessful negotiations over possible cross-licensing arrangements for use of certain patent rights held by the other.\textsuperscript{367} Responding to the failed negotiations, Intel next attempted to add a provision for NDAs used in connection with future joint development projects.\textsuperscript{368} The new provision required Intergraph to provide Intel with a royalty-free license to its microprocessor-related patents.\textsuperscript{369} This too was rejected by Intergraph. As negotiations failed and threats continued, the relationship deteriorated and Intel cut off Intergraph’s access to chip samples and technical information.\textsuperscript{370} The district court issued a preliminary injunction requiring Intel to continue supplying Intergraph with product information and microprocessors.\textsuperscript{371}

\textsuperscript{360} See Intergraph Corp. v. Intel Corp., 3 F. Supp. 2d 1255, 1259 (N.D. Ala. 1998). Microprocessors, or “central processing units” (“CPUs”), control the central processing of data, as well as other integral systems, in personal computers.

\textsuperscript{361} See id. at 1260.

\textsuperscript{362} See id. at 1265.

\textsuperscript{363} Id. at 1263.

\textsuperscript{364} See id. at 1265-66.

\textsuperscript{365} Intergraph Corp., 3 F. Supp. 2d at 1266.

\textsuperscript{366} Id.

\textsuperscript{367} See id. at 1267. A set of IP antitrust guidelines issued by the Department of Justice and FTC state that “settlement involving the cross-licensing of IP rights can be an efficient means to avoid litigation and, in general, courts favor such settlements.” See Antitrust Guidelines for the Licensing of Intellectual Property, reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132, at 2.

\textsuperscript{368} See Intergraph, 3 F. Supp. 2d. at 1267.

\textsuperscript{369} Id.

\textsuperscript{370} See id. at 1267-68.

\textsuperscript{371} Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1346 (Fed. Cir. 1999).
b. Selective Refusals to Deal

Intel's refusal was clearly selective and discriminatory: Intel cut off the supply of advanced technical information to some current OEMs, but not others, in order to force licenses to the microprocessor technology of their rivals. Intel, the producer of the patented product, proposed to sell the product to buyers who competed with one another in workstation markets based on the inclusion of the patented component in their products.\(^{372}\) Furthermore, Intel provided its products, as well as technical and design information, to Intergraph under NDAs that were terminable at will by Intel.\(^{373}\) When Intergraph and Digital Equipment separately asserted their patent rights against Intel, it immediately discriminated against them by selectively denying or restricting further sale and advanced technical Information.

The FTC contended that Intel's ultimate goal was to coerce their buyers to enter into cross-licensing agreements with Intel that would assure it access to any new technology and prevent threats to its alleged microprocessor monopoly from ever developing.\(^{374}\) According to the proposed standard, Intel's discriminatory actions need to be examined further because they do not belong to the category of a patentee's pure refusals to deal.

c. Market Power

As noted above, Intel's dominance of the microprocessor industry is beyond dispute. It has held a steady 80% share of the microprocessor market for a number of years (1993-1998).\(^{375}\) This market control has generated enormous revenue, profits, and brand recognition for Intel microprocessors.\(^{376}\) Intel's dominance is due in part to its compatibility with Microsoft DOS and Windows-based operating systems.\(^{377}\) The district court in \textit{Intergraph} also found that Intel possessed a monopoly in the separate but relevant market for Intel CPUs. For example, Intel has 100% of the market for the high-end CPUs that are used in "x86" based computer workstations, which account for approximately 60% of the to-

\(^{372}\) A "workstation" is defined as a machine designed to run as fast as possible, that includes not only the CPU, such as Pentium II, but all the different subsystems that are contained within the machine. ... [W]orkstations are powerful computers designed to run demanding scientific, engineering, design and graphic intensive applications. Such applications are generally used in the design of nuclear power plants and bridges, and special effects and animation in the entertainment and motion picture industry. \textit{Intergraph Corp.}, 3 F. Supp. 2d. at 1255 n.6.

\(^{373}\) \textit{Id.} at 1265-66.


\(^{376}\) \textit{Intergraph Corp.}, 3 F. Supp. 2d at 1260.

\(^{377}\) \textit{See id.} at 1261 n.14.
nal workstation market.\textsuperscript{378} Since Intel has maintained a closed architecture in its CPU, there is no feasible alternative for workstation companies "locked-in" to the Intel technology.\textsuperscript{379} Thus, there are severe financial and technological barriers to entry. Consequently, no other company can feasibly enter the relevant market and provide Intel with effective competition.\textsuperscript{380}

d. Anti-Competitive Effects

In terms of determining how Intel's selective refusals affect competition in relevant markets, the approach of the Federal Circuit is much narrower than that of the FTC. The district court in Alabama, for example, found that Intel's advanced CPUs and technical information are vital to competitive viability and thus OEMs cannot effectively compete in the relevant market without access to them.\textsuperscript{381} But, the Federal Circuit rejected the district court's reasoning, holding that Section 2 imposes liability for a refusal to deal only when the monopolist competes with the plaintiff. Since it had a broad view concerning the scope of patent rights of exclusion, the Federal Circuit was reluctant to use antitrust law to limit a patent holder's refusals and thus narrowed its analysis of anticompetitive harm to the downstream computer markets. The Federal Circuit ultimately rested its decision on the fact that Intel did not sell computer workstations, and that the two companies were not competitors in the same market.\textsuperscript{382} Hence, even if adverse to Intergraph, Intel's refusals could not have an adverse effect on competition.\textsuperscript{383}

According to the FTC's market definition, however, this undoubtedly reveals that effective competition did exist and Intel's actions substantially harmed the competition not only in the current microprocessor product market, but also in microprocessor-related technology markets. Intel had improperly used its monopoly power in microprocessors to extend its power into the markets for graphic subsystems and workstations in which Intergraph competed.\textsuperscript{384} Unlawful monopoly leveraging occurs when a firm uses its market power in one market to gain competitive ad-

\textsuperscript{378} Id. at 1262.
\textsuperscript{379} See id. at 1262 n.17 ("The new P6 Bus is not compatible with products available from others in the computer industry and that no one else in the industry is working on an alternative product that would be compatible with the P6 Bus.").
\textsuperscript{380} See id. at 1273 ("Intel has deliberately designed its related CPU architecture to prevent other CPUs from being compatible, thereby converting its CPU architecture from an 'open' to a 'closed' system . . . IBM and Motorola unsuccessfully attempted to compete with Intel with the PowerPC CPU. " The Alpha CPU owned by Digital Equipment Co. was a potential competitive CPU but there was a settlement between Intel and Digital giving Intel ownership and control of Alpha.").
\textsuperscript{381} See id. at 1278.
\textsuperscript{382} Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1356-59.
\textsuperscript{383} Intergraph Corp., 3 F. Supp. 2d at 1278.
\textsuperscript{384} See id.
vantage in another market by other than competitive means. In this case, Intel attempted to use its monopoly power in the CPU market not to control the subsystem sales, but to control the sale of microprocessors to the subsystem markets by limiting buyers' options for alternative technology. Such selective refusal might impact the subsystem sales market, but the goal is entrenching the monopoly over alternative technologies. Intel was using its power to effect competitive capacity in a downstream market, in which it had a stake as a competitor, as a means to gain control of or the right to use intellectual property belonging to its customers. It is analogous to operating a line of business outside the scope of the patent right for which the patent right is employed to distort competition.

Intel's general business policy was to release early versions of its microprocessors and information about those microprocessors to buyers who incorporated its processors into their computers, such as Intergraph. Intel also viewed Intergraph as a "loyal and beneficial customer of Intel" because Intergraph had ceased to develop the Clipper microprocessor. Intergraph initially built its workstations using the Clipper chip but it was persuaded by Intel to switch to Intel processors. In this way, Intel eliminated its competitor in microprocessors for the high-end workstation market. The customer invested heavily in Intel chips, and like the ISOs in the Kodak-Xerox contexts, it was technologically and economically locked into the use of Intel's CPUs. Intergraph could not return to the Clipper technology due to rapid technology changes in this market. Indeed, since Intergraph had no viable alternative to Intel's Pentium II microprocessor for its high-end computer workstations, there was no way Intergraph could mitigate the harm it faced from Intel's selective refusals. Adequate supplies of Intel's products and information were necessary to Intergraph's manufacturing operations. Thus, the disruption in the supply of Intel products and information would substantially reduce Intergraph's competitive capacity and seriously affect its reputation, development, and relations with customers, employees, shareholders, creditors, distributors and suppliers.

385. Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 276 (2d Cir. 1979) ("The use of monopoly power attained in one market to gain a competitive advantage in another is a violation of § 2, even if there has not been an attempt to monopolize the second market.").
386. See Intergraph Corp., 195 F.3d at 1366. (A letter from Intel to Intergraph stated that Intergraph would be treated as "a strategic customer in present and future programs" that are "currently being managed under Non-Disclosure Agreements.")
387. Intergraph Corp., 3 F. Supp. 2d. at 1262.
388. Id. at 1263.
389. Id. at 1263.
As suggested above, a patent holder can extend its lawful power to pursue more profits if the means of achievement are related to innovation for its products or the true use of its own IP. Intel's practice, however, was derived not from such purposes but from retaliation against infringement disputes brought by three companies seeking to protect or assert their patent rights in the microprocessor field. This is not a socially desirable means of exercising IP rights. On this point, the FTC consent order prevented Intel from restricting access to Advanced Technical Information or microprocessors as leverage in an IP dispute with its customer. It also prohibited Intel from withholding or threatening to withhold Advanced Technical Information from a customer for "reasons related to an IP dispute" if the customer is receiving technical information from Intel at the time the dispute arises.

More importantly, the FTC contended that Intel's behavior had an inherent tendency to damage the competitive process and stifled independent innovation in microprocessor-related technology. Intel coercively extended "its lawful monopoly power over existing CPU products into the markets for future CPU technology and goods, and effectively [used] its patents to prevent others from engaging in lawful follow-on innovation." Such socially undesirable practices will not only strengthen Intel's monopoly power, but also discourage others and even Intel from R&D investments and efforts at technological innovation in the long run. Accordingly, the practice exemplified by Intel's refusals to deal is not permissible. To justify its actions, Intel should have been required to explain why its refusal of access to its property was reasonably necessary.

e. Business Justifications

Intel's anticompetitive conduct may not be actionable under Section 2 of the Sherman Act if it is supported by a legitimate business justification. Although the FTC settlement agreement implied that a patent
cal excellence and its business goodwill in the workstation market and the computer industry will suffer long-term injury.

Id.


SELECTIVE REFUSALS TO SELL

The holder should not discriminate among buyers on the basis of other reasons such as an infringement dispute, the business relationship between Intel and the underlying customers in the semiconductor industry presented more complicated issues.

Intel asserted, as a justification for its refusal to supply information, that it had a strong right to control patent, copyright, and trade-secret rights in its property. As explained above in the proposed alternative standard, having intellectual property itself may not provide an absolute justification when a patent holder has market power and it made selective or conditional refusals resulting in the exclusion or substantial impairment of the competitive capacity of a competitor or anticompetitive effects in a related market.

Fortunately, a conscionable delineation was formed between the disparate FTC and Intergraph positions. Intergraph had sought to destroy Intel's business by seeking an injunction against future sales of the technology that violated its patents; but neither Compaq nor Digital Equipment had made similar requests for injunctions. On the other hand, the FTC order exempted from its protection cases in which the party denied access was seeking relief that would destroy the ability of Intel to continue to produce. The approach of the FTC, in a manner that permitted Intel to deal selectively with its buyers seeking an injunction, was appropriate for innovation in the relevant markets. An injunction would injure Intel in ways that would be harmful to consumers' interests in a continuing supply of its advanced microprocessors. Therefore, Intel's withholding of advanced information and microprocessors from litigation opponents would be justified by a reasonable desire to prevent opponents from seeking injunctions against future sales of Intel's technology.

Meanwhile, Intel argued the lawsuits brought by its customers made the restriction of access to its IP important for a number of reasons. Additional access might reveal information that would otherwise be non-discoverable, and this information might make it easier for the litigant to prosecute its action against Intel. In addition, giving advanced information and chips to customers is intended to make it possible for them to produce new machines. Intel claimed that employees of Intergraph subjected Intel engineers to a hostile environment, making cooperation impossible. Indeed, Intergraph also engaged in conduct designed to

394. Id.
395. Compaq and Digital settled their disputes with Intel by entering into cross-license arrangements.
396. The settlement allowed Intel to withhold future technical information and to deny access if the party seeking access was pursuing injunctive relief. See In re Intel Corp., supra note 391.
397. See H.L. Hayden Co. v. Siemens Med. Sys., 879 F.2d 1005, 1022 (2d Cir. 1989); Zoslaw v. MCA Distrib. Corp., 693 F.2d 870, 889-90 (9th Cir. 1982); House of Materials, Inc. v. Simplicity Pattern Co., 298 F.2d 867, 869 (2d Cir. 1962) (The defendant could legally terminate the contract even if "the sole motivation . . . was its desire to retaliate for the treble damage action brought against it.").
gather evidence to help with litigation against Intel rather than to facilitate the transfer of information. Microprocessors are valuable because they can be programmed to perform specific functions – the programming information can then be used to run more complex applications. In developing new applications for Intel’s microprocessors and sharing highly sensitive information, a close working relationship is essential. Lawsuits seeking to enjoin Intel sales are hardly conducive to such a relationship.

Such an atmosphere in a joint operation might be a barrier to improving their collaborative relationship, but it did not seem to vindicate Intel’s refusals to deal. According to Intel’s argument, the lawsuits by Intergraph and other customers themselves, rather than Intel’s infringement, should be regarded as an undesirable action in terms of cooperative business. Indeed, it may discourage other customers from bringing lawsuits despite the unlawful conduct of the other party. Jonathan Baker, Director of the FTC’s Bureau of Economics, argues that a firm with monopoly power violates Section 2 if it excludes rivals from the market by “restricting a complementary or collaborative relationship without an adequate business justification.”

When it first dealt with Intergraph, Intel could have sought a royalty-free cross-license for the patented Clipper technology infringed by the Pentium line. It is questionable why Intel did not do so at that time. Some commentators argue that royalty-free cross-licensing may benefit society by eliminating an externality between the patent holders and promoting efficiency in network industries. A patent holder’s efforts to encourage such cross-licensing may provide an efficiency justification in situations where cross-licensing facilitates the integration of intellectual property rights with complementary factors of production. Intel’s coercive cross-licensing practices, however, do not seem pro-competitive and do not constitute a beneficial situation. There was no doubt that by exercising its market power, Intel selectively refused to deal as a means of coercing the underlying customers into licensing their patented innovations to Intel.

Accordingly, when the alternative standard is applied to the Intel case, the resolution leads to the same result as the FTC settlement, but the methodology employed varies from the Federal Circuit Court’s pro-


399. See Muris, supra note 359 at 716-17.

400. See Baker, supra note 87, at 503.

401. Intel believed that it had such a license. See Intergraph Corp. v. Intel Corp., 3 F. Supp. 2d. 1255, 1267 (N.D. Ala. 1998).

402. See Picker, supra note 359, at 186-92. "Royalty-free cross-licensing eliminates through a contract an externality between the patent holders that would otherwise push up prices, to the detriment of the patent holders and their customers." Id. at 192.

cess. The analysis, which focuses on limited patent rights and dynamic competition pivoted innovation, is better suited to the Intel case because it contributes to the encouragement of innovation and ultimately provides consumer benefits by protecting competitive market environments.

C. The Alternative Approach in Other Refusal to License Contexts

The discussion of the recent case analyses in the Kodak-Xerox and Intel situations has introduced a standard by which to decide whether a patent holder's refusal would be permissible or impermissible under patent misuse standards and antitrust laws. The following paragraphs will examine some additional refusals to sell or license by a patent holder and briefly analyze the cases under the proposed standard.

1. SCM Case

In SCM Corp. v. Xerox Corp. ("SCM"), in which the patent owner refused to license its product and process so that it could dominate the production of that product, there is a distinction between SCM situations and Kodak-Xerox or Intel contexts. Based on the proposed standard, the SCM case involved a pure refusal, unlike the Kodak-Xerox or Intel cases. Nevertheless, in 1975, as a result of FTC proceedings, Xerox voluntarily licensed all of its patents in return for nominal royalties and grant-backs of non-exclusive licenses. Thus, more significantly, the FTC's Xerox case will also be examined in terms of what characteristics are essential to condemn Xerox's pure refusal.

The core of SCM's claim was that Xerox had willfully acquired monopoly power in the convenience office copier market and the plain paper submarket in violation of Section 2 of the Sherman Act. SCM also maintained that Xerox's conduct, particularly its refusal to license the plain paper patents, excluded SCM from the relevant market and submarket, in violation of Section 2.

Chester Carlson invented the xerographic process in the 1930s. Mr. Carlson then searched long and hard for a customer who was willing to buy his idea. In fact, for five or six years, he offered it to about 35 companies; no one was interested. Then, in 1944, he entered into a license agreement with Battelle Memorial Institute ("Battelle"), a non-profit, tax-exempt research institute. In 1947, Battelle - which held all xerography patents - entered into a license with a small Rochester company named Haloid (later Xerox). Between 1947 and 1956, Xerox entered into a series of agreements with Battelle, under which Xerox acquired

404. 645 F.2d 1195 (2d Cir. 1981).
405. Id. at 1201.
407. SCM Corp., 645 F.2d at 1202-3.
various degrees of obligations and rights to xerography patents owned by Battelle. Under the earlier agreements, Xerox obtained licenses which were, among other provisions, conditioned by an obligation to use diligent efforts to secure sublicensees. In 1956, Xerox entered into a final agreement with Battelle under which Xerox, in exchange for 55,000 shares of Xerox stock and a promise to sponsor $25,000 worth of research per year, received title to the four basic xerography patents held by Battelle and an exclusive license to all remaining Battelle-held patents pending the formal transfer of title to those patents in 1959. Xerox also received the rights to any future xerography patents and know-how developed by Battelle.

This 1956 agreement was the origin of Xerox's patent monopoly and the foundation of SCM's 1969 exclusion claim. Although the record indicates that Xerox possessed sufficient technology in 1955 to manufacture an automatic plain paper copier, it was not until the 1960 introduction of its 914 model that Xerox was able to manufacture its first plain paper copier.408

In the 1960s and 1970s, SCM sought and obtained a limited license under Xerox patents to produce a coated-paper copier. SCM also sought, but Xerox refused to grant, a license that would have allowed SCM to manufacture plain-paper copiers.409 Thus, during that time, Xerox maintained a total monopoly in the production of plain paper copiers. As a result, it became impossible for a company such as SCM to manufacture a product and enter the market without infringing on one of the patents owned by Xerox.

The facts presented in SCM seem much less of a problem than those in Kodak-Xerox or Intel under the standard of redefining the scope of a patent holder's right to refuse. The principal anticompetitive acts that SCM alleged were committed by Xerox concerned patent acquisitions made by Xerox and Xerox's refusal to license any of its plain paper xerography technology.

First of all, as for Xerox's refusal practices, it is apparent that Xerox—with valid patent rights—did not engage in conditional licensing or selective licensing practices. The refusal to license patented technology by Xerox was, instead, an example of pure or complete refusal practices which may be exempted from antitrust condemnation under the alternative approach. More importantly, the underlying plain paper and coated paper copiers appear to be in different economic markets despite manifest substitutability of the services they perform. This is an important issue which the court did not directly address. There was differentiation because even though Xerox refused to license a patent for the plain paper copier, it did grant licenses under its patents in other fields, including

408. Id. at 1197-1200.
409. Id. at 1200.
coated paper technology.410 The plain paper copier performed different services using a new and more sophisticated technology which permitted images to be reproduced in the reusable mode, while the coated paper copier used an electrofax copying process which reproduced images on paper coated with zinc-oxide. Moreover, unlike ISOs in Kodak and Xerox, SCM was neither a customer nor a service supplier to Xerox users. It wanted to manufacture and compete directly with Xerox in the market for copying machines. No collaboration like the Intel-Intergraph type of relationship existed between SCM and Xerox. That was different from the other cases that this paper examines where the use was of interest to a related or downstream market. This was a legitimate use of a patent right in that Congress created the patent system to grant inventors the right to exclude others from manufacturing, using, and selling their invention. Therefore, the Second Circuit clearly stated that the mere refusal to license could not serve as the basis for finding that Xerox violated the Sherman Act, although it did not specifically classify permissible or impermissible refusal practices in the contexts where intellectual property was involved.411

Turning to the facts themselves concerning Xerox’s reasons to refuse licensing, Xerox wanted to exploit its copier technology on its own because it had taken the risks, made the investments, and conducted the research and development for a long time. Therefore, throughout the 1960s and into the early 1970s, Xerox refused to grant licenses for plain paper copying under its patents.

Meanwhile, in deciding whether Xerox had willfully acquired or maintained monopoly power in the relevant market by obtaining patents, the Second Circuit held that patent acquisitions were effectively exempted from antitrust scrutiny by reason of “the policies of the patent laws,” which were made prior to the emergence of the relevant market.412 Then, the court considered whether Xerox’s acquisition of the patents was lawful because the right to exclude others by refusing to license was dependent upon the patent having been lawfully acquired.413 The mere acquisition or accumulation of patents is not in itself illegal, nor may it constitute monopolization, even though the patent grant itself may con-

410. Id. at 1200-01. The result of refusing the license of plain-paper copier technology was that from 1960 until 1970, when IBM introduced its first plain-paper copier, Xerox enjoyed an absolute monopoly in the plain paper copying segment of the industry. Id. at 1197.

411. See id. at 1204. The Second Circuit held that where a patent holder, however, merely exercises his “right to exclude others from making, using, or selling the invention.” by refusing unilaterally to license his patent for its seventeen-year term, [citation omitted], such conduct is expressly permitted by the patent laws . . . . Simply stated, a patent holder is permitted to maintain his patent monopoly through conduct permissible under the patent laws.

412. See id. at 1209.

413. See id. at 1206.
fer monopoly power. However, if patent acquisitions include other patent misuse practices or the patents are obtained by fraud, they may constitute the type of exclusionary conduct condemned in the antitrust laws. In the court’s decision, all patent acquisitions by Xerox were lawful because the acquisitions were not connected with other factors that produce an anticompetitive effect.

Accordingly, as the most instructive example regarding a pure refusal to deal, the Second Circuit’s decision in SCM affected the Patent Misuse Act of 1988, which cited this case as an example of “refusal to use or license” a patented invention. In short, a case of a complete or pure refusal to license, unless a patent has been obtained by fraud or not been related to other misuse conducts, should not serve as the basis for antitrust liability.

In addition to the clarification that immunity of a pure refusal is not absolute if other conduct makes a refusal unlawful, I also argue that if some denials of IP create a structured monopoly whose costs outweigh the benefits of the incentives produced by those denials, it might be appropriate to condemn the denial. Although this paper focuses on conduct monopolization, it is important to consider structure monopoly as well. An unlawful structure monopoly has (1) substantial market power, (2) durable market power, (3) the willful retention or acquisition of the monopoly, and (4) the condition that it must be remediable without serious economic costs.

The most significant experience involves the settlement in 1975 of the FTC’s monopolization case against Xerox. In Xerox, the FTC alleged that the respondent violated Section 5 of the FTC Act by maintain-

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416. See SCM Corp., at 1207-08.
419. CARSTENSEN, supra note 44, at 1-3 (“When a firm has dominated an industry or market for a long period of time despite many changes in taste and other economic conditions, then there is reason to believe that the nature market forces will not in the future erode its power.”); see id. at 2 (“Dissolution or divestiture could result in serious inefficiency or destruction of reliability.”)
ing a noncompetitive market structure in the market for plain paper copiers. In particular, the FTC challenged Xerox's creation of a "patent thicket" around dry paper copying technology and the vigorous pursuit of patent infringement suits against firms that crept up on the company's technology.

Professor Timothy F. Bresnahan, in his investigation of Xerox's monopoly behaviors, noted that Xerox did three things: it engaged in price discrimination, priced far from costs, and patented every imaginable feature of the copier technology. Events in the plain paper copier market during the time of Xerox's monopoly did have a substantial impact on the nature of competition in the early post-entry period. An alternative economic theory explained that Xerox was "fat." Indeed, Xerox controlled patents on two technologies for plain paper copying, dry and wet. It developed and marketed the wet method while securing massive patent protections over the dry method which it did not practice. Thus, the essential fact is that Xerox patented inventions with no intent to practice the only effective competitive alternative to its own technology.

The parties settled the Xerox suit in 1975 with a consent decree that compelled Xerox to allow limited royalty-free licensing of unused technology, namely the dry paper copying patent portfolio, and to desist pursuing several of its infringement suits. Although commentators are sharply divided on whether the order improved or hindered performance in the copier market, the remedy requiring compulsory patent licensing served to reshape the industry's structure.

Accordingly, the SCM case exemplified a pure or complete refusal to license or sell which is expressly allowed by Section 271(d)(4) of the Patent Act. Since Xerox merely exercised its patent right to exclude others from using, selling, or making the invention, such a refusal was not subject to antitrust concerns unless it was related to other misuse actions. On the other hand, the FTC case indicated the illegality of structure mo-


Xerox used a long list of price discrimination devices. Among other devices, Xerox based rental prices on the number of machines a customer used, whether different models were rented by the same customer, by the number of copies per month, and by the number of copies per original. Implementation of this price discrimination scheme required a "lease-only" policy.

Id. at 15. "When IBM and Litton entered the [Plain Paper Copier] market in 1972. Xerox sued to block entry under literally hundreds of patents. IBM had spent millions to 'invent around' Xerox's major patents - with 25 percent of the budget going for patent counsel, not R&D." Id.

422. See id.


nopoly - that is, a patent holder has substantial, durable market power through consecutive willful acquisition of patents, and then creates a monopoly through structured inefficiencies in the relevant market. Thus, if a refusal to license or sell patent rights contributes to a structure monopoly by frustrating the evolution of competition, the refusal may incur antitrust liability.

2. Data General Case

The facts surrounding the Kodak-Xerox and Data General Corp. v. Grumman Systems Support Corp ("Data General")425 situations are very similar. These cases all involved copyrighted and patented items, but the Data General case mainly involved copyrighted software, while Kodak and Xerox dealt with refused patented parts. In recent tying and refusal to deal cases concerning copyrights426 courts have rejected the independent service providers' monopolization claims on the grounds that the manufacturer may lawfully license, or not license, its software to whomever it chooses.427 Thus, a conflict between patent and copyright related cases occurs in addition to the tension between Kodak and Xerox.

Data General centered on the refusal of Data General ("DG"), a computer manufacturer, to supply parts and diagnostic equipment for its machines to Grumann, an independent provider of repair and maintenance services. Even though it also competed in the service market, DG had encouraged the growth of independent service providers from the mid-1970s until the mid-1980s. The manufacturer sold parts to its rivals, provided them with schematics, licensed diagnostic equipment to them, and granted them access to its repair depot. Competition in the service market, DG reasoned, would enhance the marketability of its computers.428

In the mid-1980s, however, DG reversed its strategy and decided to maximize revenues from its service business. It halted the sales of parts and schematics to independent service providers and denied them access to its repair depot and training classes. Finally, it developed and severely restricted the licensing of ADEX, a new software diagnostic for its MV

425. 36 F.3d 1147 (1st Cir. 1994).
427. See Service & Training, Inc., 963 F.2d. at 686 (holding that a decision not to license its software to independent service operators is "not evidence of an illegal tying agreement" and that "Data General may lawfully license [its copyrighted software] to whomever it chooses"); Triad Sys. Corp., 64 F.3d at 1337 (court rejected the ISOs' tying claims on the grounds that the manufacturers did not coerce the ISO into using the manufacturer's tied product).
428. Data General Corp., 36 F.3d at 1153-54.
SELECTIVE REFUSALS TO SELL

The independent service providers managed to obtain parts and schematics indirectly through the owners of DG machines or from other sources. The refusal to license diagnostic software, conversely, created great hardship. This tool was necessary for the provision of service for DG's newest and most popular computers, and the manufacturer guarded it closely, licensing it only to equipment customers with in-house service capacity.430

Grumman secured copies of the software through surreptitious means. Its technicians duplicated software that DG field engineers had left with service customers, and it hired away DG employees and convinced them to bring along copies of the diagnostic.431 DG responded with a lawsuit. It charged that Grumman had violated state trade secrets law by inducing DG employees and customers to misappropriate copies and had infringed DG's copyrights by using the software without permission.432 As one of its defenses, and as a counterclaim, Grumman maintained that DG had exercised its copyrights in violation of Section 2. Specifically, it charged that the manufacturer had willfully maintained its monopoly in the service market by refusing to license its copyrighted software to independent service providers.433

After analyzing the relationship between IP and antitrust laws, the First Circuit concluded that "while exclusionary conduct can include a monopolist's unilateral refusal to license a copyright, an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers."434 However, the court neglected to clearly identify the sort of evidence a plaintiff could offer to rebut the presumption although it seemed to suggest that either unlawful acquisition of a copyright or harm to consumers might suffice.435

Even though the subject of a refusal to deal in this case is copyrighted software - unlike in Kodak and Xerox - the proposed alternative standard can objectively treat the copyrights as related cases. IP laws are structured with two sides—they are concerned not only with exploiting ex-

429. See id. at 1154 (the MV series was once Data General's most advanced computer hardware and an increasingly important source of sales and service revenue for Data General.).

430. Id. at 1154-55.

431. Id.

432. Id. at 1155.

433. Id. at 1156. Grumman also averred that Data General violated section 1 of the Sherman Act by tying the availability of the copyrighted software to a consumer's agreement either to purchase service from Data General or to provide its own service. Id. The court held that Grumman did not prove either element of the alleged tying arrangement. Its claim of a positive tie between access to the software and the purchase of service from Data General failed due to a lack of proof that service performed with the software and other types of service were separate products. Id. at 1179. As for the claim of a negative tie between access to the software and an agreement not to purchase service from an independent provider, Grumman failed to disprove the possibility that consumers had independently decided to meet their service needs in-house. Id. at 1181.

434. Id. at 1187.

435. See id. at 1188-89.
isting works but also with promoting the creation of new works. Though
the Copyright Act creates strong rights, it simultaneously applies a
first-sale doctrine and a fair use doctrine to limit copyrights in order to
provide proper incentives. Copyrights are limited rights afforded to in-
dividuals, not by virtue of any natural right, but instead for the specific
purpose of promoting the general public welfare.

Under the standard, DG's refusal to license in this case was appar-
etly part of a conditional or selective licensing practice. DG licensed to
equipment owners who did their own service and refused to license its
copyrighted software to equipment owners who hired independent ser-
vice providers. It also refused the sale of parts and schematics to inde-
dependent service providers, which were necessary for the provision of ser-
vice for DG's newest and most popular computers.

In assuming the existence of DG's monopoly power, the First Cir-
cuit noted that DG occupied more than 90% of the aftermarket for the
service of DG computers. In addition, the court found evidence of barri-
ers to entry, market imperfections, and, more importantly, supra-
competitive service prices and price discrimination among DG service
customers.

In deciding competitive harms in the service aftermarket, based on
its belief that a compulsory disclosure would undermine the incentives of
copyright and patent laws, the First Circuit examined the issue from a
narrow viewpoint. The court held that Grumman had failed to demon-
strate that DG's restrictive policies had unreasonably harmed the com-
petitive process because DG's policies, with respect to most service
products except for ADEX and schematics, did not prevent independent
service providers from competing in the service market. In addition,
the court recognized that independent service providers had demon-
strated the ability to develop diagnostics without schematics, even if they
were not as efficient as MV/ADEX.

Grumman argued, however, that as a result of DG's restrictive poli-
cies, "it would be driven out of the competitive market serving DG's

clusive right to reproduce the copyrighted work and otherwise exploit the work for a specified period
of time.
437. The patent misuse doctrine is the genesis of the modern-day patent misuse doctrine that
today encompasses copyrights and trademarks as well. See Ralph Jonas, et al., Copyright and
438. Costs to independent service providers of obtaining diagnostics and other service "tools." Data Gen.
Corp., 36 F.3d at 1182.
439. E.g., id. at 1182.
440. Id.
441. Id. at 1156.
442. See id. ("DG will sell its service products, except [ADEX and schematics], to any ultimate
consumer regardless of whether [the consumer] now or later uses a TPM.") (quoting Data General
Court, however, did not address whether ISOs are adequate alternatives.
computers and it would be hard to recover its market share." If the MV/ADEX program is vital to competitive viability, and competitors cannot effectively compete in the relevant market without access to it, the underlying refusals should be condemned. Under such circumstances, it is apparent that such selective refusals might limit customers' freedom of trade and right to choose a service provider because, except DG, other sources were not available for their equipment. The repair doctrine authorizes purchasers to repair their patented or copyrighted articles after an authorized sale. If a customer purchased a computer from an IP holder and needs to diagnose and replace one of its hardware components, the IP holder should not restrict a purchaser's rights to repair worn or broken parts by eliminating servicing sources in the relevant market. DG instituted such a discriminative policy against ISOs through selective licensing. DG licensed only certain equipment owners who did their own service but did not deal with end-users who hired ISOs. In this respect, DG should not be allowed to limit buyers' rights directly or indirectly through refusing the copyrighted software and patented parts which are necessary for examining troubles and replacing broken parts.

Even though Grumman could perform its service on DG's equipment without the MV/ADEX program, the First Circuit never addressed how much competitive capability Grumman had, and simply determined that DG's refusals did not affect competition in the downstream markets. Supposing Grumman had developed its own service software for DG's computer by reverse engineering, and it was able to compete in the service market, DG's denials should have been permissible. Denials would, in fact, not constrain the buyers' freedom to maintain their computers and their choice to obtain service at different prices and quality.

If the copyright owner has market power and its selective refusals to deal have harmed competition in service markets, then DG should proffer a valid business justification for its restrictive policies. DG's original policy was to encourage the growth of independent service providers because competition in the service market would enhance the marketability of its computers. However, DG did not reasonably explain why its restrictive policies were necessary and why it suddenly changed its business practices. With respect to its goal to maximize revenue, the copyrighted software, unlike patented products, would only constitute a single purchase. The copyright owner could achieve its profits through price discrimination based on different classes of customers, such as personal users or business users. The owner could sell software in quantities and at a price satisfactory to it through the exercise of its right to vend. If a

445. See ProCD, Inc. v. Zeidenberg, 908 F. Supp. 640, 644 (W.D. Wis. 1996), rev'd, 86 F.3d 1449 (7th Cir. 1996) (ProCD sold its software to the general public for personal or individual use at a price lower than that charged to commercial or business use).
If ProCD had to recover all of its costs and make a profit by charging a single price — that is, if it could not charge more to commercial users than to the general public — it would have to raise the price substantially over $150. The ensuing reduction in sales would harm consumers who value the information at, say, $200. They get consumer surplus of $50 under the current arrangement but would cease to buy if the price rose substantially. If because of high elasticity of demand in the consumer segment of the market the only way to make a profit turned out to be a price attractive to commercial users alone, then all consumers would lose out — and so would the commercial clients, who would have to pay more for the listings because ProCD could not obtain any contribution toward costs from the consumer market.

Id.
ent holder's exclusive rights which Congress intends to create, it has to fashion a remedy that restores competition as much as possible, despite the efforts of rent-seeking special interests to protect themselves from the cleansing operation of the market. After the Ninth Circuit's decision in *Kodak II*, there were criticisms of its extreme remedy because before the decision, no court had ever imposed antitrust liability on a patentee for refusing to license a valid patent.

In *Kodak*, a unanimous verdict awarded damages to the ISOs totaling $71.8 million after trebling. After accepting the verdict, the district court crafted a ten year injunction requiring Kodak to sell all parts to ISOs on "reasonable and nondiscriminatory terms and prices." Yet, the Ninth Circuit revised parts of the injunction, including the reasonable price requirement. This section reviews several kinds of antitrust remedies in patent related cases, such as treble damages and "conduct-specific remedies," such as compulsory licenses, price regulations, duties to deal, and non-discriminatory selling. It then suggests an effective means of relief for illegal refusals to sell or license for *Kodak/Xerox* situations and the *Intel* case in terms of reconciling conflicts between antitrust and IP laws.

First, one criticism of the remarkable remedy in *Kodak II* states that the Ninth Circuit's opinion imposing antitrust liability for valid patent holders actually creates a potential avenue for expanding the compulsory licensing doctrine. Compulsory licensing is defined generally as the granting of a license by a government to use a patent without the patentholder's permission. In effect, the patent misuse doctrine creates a scheme of compulsory licensing where a patentee is guilty of misuse. One argument against compulsory licensing states that imposing compulsory licensing discourages research and product competition and causes inventions to be kept secret. For these reasons, compulsory licensing

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449. See *id.* at 1201.
450. See *id.*
452. See BNA, Inc. *Seven Developing Nations Urge TRIPs Review To Ensure Compulsory Licensing for Drugs*, 16 INT'L TRADE DAILY NEWS 966, 967 (June 9, 1999). There are some limited circumstances in which the government can compel licensing of patents under the current patent law. See 35 U.S.C. § 203 (2001) (the March-in rights apply to inventions made with federal funding and allows the government to compel licensing when the contractor, assignee or licensee has not taken the steps necessary to achieve practical application of an invention or when there are health or safety needs not reasonably satisfied by the contractor, assignee or licensee. However, the March-in rights has never been exercised).
could result in a decrease in the overall value of patents and alter the structure of the patent system.455

Compulsory licensing is a remedy which would seldom commend itself to equity in a private suit under the antitrust law for injunctive relief and treble damages in the United States. Compulsory licensing of IP rights on a royalty-free basis has sometimes been imposed as a structural remedy in monopolization litigation.456 The ultimate purpose of granting patents is to promote invention, and patents are to provide inventors with the exclusive rights to their discoveries. The United States' approach may be compared with foreign jurisdictions such as some of the Member States of the European Union, which require a patentee to either use the invention or license its use by others. In those jurisdictions, the patentee may be subject to revocation of the patent or compulsory licensing of the technology to others if the invention is not used within a certain period of time.457 It similarly might be argued in the United States that someone who acquires a patent right should be required to use it so that the public receives its benefits, as the purpose of the patent system is to encourage innovation for the public good. However, this approach is contrary to the basic philosophy of the United States' patent system. All patented inventions are dedicated to the public domain at the end of the patent term. Whether or not a holder of patent rights exploits the invention during the term of the patent, the invention will be in the public domain eventually and the public will benefit.458 Thus, regarding the appropriate remedy for unilateral refusals to deal, compulsory licensing of patent rights may be irrelevant to effective relief.

Meanwhile, in a normal antitrust case, a successful plaintiff will recover damages that are related to the injury the defendant has inflicted.459

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455. See David McGowan, supra note 1, at 523 ("Because the right to exclude is an integral part of the price mechanism, compulsory access is essentially a form of price regulation. The intellectual property laws imply a rate-of-return structure based on the right to exclude and on accompanying limitations; imposing antitrust liability in a case of pure exclusion would fundamentally alter that structure."); Trumm, supra note 232, at 166.


457. See Case C-15/74, Centrafarm B.V. v. Sterling Drug Co., 1974 E.C.R. 1147, [1974] 2 C.M.L.R. 480 (stating if a patented product was marketed in one member state by voluntary action or with its consent, then the action or consent precludes exercise of the patent to block imports); Barry E. Hawk, Patents Under EEC Competition Law, 53 ANTITRUST L.J. 737, 746 (1985). However, this has changed since the passage of the GATT-Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs). TRIPs Article 31 set forth a series of guidelines member nations must respect prior to implementing compulsory licenses.


As for a remedy in refusal to deal cases, there has been some criticism of treble damages and impaction.460 The threat of treble damage liability could discourage investment for R&D and alter innovation. This would not only undermine the policies of the patent laws, but would also have a devastating effect on the competitive system itself.461

I suggest a limited duty to deal and nondiscriminatory dealing as an appropriate remedy for a patent holder's illegal refusal to deal in terms of "equal treatment and access." Under the existing case law, a Kodak type of remedy has been imposed in two distinct types of cases: unlawfully acquired patents and patent misuse.462 As discussed above, under the alternative standard I propose, Kodak and Xerox's practices can be treated not only as a category of patent misuse, but also a subject of Section 2 claims of the Sherman Act. If a patent holder engages in selective selling to discriminate among buyers where its refusal to sell or license is anticompetitive, a court's imposition of a duty to license on the patentee is an appropriate remedy, but the remedy should be narrowed to rectify only the discriminatory conduct.

In Kodak, the Ninth Circuit modified the injunction crafted by the trial court. As modified, it required that Kodak should not discriminate against any ISO regarding parts availability or prices vis-à-vis any other ISOs. Thus, Kodak should sell all Kodak parts to ISOs on nondiscriminatory terms, and it should desist from interfering with the ISOs' purchase of parts from third party vendors for a term of 10 years.463 However, the Ninth Circuit tried to protect the value of Kodak's intellectual property rights by dropping a reasonableness requirement in its order because forcing sales at reasonable prices substantially lowered Kodak's incentive to create new products.464 Thus, Kodak was allowed to charge all of its customers, including end users and ISOs, any nondiscriminatory price that the market would bear. Indeed, the injunction did not prevent Kodak from taking appropriate legal steps to prevent others from duplicating patented parts for Kodak equipment. Accordingly, to promote harmonization between patent law and antitrust law, the remedy for a refusal should simply be to eliminate the discriminatory practice in terms of equal access.

460. See Thomas M. Jorde & David J. Teece, Innovation, Cooperation and Antitrust: Striking the Right Balance, 4 HIGH TECH. L.J. 1, 49 (1989) (suggesting that treble damages are unwarranted in the context of cooperative joint ventures designed to promote innovation). Whatever the merits of this kind of damage system, it is nonetheless preferable to one in which damages are completely unrelated to the severity of the violation.


463. See id. at 1227.

464. See id at 1226-28. The definition of parts in the injunction included "all tools or devices essential to servicing Kodak equipment." See id. at 1226.

465. See id. at 1225.

466. See id. at 1227.
From the same viewpoint, Intel’s settlement with the FTC provides a proper example of a remedy for illegal refusal practices. The significant exception in the settlement is also appropriate in terms of a balance between antitrust liability and the patent system. The settlement permits Intel to withhold advanced technical information that has not yet been made available for disclosure and to deny access if the party seeking access is pursuing injunctive relief.

VI. CONCLUSION

Excessive protection of intellectual property has raised new questions in the era of high technology. The extension of IP rights creates excessive monopoly power and brings about serious distortion of competitive markets and lack of innovation, as well as consumer choice. The current patent system needs to be reformed, and the scope of patent rights of exclusion should be redefined so as to strike a balance between appropriate incentives for inventors and a competitive marketplace. Economic literature and empirical studies suggest that innovation in the high technology industries is best promoted by preserving competitive processes over the long run. Thus, the heavy emphasis on patent rights compared to competition may perversely result in less, rather than more, innovation. When a monopolist excludes competition in second-hand or complementary markets by unilaterally refusing to license or sell a patent or copyright as presented, inherent tensions appear between antitrust and intellectual property laws.

By analyzing Kodak, Xerox, and Intel, this paper draws a bright line with respect to the significant question of whether a unilateral refusal to license or sell intellectual property is absolutely immune from a claim of monopolization and attempted monopolization under Section 2 of the Sherman Antitrust Act. A patent owner, including a monopolist, has the freedom to select its customers with no general duty to cooperate with its business rivals and can also purely refuse to deal with them because of its statutory protection under Section 271(d)(4) of the Patent Act. However, granting an absolute exemption from antitrust scrutiny to a patent

467. See In re Intel Corp., No. 9288 (F.T.C. Mar. 17, 1999)

Intel shall cease and desist from . . . (1) impeding, altering, suspending, withdrawing, withholding or refusing to provide access by any microprocessor customer to Advance Technical Information for reasons related to an Intellectual Property Dispute with such customer if at the time of such Dispute such customer is receiving Advance Technical Information from the Respondent or (2) basing any supply decision for general purpose microprocessors upon the existence of an Intellectual Property Dispute.

Id.

468. Id.

469. Jeff Bezos, CEO of Amazon.com, has recently stated that the current rules governing business method and software patents should be limited and reformed after Amazon.com won a litigation against Barnes & Noble to enforce its “One Click” business method patent. See Jeff Bezos, An Open Letter From Jeff Bezos on the Subject of Patents (Mar. 9, 2000), at http://www.techlawjournal.com/intelpro/20000309bez.htm.
holder may easily create an extensive monopoly beyond the legitimate exploitation of the legally acquired monopoly. Under such circumstances, courts should properly limit the scope of a patent holder’s exclusive rights through the lens of public interest in terms of striking a balance between the legitimate interests of patent owners and those of their customers.

I conclude that if a patent holder merely exercises its right to exclude others from making, using, or selling its invention, such a pure refusal should be considered as true use of IP rights to promote innovation and a competitive marketplace. In contrast, if a patent holder’s refusal to deal derived from a conditional or selective licensing practice, and the patentee (1) has market power, (2) excludes or substantially impairs the competitive capacity of a competitor or brings about anti-competitive effects in a related market, or (3) constrains customer choices directly or indirectly, then, unless it proffers a valid reason to justify its refusal, the conduct as a category of patent misuse should be condemned under Section 2 of the Sherman Act.