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The Confluence of Antitrust and Intellectual Property at the New Century

E. Thomas Sullivan*

The recent growth of intellectual property invites comparison to antitrust law. Both legal regimes are vital to competition in a market-driven society. The technology and innovation sectors of the market have never been more dynamic in the history of the United States than at the present. Accordingly, antitrust as a regulatory body of law, has much to say in informing us how technology and innovation will be promoted and, conversely, controlled as we approach the new century.

It is with pride that I write this article as dean of the Law School that launches this new journal, the *Minnesota Intellectual Property Review*, on the start of a new millennium and as intellectual property ascends to new importance during an unparalleled, historical growth with the United States economy. I congratulate the new student editors of the *Review* for their insight and industry in commencing this new scholarly journal. I am pleased to offer an article in this inaugural issue on the confluence of antitrust and intellectual property. Although both regimes have had a long history in the United States, the relationship between the two has not been clear and has often been confused. Moreover, their future as complementary public policies promoting competition and innovation is imperative if rigorous competition is to remain a central public tenet under our rule of law. While each is designed to promote innovation and competition, both abhor monopolistic abuses.

INTRODUCTION

Intellectual property laws¹ grant a limited term monopoly

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1. Throughout this article the general term "intellectual property" is used, though the law treats patents and copyrights differently sometimes,

in order to encourage innovation. Incentives for innovation are created by establishing property rights that are enforceable for protecting creative innovations and avoiding exploitation and free riding by imitators.² Antitrust laws discourage monopolies and anticompetitive behavior in order to ensure innovation,³ competitive markets,⁴ and consumer welfare.⁵ These general descriptions raise the question: is there an inherent conflict between antitrust law and intellectual property law? Many scholars and courts answer in the affirmative, but the more historically accurate account disagrees.

Although tensions exist between antitrust and intellectual property, the two legal regimes are complementary. Justice Black observed that antitrust legislation was designed to be:

[A] comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. It rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress [T]he policy unequivocally laid down by the [antitrust legislation] is competition.⁶

To achieve such competition, antitrust laws attempt to “preserve market conditions in which firms price at marginal cost.”⁷

Intellectual property laws, on the other hand, are not as concerned with pricing at marginal cost as is antitrust law.⁸ Patent and copyright laws give inventors and artists the

such as the patent misuse doctrine. See 35 U.S.C. § 271(a) (d) (1994).

2. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 1 (April 6, 1995) [hereinafter IP GUIDELINES].

3. See *California Computer Products v. IBM Corp.*, 613 F.2d 727, 744 (9th Cir. 1979) (“IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers.”).

4. See *infra* text accompanying note 6.

5. “[A]ntitrust laws are a ‘consumer welfare prescription.’” *Arizona v. Maricopa County Med. Soc’y*, 457 U.S. 332, 367 (1982) (J. Powell, dissenting) (quoting *Reiter v. Sonotone*, 442 U.S. 330, 343 (1979)).

6. *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 4 (1958).

7. David McGowan, *Network and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485, 485 (1999) [hereinafter McGowan, *Network and Intention*]; see also David McGowan, *Regulating Competition in the Information Age: Computer Software as an Essential Facility under the Sherman Act*, 18 HASTINGS COMM. & ENT. L.J. 771 (1996) [hereinafter McGowan, *Regulating Competition*].

8. See McGowan, *Network and Intention*, *supra* note 7 at 485-86.

exclusive right to sell, use, and license their works⁹ in order to encourage innovation.¹⁰ Intellectual property laws thus grant a limited term monopoly to patent or copyright holders allowing them to charge any price the market will bear.¹¹ In fact, “the

9. See generally *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 429 (1908) (holding that the power to exclude others is “the very essence of the right” conferred by patent law); *USM Corp. v. SPS Tech., Inc.*, 694 F.2d 505, 513 (7th Cir. 1982) (Posner, J.) (“[T]he essence of the patent grant is to allow the patentee to exclude competition in the use of the patented invention.”). See 35 U.S.C. §154 for a codification of the right to exclude granted by patent law.

Copyright law also grants the copyright holder the right to exclude others from the product. See generally *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932) (holding that the owner of a copyright is free to “refrain from vending or licensing” and may simply “content himself with . . . the right to exclude others from using his property”). However, the scope of the right to exclude others granted by copyright law is generally narrower than that granted by patent law because it does not prevent independent developments of similar works. It only gives the holder of the right the ability to prevent unauthorized copying of the product or work. See ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 326 (1997); cf. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 992 (1997) (arguing that the lack of protection for improvers in copyright law gives copyright owners broader protection in one area than that given to patent holders).

10. See *Stewart v. Abend*, 495 U.S. 207, 229 (1990) (“The limited monopoly granted to the artist is intended to provide the necessary bargaining power to garner a fair price for the value of the works passing into public use.”); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (“[T]he limited grant is a means by which an important public purpose may be achieved. It is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (stating that patent laws promote progress by “offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research and development”); see also McGowan, *Network and Intention*, *supra* note 7 at 493 (“Inducing creation implies that the law must embody some rate of return structure, at least implicitly. In a market economy, and for the unique goods that innovation produces, a logical way to provide creators with such a rate of return is to grant them the right to preclude others from using the creator’s work. This ‘property’ right to exclude forces those who wish to use an innovation to bargain with the owner and to pay him or her for the use.”). See generally DANIEL J. GIFFORD & LEO J. RASKIND, *FEDERAL ANTITRUST LAWS 675-76* (1998) (describing the goals of intellectual property law).

11. See McGowan, *Network and Intention*, *supra* note 7 at 485-86. Professor McGowan notes that firms “possessing intellectual property rights will naturally seek to maximize the value of those rights.” *Id.* If there are no substitutes for the protected product in the market, the holder of the intellectual property rights will likely price the item far above marginal cost. See *id.* However, when substitutes exist, monopoly power to raise prices will

very purpose of a patent grant is to reward the patentee by limiting the competition, in full recognition that monopolistic evils are the price society will pay.”¹²

Despite these seemingly contradictory principles, a more precise examination of the two bodies of law reveals that they are really complementary legal regimes. Both bodies of law seek to create the optimum allocation of talent, resources, and innovation.¹³ Both were designed to promote public welfare.¹⁴ Although intellectual property creates a time-limited monopoly,¹⁵ this monopoly promotes new product innovation, which ensures competition and rivalry, at least in the long run, in the larger product market.¹⁶ Likewise, the focus of the antitrust laws is to improve competition and innovation; it complements the intellectual property system by ensuring fair and reasonable use in the marketing and distribution stages.¹⁷ Intellectual property rights and antitrust laws were both designed to promote competition and innovation; they are often in harmony in achieving their common goals. Moreover, both antitrust and intellectual property have been interpreted to promote allocative efficiency, thus encouraging the production of higher quality products at the lowest costs.¹⁸

not be effective as long as entry barriers in the market are low. *See id.*

12. Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1817 (1984).

13. GIFFORD & RASKIND, *supra* note 10 at 675.

14. *See* Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 480 (1974) (stating that the productive effort fostered by the patent laws has “a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens”); *see also supra* note 5.

15. A patent extends protection for 20 years. *See* 35 U.S.C. § 154. Justice Holmes noted that a copyright “would be intolerable if not limited in time.” 1 HOLMES-POLLACK LETTERS 53 (MARK DEWOLFE HOWE ED., 1941).

16. *See supra* note 10 and accompanying text.

17. *See e.g.* Findings of Fact, *United States v. Microsoft*, 1999 WL 1001107 *17-*18, *22-*24, *25, *40 (D.D.C. Nov. 5, 1999) (criticizing Microsoft for monopoly pricing, imposing high barriers to entry, withholding important technical information, and tying); *cf.* *California Computer Products v. IBM Corp.*, 613 F.2d 727 (9th Cir. 1979) (noting that innovators do not run afoul of the antitrust laws when they create better products).

18. *See* Ward S. Brown, PATENTS AND ANTITRUST LAW: A LEGAL AND ECONOMIC APPRAISAL 1 (1973); Willard K. Tom and Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to a Unified Field*, 66 ANTITRUST L.J. 167 (1997).

I. HISTORICAL DEVELOPMENTS

A. ANTITRUST LAW

An examination of the history of intellectual property and antitrust laws demonstrates parallel legal development—both have their roots in the English Common Law. The common law has not always opposed restraints on trade or monopolies.¹⁹ Prior to 1623, as a part of the mercantilist system, British monarchs granted royal patents to merchants, giving them monopolies in various sectors of the market.²⁰ In 1624, the Statute of Monopolies was enacted, limiting the Crown's ability to grant such patents.²¹ Although Parliament did not fight consistently against anticompetitive practices after the passage of the Statute,²² criticism of trade restraints,²³ such as forestalling,²⁴ regrating,²⁵ and engrossing,²⁶ was prevalent.²⁷

19. For a history of the earliest monopoly cases and attitudes towards monopolies, see WILLIAM LETWIN, *LAW AND ECONOMIC POLICY IN AMERICA: THE EVOLUTION OF THE SHERMAN ACT 18-39* (1965).

20. See LETWIN, *supra* note 19, at 18-19.

21. See LETWIN, *supra* note 19, at 59. This was not the first condemnation of the power to grant royal patents. In 1602, in the Case of Monopolies, *Darcy v. Allen*, 6 Co. Rep. [QB] 159 (1602), the court declared patent monopolies for ordinary articles of manufacture in violation of the common law. See LETWIN, *supra*, at 27 (discussing the Case of Monopolies in detail). The court held that the only monopolies consistent with public policy were those for new inventions granted for limited durations. See *id.*; see also WILLIAM ANDERSON & C. PAUL ROGERS, *ANTITRUST LAW: POLICY AND PRACTICE* 995 (3d ed. 1999).

22. William Letwin observed that “[i]t would have been strange if lawyers had upheld *laissez faire* policies centuries before any statesman or economist had advocated or stated them, and had continued following them long after they had been denied by the rest of society.” LETWIN, *supra* note 19, at 19.

23. Although there was not always a general opposition to monopolies, the English common law did favor low prices. See *id.* at 32-33. Englishmen objected to private efforts to raise prices; so, the law attempted to prevent certain practices that would raise prices. See *id.*

24. Forestalling is an inclusive term for all practices thought to raise prices. See *id.* at 33-34.

25. Regrating refers to retailing, buying in bulk and selling in small lots. See LETWIN, *supra* note 19, at 34.

26. The original meaning of “engrossing” was to buy crops in the field before they were harvested or at least before they were ready to go to market, but it later came to be synonymous with “monopolizing.” See *id.* at 33-34.

27. Between the Thirteenth Century and the Seventeenth Century Parliament passed several statutes against forestalling and other anticompetitive practices that led to high prices. See *id.* These statutes usually applied only to forestalling of food. See *id.* Forestalling, engrossing,

This criticism of business practices that tend to raise prices carried over to the formative years of this country. Thomas Jefferson advocated a deconcentrated society that valued independent decision-making, equality, and enhanced opportunities for small, local businesses.²⁸ This populist political perspective was revoiced in the debates surrounding passage of the Sherman Act.²⁹ On July 3, 1890, Congress passed the Sherman Act making “[e]very contract, combination, . . . or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations . . . illegal.”³⁰ It also discouraged attempts to monopolize and actual monopolization.³¹ The specific goals of the Act are debatable,³² but it is generally agreed that the Sherman Act, the principal antitrust statute, was enacted to promote competition and increase consumer welfare.³³

B. INTELLECTUAL PROPERTY LAWS

Modern intellectual property laws have similar roots and goals. Although the Statute of Monopolies abolished the royal power to create monopolies, the Statute allowed Parliament to grant patents to inventors for new inventions.³⁴ Parliament recognized that while some monopolies hamper competition, limited monopolies on new products are necessary to promote competition through innovation.³⁵ Similarly, copyright law is

and regrating were indictable at common law and punishments included fines, forfeitures, banishment and even death. *See id.*

28. *See* E. THOMAS SULLIVAN & JEFFREY L. HARRISON, UNDERSTANDING ANTITRUST AND ITS ECONOMIC IMPLICATIONS (3d. ed. 1998).

29. *See id.*

30. Sherman Act, 15 U.S.C. § 1.

31. 15 U.S.C. § 2.

32. *See generally* E. THOMAS SULLIVAN & HERBERT HOVENKAMP, ANTITRUST LAW, POLICY AND PROCEDURE: CASES, MATERIALS, PROBLEMS 4-18 (4th ed. 1999).

33. The Clayton Act and the Federal Trade Commission Act also help to promote consumer welfare. *See* 15 U.S.C. § 12, 15 U.S.C. § 41; E. THOMAS SULLIVAN, *supra* note 32, at 4; *see also supra* text accompanying notes 5-6.

34. The promotion of innovation was the original goal of the crown's power to grant monopolies. *See* ANDERSON & ROGERS, *supra* note 21, at 995.

35. *See id.* Such government protection and promotion of innovation is not new. *See id.* In ancient Greece, pre-empire Rome and Persia, governments provided monetary rewards and other inducements to promote innovation and the arts. *See id.* During the Renaissance, governments began to offer exclusive rights in lieu of these monetary rewards. *See id.* The grant of a monopoly may be an affirmative grant or an exclusive right. *See id.*

rooted in the English mercantilist system, where publishers were granted a perpetual monopoly over publications. In 1710, the Statute of Anne limited copyright protection to a number of years.³⁶ Parliament recognized that authors needed a degree of protection against copying of their works, but it also wanted to prevent a perpetual monopoly over artistic works.³⁷

The Founding Fathers of the United States also recognized the importance of intellectual property rights and gave Congress the power to “promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”³⁸ Pursuant to this mandate, Congress enacted legislation giving inventors, artists, and creators the right to exclude others from making, copying, using, or selling their inventions and artistic works.³⁹

Economists and policy analysts continue to agree generally that intellectual property rights are integral to the promotion of innovation.⁴⁰ Research and development projects have high capital costs, yet in a free market without patent or copyright protection, innovators would not be able to earn a profit from their work because their competitors would be able to appropriate their inventions without cost, capturing the economic benefit of the product before the inventor had the full opportunity to do so.⁴¹ In order to prevent this behavior, the United States’s patent laws give the patent holder the right to exclude others from making, using, or selling the protected subject matter and the right to command royalties⁴² for twenty

36. See Paul J. Heald, *Reviving the Rhetoric of the Public Interest: Choir Directors, Copy Machines, and New Arrangements of Public Domain Music*, 46 DUKE L.J. 241, 247 n.30 (1996).

37. See *id.*

38. U.S. CONST. art. I, § 8. American intellectual property rights have grown out of the patent and copyright laws of England. See Steven P. Reynolds, *Antitrust and Patent Licensing: Cycles of Enforcement and Current Policy*, 37 JURIMETRICS J. 129, 131 n.9 (1997); ANDERSON & ROGERS, *supra* note 21, at 995.

39. For codification of patent law, see 35 U.S.C. § 154. For codification of copyright law, see 17 U.S.C. § 106.

40. See GIFFORD & RASKIND, *supra* note 10, at 678.

41. See *id.*

42. In *dictum* in *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964), the Court noted that “[a] patent empowers the owner to exact royalties as high as he can negotiate with the leverage of the monopoly.” Some courts, however, have held that an exorbitant royalty can raise an antitrust issue for restraint of trade. See *American Photocopy Equip. Co. v. Rovico, Inc.*, 359 F.2d 745 (7th

years after the patent application is filed.⁴³ This patent protection is conducive to innovation in an atmosphere of rapid technological change.⁴⁴

C. RECONCILING ANTITRUST AND INTELLECTUAL PROPERTY

Despite their parallel histories and similar goals, courts have not always treated antitrust and intellectual property as complementary legal regimes. Beginning in the early Twentieth Century, courts and scholars perceived antitrust and intellectual property as “separate spheres” incapable of reconciliation because antitrust targeted monopolies and intellectual property promoted them.⁴⁵

[H]istorically, the enthusiasms for antitrust and patents seem to run in opposite directions. Thus, from 1890 through the 1930s, patents were in fashion, while the government was not faring well in many antitrust cases. In the 1930s, 40s, and 50s, patents were regularly declared invalid while the government was winning most of its

Cir. 1966). There may also be an antitrust claim or issue if the calculation of the royalty payment is not directly related to the licensee’s use of protected product. See *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 136 (1969) (holding the patent holder may not “garner royalties as a percentage share of the licensee’s receipts from sales of other products”; such conduct, where “the patentee seeks to extend the monopoly of his patent to derive a benefit not attributable to use of the patents teachings” is not within the protection of the patent).

43. See GIFFORD & RASKIND, *supra* note 10, at 678 (1998).

44. See SCHERER & ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE*, 660 (3d ed. 1990). However, it also can be argued that innovation may be hampered by long-term protection of, for example, software that has a much shorter commercial life.

45. Willard K. Tom & Joshua Newberg, *Antitrust and Intellectual Property: From Separate Spheres to a Unified Field*, 66 ANTITRUST L.J. 167, 171 (1997). Examples of early antitrust cases involving intellectual property issues include: *Henry v. A.B. Dick Co.*, 224 U.S. 1 (1912) (approving the defendant’s tie of a patented mimeograph machine to unpatented supplies), *overruled by W. Elec. Co. v. Gen. Talking Pictures Corporation*, 16 F. Supp. 293 (S.D.N.Y. 1936); *Motion Picture Patents Co. v. Universal Film Mfg. Co.* 243 U.S. 502 (1917) (finding unlawful a license agreement requiring a user of the defendant’s film projector to show only defendant’s motion pictures); *United States v. General Elec. Co.*, 272 U.S. 476 (1926) (approving a price-fixing agreement in a patent license); and *Cabrice Corp. v. American Patents Development Corp.*, 283 U.S. 27 (1931) (finding unlawful a license agreement requiring the purchaser of defendant’s ice box to use only dry ice). However, the perception of such a conflict between antitrust and intellectual property is still evident in some recent decisions. See *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1203 (2d Cir. 1981) (“When . . . the patented product is so successful that it evolves into its own economic market, . . . the patent and antitrust laws necessarily clash.”).

antitrust cases. Since the 1970s, patents seem on the ascendancy (in part because of some sense that they affect our ability to compete internationally?) and the government is bringing and winning fewer antitrust cases.⁴⁶

In the 1960s, however, scholars began to reconsider the idea of an inherent conflict between the two bodies of law.⁴⁷ Compromise in the perceived tension between the two characterizes American decisionmaking and scholarship in the area during the last quarter century.

Antitrust law's treatment of monopoly demonstrates room for compromise between the two bodies of law. In the famous *Alcoa*⁴⁸ case, decided in 1946, Judge Hand, while criticizing corporate bigness, allowed a defense where the defendant did not abuse its monopoly power.⁴⁹ He reasoned that market dominance achieved through "superior skill, foresight and industry" would not be condemned.⁵⁰ The legality and desirability of a monopoly gained through a superior product or business acumen was confirmed in the Supreme Court's definition of monopoly in *United States v. Grinnell Corp.*⁵¹

The offense of monopoly under [section] 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) 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.⁵²

This definition reconciles the alleged inherent conflict between antitrust and intellectual property by clarifying that the Sherman Act does not condemn all monopolies.⁵³ The American

46. ANDERSON & ROGERS, *supra* note 21, at 994 (3d ed. 1999). For a more in-depth discussion of cycles of enforcement in antitrust and intellectual property laws, see Reynolds, *supra* note 38.

47. See, e.g., WARD S. BOWMAN, JR., PATENT & ANTITRUST LAW: A LEGAL AND ECONOMIC APPRAISAL (1973); Tom & Newberg, *supra* note 45, at 173; William F. Baxter, *Legal Restrictions on the Exploitation of Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267 (1966).

48. *United States v. Aluminum Co. of Am. (Alcoa)*, 148 F.2d 416 (2d Cir. 1945) [hereinafter *Alcoa*]. *Alcoa* was heard by the Second Circuit Court of Appeals after four members of the Supreme Court disqualified themselves.

49. "Having proved that 'Alcoa' had a monopoly of the domestic ingot market, the plaintiff had gone far enough;" however, 'Alcoa' had an excuse if it "had not abused its power," though it "lay upon 'Alcoa' to prove that it had not." *Id.* at 427.

50. *Id.* at 430.

51. 384 U.S. 563 (1966).

52. *Id.* at 570-71.

53. *Accord SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1204 (2d Cir. 1981), cert. denied, 455 U.S. 1016 (1982) (stating that "[n]o court has ever held that the antitrust laws require a patent holder to forfeit the exclusionary power

antitrust laws have never held monopoly power, alone, unlawful. The statute reaches market power *plus* exclusionary or anticompetitive conduct only, that which is commonly known as monopolization.⁵⁴

Courts have been clear that a company may not exploit a legal monopoly, such as an intellectual property right, in one market to gain a monopoly in another market where that company does not demonstrate a superior product or business acumen.⁵⁵ In fact, “[t]he legality of any attempt to bring unpatented goods within the protection of the patent is measured by the anti-trust laws not by the patent law.”⁵⁶ The recent decisions of *Eastman Kodak Co. v. Image Technical Services, Inc.*⁵⁷ and the allegations in *United States v. Microsoft Corp.*⁵⁸ demonstrate continued intolerance of such monopoly

inherent in his patent the instant his patent monopoly affords him monopoly power over a relevant product market”); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1368 (Fed. Cir. 1998) (“Unless the patent had been obtained by fraud such that the market position has been gained illegally, the patent right to exclude does not constitute monopoly power prohibited by the Sherman Act.”).

54. See SULLIVAN & HOVENKAMP, *supra* note 32, at 627.

55. See *Eastman Kodak Co. v. Image Technical Services*, 504 US 451 (1992) (holding that Kodak could not use its monopoly in the parts market to gain a monopoly in the services market); *Times Picayune Pub. Co. v. United States*, 345 U.S. 594 (1953) (holding that a seller may not exploit “his dominant position in one market to expand his empire into the next”); *United States v. Griffith*, 334 U.S. 100 (1948) (holding that the owner of a theater chain with monopoly and monopsony power (market condition where there is only one buyer of a product but several sellers) in some towns could not use that power to gain a competitive advantage in towns in which it had rivals); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263 (2d. Cir. 1979) (holding that the use of monopoly power in one market to gain a competitive advantage in another market, without attempting to monopolize the second market, does violate section 2 of the Sherman Act); *Kerasotes Mich. Theatres v. National Amusements*, 854 F.2d 135 (6th Cir. 1988) (holding that a monopolist in one geographic market would violate section 2 if it used that monopoly power to gain a competitive advantage in another geographic market); see also Louis Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515 (1985). But see 35 U.S.C. § 271(d) (1994) (permitting certain types of tying and geographic restraints).

56. *Mercoid Corp. v. Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680, 684 (1944). The Court further stated, “the effort here made to control competition in this unpatented device plainly violates the antitrust laws It likewise follows that the respondent may not obtain from a court of equity any decree which directly or indirectly helps it to subvert the public policy which underlies the grant of this patent.” *Id.* at 684.

57. 504 U.S. 451 (1992).

58. 147 F.3d 935 (D.C. Cir. 1998).

leveraging and tying⁵⁹ of products.

In *Kodak* the Court held that the Eastman Kodak Company could not use its patent-created monopoly in parts for micrographic and photocopier equipment to gain a monopoly in the growing service market for Kodak copiers.⁶⁰ The court did not consider a special rule because of the patent involved. Instead, the Court employed *stare decisis* and restated the well-settled antitrust principle that “power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to [antitrust] liability if a ‘seller exploits his dominant position in one market to expand his empire into the next.’”⁶¹ In *Microsoft*, the Department of Justice argued that the computer manufacturer could not use its monopoly in the operating systems market to attempt to gain a monopoly for its web browser.⁶² The court reasoned that under the antitrust laws, manufacturers cannot “stick products together . . . without the link serving any purpose but an anticompetitive one.”⁶³

Several antitrust principles are available to prevent the abuse of intellectual property rights. First, monopolists may

59. See *infra* notes 75-76. But see 35 U.S.C. § 271(d) (1994) (noting that a patent owner who ties a patented product to another product shall not lose the rights granted under the patent).

60. *Kodak*, 504 U.S. 451. This case came before the Court after the district court granted summary judgment for the defendant and the Ninth Circuit reversed that order. See *id.* at 460. The Court first narrowly defined the markets, reasoning that parts and service were distinct markets. See *id.* at 462. The Court then stated that “Kodak’s service and parts policy is simply not one that appears always or almost always to enhance competition,” and therefore it did not meet the summary judgment standard. *Id.* at 479.

61. *Id.* at 480, n.29 (quoting *Times-Picayune Publ’g Co. v. United States*, 345 U.S. 594, 611 (1953) and citing *Northern Pac. R. Co. v. United States*, 356 U.S. 1 (1958), *United States v. Paramount Pictures, Inc.*, 334 U.S. 131 (1948), *Leitch Mfg. Co. v. Barber Co.*, 302 U.S. 458, 463 (1938)); see also *Cost Management Services, Inc. v. Washington Natural Gas Co.*, 99 F.3d 937 (9th Cir. 1996) (noting that monopoly leveraging is a viable theory for an attempted monopolization or monopolization claim under section 2 of the Sherman Act); *Fineman v. Armstrong World Indus.*, 980 F.2d 171, 206 (3d Cir. 1992) (holding that a plaintiff must prove threatened or actual monopoly in the leveraged market to prevail upon a theory of monopoly leveraging).

62. See *United States v. Microsoft Corp.*, 147 F.3d 935, 939 (D.C. Cir. 1998).

63. *Id.* at 949. The court goes on to discuss the difference between the anticompetitive tying of two products and technological integration that promotes efficiencies. See *infra* note 88; see also discussion *infra* notes 168-187 and accompanying text; Findings of Fact, *United States v. Microsoft*, 65 F. Supp. 2d 1 (1999).

have certain duties to deal with competitors. Although there is no general duty to deal,⁶⁴ in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*,⁶⁵ the Court suggested that as a firm gains market power its freedom to refuse to deal with another firm is qualified by the need for a valid business justification, at least if the monopolist has begun to deal and later attempts to change its mind.⁶⁶ The Court held that Aspen Ski Company violated section 2 of the Sherman Act if it engaged in “conduct which does not benefit consumers by making a better product or service available—or in other ways—and instead has the effect of impairing competition.”⁶⁷

Similarly, in *Northwest Wholesale Stationers v. Pacific Stationery and Printing Co.*,⁶⁸ the Court held that a defendant may not be guilty of a *per se* antitrust violation for concerted refusal to deal unless the defendant has market power, exclusive or unique access to supply (an essential element of competition), or a lack of an efficiency rationale when the refusal to deal is aimed at a competitor.⁶⁹ The “essential facilities” doctrine may also be used to prevent abuses of intellectual property rights that decrease competition.⁷⁰ The

64. See *United States v. Colgate Co.*, 250 U.S. 300 (1919). But consider the “essential facilities” doctrine which may require a monopolist to share an essential facility with a competitor. See generally *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973); *Associated Press v. United States*, 326 U.S. 1 (1945); *United States v. Terminal R.R. Ass’n of St. Louis*, 224 U.S. 383 (1912); *Illinois Bell Tel. Co. v. Haines & Co., Inc.*, 905 F.2d 1081 (7th Cir. 1990); *Fishman v. Estate of Wirtz*, 807 F.2d 520 (7th Cir. 1986); *United States v. AT&T Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff’d mem. sub. nom.* *Maryland v. United States*, 460 U.S. 1001 (1983); *MCI Communications Corp. v. AT&T Co.*, 708 F.2d 1081 (7th Cir. 1983), *cert. denied*, 464 U.S. 891 (1983). But see *infra* note 70; *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d. Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982).

65. 472 U.S. 585 (1985).

66. See *id.*

67. 472 U.S. at 597 (quoting jury instructions of trial court). The Court used this reasoning in *Kodak* to find that “[i]f Kodak adopted its parts and service policies as part of a scheme of willful acquisition or maintenance of monopoly power, it will have violated [section] 2.” *Kodak*, 504 U.S. at 483.

68. 472 U.S. 284 (1985).

69. See *id.*; see also SULLIVAN & HARRISON, *supra* note 28, at 164.

70. Although a plaintiff in an intellectual property/antitrust case could succeed with an “essential facilities” argument, many plaintiffs have been unsuccessful with this argument. See, e.g., *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1356-58 (Fed. Cir. 1999) (overturning the district court’s finding of a violation of antitrust law under the essential facilities doctrine and holding that a plaintiff must be a competitor of the defendant in order to prevail on a theory of “essential facility”); *Thomas, v. Network Solutions, Inc.*,

essential facilities doctrine makes it illegal for a person owning or operating an essential facility to deny competitors access to that facility.⁷¹

Most recently, the Federal Circuit, however, in *In re Independent Service Organizations Antitrust Litigation*, held that a copyright or patent holder's unilateral refusal to sell or license the expression or invention is not exclusionary conduct that is unlawful when the antitrust plaintiff fails to carry its burden of showing that the copyright or patent holder had no valid business justification for denying the sale or licensing request.⁷² Distinguishing the Supreme Court's treatment in *Eastman Kodak Co. v. Image Technical Services, Inc.*,⁷³ the Federal Circuit observed that *Kodak* was a tying case, and no patents were asserted in defense of the antitrust claims: "[t]he

176 F.3d 500 (D.C. Cir. 1999) (holding that a plaintiff must be a competitor of the defendant to prevail on an "essential facilities" claim); *David L. Aldridge Co. v. Microsoft Corp.*, 995 F. Supp. 728, 754 (S.D. Tex. 1998) (holding the plaintiff failed to establish that Windows 95 operating system is an essential facility); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 761 F. Supp. 185, 192 (D. Mass. 1991) (holding that when the "bottleneck" alleged in an "essential facilities" claim is the "superior knowledge in the design of [a] computer[], [the bottleneck] is insufficient to invoke the 'essential facilities' doctrine").

71. See *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912) (holding that the owners of a railroad bridge across the Mississippi could not deny certain railroads access to the bridge because the bridge was an essential facility to the transportation of goods across the river); *Flip Side Prod., Inc. v. Jam Prod., Ltd.*, 843 F.2d 1024 (7th Cir. 1986) (finding that the plaintiff did not state an "essential facilities" claim because the defendant did not have a monopoly on arena areas, the alleged essential facility); *MCI Commun. Corp. v. AT&T*, 708 F.2d 1081 (7th Cir. 1983) (holding that local distribution facilities were "essential facilities" and therefore AT&T must provide MCI access to them); *United States v. AT&T Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd mem. sub. nom. Maryland v. United States*, 460 U.S. 1001 (1983) (holding that AT&T has the duty to share access to local telephone networks with others). The MCI court defined four elements of an essential facility claim: there must be control of the essential facility by a monopolist; competitors must be unable to practically or reasonably duplicate the essential facility; the monopolist denies a competitor the ability to use the facility; and providing the competitors use of the facility is feasible. See 708 F.2d at 1132-33. Cf. *Wang Laboratories, Inc. v. Mitsubishi Electronics Am., Inc.*, 103 F.3d 1571 (Fed. Cir. 1997) (finding an implied license).

72. 203 F.3d 1322 (Fed. Cir. 2000); see also *Data Gen. Corp. v. Grumman Syst. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994) (finding plaintiff's conduct presumably not exclusionary because an author's desire to exclude is a valid business justification). But see *Image Technical Services v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997) (including in its analysis an evaluation of the patentee's intent for refusing to sell or license).

73. 504 U.S. 451 (1992).

cited language from *Kodak* does nothing to limit the right of the patentee to refuse to sell or license in markets within the scope of the patent grant.⁷⁴ The problem, of course, is raised when there is a refusal to sell or license to gain a monopoly beyond the scope of the patent.

Second, monopolists cannot engage in conduct that will decrease consumer welfare. For example, firms are prohibited from extending their intellectual property rights by tying⁷⁵ the protected product with a non-protected product.⁷⁶ Tying arrangements were first classified as restraints on trade in patent cases.⁷⁷ The practice of tying forecloses sales or sales opportunities in the market for the tied product and creates barriers to entry for new competitors.⁷⁸ It also interferes with consumer independence in making product choices.⁷⁹

Antitrust law also discourages attempts to monopolize in

74. *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327.

75. Tying occurs when a seller makes the sale or lease of one good to a buyer conditional on the sale or lease of another good to the same buyer. Tying is prohibited by section 3 of the Clayton Act. 15 U.S.C. § 14 (1976). Tying arrangements can also be considered under section 5 of the Federal Trade Commission Act, 15 U.S.C. § 41, and the tying of goods and services can be considered under section 1 of the Sherman Act. 15 U.S.C. § 1.

76. *See Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 605 (1953) ("Tying arrangements . . . flout the Sherman Act[] . . . [B]y conditioning [the] sale of one commodity on the purchase of another, a seller coerces the abdication of buyers' independent judgment as to the 'tied' product's merits and insulates it from competitive stresses of the open market."); *see also International Salt Co. v. United States*, 332 U.S. 392, 396 (1947) (holding that when a substantial amount of commerce is affected by a tying arrangement, the arrangement is *per se* unlawful under section 3 of the Clayton Act); *IBM Corp. v. United States*, 298 U.S. 131 (1936) (focusing on the danger of IBM's monopolistic tying clause); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917) (refusing to sanction an arrangement which tied the use of the plaintiff's patented movie projection equipment to the use of that company's film because permitting the arrangement would allow the plaintiff to become a monopolist). But for patents, see 35 U.S.C. § 271(c)-(d) (1994); *see also Dawson Chemical Co. v. Rohm & Haas Co.*, 448 U.S. 176 (1980) (holding that defendant did not commit patent misuse by refusing to license product); *Lifescan Inc. v. Polymer Tech. Int'l Corp.*, 35 U.S.P.Q.2d. 1225 (W.D. Wash. 1995) (refusing to find an implied license for patent use); *In re Recombinant DNA Tech. Patent and Contract Litigation*, 850 F. Supp. 769 (S.D. Ind. 1994) (holding that the 1988 Patent Misuse Reform Act has placed limitations on the finding of patent misuse in tying arrangements); Thomas M. Susman, *Tying, Refusals to License, and Copyright Misuse: The Patent Misuse Model*, 36 J. COPYRIGHT SOC U.S.A. 300 (1989) (discussing tying arrangements in copyright context).

77. *See id.*; *see also SULLIVAN & HOVENKAMP, supra* note 32, at 519.

78. *See SULLIVAN & HARRISON, supra* note 28, at 256-60.

79. *See Times Picayune Publ'g v. United States*, 345 U.S. at 597.

the aftermarket⁸⁰ of a protected product.⁸¹ In *Kodak*, the Court held that it would be a violation of the Sherman Act for Kodak to use its monopoly in Kodak machine parts, which were covered by patents, to exclude competitors from the service market for Kodak machines (an aftermarket).⁸² A significant factor in the court's decision was Kodak's exclusive dealing arrangement with the original equipment manufacturers (OEMs) that forbid OEMs from selling parts to independent service organizations (ISOs), thus increasing the price consumers paid to repair their machines.⁸³ Another factor was Kodak's reversing of a business practice that had been in place,⁸⁴ which had earlier been criticized in *Aspen Skiing*.⁸⁵

Antitrust theorists are also developing a theory of nonprice predation where a monopoly firm's efforts to raise its rival's costs would constitute a violation of the antitrust laws.⁸⁶ By engaging in such conduct, a firm may be able to gain "exclusionary" market power and thus the power to raise price, thereby injuring consumer welfare.⁸⁷ Although this theory has received little attention by courts, it presents a possible argument against a holder of an intellectual property right who has abused his power.

Although antitrust does limit the conduct of the holder of an intellectual property right, antitrust law does not prevent firms from promoting integrative efficiencies in order to reduce

80. Aftermarkets are the markets a product occupies after its original sale. In *Kodak*, the term refers to the parts and service market for the Kodak machines (as compared to the market for the actual copier equipment). See 504 U.S. 451 (1992).

81. See *id.* (denying summary judgment to defendant in a case involving monopolization in single firm aftermarket). But see *In re Independent Serv. Orgs. Antitrust Litig.*, 989 F. Supp. 1131, 1144 (D. Kan. 1997) (holding that a copyright holder's unilateral refusal to deal does not constitute unlawful exclusionary conduct under the antitrust laws or copyright misuse).

82. See *Kodak*, 504 U.S. at 483.

83. See *id.* at 485.

84. See *id.* at 479.

85. See *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.* 472 U.S. 585, 608 (1985).

86. See SULLIVAN & HARRISON, *supra* note 28, at 308-09; see also E. THOMAS SULLIVAN, ET. AL., NONPRICE PREDATION UNDER SECTION 2 OF THE SHERMAN ACT, at 3-5 (1991). A firm may have the ability to raise its rival's costs if it fabricates a raw material and sells it to others for fabrication. See *id.* The firm can then raise the price of the raw material for its competitors while acquiring raw material for its own production at marginal cost.

87. See E. THOMAS SULLIVAN ET. AL., *supra* note 86, at 3.

transaction costs.⁸⁸ Indeed, courts look favorably upon arrangements that lower prices for consumers.⁸⁹

Intellectual property law itself has developed several tools that are in harmony with and complement antitrust's efforts to prevent abuse of intellectual property rights. If a holder of intellectual property rights abuses those rights, it cannot win on an infringement claim against someone who has interfered with the copyright or patent protection.⁹⁰ Defendants in infringement cases have a misuse defense available.⁹¹ Furthermore, the availability of an antitrust counterclaim also deters an intellectual property right holder who has abused its rights from bringing an infringement suit.⁹² If a patent or copyright holder brings an infringement suit, and it has used its power in that market to gain a monopoly in another market, it is susceptible to liability under an antitrust counterclaim if the defendant was injured in that market. Under the misuse defense and the antitrust counterclaim procedure, intellectual property rights should only be enforced when they are not abused.⁹³

88. An example of this analysis can be found in the D.C. Circuit's 1998 opinion in the *Microsoft* case. 147 F.3d 935 (D.C. Cir. 1998). That court emphasized the difference between tied products that promote integrative efficiencies—"physical or technological interlinkage that the customer cannot perform"—and cases where the "manufacturer has done nothing more than to metaphorically 'bolt' two products together." *Id.* at 949 (quoting AREEDA, ELHAUGE & HOVENKAMP, ANTITRUST LAW §1746(b) at 227, 228 (1996)). The court also noted, "[I]f there is no suggestion that the product is superior to the purchaser's combination in some respect, it cannot be deemed integrated." *Id.* In considering tying arrangements that involve integrative efficiencies, the court emphasized that violations "must be limited to those instances where the technological factor tying the hardware to the software has been designed for the purpose of tying the products, rather than to achieve some technologically beneficial result." *Id.* at 950 (quoting *Response of Carolina, Inc. v. Leasco Response, Inc.*, 537 F.2d 1307, 1330 (5th Cir. 1976)).

89. Courts find a way to avoid antitrust tying analysis in cases where tying promotes integrative efficiencies. See e.g. *Foremost Pro Color v. Eastman Kodak Co.*, 703 F.2d 534 (9th Cir. 1983), *cert. denied*, 465 U.S. 1038 (1984); *ILC Peripherals Leasing Corp. v. IBM Corp.*, 458 F. Supp. 423 (N.D. Cal. 1978), *aff'd*, 636 F.2d 1188 (9th Cir. 1980), *cert. denied*, 452 U.S. 972 (1981).

90. See generally John Mills, *Possible Defenses to Complaints for Copyright Infringement and Reverse Engineering of Computer Software: Implications for Antitrust and IP Law*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 101 (1998); Comment, *Is the Patent Misuse Doctrine Obsolete?*, 110 HARV. L. REV. 1922 (1997).

91. See *supra* note 90.

92. See James Gould & James Langenfeld, *Antitrust and Intellectual Property: Landing on Patent Avenue in the Game of Monopoly*, 37 IDEA: J.L. &

D. ANALYSIS EMPLOYED TO RECONCILE ANTITRUST AND INTELLECTUAL PROPERTY

Courts currently use three types of analyses in antitrust/intellectual property cases: (1) rule of reason analysis; (2) market power analysis; and (3) market structure and competitive strategy. These approaches are embodied in the 1995 Antitrust Guidelines on the Licensing of Intellectual Property.⁹⁴

1. Rule of Reason

When faced with antitrust issues, courts will classify the conduct in one of two ways. First, if the defendant engages in “agreements or practices which [have a] pernicious effect on competition and lack . . . any redeeming virtue,” the court will conclusively presume the conduct is unreasonable, and apply *per se* analysis.⁹⁵ Second, if the defendant’s conduct has both anticompetitive and procompetitive effects, the court will apply rule of reason analysis and weigh the economic efficiencies of the defendant’s conduct against the actual anticompetitive cost of the venture.⁹⁶ In the past 25 years, courts have receded from the *per se* approach and moved more toward a focused or structural rule of reason analysis.⁹⁷ This shift is due in part to

TECH. 449, 452 (1997).

93. *See id.*; *see also* *Brulotte v. Thys Co.*, 379 U.S. 29 (1964); *United States v. Loew’s Inc.*, 371 U.S. 38 (1962); *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488 (1942).

94. *See* IP GUIDELINES, *supra* note 2.

95. *Northwest Wholesale Stationers, Inc. v. Pacific Stationary & Printing Co.*, 472 U.S. 284, 289 (1985) (quoting *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 5 (1958)).

96. *See California Dental Association v. FTC*, 526 U.S. 756 (1999) (holding that the “quick-look” rule of reason analysis was inappropriate because it was not obvious that the anticompetitive effects would outweigh the procompetitive effects); *FTC v. Indiana Fed’n of Dentists*, 476 US 447, 460-61 (1986) (holding that under the rule of reason, evidence of an actual detrimental effect “can obviate the need for an inquiry into market power”); *NCAA v. Board of Regents of Univ. of Okla.*, 468 U.S. 85 (1984) (applying a rule of reason analysis for a joint venture in the face of both a price fixing agreement and an output restriction); *Broadcast Music, Inc. v. Columbia Broad. Sys.*, 441 U.S. 1, 13 (1979) (rejecting a *per se* unlawful label for defendant’s conduct and reasoning that “the search for redeeming competitive virtues [of the challenged practice]. . . is not almost sure to be in vain”).

97. *See Sullivan & Harrison, supra* note 28, at 35. *Compare NCAA*, 468

a philosophical shift of the Court toward the Chicago School's view of antitrust law.⁹⁸

Rule of reason analysis can be applied to the use of intellectual property because protecting intellectual property rights may produce features that are both procompetitive and anticompetitive.⁹⁹ Rule of reason analysis permits the courts to compare the innovation and competition benefits of protecting intellectual property rights with the anticompetitive effects of the defendant's conduct.

2. Market Power Analysis

When applying the rule of reason to antitrust/intellectual property cases, courts look to the market power of the intellectual property firm to see if the firm has the ability to raise prices above competitive levels without incurring a loss in sales that more than outweighs the benefits of the higher price.¹⁰⁰ This analysis is integral to the rule of reason approach,

U.S. 85 (applying rule of reason to a price fixing agreement), *with* *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 223 (1940) (holding that "a combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity in interstate or foreign commerce is illegal *per se*"). In the area of vertical restraints, the Court has gone much further to narrow the application of *per se* rules. *See* *State Oil Co. v. Kahn*, 522 U.S. 3 (1997) (overruling the *Albrecht v. Herald Co.*, 390 U.S. 145 (1968), case and holding that the rule of reason should be applied to vertical agreements that set maximum prices); *Business Elecs. v. Sharp Elecs.*, 485 U.S. 717 (1988) (holding that "a vertical restraint is *per se* illegal under [section] 1 of the Sherman Act, only if there is an express or implied agreement to set resale prices at some level").

98. *See generally* ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 6-11 (REV. ED. 1993) (explaining the theory and evolution of antitrust law); E. THOMAS SULLIVAN, *THE POLITICAL ECONOMY OF THE SHERMAN ACT: THE FIRST 100 YEARS* (1990) (discussing the shift from *per se* analysis to rule of reason analysis). *See also* patent tying under 35 U.S.C. § 271(d) (5) (1994).

99. *See e.g.* *Eastman Kodak Co. v. Image Technical Serv., Inc.*, 504 U.S. 451, 479 (1992) (noting that there could be both procompetitive and anticompetitive aspects to Kodak's parts and service policy; thus, the case was inappropriate for summary judgment and should be sent to a jury for trial on the merits).

100. *See* *Eastman Kodak Co. v. Image Technical Serv., Inc.*, 504 U.S. 451 (1992) (considering market definition and the relationship of market share to market power); *United States v. Grinnell*, 384 U.S. 563 (1966) (analyzing both the geographic market and the product market to determine market power); *United States v. Aluminum Co. of Am. (Alcoa)*, 148 F.2d 416 (2d Cir. 1945) (analyzing supply elasticity, barriers to entry for foreign producers, and the possibility of recycling aluminum); *see also* SULLIVAN & HARRISON, *supra* note

which examines the impact of defendant's behavior.¹⁰¹ Therefore, the more market power a firm has, the more critical the court will be of the defendant's anticompetitive conduct. However, market power analysis of intellectual property is normally unnecessary when (1) the action is plainly *per se* illegal; (2) the firm's action has no anticompetitive effects; or (3) the anticompetitive effects are reasonable and limited when considered against the procompetitive features.¹⁰² If none of these three factors is present, courts watch for the maintenance or promotion of a monopoly, price coordination, output restrictions, or conduct creating barriers to entry for potential competition. Further, courts analyze the difficulty of entry into the market, availability of substitutes, and the elasticity of supply and demand in that market.¹⁰³ Courts will also watch for horizontal restraints, including exclusive licenses between competitors, though non-exclusive license arrangements normally should not create problems.¹⁰⁴ Finally, courts will balance the anticompetitive and procompetitive effects of such a licensing agreement under the "least restrictive analysis."¹⁰⁵ If the restraint is broader than necessary, it will not be deemed to be reasonable under the circumstances.¹⁰⁶ However, courts may be more willing to grant a safe harbor from liability to the product for a period of time.¹⁰⁷

3. Market Structure and Competitive Strategy

Through the lens of structure and competitive strategy, antitrust analysis frequently requires inquiry into the network

28, at 27-30, 292-98.

101. See SULLIVAN & HARRISON, *supra* note 28, at 35. Market power analysis is a proxy for projecting anticompetitive effects of defendant's conduct. If direct evidence of such anticompetitive conduct is available, market power analysis can be bypassed. See *FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447, 461 (1986).

102. See generally AREEDA & HOVENKAMP, ANTITRUST LAW 1999 SUPPLEMENT at 666-67 (explaining the importance of market power for antitrust).

103. See *id.* at 679; see also *United States v. Container Corp. of Am.*, 393 U.S. 333 (1969) (examining market structure of corrugated containers).

104. See AREEDA & HOVENKAMP, *supra* note 102, at 679-82. See, e.g., *United States v. Microsoft Corp.*, 147 F.3d 935 (1998).

105. See AREEDA & HOVENKAMP, *supra* note 102, at 683-84.

106. See *id.* at 683.

107. See *United States v. Jerrold Elects. Corp.*, 187 F. Supp. 545 (E.D. Pa. 1960), *aff'd per curiam*, 365 U.S. 567 (1961).

effects of certain technology.¹⁰⁸ Network effects theory posits that “the utility that a user derives from consumption of a good increases with the number of other agents consuming the good,”¹⁰⁹ and uses as illustration products such as a telephone or a personal computer operating system.¹¹⁰ Examining network effects requires recognizing the effect of increasing returns on demand in a given market.¹¹¹ Network effects involve both antitrust and intellectual property law, “where the law establishes a right to exclude others from the use of a thing” by giving control over “access and pricing” to a single owner.¹¹² Network effects arguments in intellectual property prove most successful when used in antitrust suits.¹¹³

Network effects alter the way antitrust investigators analyze market structure.¹¹⁴ The government currently uses network effects in three ways. First, “[n]etwork theory has been used by plaintiffs seeking to invoke antitrust in markets in which a dominant firm establishes a proprietary product as a

108. See COMPETITION POLICY, *supra* note 148, VOL. I, Ch. 9: 1-10 (reviewing the FTC’s investigation of anticompetitive networks and standards); see also Joseph Kattan, *After the IP Guidelines: Trends in Intellectual Property Enforcement*, 11 *Antitrust* 26, 29 (1997); IP GUIDELINES, *supra* note 2, § 2.3.

109. Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 *CAL. L. REV.* 479, 483 (1998) (quoting Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 *AM. ECON. REV.* 424, 424 (1985)); see also David A. Balto, *Networks and Exclusivity: Antitrust Analysis to Promote Network Competition*, 7 *GEO. MASON L. REV.* 523, 524 (1999). Professors McGowan and Lemley are the leading scholars advancing the network effects theory.

110. See McGowan, *Networks and Intention*, *supra* note 7, at 487-88.

111. See LEMLEY & MCGOWAN, *supra* note 109, at 484, 500. Lemley and McGowan compare the analysis to that used in evaluating the supply side of a natural monopoly. *Id.* at 484. See also McGowan, *Networks and Intention*, *supra* note 7, at 488-89. But see William J. Kolasky, *Network Effects: A Contrarian View*, 7 *GEO. MASON L. REV.* 577 (1999) (arguing that network effects describe what is really a supply-side characteristic).

112. Lemley & McGowan, *supra* note 109, at 490.

113. See *id.* at 537.

114. See *id.* at 500-07 (explaining *United States v. Microsoft* as the principal network effects case); Daniel J. Gifford & David McGowan, *A Microsoft Dialogue*, 2 *PRAC. LAW INST.* 515 (1999) (considering the dispute between Microsoft and Java standards); David McGowan, *Networks and Intention*, *supra* note 7, at 485 (evaluating the intellectual property right to exclude others in the antitrust context); see also *United States v. Microsoft Corp.*, 159 *F.R.D.* 318 (D.D.C. 1995); *rev’d* 56 *F.3d* 1448 (D.C. Cir. 1995); *United States v. Microsoft Corp.*, 980 *F. Supp.* 537 (D.D.C. 1997), *rev’d* 147 *F.3d* 935 (D.C. Cir. 1998).

standard on which competition is based.”¹¹⁵ Intellectual property rights can create barriers to innovation when consumers become locked into a protected product, such as a certain type of electricity conduit. In this regard, markets characterized by network effects closely resemble natural monopolies.¹¹⁶

Next, checking network effects involves promoting both intersystem and intrasystem competition in order to maximize competition.¹¹⁷ Often network effects result in either a single-firm monopoly or high barriers to entry.¹¹⁸ The government has used networks effects theory in antitrust/intellectual property litigation to argue that the high barriers to entry in some intellectual property markets demonstrate the possibility of monopolization and lasting monopoly power.¹¹⁹ This argument can be followed by an argument for antitrust liability such as “essential facilities,”¹²⁰ unlawful acquisition and maintenance of monopoly power,¹²¹ or monopoly leveraging.¹²²

The final significant use of network effects involves government-imposed conditions for proposed mergers.¹²³ The Department of Justice and the Federal Trade Commission (FTC) have utilized network effects in requiring divestitures “in such diverse markets as salvage-yard parts trading, vacation

115. McGowan, *Networks and Intention*, *supra* note 7, at 487.

116. *See id.* at 488-89; *see also* Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1056 (1996) (acknowledging the similarities between natural monopolies and the effects of product standards).

117. *See* COMPETITION POLICY, *supra* note 148, VOL. I, Ch. 9, 3 (indicating that in order to promote both horizontal and vertical competition both systems must be regulated).

118. *See Microsoft*, 56 F.3d at 1452; Balto, *supra* note 109, at 531. *See generally* Lemley & McGowan, *supra* note 109, at 487-88 (describing the theory of network effects). *But see* Kolasky, *supra* note 111 and accompanying text (stating that positive network effects result in greater competition and lower prices).

119. *See, e.g.*, *United States v. Microsoft Corp.*, 147 F.3d 935, 939 (D.C. Cir. 1998).

120. *See Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255 (N.D. Ala. 1998), *vacated*, 195 F.3d 1346 (Fed. Cir. 1999).

121. *See United States v. Microsoft Corp.*, No. CIV.A.98-1232, 1998 WL 614485 (D.D.C. Sept. 14, 1998).

122. *See id.*

123. *See* LEMLEY & MCGOWAN, *supra* note 109, at 537-38 (discussing the use of network effects in a Silicon Graphics, Inc. merger); Kolasky, *supra* note 111, at 602-4 (critiquing the FTC's use of network effects to require divestiture in the MCI/World Com merger).

timeshare exchange services, ATM networks, and illustration and animation software.”¹²⁴ While it is clear that network effects alter government evaluation of competition markets, no consistent use has evolved under the Guidelines.¹²⁵

In sum, network effects can be seen as positive when the underlying good or system increases with use, leading to the likelihood of a greater monopoly problem and significant barrier to entry issues for potential competitors.

4. 1995 Antitrust Guidelines for the Licensing of Intellectual Property

In 1995, the Department of Justice and FTC released new guidelines (“the Guidelines”) articulating the analysis the federal regulatory agencies would use in pursuing antitrust charges against entities involved in questionable licensing of intellectual property rights.¹²⁶ The Guidelines add certainty to the process of predicting what behavior will result in an antitrust challenge against intellectual property practices.¹²⁷ They support the contention that antitrust and intellectual property rights can be viewed as complementary legal regimes.¹²⁸

The Guidelines clarify three assumptions about the intersection of antitrust and intellectual property law. First, the Guidelines review the general principles of antitrust analysis and their application to intellectual property agreements.¹²⁹ Next, and importantly, the Guidelines explain that mere possession of intellectual property does not confer market power.¹³⁰ Finally, the Guidelines state that intellectual

124. Kolasky, *supra* note 111, at 582.

125. See *infra* notes 126-165 and accompanying text. The Guidelines recognize exclusivity arrangements, similar to those often resulting from networks, in § 4.1.2 which explains the agencies’ approach to licensing. See IP GUIDELINES, *supra* note 2, § 4.1.2; Balto, *supra* note 109, at 564 n.158.

126. See IP GUIDELINES, *supra* note 2.

127. See Azam H. Aziz, *Defining Technology and Innovation Markets: The DOJ’s Antitrust Guidelines for the Licensing of Intellectual Property*, 24 HOFSTRA L. REV. 475, 477 (1995).

128. See IP GUIDELINES, *supra* note 2, § 1.0.

129. See *id.* § 2.0

130. See *id.* § 2.2; see also Richard J. Gilbert, *Defining the Crossroads of Intellectual Property and the Antitrust Laws: The 1995 Antitrust Guidelines for the Licensing of Intellectual Property*, in ANTITRUST LAW: POLICY & PRACTICE 1025, 1026 (William R. Anderson & C. Paul Rogers eds., 3d ed.,

property is generally procompetitive and that certain licensing restraints can serve procompetitive purposes.¹³¹ Both the FTC and the Department of Justice have filed several cases challenging licensing practices since the adoption of the Guidelines.¹³² In addition to illustrating the application of the Guidelines, these cases demonstrate how the Guidelines promote competition while preserving intellectual property rights.

The assumptions underlying the Guidelines recognize that licensing produces significant efficiency benefits.¹³³ As a result, the agencies normally evaluate possible anticompetitive behavior under the rule of reason: "The Agencies' general approach in analyzing a licensing restraint under the rule of reason is to inquire whether the restraint is likely to have anticompetitive effects and, if so, whether the restraint is reasonably necessary to achieve procompetitive benefits that outweigh those anticompetitive effects."¹³⁴ However, to determine whether a restraint is *per se* anticompetitive, "the Agencies will assess whether the restraint in question can be expected to contribute to an efficiency-enhancing integration of economic activity."¹³⁵ If the government finds that no economic benefits exist and that the restraint is one courts have accorded *per se* treatment, the government will challenge the agreement under the *per se* rule.¹³⁶ Otherwise, the courts will inquire into market conditions and apply rule of reason analysis.¹³⁷

Antitrust concerns are present when a license reduces competition between parties who would have been in a horizontal relationship in the absence of the license.¹³⁸ While a licensing agreement will not be assumed to be reasonable merely because it produces greater economic benefits than would occur in the absence of the license, the Department of

1999) (Richard J. Gilbert was a drafter of the Guidelines).

131. See IP GUIDELINES, *supra* note 2, § 3.4.

132. See *e.g.* United States v. Nippon Paper Ind. Co., Ltd., 109 F.3d 1 (1st Cir. 1997); United States v. General Elec. Co., 1997-1 Trade Case ¶ 71,765 (D. Mont. 1997); Cooperative Computing Inc., FTC No. 971-0013, 62 Fed. Reg. 10,564 (Mar. 7, 1997).

133. See IP GUIDELINES, *supra* note 2, § 3.4.

134. See *id.* § 3.4. See generally National Soc'y of Prof'l Eng'rs v. United States, 435 U.S. 679 (1978).

135. See IP GUIDELINES, *supra* note 2, § 3.4.

136. See *id.*

137. See *id.*

138. See *id.* § 3.1; Gilbert, *supra* note 130, 1027.

Justice will generally focus on “whether the licensing arrangement could have created even more competition if the arrangement otherwise has no anticompetitive effects in any relevant antitrust market.”¹³⁹

Significantly, the Guidelines do not presume that ownership of intellectual property automatically confers market power. As a result, when concerns about anticompetitive behavior arise, the agencies will investigate actual effects of an arrangement in a specific market.¹⁴⁰ Specifically, market power will be evaluated in three types of markets: the goods market, the technology market, and the research and development (innovation) market.¹⁴¹ When analyzing a proposal, the agencies first decide which among the three markets the proposed venture involves. The government will then focus on the “actual effects of an arrangement, not on its formal terms.”¹⁴²

a. The Goods Market

The goods market is defined as actual products, whether in the output or input good market.¹⁴³ For this market, the most common in antitrust analysis, the government will use the Horizontal Merger Guidelines to evaluate the specific product and geographic markets, as well as market share.¹⁴⁴ For example, in a suit against General Electric Company (GE), the Department of Justice alleged that GE used restrictive licenses for medical imaging software to decrease competition in the market for equipment servicing and in the market for the purchase of equipment itself.¹⁴⁵ Similarly, in an investigation of

139. See Gilbert, *supra* note 130, 1028.

140. See IP GUIDELINES, *supra* note 2, § 3.1.

141. See *id.* See also Aziz, *supra* note 127, at 477-78

142. See IP GUIDELINES, *supra* note 2, § 3.1.

143. See Aziz, *supra* note 127, at 477.

144. See IP GUIDELINES, *supra* note 2, § 3.2.1; DEPARTMENT OF JUSTICE AND FEDERAL TRADE COMMISSION HORIZONTAL MERGER GUIDELINES (April 2, 1992); see also FEDERAL TRADE COMM’N AND DEPARTMENT OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS (Draft) § 3.32(b) (Oct. 1, 1999) [hereinafter COLLABORATIONS GUIDELINES] (new joint venture guidelines).

145. See *United States v. General Elec. Co.*, 1997-1 Trade Cases ¶ 71,765 *2 (D. Mont. 1997) (reviewing government claims that GE has entered into anti-competitive agreements with more than 500 hospitals that are among GE’s most significant actual or potential competitors in the servicing of medical imaging equipment; the government alleges that GE grants licenses

Intel Corporation, the FTC alleged that the company had used its eighty-percent market share in the microprocessor market to coerce competitors into licensing arrangements.¹⁴⁶

b. Technology Markets

A technology market consists of “the intellectual property that is licensed . . . and its close substitutes.”¹⁴⁷ According to the Guidelines, “[w]hen rights to intellectual property are marketed separately from the products in which they are used, the Agencies may rely on technology markets to analyze the competitive effects of a licensing arrangement.”¹⁴⁸ When investigating possible anticompetitive behavior in a technology market, the agencies identify the product market and then identify other technologies in that market comparable to the scrutinized technology.¹⁴⁹ This includes close substitutes where the presence of the substitute product might limit the use of market power by the holder of the licensed intellectual property.¹⁵⁰ Moreover, in defining and analyzing the market, data about the buyer’s assessment of the competitiveness of the market are important, particularly if market share data are unavailable.¹⁵¹ Evidence regarding actual and potential participants is highly relevant.

Few cases since the promulgation of the Guidelines involve technology markets; those that do, involve mergers that combine patents for similar or substitute technologies.¹⁵² If a

in exchange for agreements not to compete with GE in servicing any other facilities’ medical imaging equipment.).

146. See *FTC Accepts Settlement of Charges Against Intel*, FTC Docket No. 9288, Federal Trade Commission Press Release (March 17, 1999).

147. See IP GUIDELINES, *supra* note 126, § 3.2.2.

148. See *id.*; COLLABORATIONS GUIDELINES, *supra* note 144, § 3.32(b) (outlining the technology market for use in analysis of proposed joint ventures); see also ANTICIPATING THE 21ST CENTURY: COMPETITION POLICY IN THE NEW HIGH-TECH, GLOBAL MARKETPLACE VOL. I, Ch. 8: 1-22 (Federal Trade Commission Staff, May 1996) [hereinafter COMPETITION POLICY].

149. See IP GUIDELINES, *supra* note 2, example 2.

150. See *id.*

151. See *id.* § 3.2.2.

152. See *Dell Computer Corp.* File No. 931-0097 (prohibiting Dell Computer Corp. from enforcing patent infringement claims for certain computer components); see also Kattan, *supra* note 108, at 28-9 (“Where the strengthening of [patent] portfolios involves combining substitute technologies, the combination could raise concerns in goods, innovation, or licensing markets, to the extent that the combining firms face little

transaction combines dissimilar patents, however, the strengthened firm would still have the same incentive to pursue the procompetitive commercial value of intellectual property.

c. Innovation Markets

When a licensing arrangement may deter future innovation, the government will analyze the impact in the markets for research and development (innovation).¹⁵³ The agencies will use the innovation market when the arrangement affects the development of goods that do not yet exist or where no likely potential competition yet exists.¹⁵⁴ An innovation market can exist with respect to either new goods or new technologies.¹⁵⁵ Currently, the agencies utilize the innovation market most extensively when evaluating activity in the pharmaceutical and medical technology industries.¹⁵⁶ Specifically, the FTC has applied the innovation market theory to ensure potential competition where no product would be marketed for several years following the consummation of the transaction and where the products created also would produce a new market.¹⁵⁷ However, an innovation market is hard to define because one must identify which firms have the capability and incentive to be in the innovation market.¹⁵⁸

Finally, the Guidelines represent the government's commitment to utilizing antitrust law to promote competition.¹⁵⁹ The FTC, in assessing the effect high-tech

technological competition from other entities."); *B.V. Optische Industrie de Oude Delft v. Hologic, Inc.*, 909 F. Supp. 162, 172 (S.D.N.Y. 1995) (holding that the plaintiff did not adequately demonstrate the relevant market).

153. See IP GUIDELINES, *supra* note 2, § 3.2.3; COLLABORATIONS GUIDELINES, *supra* note 144, § 3.32(c) (discussing the use of innovation markets under the proposed guidelines for joint ventures); see also COMPETITION POLICY, *supra* note 148, VOL. I, Ch. 6.; 1-17.

154. See IP GUIDELINES, *supra* note 2, § 3.2.3.

155. See *id.*

156. See Kattan, *supra* note 108, at 27 (noting pharmaceutical industry antitrust focus because of transparent effect of research on end product and future market in which good will compete).

157. See *id.* at 27 (discussing consent decree for merger between companies researching gene therapy techniques).

158. See Aziz, *supra* note 127, at 505 (noting that almost anyone can innovate yet very few choose to do so).

159. See IP GUIDELINES, *supra* note 2, § 1; COMPETITION POLICY, *supra* note 148, VOL. I, Ch. 6, 5, 12-16.

industries have on antitrust law, noted that both intellectual property and antitrust laws serve to promote innovation, an essential element in competition.¹⁶⁰ In theory, the Guidelines facilitate clarity and predictability in the field of intellectual property by providing a coherent rendering of antitrust issues by the present enforcers of the law. Cases¹⁶¹ and agency settlements since the adoption of the Guidelines indicate that the Department of Justice and FTC utilize the Guidelines as tools for analyzing possible anticompetitive conduct.¹⁶²

Consistent with the idea that procompetitive effects of intellectual property do exist, specifically in licensing agreements, the 1995 Guidelines introduced a “safe harbor” provision for licensing transactions: “Absent extraordinary circumstances, the agencies will not challenge a restraint in a licensing arrangement if (1) the restraint is not facially anticompetitive and (2) the licensor and its licensees collectively account for no more than twenty percent of each relevant market.”¹⁶³ The purpose of the safe harbor provision is “to provide owners of intellectual property with a degree of certainty . . . [when] anticompetitive effects” are unlikely.¹⁶⁴ Normally, the government will determine the applicability of the “safe harbor” provision from an analysis of the goods

160. See COMPETITION POLICY, *supra* note 148, VOL. I, Ch. 6, 16.

161. See, e.g., *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999) (citing Guidelines as support for proposition that market power does not impose a duty to license intellectual property).

162. See, e.g., *U.S. v. SBC Comm. Inc. and Ameritech Corp.*, 1999 WL 1211458 (D.D.C., Aug. 2, 1999) (entering final judgment that divested companies of certain wireless phone services and imposing injunctive relief preventing companies from merging their cellular phone services); *Summit and VISX Settle FTC Charges of Violating Antitrust Laws*, FTC File No. 9510029, Federal Trade Commission Press Release (Aug. 21, 1998) (charging two firms that compete in photorefractive keratectomy (“PRK”), a form of eye surgery that uses lasers to correct vision with patent pooling in order to eliminate competition); *Settlement Negotiated by FTC Would Preserve Competition in Market for Certain Types of Animal Vaccines*, FTC File No. 971 0009, Federal Trade Commission Press Release (Feb. 25, 1997) (announcing settlement preserving competition in the innovation and product markets for animal companion vaccines). *But see* Kattan, *supra* note 108, at 26-28 (arguing that early enforcement indicates some inconsistency in the innovation markets); Gifford & McGowan, *supra* note 114, at 521-22 (noting problems in the use of innovation markets by the Department in *United States v. Microsoft*).

163. IP GUIDELINES, *supra* note 2, § 4.3; *see also* Gilbert, *supra* note 130, at 1026. But this safe harbor provision does not apply to the transfer of intellectual property rights in a merger. See IP GUIDELINES, *supra*.

164. *Id.*

market only. However, a technology or innovation market analysis regarding the “safe harbor” is possible, though limited.¹⁶⁵

In the 1990s, at approximately the same time the Department of Justice announced the Guidelines, it initiated its antitrust suit against Microsoft.¹⁶⁶ In this suit the United States argues that Microsoft is a monopoly that has engaged in illegal monopoly conduct.¹⁶⁷ A closer analysis of the case illustrates how the government’s arguments and the district court findings of fact utilize the Guideline analysis.

5. Theory in Practice: The Government’s Case Against Microsoft

The United States’s ongoing antitrust suits against Microsoft illustrate the practical application of contemporary antitrust and intellectual property analysis. The Department of Justice did not file claims against the computer company system simply because its operating system is a monopoly. Rather, using the Guidelines as a framework,¹⁶⁸ the Department of Justice focused on whether Microsoft achieved monopoly power through anticompetitive means, and whether Microsoft has engaged in anticompetitive conduct to spread and maintain its domination.¹⁶⁹ The recent findings of facts issued by the district court indicate that the court also followed the Guideline analysis.

Initially, the court evaluated Microsoft’s market power and market share, utilizing network theory.¹⁷⁰ First, the court identified the product market as that for Intel-compatible substitutes.¹⁷¹ Next, the court evaluated Microsoft’s power in

165. *Id.*

166. *See infra* Part I.D.5.

167. *See id.*

168. *See supra* note 162 and accompanying text.

169. The Department complaint charges that Microsoft used “exclusionary and anticompetitive contracts to market its personal computer operating systems and software” and “has unlawfully maintained its monopoly of personal computer operating systems and has unreasonably restrained trade.” Complaint at 1, *United States v. Microsoft Corp.*, 56 F.3d 1448 (D.C. Cir. 1995) (No. 94-1564) <<http://www.usdoj.gov/atr/cases/f0000/0046.htm>> [hereinafter *Microsoft Complaint*]; *see also* *United States v. Microsoft*, 65 F. Supp. 2d 1 (D.D.C. Nov. 5, 1999) (containing J. Jackson’s Findings of Fact).

170. *See* *United States v. Microsoft*, 65 F. Supp. 2d at 3-7.

171. *See id.* at 5-6.

this market.¹⁷² Network theory suggests that evaluating Microsoft's marketing of its browser software should take into account the extent to which the market value rose based on the number of users.¹⁷³ According to the court, "consumer demand for Windows enjoys . . . network effects. The fact that there is a multitude of people using Windows makes the product more attractive to customers."¹⁷⁴ This network results in extremely high costs for market entry.¹⁷⁵ Barriers to entry in the competing software or hardware markets become higher when network effects are present because consumers are unlikely to buy accompanying products (e.g., software) that are incompatible with the product standard (Windows) or to buy a similar product (a Macintosh) that is incompatible with the product standard other people use.¹⁷⁶ Finally, the court considered whether competition in the innovation market¹⁷⁷ protected Microsoft, and found that Microsoft's aggressive improvement of its products foreclosed competition in future products as well.¹⁷⁸ Viewing the totality of the company's influence in the relevant markets, the court found that

172. *See id.* at 6.

173. *See* Kolasky, *supra* note 111 (noting the government first invoked network effects in its 1994 Microsoft suit regarding per-processor royalties); *Microsoft*, 56 F.3d at 1451. *See also* *United States v. VISA, U.S.A., Inc.*, (S.D.N.Y. Oct. 7, 1998) (No. 98-civ-7076); Balto, *supra* note 109, at 525-26 (evaluating the use of network effects in *United States v. Visa and Mastercard*).

174. *Microsoft*, 65 F. Supp. 2d at 10.

175. *See id.* at 12.

176. *See id.* at 9; *cf.* *Eastman Kodak Co. v. Image Technical Services*, 504 U.S. 451 (1992) (discussing the lack of information that results when a firm uses patent rights to exclude others from machine parts in order to gain a monopoly in the product-repair aftermarket).

177. *See supra* notes 153-167 and accompanying text.

178. *See Microsoft*, 65 F. Supp. 2d at 17. *But see* *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.* 472 U.S. 585 (1985) (noting that efficiency justifies innovation); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 274 and 281 (2d Cir. 1979) *cert. denied*, 444 U.S. 1093 (1980) (quoting *United Shoe Machinery Corp.* 110 F. Supp. 295, 341 (Mass. Dist. Ct. 1953)) (arguing that section 2 of Sherman Act does not "condemn one who 'merely by superior skill and intelligence . . . got the whole business because nobody could do it as well.'" Moreover, "a monopolist is permitted, and indeed encouraged, by section 2 to compete aggressively on the merits, any success that it may achieve through the process of invention and innovation is clearly tolerated by the antitrust laws"); *California Computer Prods., Inc. v. IBM Corp.*, 613 F.2d 727 (9th Cir. 1979) (stating that "a monopolist had the right to redesign its products to make them more attractive to buyers—whether by reason of lower manufacturing cost and price or improved performance").

Microsoft is a monopolist.

Having determined that Microsoft holds a monopoly market share, the court sought evidence of monopoly behavior. The court found that Microsoft engaged in monopoly pricing,¹⁷⁹ imposition of higher barriers to market entry,¹⁸⁰ withholding of crucial technical information¹⁸¹ and product bundling.¹⁸² Using the *Alcoa* test,¹⁸³ the court looked for procompetitive justifications for Microsoft's behavior but found none sufficient to explain the corporation's anticompetitive behavior.¹⁸⁴ The court, therefore, found that Microsoft's efforts to protect its applications from competition from a number of alternative products and services harmed consumers.¹⁸⁵ According to the court, Microsoft forced consumers to buy *unwanted* products,¹⁸⁶ deterred innovation and caused unnecessarily high prices: "The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self interest."¹⁸⁷

Ultimately, the courts will have to decide whether Microsoft's conduct as charged—tying the browser to the Windows operating system, entering into exclusionary contracts with Internet service providers (ISPs), and Internet content providers (ICPs) that favored Microsoft technology, and engaging in monopoly pricing—has in fact curtailed innovation, increased transaction costs of rivals, impeded interoperability, and increased barriers to entry for potential competitors.

CONCLUSION

This article has attempted to show the harmony and compatibility of antitrust and intellectual property through a historical perspective. Both bodies of law promote innovation

179. See *Microsoft*, 65 F. Supp. 2d at 17-18.

180. See *id.* at 22-24.

181. See *id.* at 25.

182. See *id.* at 40.

183. See *supra* note 48 and accompanying text.

184. See *Microsoft*, 65 F. Supp. 2d at 46-52; see also *supra* note 66 and accompanying text (noting that a valid business justification may justify certain anticompetitive behavior); *Berkey Photo*, 603 F.2d 263 (arguing that innovation, product improvement, and cheaper products benefit consumers and therefore are protected conduct).

185. See *Microsoft*, 65 F.Supp.2d at 102.

186. See *id.* at 102.

187. See *id.* at 103.

in markets and consumer welfare in the long run. Given the dynamic nature of technology and innovation in the United States at present, it is likely that great attention will be given to the interaction of both legal regimes. And, although both bodies of law are highly technical by nature, it increasingly will become important that decision-makers both in Congress and the judiciary be aware of the symmetry and historic congruity between both bodies of law. The relationship between these bodies is inexorably linked to a sound public policy that promotes innovation in a free market economy.

