Why an Original can be Better than a Copy: Intellectual Property, the Antitrust Refusal to Deal, and ISO Antitrust Litigation

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In In re Independent Service Organization Antitrust Litigation, *the United States Court of Appeals for the Federal Circuit held that the Xerox corporation's refusal to sell or license its patented parts, copyrighted manuals, and patented and copyrighted software to independent service organizations did not violate the antitrust laws. Plaintiffs have filed a writ of certiorari based on the claim that the Federal Circuit's holding is in direct conflict with the Ninth Circuit's antitrust holdings in* Image Technical Services v. Kodak. *In this paper, we argue that this conflict is largely illusory. The decision in the* Xerox *case is exactly the result contemplated when the Federal Circuit was created – the recognition and uniform treatment of the patent holder's rights under the statutory patent grant. The* Xerox *decision does not go beyond this, and a comparison of these two decisions does not present a compelling case for the Court to unify their outcomes by reversing* Xerox.

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TABLE OF CONTENTS

I. INTRODUCTION

In *In re Independent Service Organization Antitrust Litigation*[1] ("*Xerox*"), the United States Court of Appeals for the Federal Circuit held that the Xerox Corporation did not violate the antitrust laws by refusing to sell or license its patented parts, copyrighted manuals, and patented and copyrighted software to independent service organizations ("ISOs") that repaired its high speed copiers and printers. The court reasoned that "[i]n the absence of any indication of illegal tying, fraud in the Patent and Trademark Office, or sham litigation, the patent holder may enforce the statutory right to exclude others from making, using, selling the claimed invention free from liability under the antitrust laws."[2] However, in *Image*

1 203 F3d 1322 (Fed Cir 2000).
2 Id at 1327.

Technical Services v. Kodak ("*Kodak*"),[3] the United States Court of Appeals for the Ninth Circuit upheld an antitrust judgment against Kodak for refusing to sell patented and unpatented parts, and by refusing to license copyrighted works to ISOs that repaired its high-speed copiers. Despite the cases' apparent similarities, the *Xerox* court explicitly declined to follow *Kodak*.[4] The *Xerox* plaintiffs petitioned for certiorari claiming a conflict between the circuits on the ground that the Federal Circuit allowed what the Ninth Circuit forbade – effectively preventing ISOs from providing a viable alternative to service through the manufacturer.[5]

This paper argues that the Court should not reverse *Xerox*. The *Xerox* decision is the result contemplated when the Federal Courts Improvement Act of 1982[6] created the Federal Circuit – to restore the patent system's incentives to promote technological progress that had been weakened by inconsistencies between the regional circuits' decisions regarding patent holders' rights and remedies.[7] *Xerox* efficiently balances the intellectual property and antitrust laws. It held that a unilateral refusal to deal limited to patented parts and copyrighted works would not trigger antitrust liability, regardless of the patent holder's intent, absent an illegal tie or sham or fraud at the Patent and Trademark Office.[8] This analysis would not extend to a refusal to deal *unpatented* in addition to patented parts, which a court would examine using a traditional antitrust analysis of monopolization claims. Reversing *Xerox* therefore might superficially harmonize the antitrust laws at the expense of causing inefficient inconsistency in the patent laws. Thus, the issue facing the Court is not a simple case of remedying a circuit split. Our analysis suggests that the two cases can coexist legally and as a matter of economics.

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[3] 125 F3d 1195 (9th Cir 1997), on remand from 504 US 451 (1992).
[4] *Xerox*, 203 F3d at 1327.
[5] *CSU LLC v Xerox Corp*., Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit (No. 00-62, filed July 11, 2000) at 4, 13-15 ("*CSU cert. petition*"); Reply Brief for Petitioner, (No. 00-62) at 2. The Supreme Court invited the Solicitor General to submit a brief. See *CSU LLC v Xerox Corp.,* No. 00-62, October 10, 2000, 121 S Ct 294 (2000). The Solicitor General recommended against granting certiorari, noting that the extent of the disagreement between the circuits, including how the Ninth Circuit would have decided the *Xerox* case was unclear. See *CSU LLC v Xerox Corp.,* No. 00-62, Brief for the United States as Amicus Curiae, (January 2001).
[6] Pub L No 97-164, 96 Stat 25.
[7] See, for example, Pauline Newman, *The Federal Circuit: Judicial Stability or Judicial Activism*, 42 Am U L Rev 683 (1993).
[8] *Xerox*, 203 F3d at 1327.

The article proceeds as follows. Section II reviews the *Xerox* and *Kodak* litigation. Section III examines the two cases. Despite nearly identical facts and different outcomes, we find the two decisions can be reconciled once differences in the scope of the refusals to deal addressed by the court are taken into account. Section IV provides a positive theory of efficiency to explain how the divergent analyses used in *Kodak* and *Xerox* can serve to minimize the sum of error costs and costs of patent and antitrust litigation. Section V examines exceptions and extensions of the positive theory. Section VI concludes.

II. LEGAL BACKGROUND

A. **The Xerox ISO Litigation**

Beginning in 1984, the Xerox Corporation established a policy of not selling parts "unique" to some of its copiers to ISOs, unless they were "end-users."[9] The policy included patented and unpatented parts and patented and copyrighted diagnostic software.[10] Xerox tightened enforcement of the policy in 1989 by cutting off the direct purchase of restricted parts some ISOs used to service their clients' copiers.[11] Xerox continued to sell parts directly to end-users of the copiers, including ISOs. Sales to the ISOs were subject to "on-site end-user verification" procedure.[12]

Xerox's policy not to sell protected parts directly to targeted ISOs and the on-site end user verification procedure significantly affected these ISOs' ability to adequately service end-users. Although an ISO could still service an end-user's machine, and could install restricted parts ordered by the end-

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[9] An end-user is defined as "a person who (1) owned the equipment for which the parts were to be purchased; (2) used the equipment solely for internal purposes; and (3) would use the parts solely to maintain the particular equipment." See *In re Independent Service Organizations Antitrust Litigation*, 85 F Supp 2d 1130, 1146 (2000) ("*CCS*") (internal citations omitted).

[10] See *CSU LLC v Xerox Corp.*, On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit, Brief in Opposition, (No. 00-62) at 5 ("*Brief in Opposition*").

[11] See *CCS* at 1146.

[12] Id. The on-site verification procedure attempted to ensure that the parts ordered were going to be installed in the end-user's copier. In some cases, a pre-shipment visit by a Xerox representative to was required.

user, the on-site end-user verification procedure prevented ISOs from maintaining a reliable inventory of parts. The lack of parts caused delays in repair when the end user had to order parts, and made service by ISOs, ceteris paribus, inferior to service by Xerox.[13]

The ISOs' antitrust lawsuits claimed that Xerox monopolized or attempted to monopolize the sale of service for Xerox copiers in violation of Section 2 of the Sherman Act.[14] In 1994, Xerox settled a class action lawsuit in which it agreed to suspend its restrictive parts policy for six and one-half years and to license its diagnostic software for four and one-half years.[15] The class settlement apparently failed to be an effective remedy for the ISOs because it did not prevent Xerox from charging high markups for the parts and high license fees for the software.[16] Many ISOs opted out of the class settlement and pursued individual antitrust claims against Xerox, in some cases based on Xerox's post-settlement pricing behavior. The claims alleged that Xerox violated Section 2 of the Sherman Act by refusing to sell parts to ISOs and charging ISOs much more than end-users for patented parts to force ISOs to raise prices and eliminate them as competitors in the relevant service markets for Xerox high-speed printers

[13] Id at 1148.

[14] 15 USC § 2. The relevant part reads: "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other persons, to monopolize any part of trade or commerce … [commits a felony]." In order to prevail on a §2 attempt claim, the plaintiff is required to establish: (1) a specific intent to control prices or destroy competition; (2) predatory or anticompetitive conduct directed at accomplishing that purpose; (3) a dangerous probability of achieving 'monopoly power,' and (4) causal antitrust injury. To prevail on a § 2 monopolization claim, the plaintiff is required to prove that the defendant (1) possessed monopoly power in the relevant market and (2) willfully acquired or maintained that power. See *US v Grinnell Corp*., 384 US 563, 570-1 (1966). In the ISO antitrust litigation, a refusal to deal with a competitor without a valid reason constitutes the willful acquisition or maintenance of market power. In addition, courts have required that the plaintiff must establish antitrust injury in § 2 cases in order to prevail. See *Spectrum Sports Inc. v McQuillan,* 506 US 447, 459 (1993) (Inference of competitive harm are especially inappropriate in § 2 cases). See also *NYNEX Corp. v Discon Inc.*, 525 US 128 (1988).

[15] See *In re Independent Service Organizations Antitrust Litigation*, 964 F Supp 1454 (D Kan 1997) ("*CSU*") (discussing *R&D Business Systems v Xerox Corp*., No 2-92-CV-042 (E.D. Tex, 1992)).

[16] See *CSU cert. petition* at 7-8 (cited in note 5).

and copiers. These claims were consolidated in the District of Kansas for pretrial purposes under the multidistrict litigation statute.[17]

Some ISOs responded to Xerox's restrictive parts policies by obtaining parts, including patented parts, cannibalized from used Xerox equipment and purchasing restricted parts from gray-market sources. In April 1995, Xerox amended its answer to the antitrust suits and filed counterclaims against some ISOs based on patent infringement for unauthorized uses of patented parts, copyright infringement for unauthorized use of its manuals and diagnostic software, and misappropriation of trade secrets.[18]

In March, 1997, the federal district court in Kansas denied Xerox's motion for summary judgment against CSU Holdings, LLC, one of the opt-out plaintiffs, on the antitrust claims and patent counterclaims,[19] and granted Xerox's motion for summary judgment on the copyright counterclaims, subject to a hearing on defenses.[20] On a motion for reconsideration, the district court granted Xerox's motions for summary judgment on the misuse and antitrust claims, holding that Xerox's refusal to license or sell its patented parts could not constitute unlawful exclusionary conduct under the antitrust laws and that setting "supercompetitive" prices for patented parts did not constitute patent misuse.[21] It did not preclude a finding of antitrust liability against Xerox based on CSU's other allegations of exclusionary conduct, including Xerox's refusal to sell unpatented parts to ISOs and the implementation of burdensome procedures for customers ordering parts.[22]

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[17] 28 USC § 1407. See *In re Independent Service Organizations Antitrust Litigation*, 1998 WL 919125 (D Kan 1998).

[18] *In re Independent Service Organizations Antitrust Litigation*, 161 FRD 107 (D Kan 1995) (allowing amendment of answer and filing of counterclaims).

[19] CSU, 964 F Supp 1454 (D Kan 1997).

[20] *In re Independent Service Organizations Antitrust Litigation*, 964 F Supp 1469 (D Kan 1997) (holding that CSU had infringed valid registered copyrights for operator and service manuals, and for diagnostic software). After a trial for damages, the court entered final judgment for Xerox. *In re Independent Service Organizations Antitrust Litigation*, 23 F Supp 2d 1242 (D Kan 1998).

[21] *In re Independent Service Organizations Antitrust Litigation*, 964 F. Supp. 1479 (D Kan 1997) ("*CSU reconsideration*"), motion to reconsider denied, 1997 WL 450028, appeal denied under a different name, *CSU Holdings Inc. v Xerox Corp.*, 129 F3d 132 (Fed Cir 1997), and reconsideration denied, 989 F Supp 1131 (D Kan 1997).

[22] *CSU reconsideration*, 964 F Supp at 1490.

The district court's partial grant of summary judgment on the intellectual property based antitrust claims was appealed to the United States Court of Appeals for the Federal Circuit rather than the applicable regional circuit (the 10th Circuit). Because the Federal Circuit has jurisdiction over cases rather than individual claims, it often must review non-patent claims, such as the antitrust and copyright claims in the Xerox litigation. While the regional circuit courts would exercise independent judgment in such cases, and the Federal Circuit is not explicitly prohibited from doing so, the latter has chosen instead to limit the exercise of independent judgment to the resolution of a legal issue that pertains to a matter unique to its exclusive appellate jurisdiction.[23] The Federal Circuit has chosen to follow the law of the applicable regional circuit as to non-patent issues.[24]

The Federal Circuit panel affirmed the judgment of the district court. Applying Federal Circuit law to the question of whether "conduct in procuring or enforcing a patent is sufficient to strip a patentee of its immunity from the antitrust laws," the court held that Xerox "was under no obligation to sell or license its patented parts and did not violate the antitrust laws by refusing to do so."[25] Applying their interpretation of the law likely to be followed by the 10th Circuit, the court held that "Xerox's refusal to sell or license its copyrighted works was squarely within the rights granted by Congress to the copyright holder and did not constitute a violation of the antitrust laws."[26]

B. The Kodak Litigation

Beginning in 1985, Kodak, like Xerox, stopped selling copier parts to ISOs and secured agreements from its contracted original-equipment manufacturers not to sell parts to ISOs. In 1987, ISOs filed an antitrust lawsuit claiming that Kodak unlawfully tied the sale of service for Kodak machines with the sale of parts in violation of Section 1 of the Sherman

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[23] *Pro-Mold & Tool Co. v Great Lakes Plastics, Inc.*, 75 F3d 1568, 1574 (Fed Cir 1996).
[24] See *Nobelpharma AB v Implant Innovations, Inc.*, 141 F3d 1059, 1068 (Fed Cir 1998) ("*Nobelpharma*"). For a suggestion that the Federal Circuit should exercise independent judgment in both patent and non-patent claims, see generally Joan E. Schaffner, *Federal Circuit "Choice of Law": Erie Through the Looking Glass,* 81 Iowa L Rev 1173 (1996) ("Schaffner, *Federal Circuit*").
[25] *Xerox*, 203 F3d at 1328.
[26] Id at 1328-29.

Act,[27] and monopolized or attempted to monopolize the sale of service for Kodak machines in violation of Section 2 of the Sherman Act. After brief discovery, the district court granted summary judgment for Kodak.[28] The Ninth Circuit reversed the summary judgment,[29] and the Supreme Court affirmed.[30] The Court concluded that "[i]n the end, Kodak's arguments may prove to be correct … . But we cannot reach these conclusions as a matter of law on a record this sparse."[31]

On remand in the district court, the plaintiffs withdrew their Section 1 tying and conspiracy claims before closing arguments. A jury awarded the ISOs judgment for $71.8 million after trebling on the remaining Section 2 claims. The district court accepted the verdict and required Kodak to sell for ten years all parts for Kodak equipment, all parts described in Kodak's parts lists, all parts of supply items that are field replaceable by Kodak technicians, all service manuals and price lists, and all tools or devices "essential to servicing Kodak equipment" on "reasonable and nondiscriminatory terms and prices."[32]

Although Kodak copiers contained many patented parts, its diagnostic manuals and software were copyrighted,[33] and ISOs almost certainly had engaged in the unauthorized use of Kodak's patented parts and copyrighted

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[27] 15 USC § 1.

[28] *Image Technical Services Inc. v Eastman Kodak Co.*, 1988 WL 156332 (ND Cal 1988).

[29] *Image Technical Services Inc. v Eastman Kodak Co.*, 903 F2d 612 (9th Cir 1990).

[30] *Eastman Kodak Co. v Image Technical Services*, 504 US 451 (1992) ("*Kodak Supreme Court*").

[31] Id at 486. Specifically, the Supreme Court held that Kodak's lack of market power in the photocopier market did not preclude, as a matter of law, the possibility of market power in the derivative aftermarkets for parts and service. Thus, under the Supreme Court's holding, a single brand could constitute a separate market. For an economic analysis of the Supreme Court's Kodak decision, see Herbert Hovenkamp, *Market Power in Aftermarkets: Antitrust Policy and the Kodak Case*, 40 UCLA L Rev 1447 (1993); Benjamin Klein, *Market Power in Antitrust: Economic Analysis after Kodak*, 3 Sup Ct Econ Rev 43 (1994) ("Klein, *Market Power*"); Carl Shapiro, *Aftermarkets and Consumer Welfare: Making Sense of Kodak*, 63 Antitrust L J 483 (1995).

[32] *Image Technical Service v Eastman Kodak Co.*, 1996 WL 101173 (ND Cal 1996), 1996 Trade Cases P71624; *Kodak*, 125 F3d 1195, 1201-02 (9th Cir 1997). The Ninth Circuit deleted the requirement that prices for its intellectual property be reasonable. Id at 1225-26.

[33] Kodak held 220 patents covering 65 parts for its high volume photocopiers and micrographics equipment, and all Kodak diagnostic software and service software are copyrighted. Id at 1214.

works,[34] Kodak did not explicitly raise issues concerning its patent and other intellectual property rights until its Ninth Circuit appeal.[35] Kodak, among other things, challenged the district court's failure to instruct the jury that Kodak's numerous patents and copyrights provide a legitimate business justification for Kodak's alleged exclusionary conduct,[36] so that the conduct would not violate Section 2 of the Sherman Act.[37]

The Ninth Circuit found that the district court's failure to instruct on Kodak's intellectual property rights was abuse of discretion but harmless error. The court agreed that Kodak's decision to protect its intellectual property rights by refusing to license or sell patented parts or copyrighted works was a presumptively valid business justification. However, it held that plaintiff rebutted the presumption by showing that it was a pretext hiding a subjective intent to monopolize based on evidence suggesting that the proffered business justification played no part in Kodak employees' decision to act, and on Kodak's failure to distinguish between parts based upon whether they were protected by intellectual property.[38]

III. THE SCOPE OF THE REFUSAL TO DEAL UNDER XEROX AND KODAK

This section analyzes the primary differences between the two circuit courts' approaches to refusals to deal that include patented parts. Despite the Ninth Circuit's warning that the interplay between intellectual property law and antitrust law was a "field of dissonance yet to be harmonized by statute or the Supreme Court,"[39] closer analysis of the two cases finds broad agreement on the basic contours of the issues. We argue that many of the

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[34] *Kodak Supreme Court*, 504 US at 458 (describing how ISOs obtained parts from sources other than Kodak and Kodak OEMs).
[35] *Kodak*, 125 F3d at 1214-20.
[36] Id at 1214.
[37] *Kodak Supreme Court*, 504 US at 483.
[38] *Kodak*, 125 F3d at 1219-20.
[39] Id at 1217. Nor has this issue been resolved in the economics literature. See, for example, Ward S. Bowman, Jr., *Patent & Antitrust Law* (1973); Michelle M. Burtis and Bruce H. Kobayashi, *Intellectual Property and Antitrust Limitations on Contract*, in *Competition in Dynamic Economies*, (J. Ellig, ed forthcoming 2001); Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 Harv L Rev 1813 (1984); David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J Corp L 485 (1999) ("McGowan, *Networks*").

perceived inconsistencies between the two decisions result from a failure to recognize the differences in the scope of the refusals to deal.

The Federal and Ninth Circuits agree that "intellectual property rights do not confer a privilege to violate the antitrust laws."[40] In *Kodak*, the Ninth Circuit noted that "two principles have emerged regarding the interplay between these [antitrust and intellectual property] laws: (1) neither patent nor copyright holders are immune from antitrust liability, and (2) patent and copyright holders may refuse to sell or license protected work."[41] The Federal Circuit's decision also recognizes these two general principles.[42]
A patent affords no protection against antitrust liability if it was unlawfully acquired through fraud on the Patent and Trademark Office,[43] or if it was enforced through sham litigation.[44] However, neither case involved such allegations.

Both circuit courts would impose antitrust liability in the case of illegal tying.[45] Because Kodak had not yet raised the intellectual property issues at the time of the Supreme Court decision, the Court did not explicitly address the application of the antitrust laws to a refusal to deal involving intellectual property. However, the Court said in a footnote 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."[46] The Federal Circuit said that this statement is uncontroversial in the context of a discussion of the ISOs' Section 1 tying claim, since it "can be interpreted as restating the undisputed premise that the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market beyond the

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[40] *Xerox*, 203 F3d at 1325, (citing *Intergraph Corp. v Intel Corp.*, 195 F3d 1346, 1362 (Fed. Cir. 1999)).
[41] *Kodak*, 125 F3d at 1215.
[42] *Xerox*, 203 F3d at 1325.
[43] See *Walker Process Equipment Inc. v Food Machinery & Chemical Corp.*, 382 US 172, 177 (1965).
[44] See *Glass Equipment Development Inc. v. Besten, Inc.,* 174 F3d 1337, 1343 (Fed Cir 1999); *Nobelpharma*, 141 F3d at 1068.
[45] *Xerox* 203 F3d at 1327; *Kodak* 125 F3d at 1216.
[46] *Kodak Supreme Court*, 504 US at 479, n 29 (internal quotations omitted).

scope of the patent."[47] But there was no Section 1 tying claim either in *Xerox* or in the second Ninth Circuit *Kodak* case.

The apparent difference between the two circuit court decisions relates to whether lawful refusals to deal patented products can be extended to other markets. The Ninth Circuit, interpreting the footnote in the Supreme Court's decision quoted above, suggests that the Court's statement, although made in the context of a Section 1 tying case, is broad enough to cover a Section 2 leveraging case.[48] Some have interpreted this as implying that there can be antitrust liability for unilateral refusal to sell or license a patent if the refusal affects a service market that is outside the scope of the intellectual property grant.[49]

In contrast, under the Federal Circuit's holding in *Xerox*, the antitrust laws do not "limit the right of the patentee to refuse to sell or license in markets within the scope of the statutory patent grant."[50] The court noted that "[t]he patentee's right to exclude is further supported by section 271(d) of the Patent Act which states, in pertinent part, that '[n]o patent owner otherwise entitled to relief ... shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having ... (4) refused to license or use any rights to the patent ...'" [51] The Federal Circuit has noted that such a refusal to deal may confer the right to exclude

[47] *Xerox*, 203 F3d at 1327 (citations omitted). While a patentee or copyright holder enjoys no antitrust immunity when it ties an unpatented product to a patented product, treating this differently from a refusing to deal may not be warranted because a tie may have the same economic effect as a refusal to deal. Thus, treating tying and refusals to deal differently under the antitrust laws may not be warranted. See John E. Lopatka & William H. Page, Monopolization, Innovation and Consumer Welfare, 69 Geo Wash L Rev (forthcoming 2001) at 42-3 ("Lopatka and Page, *Monopolization*"). See also the discussion accompanying note 103, infra.

[48] *Kodak*, 125 F3d at 1216.

[49] See, for example, Marina Lao, *Unilateral Refusals to Sell or License Intellectual Property and the Antitrust Duty to Deal*, 9 Cornell J L & Pub Policy 193, 202-03 (1999). See also Mark R. Patterson, *When is Property Intellectual? The Leveraging Problem*, 73 So Cal. L Rev 1133 (2000) (suggesting that intellectual property right holder's right to exclude should not automatically include right to exclude based on private good embodying invention or expression).

[50] *Xerox*, 203 F3d at 1327.

[51] Id at 1326 (quoting 35 U.S.C. § 271(d) (1999)).

competition altogether in more than one antitrust market.[52] Thus, in contrast to *Kodak's* interpretation of the implied market, under the Federal Circuit's holding in *Xerox* the service market is within the statutory intellectual property grant to the extent that it is affected by Xerox's refusal to sell patented parts or license copyrighted works.

It is not clear, however, that the circuits differ in this respect. Both circuits explicitly agree that the patent and copyright laws, and not antitrust law, determine the scope of the intellectual property right and that there is "no reported case in which a court has imposed antitrust liability for a unilateral refusal to sell or license a patent or copyright."[53] Courts have held that a "patent holder who lawfully acquires a patent cannot be held liable under Section 2 of the Sherman Act for maintaining the monopoly power he lawfully acquired by refusing to license the patent to others."[54] Similarly, courts have found that copyright holders may lawfully choose to refuse to license its copyrighted works, concluding "that Section 1 of the Sherman Act does not entitle a purchaser to buy a product that the seller does not wish to offer for sale,"[55] and that "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."[56] Thus, the Ninth Circuit might have permitted a refusal to deal limited to parts protected by intellectual property rights as within the scope of the statutory patent grant.[57]

[52] Id at 1327 (citing *B. Braun Med., Inc. v Abbott Labs.*, 124 F3d 1419, 1427 (Fed Cir 1997)).
[53] *Kodak*, 125 F3d at 1216; *Xerox*, 203 F3d at 1326 (quoting *Kodak*).
[54] See *Miller Insituform, Inc. v Insituform of North America,* 830 F2d 606, 609 (6th Cir 1987) ("*Miller Insituform*").
[55] *Service and Training Inc. v Data General Corp.,* 963 F2d 680, 686 (4th Cir 1992) (internal quotation omitted).
[56] *Data General Corp. v Grumman Systems Support Corp.,* 36 F3d 1147, 1187 (1st Cir 1994) ("*Data General*"); See also *Triad Sys. Corp. v Southeastern Express Co.,* 64 F3d 1330 (9th Cir 1995); *MAI Systems Corp. v Peak Computer, Inc.* 991 F2d 551 (9th Cir 1993); *Advanced Computer Services of Michigan, Inc. v. MAI Systems Corp.* 845 F Supp 356 (ED Va 1994).
[57] Antitrust liability under these facts also would be inconsistent with the economic rationale for the two cases discussed below.

Neither *Xerox* nor *Kodak* shielded refusal to deal *unpatented* parts from antitrust liability.[58] As the Ninth Circuit noted, *Kodak* can be distinguished from earlier cases involving refusals to license patents because "this case concerns a blanket refusal that included protected and unprotected products."[59] In such cases the court gives the patentee broad protection against antitrust and misuse challenges only when it judges the unpatented part to be a non-staple item – that is, a product without substantial non-infringing uses.[60] Such refusals to deal can survive summary judgment under *Kodak* and would be subject to a standard Section 2 antitrust or misuse analysis. Indeed, the District Court in *Xerox* explicitly stated that its decisions regarding the intellectual property refusal to deal did not preclude finding antitrust liability against Xerox based on CSU's other allegations of exclusionary conduct, including Xerox's refusal to sell unpatented parts to ISOs and implementing burdensome procedures for customers ordering parts.[61]

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[58] Indeed, recognition of this point is crucial to reconciling the holdings in *Xerox* and *Kodak*. In making this point, we are not attempting to distinguish the two cases based on the underlying facts or differences in the conduct of Xerox or Kodak. See, for example, *Brief for Amicus Curiae American Intellectual Property Law Association in Support of Appellee Supporting Affirmance, CSU LLC v Xerox Corp.*, United States Court of Appeals for the Federal Circuit, Appeal No. 99-1323 (July 15, 1999), Section B.2 (distinguishing *Xerox* from *Kodak* based on the absence of a conspiracy). As discussed in note 47 supra, we do not think that such a distinction is warranted on efficiency grounds. Rather, the analysis in this article is based on differences in the scope of the refusal to deal addressed by the court. In addition, the Ninth Circuit's reliance on *Data General* for its adoption of a rebuttable presumption that the exercise of a patentee's statutory right to exclude provides a valid business justification for consumer harm seems misplaced. In *Data General*, the court applied a rebuttable presumption to refusals to license copyrighted works but found that the presumption was not rebutted. See *Data General*, 36 F3d 1187-88. However, the court noted that the "courts appear to have partly settled an analogous conflict between the patent laws and the antitrust laws, treating the former as creating an implied limited exception to the latter." Id at 1186. See also *Miller Insituform*, 630 F2d at 609; *SCM Corp. v Xerox Corp.* 645 F2d 1195, 1206 (2nd Cir 1981).

[59] *Kodak*, 125 F3d at 1219.

[60] See *Aro Manufacturing Co., Inc. v Convertible Top Replacement Co., Inc.*, 365 US 336, 369 (1961) (quoting 35 USC § 271 (1952)); see generally *Dawson Chemical v. Rohm and Haas*, 448 US 176 (1980). See also Philip E. Areeda & Herbert Hovenkamp, *Antitrust Law*, ¶704.1, at 224 (2000 Supp) (noting that "the idea that a patent cannot be enforced if enforcement creates a monopoly in a different product is inconsistent with the doctrine of contributory infringement developed by the Supreme Court's *Dawson* decision.").

[61] *CSU reconsideration*, 964 F Supp at 1490. Under the theory presented in this article, these claims would require a showing of antitrust harm from the withholding of unpatented parts to survive summary judgment. See discussion at notes 86 and 87, infra.

This reconciliation of the cases relates to the *Xerox* plaintiffs' argument in their Supreme Court petition that the Federal Circuit in effect overrode the Ninth Circuit because the different results rested simply on Kodak's pleading error, which denied it a favorable forum.[62] In contrast to regional circuit courts, which review the decisions of the district courts within their geographic jurisdiction, the Federal Circuit has exclusive jurisdiction over all appeals from district courts "based, in whole or part, on [28 U.S.C.] §1338."[63] Thus, the plaintiffs argue that, if the cases involved identical facts, their different outcomes resulted from Kodak's failure to raise "well-pleaded" patent *counterclaims*,[64] which would have given it a favorable Federal Circuit forum, as distinguished from *defenses*, which are appealed to the regional circuits. Assuming firms in such cases are unlikely to commit such "oversights" in the future and can file non-sham patent counterclaims, plaintiffs contend that the Federal Circuit overrode the Ninth Circuit.[65]

This argument is not well-founded. Since the Federal Circuit's holding in *Xerox* is limited to refusals to deal patented parts and copyrighted works, in order reliably to limit its antitrust liability the manufacturer must withhold only those parts and works that are protected by patents or copyrights. Furthermore, Federal Circuit jurisdiction over the antitrust defendant depends on the ISO's patent infringement as well as the existence of parts protected by patents. The ISO might be able to avoid Federal Circuit jurisdiction by avoiding infringing the manufacturer's patents. Indeed, in the clear absence of infringement, a manufacturer's attempt to obtain Federal Circuit jurisdiction by filing an infringement counterclaim would be sham litigation that itself may constitute an antitrust violation.[66] Absent sham counterclaims, these cases would go to the regional circuits. Table 1 illustrates these different outcomes.

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[62] See *CSU cert. petition* at 16-17 (cited in note 5).

[63] 28 USC § 1295(a)(1) (1982). See generally, Schaffner, *Federal Circuit* at 1176 (cited in note 24).

[64] The "well-pleaded complaint rule" requires the plaintiff's (or counter-plaintiff's) statement of its "cause of action to show that it is based upon those laws." *Louisville & Nashville Railroad v Mottley,* 211 US 149, 152 (1908).

[65] See *CSU cert. petition* at 16-17 (cited in note 5).

[66] If infringement is uncertain, the manufacturer-defendant could bring a non-sham counterclaim that is ultimately unsuccessful. This issue is discussed in more detail in note 87.

Table 1 – ISO Litigation Outcomes

	Refusal to Deal Limited to Patented Parts and Copyrighted Programs	Refusal to Deal Includes Non-Patented Parts In Addition to Products Protected by Intellectual Property
ISO Infringes Patent	Federal Circuit jurisdiction based upon infringement counterclaim. No antitrust violation consistent with Xerox.	Federal Circuit jurisdiction based upon infringement counterclaim. No antitrust violation for refusal to deal intellectual property consistent with Xerox. Section 2 monopolization claim based on refusal to deal non-patented parts not limited by Xerox decision, but defeated by lack of showing of antitrust injury.
ISO Does Not Infringe Patent	Regional Circuit jurisdiction (infringement counterclaim would be sham). No antitrust violation consistent with Kodak.	Regional Circuit jurisdiction (infringement counterclaim would be sham). Antitrust liability depends on analysis of business justification consistent with Kodak.

IV. A POSITIVE THEORY OF THE CIRCUITS' ANALYSES

This section provides a positive theory of efficiency to explain the seemingly divergent analyses used in *Kodak* and *Xerox* and to harmonize patent, copyright, and antitrust law. This analysis serves to minimize the sum of the costs of type I error (the erroneous application of antitrust liability to a refusal to deal that increases welfare by increasing the incentive for innovation), the costs of type II error (the erroneous allowance of anticompetitive refusals to deal), and the direct costs of enforcing the intellectual property and antitrust laws.[67]

[67] See Richard A. Posner, *The Economic Analysis of Law*, 599 (5th ed. 1999); Lopatka & Page, *Monopolization* at 33-4 (cited in note 47).

Limits on Section 2 monopolization claims applied to intellectual property refusals to deal are necessary to reduce the costs of type I error by ensuring that the patent, copyright, and antitrust laws "promote the progress of science and the useful arts."[68] The Ninth Circuit's *Kodak* decision explicitly recognized this, noting that

> [T]he effect of claims based upon unilateral conduct on the value of intellectual property rights is a cause for serious concern. …Without bounds, claims based on unilateral conduct will proliferate. The history of [the *Kodak*] case demonstrates that such claims rest on highly disputed factual questions regarding market definition. … [S]uch claims will detract from the advantages lawfully granted to the holders of patents and copyrights by subjecting them to the cost and risk of lawsuits based upon the effect, on an arguably separate market, of their refusal to sell or license. … Such an effect on patent and copyright holders is contrary to the fundamental and complementary purposes of both the intellectual property and antitrust laws, which aim to "encourage innovation, industry and competition."[69]

The following sections examine the effect of the ISOs' and manufacturer's behavior on the jurisdiction of and the likely outcome in the appellate court. If the manufacturer limits the refusal to deal to patented parts and copyrighted programs, the plaintiffs' antitrust claims should be dismissed regardless of the appellate forum. Further, such a rule is consistent with the goal of efficiently limiting both type I error costs and the direct costs of antitrust litigation.

Note that it is the analytical framework that follows from the ISO's patent infringement, and not the forum in itself, that ultimately determines

[68] US Const., Art I, § 8, cl. 8.

[69] *Kodak*, 125 F3d at 1217-18 (footnote omitted) (citing *Atari Games Corp. v Nintendo of America, Inc.*, 897 F2d 1572, 1576 (Fed Cir 1990)). For criticism of the *Kodak* decision based upon its failure to achieve this goal, see Michael H. Kauffman, *Image Technical Services Inc. v. Eastman Kodak Co: Taking One Step Forward and Two Steps Back in Reconciling Intellectual Property Rights and Antitrust Liability,* 34 Wake Forest L Rev 471 (1999); Tonya Trumm, *Expansion of the Compulsory Licensing Doctrine? Image Technical Services, Inc. v. Eastman Kodak Co.,* 24 J Corp L 157 (1998); Brian F. Ladenburg, *Unilateral Refusals to Deal in Intellectual Property After Image Technical Services, Inc. v. Eastman Kodak Co.,* 73 Wash L Rev 1079 (1998).

the outcome. Where the manufacturer's refusal to deal extends to unpatented parts, the outcome can depend upon the different Federal and Ninth Circuit analyses. However, the differences in the circuits' analytical frameworks efficiently reflect substantive differences in the cases selected under the Federal Circuit's jurisdictional rules. The forum, and therefore the analytical framework, depends on the ISOs' decision whether or not to infringe the manufacturer's patents. When ISOs infringe, the manufacturer will have an incentive to bring a patent infringement counterclaim that will focus the monopolization inquiry on whether the ISOs can prove "marginal" antitrust harm from the withholding of unpatented parts -- that is, harm in addition to that caused by use of legally protected intellectual property.[70] Infringement simultaneously determines the analytical framework and the appellate forum. Where ISOs refrain from infringing, the lack of infringement signals that harm resulting from the withholding of intellectual property alone would have been minimal. The antitrust plaintiff therefore should not have to bear the burden of separating antitrust harm from harm caused by the withholding of intellectual property. If there is evidence of antitrust harm, the inquiry correctly focuses on the existence of a valid business justification for the manufacturer's refusal to deal. Again, although these cases generally will be appealed to the regional circuits, this analytical framework should be applied regardless of the forum.[71]

A. The ISOs Infringe Valid Patents and Refusal to Deal Limited to Patented Parts and Patented and Copyrighted Diagnostic Software

When the ISOs choose to infringe the patents of the manufacturer, an antitrust lawsuit based on the refusal to deal intellectual property should result in a patent infringement counterclaim and Federal Circuit jurisdiction. When the refusal to deal is limited to patented parts and copyrighted works, the above analysis suggests that subjecting the intellectual property owner to Section 2 monopolization claims would likely increase the cost of type I

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[70] This incentive is subject to possible further claims by the ISO challenging the validity of the manufacturer's patents. Under defensive non-mutual collateral estoppel, the patentee may be estopped from relitigating an adverse judgment on the validity claim. See *Blonder-Tongue Lab v University of Ill. Foundation*, 402 US 313 (1971). The potential risk of losing the ability to enforce the patent may cause the patentee to forgo infringement claims in some cases. See Bruce H. Kobayashi, *Case Selection, External Effects, and the Trial/Settlement Decision*, in *Dispute Resolution: Bridging the Settlement Gap*, (David A. Anderson, ed 1996).

[71] See the discussion in note 87.

error. Allowing antitrust scrutiny of the patent holder's statutory right to exclude would increase applications of antitrust law to potentially pro-competitive conduct. Because economists and courts do not fully understand the innovation process, they are unlikely to be able to reliably differentiate between pro-competitive and anti-competitive effects of conduct.[72] Thus, there will be a high incidence of type I errors.[73] If the expected cost of type II errors is likely to be small when courts give antitrust immunity to a refusal to deal involving only patented parts and copyrighted works, this immunity will reduce total error costs. This analytical framework also would reduce direct costs by resolving such cases at an early stage on summary judgment.

Consistent with this theory, the Federal Circuit's approach would not impose antitrust liability under these circumstances (shown as the upper left hand box in Table 1). The Federal Circuit held in *Xerox* that the patentee's refusal to deal is analogous to its ability to litigate infringement suits.[74] Although the refusal to deal is an ex ante restriction while litigation restricts ex post, both are ways for the patentee to limit use of patented parts. Absent a showing of sham, neither should trigger antitrust liability because of a concern for type I error costs.

The concern for type I error and direct costs is illustrated by the sequential two-step analysis used by the Supreme Court in *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.* ("*PRE*"),[75] which, as discussed below, is consistent with the approach adopted by the

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[72] Economists are "appallingly ignorant about the forces which determine the organization of industry." Ronald H. Coase, *Industrial Organization: A Proposal for Research*, in *Policy Issues and Research Opportunities in Industrial Organization*, (V. Fuchs, ed 1972), reprinted in Ronald H. Coase, *The Firm, the Market, and the Law* at 63 (1988) ("Coase, *Firm*"). For a similar discussion in the context of the patent/antitrust interface, see Lopatka & Page, *Monopolization* (cited in note 47).

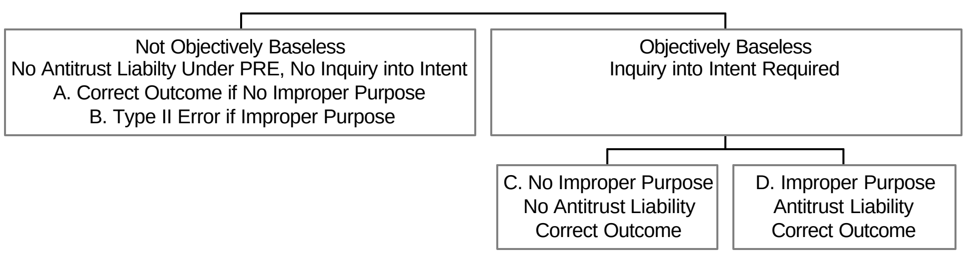
[73] The process of enforcing the antitrust laws also may be biased toward committing type I errors. Coase notes that "one important result of [economists' public policy] preoccupation with the monopoly problem is that if an economist finds something – a business practice of one sort or another – that he does not understand, he looks for a monopoly explanation. And as we are very ignorant in this field, the number of ununderstandable practices tends to be rather large, and the reliance on a monopoly is frequent." Coase, *Firm* at 67 (cited in note 72). See also Gordon Tullock, *Concluding Thoughts on the Politics of Regulation*, in *Public Choice and Regulation* (R. Mackay et al eds 1987).

[74] *Xerox*, 203 F3d at 1327.

[75] 508 US 49, 60-61 (1993).

Federal Circuit in *Xerox*. The issue in *Professional Real Estate* was whether an unsuccessful attempt to sue for copyright infringement was subject to the sham exception to Noerr-Pennington antitrust immunity.[76] In order to prove sham, the Court held that the antitrust plaintiff had to prove that the lawsuit was both "objectively baseless" and subjectively motivated by a desire to impose collateral, anticompetitive injury rather than to obtain justifiable legal remedy.[77] The Court's sequential analysis required a first inquiry into whether the lawsuit was "objectively baseless." If a suit is "not objectively baseless, an antitrust defendant's subjective motivation is immaterial,"[78] and there is no antitrust liability. The court reaches the issue of subjective motivation or "intent" if and only if it determines the suit to be objectively baseless. Figure 1 shows the possible outcomes of a sham proceeding under the sequential analysis described above. Assuming that both the objectively baseless and intent inquiries are accurate but costly, this analysis avoids the costs of the intent inquiry under outcomes A and B but commits type II errors under outcome B.

Figure 1. The *PRE* Analysis



Alternatively, consider an analytical framework that always examines both prongs of the sham test to determine intent to commit an antitrust violation. Assuming that the inquiry is accurate, this analysis would reduce type II errors under outcome B but would be more costly to administer. This would be more efficient only if the cost of type II errors incurred under the *PRE* analysis is greater than the costs of additional inquiries into the subjective intent of the intellectual property right holder.

[76] See *Eastern R.R. Presidents Conference v Noerr Motor Freight, Inc.,* 365 US 127 (1961). For an economic analysis of sham litigation, see Christopher C. Klein, *Strategic Sham Litigation: Economic Incentive in the Context of the Case Law,* 6 Int Rev L & Econ 241 (1986).
[77] See *Nobelpharma*, 141 F3d at 1071.
[78] Id at 1072.

The analysis so far assumes accuracy of the intent inquiry. Table 2 compares the *PRE* analysis with an analysis (FULL) in which courts always undertake both prongs of the test, and when an inquiry into subjective intent is not assumed to be accurate.[79] As Justice Thomas notes in *PRE*, "despite whatever 'superficial certainty' it might provide, a subjective standard would utterly fail to supply real intelligible guidance."[80] Because both prongs of the test are done under *PRE* when the lawsuit is found to be objectively baseless, the analyses perform identically in outcomes C and D. Under outcome B, type II errors are now possible under FULL, but will occur less often than under the *PRE* analysis. However, under outcome A, the FULL analysis can result in type I errors. The *PRE* analysis is efficient if the reduction in type I errors under outcome A, plus the cost savings under outcomes A and B, are greater than the increase in type II errors in outcome B.

Table 2. A Comparison of Analyses

	Not Objectively Baseless	Objectively Baseless
No Intent to Commit Antitrust Violation	A. Correct Outcome under PRE. Type I errors possible under FULL if erroneous finding of intent. Cost of PRE < Cost of FULL.	C. Outcomes and costs same under PRE and FULL. Type I Errors possible if erroneous finding of intent.
Intent to Commit Antitrust Violation	B. More Type II errors under PRE. Cost of PRE < Cost of FULL.	D. Outcomes and costs same under PRE and FULL. Type II errors possible if erroneous finding of no intent.

[79] See for example, *Westmac Inc. v Smith,* 797 F2d 313, 318 (1986), ("genuine [legal] substance raises a rebuttable presumption" of immunity); *In re Burlington Northern Inc.,* 822 F2d 518, 528 (5th Cir 1987), cert. denied under a different name *Union Pacific R. Co. v Energy Transportation Systems, Inc.,* 484 US 1007 (1988) ("[S]uccess on the merits does not … preclude" proof of sham if the litigation was not "significantly motivated by a genuine desire for judicial relief.").

[80] *PRE,* 508 US at 60 (internal quotations omitted).

Xerox results in the same type of sequential rule as under *PRE*. Under *Xerox*, a finding that the manufacturer limited its refusal to deal to markets within the scope of the patent or copyright is analogous to the finding of probable cause in *PRE*. Such a finding is sufficient to grant the manufacturer-defendant's motions for summary judgment on the antitrust claims without an evaluation of the patentee's subjective motivation for refusing to sell or license its patented products. If the refusal extends beyond the patent or copyright, *Xerox* does not permit summary judgment on claims involving unpatented parts. For these claims, the court will consider antitrust harm and whether the manufacturer had a valid business justification for the refusal to deal.

B. Isos Do Not Infringe Valid Patents and Refusal to Deal Limited to Patent Parts and Patented and Copyrighted Diagnostic Software

If the ISOs refrain from infringing, the case will be appealed to the regional circuit rather than the Federal Circuit. However, there is no clear forum advantage when the refusal to deal is limited to patented parts and copyrighted programs (the lower left hand box of Table 1). Consistent with the theory of efficient procedure, the regional circuits, including the Ninth Circuit, have yet to impose antitrust liability in this situation. Thus, defendant should get summary judgment in these circumstances. As discussed above, *Kodak* found no reported case of antitrust liability for a unilateral refusal to sell or license a patented or copyrighted product and distinguished the present case as involving both protected and unprotected products.

Thus, based on regional circuit precedent, the case where the manufacturer limits the refusal to deal to patented parts and copyrighted programs and the ISO refrains from infringement should lead to an outcome in the regional circuits that is consistent with the Federal Circuit's holding in *Xerox*. A decision to the contrary would be inconsistent with existing precedent and incorrect from the standpoint of the economic analysis presented in this paper.

C. Isos Infringe Valid Patents and Refusal to Deal Not Limited to Patented Parts and Patented and Copyrighted Diagnostic Software

Monopolization claims based on refusals to deal unpatented parts in addition to patented parts and copyrighted programs would generally survive summary judgment under *Xerox*. Refusals to deal unpatented parts would be examined under the standards that have evolved in Section 2 monopolization claims.[81] The plaintiff is required to establish antitrust injury, that the defendant had monopoly power in the relevant market, and that the defendant willfully acquired or maintained that power though the refusal to deal.[82] Summary judgment on the monopolization claim based on withholding unpatented parts may still be proper in such a case if the ISOs cannot show marginal antitrust harm from the withholding of the unpatented parts.[83] If the manufacturer can drive the ISOs from the market lawfully by withholding patented parts and copyrighted programs, there is no marginal harm from also withholding non-patented parts.[84]

It follows that one indicator of the absence of antitrust injury would be whether the ISOs infringed in attempting to circumvent the manufacturer's refusal to deal patented and unpatented parts. If unrestricted access to a few patented parts were not necessary to the ISO's viability, the ISO should be able to avoid infringement without a significant marginal degradation in the quality of its service. In the rare cases where patented parts are required, the ISO could have the end-user order these parts. On the other hand, if an ISO needs inventory or other reliable access to patented parts is necessary to remain viable, the inability to provide these parts will result in a significant marginal degradation in the quality of service, and refraining from infringement will not be a viable strategy for the ISO. Thus,

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[81] See note 14.

[82] Id.

[83] See *CCS*, 85 F Supp 2d at 1154. See also *Brief in Opposition*, cited in note 10, at 5, noting that plaintiff CSU "conceded in the District Court that it could not show any antitrust injury from Xerox's refusal to sell *unpatented* parts, and that its alleged damages were attributable to Xerox's refusal to sell patented parts, copyrighted manuals, and patented and copyrighted diagnostic software." [emphasis in original].

[84] The district court in the CCS litigation found that even though 99 percent of the parts for three of the model copiers were unpatented, the refusal to deal patented parts was a substantial cause of antitrust injury. In support of this finding, the district court referred a plaintiff's expert witness who testified that Xerox was the sole source for the patented parts and that at least some of those parts were critical to servicing the copiers. Id.

infringement is probative evidence whether the manufacturer's refusal to provide ISOs with patented parts and copyrighted diagnostic programs would have been sufficient to prevent the ISOs from being a viable alternative to obtaining service through the manufacturer. If the manufacturer can inflict all of the harm on the ISOs through the lawful withholding of intellectual property, the ISOs cannot claim antitrust injury based on the withholding of unpatented parts. In order to survive summary judgment, the antitrust plaintiff that infringed the manufacturer's patents would bear the burden of disaggregating the damages resulting from the lawful withholding of intellectual property from damages resulting from the withholding of unpatented parts.[85]

In sum, infringement and the resulting patent infringement counterclaim trigger an analysis that focuses the inquiry on proving the existence of marginal antitrust harm.[86] Because harm to the ISO caused by the lawful withholding of patented parts and copyrighted programs is not antitrust harm, the ISO must bear the considerable burden of providing reliable proof of separable antitrust injury resulting from the withholding of unpatented parts, a burden made more difficult by the fact that infringement itself suggests evidence to the contrary. Absent such proof, no inquiry into the intent of the manufacturer is required, and summary judgment for the manufacturer would be efficient. Although the infringement triggers the jurisdiction of the Federal Circuit (the upper right hand box of Table 1), the forum does not necessarily determine the outcome. Rather, the existence of an infringement claim simultaneously determines the forum and the analytical framework to be used.[87]

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[85] See id.

[86] See Lopatka & Page, Monopolization at 33-4 (cited in note 47). Lopatka & Page criticize the Federal Circuit's recent decisions in this area, including *Kodak* and *Intergraph*, as making intellectual property a universal justification for potentially anti-competitive conduct. However, they suggest a rule similar to that adopted by the Federal Circuit and suggested in this paper that would limit the broad intellectual property justification to refusals to deal that are within the scope of the patent. Id at 41-8.

[87] Note that Federal Circuit jurisdiction might result when the manufacturer has a non-sham yet ultimately non-viable infringement counterclaim against the ISO. See *PRE*, 504 US at 63-65 (holding that lack of probable cause, and not ultimate failure of the claim, is standard for sham). Under these circumstances, the court may separate the two issues and litigate the infringement claim before it considers motions with respect to the antitrust claim. See FRCP Rule 42(b) (providing for separate trials). For an economic analysis of sequencing in litigation, see for example, William M. Landes, *Sequential Versus Unitary Trials: An Economic Analysis,* 22 J Legal Stud 99 (1993); Bradford Cornell, *The Incentive to Sue: An*

D. The Isos Do Not Infringe, and the Refusal to Deal Is Not Limited to Patented Parts and Patented and Copyrighted Diagnostic Software

Finally, we consider a refusal to deal that includes both patented and unpatented parts and the ISOs refrain from infringing.[88] This case would be appealed to a regional circuit. Because there is no infringement, the ISO can claim that the patented parts were not necessary to its survival. The defendant may argue that, any harm to the ISOs was due to the defendant's refusal to deal patented parts. However, there is no infringement to indicate that the injury was the result of the lawful withholding of patented parts and copyrighted manuals. Thus, in the absence of infringement, the court cannot infer absence of antitrust harm to the ISO part from lawful exercise of intellectual property rights. Unresolved issues regarding the existence of antitrust harm likely will remain, rendering summary judgment improper.

Assuming that the defendant possesses market power[89] and antitrust harm has been shown, the outcome of the Section 2 analysis at this stage

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Option-Pricing Approach, 19 J Legal Stud 173 (1990). Even if the trial court could dispose of such counterclaims before the antitrust claims are appealed, the Federal Circuit would have jurisdiction. See *Zenith Electronics Corp. v Exzec, Inc.*, 182 F3d 1340, 1345-46 (Fed Cir 1999). The possibility of non-sham counterclaims that ultimately fail does not affect the analysis in this paper. Where there is significant doubt as to the existence of infringement by the ISO, litigation of these claims may be necessary before properly inferring non-antitrust harm. This result should apply in both the Federal and regional circuits.

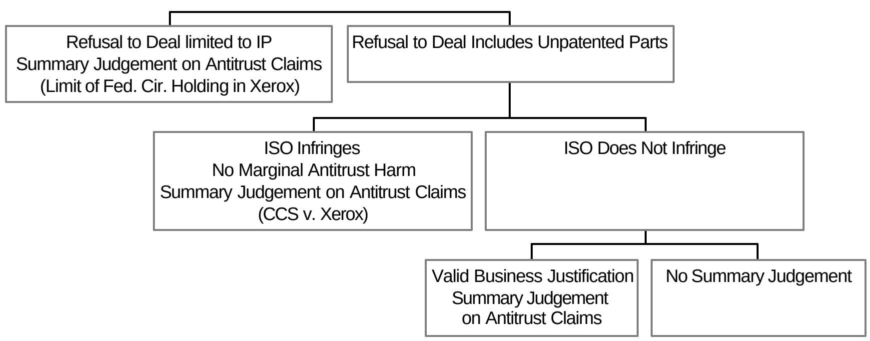
[88] This hypothetical does not fit the facts of *Kodak*. As noted above, the ISOs in *Kodak* and *Xerox* engaged in similar conduct regarding the unauthorized use of patented copier parts. *Kodak* is relevant because Kodak did not raise intellectual property issues until after the case had been appealed to the Ninth Circuit for a second time. In particular, Kodak did not file patent infringement counterclaims, which would have landed them in the Federal Circuit.

[89] An issue not addressed here, but important to a Section 2 monopolization inquiry, is whether the manufacturer-defendant has market power in a relevant antitrust market. Indeed, Kodak's litigation strategy, rather than an obvious error in pleading, may have reflected its ex ante confidence that it had no market power because of its small share of the photocopier market. Xerox, with a much higher market share, would have been less confident, ex ante, of such a finding. In any case, the Supreme Court adopted a different view in *Kodak*, that the relevant market could be limited to the supply of parts and services to those customers who had already purchased a Kodak photocopier and were effectively "locked-in." For discussions of market definition in the Kodak case, see, for example, Benjamin Klein, *Market Power in Franchise Cases in the Wake of Kodak: Applying Post-*

will turn on the existence of a valid business justification for the blanket refusal to deal "all parts."[90] Defendant should prevail only if it shows a presumptively valid business justification for the refusal to deal "all parts" exists and is not rebutted.

Figure 2 illustrates the sequential inquiry described above, which is consistent with the analytical frameworks in *Xerox* and *Kodak* and the sequential analysis in *PRE*.[91] As discussed in subsections A and B, a rule that grants blanket antitrust immunity to refusals to deal restricted to patented parts limits the costs of type I error and direct costs by limiting the subjective inquiry into the intent of the patent holder and requiring the plaintiff to first show the existence of marginal antitrust harm.

Figure 2. The Unified Sequential Analysis under Xerox and Kodak



As Lopatka & Page have shown, a sequential analysis that considers the existence of a valid business justification for the refusal to deal if and only if antitrust harm has been demonstrated also minimizes the sum of error

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Contract Hold-up Analysis to Vertical Relationships, 67 Antitrust L J 283 (1999), and sources cited in note 31.

[90] See *Data General*, 36 F3d at 1183 (stating that "[i]n general, a business justification is valid if it related directly or indirectly to the enhancement of consumer welfare. Thus, pursuit of efficiency and quality control might be legitimate competitive reasons for an otherwise exclusionary refusal to deal, while the desire to maintain monopoly, market share, or thwart the entry of competitors would not.").

[91] See also Lopatka & Page, *Monopolization* (cited in note 47) at 33-4 (showing sequential antitrust analysis is consistent with the minimization of the sum of error costs and direct costs). But see Jonathan B. Baker, *Promoting Innovation Competition through the Aspen/Kodak Rule*, 7 Geo Mason L Rev 495 (1999) ("Baker, *Promoting Innovation Competition*").

costs and direct costs.[92] They compare an analysis that requires a showing of antitrust harm before inquiring into business justification with a truncated analysis that does not consider antitrust harm.[93] Because the conduct involved in Section 2 monopolization can often be pro-competitive, requiring the plaintiff to prove antitrust harm in Section 2 monopolization cases reduces the cost of type I error. This requirement also minimizes direct costs by foreclosing inquiry into business justification, and thereby facilitating earlier disposition of cases, where antitrust harm cannot be shown.

V. A UNIFORM RULE FOR THE SUPREME COURT?

The above sections show how *Xerox* and *Kodak* are generally consistent with an overall procedure that minimizes the sum of error costs and direct costs. To the extent that the manufacturer limited the refusal to deal to patented parts and copyrighted programs, the choice of forum is not important, and limiting antitrust suits is consistent with efficiently controlling the costs of type I error. If the refusal to deal was not limited to patented parts and copyrighted programs, both the forum and the analytical framework are sensibly determined by the ISO's decision to infringe the manufacturer's patents. Because infringement suggests that the refusal to deal caused only lawful harm, the antitrust plaintiff should bear the burden of separating this harm from that caused by withholding non-patented parts. The absence of infringement creates an issue of fact and focuses the inquiry on intent or the existence of a valid business justification for the refusal to deal.

While this analysis creates a screening mechanism that is broadly consistent with efficiency, there are obvious exceptions. For example, the mechanism does not work for ISOs that infringe the manufacturer's copyrighted programs but not its patents. That the ISO chooses to infringe

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92 Lopatka & Page, *Monpolization* (cited in note 47) at 33-4, argue that such an analysis is preferred to an analysis where the inquiry into antitrust harm is suppressed.

93 Id (noting that "[a]ntitrust law has always distinguished practices based upon the quality and quantity of evidence plaintiffs must produce to show that the practices are anticompetitive in particular instances"). See also Baker, *Promoting Innovation Competition* (cited in note 91); *California Dental Ass'n v FTC,* 526 US 756, 779 (1999); Timothy J. Muris, *California Dental Association v. Federal Trade Commission: The Revenge of Footnote 17,* 8 Sup Ct Econ Rev 265 (2000); Timothy J. Muris, *The FTC and the Law of Monopolization*, 67 Antitrust L J 693 (2000).

copyrights indicates that some of the harm to the ISO results from lawful withholding of copyrighted programs, and therefore that the antitrust plaintiff should have to prove antitrust harm in addition to this. Because this case would lack patent counterclaims, it would be appealed to the regional circuits rather than to the Federal Circuit. If, as in *Kodak*, the regional circuit's analysis results in an inquiry only into the business justification for the refusal to deal and not into the existence of marginal antitrust harm, the screening process would not seem to yield the right analysis. This does not imply reversal of *Xerox*, but that *Xerox* be applied in the regional circuits under these circumstances.

In addition, under our framework, the antitrust plaintiff should obtain relief only on the basis of antitrust harm it shows results from the withholding of unpatented parts, while the defendant would retain the right to lawfully withhold its intellectual property. Under these circumstances, suing a manufacturer may provide information regarding whether harm to the ISO is the result of unlawful rather than lawful conduct by the manufacturer. If damages only reflect the inability to obtain unpatented parts, and injunctive relief requires the sale of only such parts, the ISO that requires access to patented parts for its continued survival will have a greater cost of refraining from infringing and a reduced incentive to bring the case.[94] This is the correct result, as there is presumably no marginal antitrust harm under these circumstances. The limited remedy therefore can deter suits by these ISOs. By contrast, if the harm to the ISO was caused by the refusal to deal unpatented parts, requiring the sale of patented parts and the licensing of copyrighted materials is not required to restore the ISO as a viable alternative to service through the manufacturer, and would not deter suits by these ISOs. Thus, a limited remedy would lower the proportion of cases where courts erroneously infer marginal antitrust harm to the ISO.

The injunctive relief in *Kodak* as modified by the Ninth Circuit is largely consistent with this framework As noted above, the district court required Kodak to sell for ten years and on "reasonable and nondiscriminatory terms and prices" all parts for Kodak equipment, all parts

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[94] This assumes that antitrust damages can result from the withholding of patented parts. Damages based on the withholding of unpatented parts may be harder to prove. Since the parts are not protected intellectual property, it is not clear why the ISO could not obtain such parts from sources other than the manufacturer and avoid any injury at all. See *CCS*, 85 F Supp 2d at 1157, n 14.

described in Kodak's parts lists, all parts of supply items that are field replaceable by Kodak technicians, all service manuals and price lists, and all tools or devices "essential to servicing Kodak equipment."[95] The Ninth Circuit, recognizing that the "reasonable pricing" requirement "substantially lowers Kodak's incentive to create new products," dropped the reasonableness element from the injunction.[96] Based on the analysis above in this section, the ability to charge high prices for parts and works protected by intellectual property can act as a de facto right to refuse to deal[97] and therefore serves to diminish the error rate of the Kodak analysis.

The Ninth Circuit's holding also noted that the ISO "must segregate damages attributable to lawful competition from damages attributable to Kodak's monopolizing conduct.[98] However, since the ISO did not separate damages in the service market caused by the withholding of patented and unpatented parts, the damages likely overstated the actual antitrust damages.[99] If the improperly awarded damages, trebled, are large enough, they can induce lawsuits that result in type II errors.[100]

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[95] See text accompanying note 32.
[96] *Kodak*, 125 F3d at 1225-26.
[97] See *CSU*, 989 F Supp at 1139 (quoting *W.L. Gore & Assocs., Inc. v Carlisle Corp.*, 529 F2d 614, 623 (3d Cir 1976)) (noting that high prices are "not appreciably different from a refusal to license upon any terms").
[98] *Kodak*, 125 F3d at 1224.
[99] The service market damage analysis compared affected ISOs with "comparable businesses not affected by the anticompetitive conduct at issue." This "yardstick" methodology" based damages on the difference in the growth rates of Kodak-based and non-Kodak-based ISO revenue. See id at 1221. This does not distinguish damages caused by the withholding of patented and unpatented parts.
[100] The district court in the Kodak case awarded damages of 71.8 million dollars after trebling. See id at 1201. One strategy that could potentially induce type II errors would be for an affected ISO to cease operations in response to the manufacturer's refusal to deal patented and unpatented parts. Even if all of the harm suffered were from the inability to obtain patented parts, the existence of infringement would not provide clear evidence that this was the case. The case would be appealed to the regional circuits, where ceasing operations might increase damages based on the "yardstick" methodology used in *Kodak*. Such type II errors could be avoided by allowing the manufacturer to show that the plaintiff could have obtained unpatented parts from other sources. For example, Ninth Circuit reversed the damage award of a plaintiff that attempted to use such a strategy. Because the plaintiff ASI failed to mitigate damages and "simply stopped trying to obtain parts and let his contracts expire after Kodak instituted its parts policy," and because its contracts were subsequently picked up by other ISOs, the Court reversed the damage award to ASI. See id at 1222-23.

Finally, Kodak and Xerox may have had a valid business justification for the refusal to deal that included both patented and unpatented parts.[101] As discussed above, the Ninth Circuit held that Kodak's presumptively valid business justification was rebutted by a showing that the refusal to deal patented parts was part of a plan to monopolize. While the court purportedly based its analysis on "actual market realities" rather than "formalistic distinctions," it inquired into the manufacturer's subjective motivation, including the "state of mind of Kodak employees," rather than potential economic justifications for the business practice.[102] But Kodak's refusal to deal with ISOs may have been part of a strategy to price discriminate among different classes of customers based on the different values they placed on Kodak equipment.[103] Such attempts at price discrimination are neither generally inefficient nor generally condemned by the antitrust laws.[104] If the equipment's value to customers correlates with customers' demands for service, the manufacturer could collect fees based on the amount and type of service the customers demand. ISOs would have defeated such a policy by targeting with lower service prices those customers with the highest service demands. Manufacturers could not efficiently separate customers simply by raising the parts prices. Customers who demand relatively quick service do not necessarily place a higher value on the Kodak equipment. Raising part prices may reduce demand for the Kodak equipment by customers who do their own service. Raising the price only of patented parts a fortiori would suffer from the same problems. Substituting non-patented parts and service for patented parts would further distort demand and reduce the manufacture's profits.

Thus, the conduct at the center of the ISO cases, the refusal to deal unpatented parts in addition to parts and works covered by intellectual

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[101] For economic analyses suggesting efficiency reasons for a manufacturer wanting to control the service market, see Marius Schwartz and Gregory Werden, *A Quality Signaling Rationale for Aftermarket Tying,* 64 Antitrust L J 387 (1996); Mark A. Glick and Duncan J. Cameron, *When Do Proprietary Aftermarkets Benefit Consumers?*, 67 Antitrust L J 357 (1999).

[102] See text accompanying note 38.

[103] See Klein, *Market Power* (cited in note 31). Note that these efficiency explanations apply equally to refusals to deal and to tying arrangements. As discussed in note 47, this suggests the analysis in this paper could usefully be extended to cover tying arrangements.

[104] Id. But see Michael J. Meurer, *Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works,* 45 Buff L Rev 845 (1997).

property, can be welfare increasing. More generally, price discrimination by intellectual property owners may lead to increased social welfare. If patent owners' ability to price discriminate allows them to serve markets they would not be able to serve with uniform pricing, this can increase both output and welfare.[105] These effects are more likely to occur to the extent there are scale or learning economies associated with the use of the intellectual property, and are often dependent upon use of non-patented parts.[106] The ability to charge different users different prices also is consistent with the efficient pricing of public goods such as patentable ideas, and may serve to increase dynamic welfare.[107]

VI. CONCLUSION

Xerox and *Kodak* are broadly consistent with each other and with economic efficiency. Our analysis finds no support for Supreme Court reversal of the Federal Circuit's holding in *Xerox*. *Xerox* stands for the uncontroversial proposition that the antitrust laws do not limit the intellectual property owner's right to refuse to sell or license in markets within the patent grant. This does not immunize all of the conduct by the manufacturers in *Xerox* and *Kodak*. Since the refusal to deal in both cases

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105 See *ProCD v. Zeidenberg*, 86 F3d 1447, 1449-50 (7th Cir 1996).

106 See Jerry A. Hausman and Jeffrey K. MacKie-Mason, *Price Discrimination and Patent Policy*, 19 RAND J Econ 253 (1988) ("Hausman & MacKie-Mason, *Price Discrimination*"). See also Harold Demsetz, *The Private Production of Public Goods*, 13 J L & Econ 293 (1970); McGowan, *Networks* (cited in note 39).

107 See Hausman and MacKie-Mason, *Price Discrimination* (cited in note 106). If price discrimination reduces the welfare costs of monopoly as compared with a uniform monopoly price, patentees will earn a more efficient level of rents. Adjustment of the rents is achieved by altering the life of the patent. For a similar mechanism based on randomly invalidating patents and increasing the nominal patent life, see Ian Ayres & Paul Klemperer, *Limiting Patentees' Market Power without Reducing Innovation: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 Mich L Rev 985 (1999). Ayres & Klemperer argue that probabilistic encouragement of type I errors (a finding of no infringement when a valid patent was actually infringed) and not allowing injunctive relief will encourage competition and lower static welfare losses. Ex ante incentives can be maintained by increasing the length of the patent. The authors note that price discrimination as a viable substitute weakens the case for their mechanism, which will increase litigation costs. More importantly, the Ayres & Klemperer mechanism can interfere with the internalizing functions that well-defined property rights achieve. See Harold Demsetz, *Toward a Theory of Property Rights*, 57 Am Econ Rev 347 (1967). This would result in higher contracting costs for licensing and transfer of the innovation, and suppress follow-on innovation.

extended beyond the manufacturers intellectual property to unpatented parts, both Xerox and Kodak could still be found to have violated Section 2 of the Sherman Act. But this does not imply that refusals to deal involving both patented and unpatented parts should be condemned. Our analysis suggests that plaintiff should be required to show that the refusal to deal unpatented parts resulted in antitrust harm separate from the harm caused by the refusal to deal its intellectual property. It is far from clear that the plaintiffs in *Xerox* or *Kodak* met this burden.