

ANTITRUST ENFORCEMENT AND HIGH-TECHNOLOGY MARKETS

William J. Baer and David A. Balto***

Cite As: William J. Baer and David A. Balto, *Antitrust Enforcement and High-Technology Markets*,
5 MICH. TELECOMM. TECH. L. REV. 73 (1999)
available at <<http://www.mttlr.org/volfive/balto.pdf>>

I. INTRODUCTION	73
II. UNIQUE CHARACTERISTICS OF HIGH-TECH INDUSTRIES	75
III. THE ROLE OF ANTITRUST IN HIGH-TECH INDUSTRIES	79
A. <i>Anticompetitive Acquisitions</i>	79
B. <i>Abuse of the Standard Setting Process</i>	82
C. <i>Fraudulent Procurement</i>	83
D. <i>Maintaining Monopoly Power in a High-Tech Industry</i>	85
IV. CONCLUSION.....	90

I. INTRODUCTION

The application of the antitrust laws to high-tech industries is a timely subject. Both the Federal Trade Commission (“Commission”) and the Antitrust Division (“Antitrust Division”) of the Department of Justice have recently brought a number of cases, in both the merger and nonmerger areas, involving firms in high-tech markets.¹ Although the Microsoft² and Intel³ cases have engendered most of the public’s attention, they are only the most visible examples of recent federal antitrust enforcement involving high-tech products. Recent FTC antitrust actions challenged patent pools used to fix prices, frauds on the

* Director, Bureau of Competition, Federal Trade Commission.

** Assistant Director, Office of Policy and Evaluation, Bureau of Competition, Federal Trade Commission. The authors would like to thank James Mongoven for his generous assistance in the preparation of this article.

1. Private parties have also been active recently in bringing antitrust cases involving high-tech and intellectual property issues. *See, e.g.*, *Nobelpharma AB v. Implant Innovations, Inc.*, 129 F.3d 1463 (Fed. Cir. 1997); *Systemcare, Inc. v. Wang Lab. Corp.*, 117 F.3d 1137 (10th Cir. 1997) (en banc).

2. *See United States v. Microsoft Corp.*, Civ. Ac. No. 98-1232 (D.D.C. May 18, 1998) (complaint); *New York v. Microsoft Corp.*, Civ. Ac. No. 98-1233 (D.D.C. May 18, 1998) (complaint).

3. *See In the Matter of Intel Corp.*, FTC Dkt. No. 9288 (June 8, 1998) (complaint).

patent procurement process,⁴ abuses of standard setting processes,⁵ mergers that would result in an anticompetitive accumulation of power over innovation markets,⁶ and other anticompetitive practices that would deny consumers the important benefits of innovation.

Although the antitrust laws apply to all industries,⁷ the application must be tempered in each case by the myriad ways in which competition can be modified by structural, behavioral, technological, regulatory, and other characteristics. The Commission applies the antitrust laws with sensitivity to the special characteristics of high-tech industries and of intellectual property, but also with the recognition that—as in other industries—competition plays an important role in spurring innovation and in spreading the benefits of that innovation to consumers. This focus is not new. This balanced approach has roots that go back at least to the 1977 Antitrust Guide to International Operations in the Ford Administration and the 1988 Antitrust Guidelines for International Operations in the last year of the Reagan Administration, and is set forth in the 1995 Antitrust Guidelines for the Licensing of Intellectual Property four years ago. It is also informed by the extensive hearings and detailed reporting by the Commission three years ago on antitrust in the 21st century.⁸

Of course, enforcement in this area is not entirely free from controversy. A few critics question whether the antitrust laws that were originally designed to apply to traditional manufacturing and distribution industries should be applied at all to competition in fast-moving industries where products often are quickly outmoded and market share

4. See *In the Matter of Summit Technology, Inc.*, 1999 F.T.C. LEXIS 23 (1999).

5. See *In the Matter of Dell Computer Co.*, C-3658 (May 20, 1996) (consent order) (Commissioner Azcuenaga dissenting).

6. See *In the Matter of Glaxo plc*, C-3586 (June 14, 1995) (consent order); Hoechst AG, C-3629 (Dec. 5, 1995) (consent order), Novartis AG, C-3725 (April 10, 1997) (consent order).

7. All industries are subject to the antitrust laws unless exempted by a federal regulatory scheme. See e.g., Shipping Act of 1984, 46 U.S.C. app. §§ 1–1721 (1994). The exemption must be specific, however, as “[r]epeals of the antitrust laws by implication from a regulatory statute are strongly disfavored, and have only been found in cases of plain repugnancy between the antitrust and regulatory provisions.” *United States v. Philadelphia Nat’l Bank*, 374 U.S. 321, 350–51 (1963). In one anomalous case, the Supreme Court held in 1922 that baseball was not in interstate commerce and was thus beyond the reach of the antitrust laws. See *Federal Baseball Club of Baltimore v. National League of Prof’l Baseball Clubs*, 259 U.S. 200 (1922). Congress partially repealed this exemption in 1998.

8. See *Anticipating the 21st Century: Competition Policy in the New High-Tech, Global Marketplace—Volume I*, Federal Trade Commission Staff Report (May 1996) <<http://www.ftc.gov/opp/global.htm>>.

may be ephemeral.⁹ Others express concern about the potential conflict between the antitrust laws and the laws that protect intellectual property.¹⁰ Are monopolies granted under U. S. patent laws fundamentally in conflict with the “antimonopoly” focus of the Sherman Act and later antitrust statutes? Can intellectual property rights coexist with effective antitrust enforcement?

II. UNIQUE CHARACTERISTICS OF HIGH-TECH INDUSTRIES

The most obvious criticism of antitrust enforcement as applied to high-tech industries starts with the notion that these are fast-moving industries in which today’s technology is quickly outmoded, opening the way for new competitors to overturn the dominance of incumbents. If those generalizations were uniformly true of high-tech markets, then surely antitrust enforcement would be less important. Except for price-fixing and other per se violations, antitrust ought to leave such markets alone, for any effort to create or exercise market power would quickly be corrected by market forces.

Of course, experience shows that this caricature of high-tech markets is true in some cases and false in others. For example, even in an innovation-driven market, dominance in one generation may enable a firm to gain exclusive control over critical inputs, such as software applications, allowing monopoly power to be carried over from generation to generation regardless of the relative superiority or inferiority of the incumbent’s later generation products.¹¹ In addition, large sunk costs, high risks, and other entry barriers may mean that while product characteristics change rapidly, the identity of the dominant players may be unchanging for long periods of time.¹²

While it is true that rapidly evolving technology may, in many circumstances, erode entrenched interests, there may also be countervailing tendencies that strengthen monopoly power. For instance, the networking effects present in many high-tech industries can lead to a winner-take-all market with very limited opportunity for any

9. See David J. Teece and Mary Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries*, 43 ANTITRUST BULL. 801 (1998); Robert J. Barro, *Why the Antitrust Cops Should Lay Off High Tech*, BUSINESS WEEK, Aug. 17, 1998, at 20.

10. See, e.g., Ward S. Bowman, Jr., *PATENT & ANTITRUST LAW: A LEGAL & ECONOMIC APPRAISAL* (1973); William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267, 275 (1966).

11. See Jeffrey Church and Neil Gandal, *Network Effects, Software Provision, and Standardization*, 40 J. INDUS. ECON. 85, 97 (1992).

12. See Joseph Farrell and Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 AM. ECON. REV. 940, 942 (1986).

firm to compete with the dominant network.¹³ Regulatory barriers, as in the need for FDA approval of pharmaceuticals, may mean that new entrants arrive only very slowly regardless of the sophistication of the underlying technology. And, of course, patents or other intellectual property may play a role—not as something for antitrust to condemn, but as a fact of life in a particular market, like economies of scale or large sunk costs, that makes entry unlikely, slow, or insufficient.¹⁴

A key aspect of the role of antitrust enforcement in high-tech markets, and an area in which criticism of that enforcement is most vigorous, concerns the seeming conflict between intellectual property rights and federal antitrust laws. There may in fact be a lot less conflict or even potential for conflict than this issue implies. Intellectual property is a form of property. Through the years antitrust enforcement has shown respect for the property rights of factory owners in the land on which their factories sit, the bricks and mortar or steel and glass of which those factories are built, the expensive machinery that operates inside those factories, and the products that they produce for sale. But if the only two factory-owners, the only two producers, in a particular market decided not to compete, but instead contributed their factories to a partnership that sold the combined output at a single price set through a formula, the Commission's respect for their property rights wouldn't stop it for long from enforcing the antitrust laws to the fullest extent. The Commission's job is to prevent the use of that property in an anti-competitive and unlawful fashion.

If that scenario concerning real property were translated into the patent context, one would have the situation the Commission faced in its recent challenge to the patent pool between Summit Technology and VISX, the only two FDA-approved manufacturers of lasers used in photo refractive keratectomy ("PRK"), a vision disorder treatment.¹⁵ The Commission complaint charged that both companies had the intellectual property and other assets to enter the market as independent competitors, but instead formed a patent pool and used it to fix prices.

Rather than compete on price, the two firms agreed to charge a \$250 licensing fee that was paid into the pool each time laser eye surgery was performed using either firm's equipment. The proceeds of the pool were split according to a formula. The result was that prices were far higher

13. See Michael Katz and Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 437 (1985).

14. See *McGahee v. Northern Propane Gas Co.*, 858 F.2d 1487, 1495 (11th Cir. 1988) (patents or the lack thereof are relevant to a determination of entry barriers); *accord Westman Comm'n Co. v. Hobart Int'l, Inc.*, 796 F.2d 1216 (10th Cir. 1986), *cert. denied*, 486 U.S. 1005 (1988).

15. *In the Matter of Summit Tech., Inc.*, 1999 F.T.C. LEXIS 23 (Feb 23, 1999).

than they would have been if the two firms had been competing with each other, as each had originally planned. As the popularity of the procedure grew, so had the extent of consumer injury, estimated at some \$30 million per year in 1997.

Of course, the analogy between real property and its intellectual counterpart is not perfect. With tangible property, it is often fairly straightforward to determine whether the parties stand in a competitive or complementary relationship. If they sell in the same market and to the same customers, and if their customers treat their products as substitutes, that is a pretty good clue that they are competitors. This issue is sometimes less straightforward with intellectual property, because when the complex licensing relationships between the two parties are scrutinized, it may be more accurate to describe their relationship as complementary rather than competitive. The basic rule, enunciated in the Intellectual Property Guidelines, is that a relationship is horizontal if the parties would have been actual or likely potential competitors absent a licensing relationship between them.¹⁶ For example, if they each have blocking patents, so that neither could lawfully produce a product without a license from the other, the relationship is vertical. Once again, this is not so different from tangible property. If two factory owners are buying physical inputs from each other, closer investigation might reveal that neither could have a final product without the cooperation of the other. It may turn out that such a relationship also is best described as complementary rather than competitive.

But, as the *Summit* case shows, it would be a mistake to conclude that antitrust should stay out of the way just because the relationship involved intellectual property. In that case, the evidence showed that the companies were true competitors. Each had the intellectual property and other assets to enter the market independently. Thus, their relationship was a competitive one rather than a complementary one, and the pool eliminated substantial competition that could otherwise have occurred. It is true that the parties could argue that, notwithstanding the underlying merits, they really were afraid of litigation, and the pool was a way to avoid that litigation. But that argument goes too far. Once it is shown that, as a matter of objective fact, the parties could have competed with each other absent the license, there is an anticompetitive effect to be weighed in the rule of reason balance. Concerns about avoiding litigation, however real, are but an efficiency to be weighed against that effect. In that weighing, of course, the Commission needs to take into account whether the restraint was reasonably tailored to accomplishing

16. See INTELLECTUAL PROPERTY GUIDELINES § 5.5.

the efficiency, or whether instead there were practical and substantially less restrictive alternatives. In this case, a simple cross-license at no or low royalties would have avoided litigation without the substantial harm to competition that resulted from the price floor set by the pool.¹⁷ To remedy this harm, the Commission accepted for public comment a consent order settling the patent pooling part of the case.¹⁸

The approach the Commission took to the *Summit* case provides an interesting contrast to the cases in this area from the early and middle parts of this century. Early in this century, the Supreme Court exempted from antitrust scrutiny a pooling arrangement that amounted to outright price-fixing, with no transfer of technology or other efficiency at all.¹⁹ Later on, the courts swung in the other direction to condemn intellectual property licensing arrangements, as when the Supreme Court struck down a patent pooling agreement on price-fixing grounds, even though the patents apparently were blocking.²⁰

Similar problems infected the antitrust treatment of intellectual property outside the patent pooling area. For example, the courts frequently inferred market power from the existence of a patent or copyright, without weighing the significance of substitutes for the patented technology or copyrighted material.²¹ Additionally, the government's infamous "Nine No-No's" articulated a highly restrictive view of permissible licensing practices.²²

Fortunately, enforcement of the antitrust laws no longer begins with the assumption that restrictive use of intellectual property is necessarily anticompetitive.²³ Current enforcement starts with three basic assumptions about intellectual property. First, intellectual property is

17. See INTELLECTUAL PROPERTY GUIDELINES § 2.3 ("[c]ross licensing . . . can facilitate integration of the licensed property with complementary factors of production. This integration can lead to more efficient exploitation of the intellectual property, benefitting consumers through the reduction of costs and the introduction of new products").

18. In the Matter of Summit Tech., Inc., 1999 F.T.C. LEXIS 23 (Feb. 23, 1999).

19. See *Bement v. National Harrow Co.*, 186 U.S. 70 (1902).

20. See *United States v. Line Material Co.*, 333 U.S. 287 (1948). In cases where the intellectual property portfolios of various companies may hamper entry, the agencies are always aware that "licensing may promote the coordinated development of technologies that are in a blocking relationship." Intellectual Property Guidelines § 2.3.

21. See *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100 (1969); *Crown Die & Tool Co. v. Nye Tool & Mach. Works*, 261 U.S. 24 (1923).

22. The "Nine No-Nos" were intellectual licensing practices that were sure to attract the attention of the Justice Department in the 1970s. See Bruce B. Wilson, Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions, Address Before the Fourth New England Antitrust Conference (Nov. 6, 1970).

23. For a history of the changing nature of federal enforcement of the antitrust laws in the intellectual property area, see Willard K. Tom and Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167 (1997).

essentially comparable to other forms of property, so that ownership provides the same rights and responsibilities. Second, the existence of intellectual property does not automatically infer that market power is conveyed on the owner. Third, the licensing of intellectual property may often be necessary in order for the owner to efficiently combine complementary factors of production, and thus may be procompetitive.²⁴

III. THE ROLE OF ANTITRUST IN HIGH-TECH INDUSTRIES

The current enforcement protocol is good news for intellectual property owners because it means an end to the long history of antagonism between antitrust and intellectual property. Of course, this does not mean that intellectual property can never be the foundation of a monopoly. Nor does it mean that acquisitions of intellectual property, or contracts relating to such property, are necessarily any less (or more) anticompetitive than similar transactions involving tangible property. Indeed, a number of recent FTC actions involving intellectual property help make the point.

A. Anticompetitive Acquisitions

A long line of antitrust cases holds that acquisitions of patents can be used to acquire or maintain monopoly power.²⁵ In several recent merger cases, the Commission considered the acquisitions of patents and related technology where the merging firms were either the only two, or two of only a few, firms capable of innovating in high-tech markets. In such situations, the acquisition would lead to almost certain anticompetitive effects. As Areeda and Hovenkamp note:

the clearest case [of exclusionary conduct] would be the acquisition of an equivalent patent covering the only known economic alternative to the monopolist's product or process. Such an acquisition forecloses potential competition by rivals who might otherwise have access to that patent. Even the acquisition of one out of several equivalent patents might have exclusionary effects.²⁶

24. See INTELLECTUAL PROPERTY GUIDELINES § 2.

25. See, e.g., *In re Great Lakes Chem. Corp.*, 103 F.T.C. 467 (1984); *United States v. Singer Mfg. Co.*, 374 U.S. 174 (1963); *Kobe, Inc. v. Dempsey Pump Co.*, 198 F.2d 416 (10th Cir. 1952).

26. 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 707b, at 175 (rev. ed. 1996).

Attacking anticompetitive acquisitions of intellectual property in high-tech industries uses traditional concepts in an area that the FTC, and others, have recently come to understand as vitally important to a competitive American economy. In industries where the main focus of competition is the development of new technologies rather than price competition, antitrust principles will apply and that competitive rivalry must be protected. If too much of the ability to innovate in a relevant market is accumulated in one entity, and substitutes are lacking, competition may suffer. The Commission's "goal is to carefully identify those situations where a merger will reduce innovation competition."²⁷

This approach to the acquisition of intellectual property rights is reflected in the Commission's enforcement decisions involving mergers of pharmaceutical firms. In *Glaxo*, the Commission alleged harm to innovation markets where the merging parties—Glaxo and Burroughs Wellcome—were the two firms farthest along in developing an oral drug to treat migraine attacks.²⁸ Current drugs existed to treat migraines, but they were available only in injectable form and were not sufficiently substitutable to be included in the relevant market. Both Glaxo and the acquired firm, Wellcome, competed to develop the new drugs, and the expectation was that the drugs would compete with each other after they were developed. Barriers to entry, based on the necessity to acquire substantial specialized human capital resources, and the necessity of completing the FDA approval process, were high. The complaint alleged that after the merger Glaxo could unilaterally reduce output in the relevant market by decreasing the number of research and development efforts to develop a noninjectable drug. It would have the incentive to do so because the remaining research effort would presumably produce a monopoly product until the third-best effort could complete the FDA approval process some years hence.

The consent order settling this case required the divestiture of Wellcome's worldwide research and development assets for non-injectable drugs. Divestiture as a remedy in innovation markets requires special care because the success of research and development efforts often depends on a complex array of expertise and sustained knowledge. It may be necessary to require on-going obligations beyond divestiture to assure that the purchaser has some probability of successful completion of the research effort.²⁹ In *Glaxo*, for example, the order imposed signifi-

27. William J. Baer, *New Myths and Old Realities: Perspectives on Recent Developments in Antitrust Enforcement*, Address Before the Association of the Bar of the State of New York (Nov. 17, 1997).

28. See *Glaxo*, *supra* note 6.

29. See 3 AREEDA & HOVENKAMP, *supra* note 26, ¶ 707i, at 184 (advocating "divestiture of sufficient assets to create viable new forms with free access to the monopoly-

cant obligations on Glaxo to assist the acquirer in its efforts to continue the research and development effort successfully. Glaxo had to provide information, technical assistance, and advice to the acquirer about the R&D efforts, including consultation with and training by Glaxo employees knowledgeable about the project. The divestiture was a success in this case since both Glaxo and the acquirer of its intellectual property now have oral migraine drugs on the market. With the required assistance from Glaxo, the acquiring firm, Zeneca, received complete FDA approval in only 15 months.

In *Ciba-Geigy/Sandoz*, another pharmaceutical merger case, the Commission alleged a market for the development of gene therapy products, despite the fact that there were no such current products licensed by the FDA.³⁰ The complaint noted that the first products would not be available until the year 2000, but that the market could grow to \$45 billion by the year 2010. The technology at issue involves the treatment of disease through manipulation of genetic material and insertion or reinsertion into a patient's cells. Although there were many firms doing pioneering research into gene therapies for various disease states, the merging firms were two of only a few entities with the intellectual property rights and other assets necessary for commercialization of such therapies. The firms' combined position in gene therapy research was so dominant that other firms doing research in this area needed to enter into joint ventures or contract with either Ciba-Geigy or Sandoz in order to have any hope of commercializing their own research efforts. Competition between the two firms made possible such ventures or contracts on reasonable terms. Without competition, the combined entity could appropriate much of the value of other firms' research, leading to a substantial decrease in such research. In addition, there was direct competition between the two companies with respect to specific therapeutic products.

The remedy in this case was designed to protect competition both in the particular products in which the two firms competed and the broader market for gene therapy research and development. For the specific therapeutic products of the two firms, the order requires the licensing of certain key intellectual property rights held by the combined firm, and also requires that an acceptable buyer be identified "up front." Rhone Poulenc Rorer was identified as the licensee before the order was accepted by the Commission. For the broader gene therapy research and development market, the order required the companies to grant gene

list's then-existing technology . . . where an acquisition, or a series of acquisitions, has probably made a substantial contribution to monopoly power.").

30. See *Novartis AG*, *supra* note 6.

therapy researchers non-exclusive licenses to certain essential gene therapy technologies that would otherwise have provided a bottleneck to the research of others.

B. Abuse of the Standard Setting Process

Antitrust enforcement also can play a constructive role in the standard setting process. Standard setting is a collaborative activity found in many high-tech industries that has significant procompetitive potential.³¹ Where network effects are prevalent consumers often benefit from widespread adoption of a standard.³² Efforts to select a single standard therefore can enhance the innovation and efficiency of an entire industry to the benefit of consumers. However, abuse of the standard setting procedure can have anticompetitive effects, as the Commission found in the *Dell Computer* case.³³

Dell involved a standard designed for the Video Electronics Standards Association ("VESA") for a local bus to transfer instructions between a computer's CPU and its peripherals. There would be considerable efficiency-enhancing potential in a product that would let computer and peripheral manufacturers know how to make products compatible with one another. The agreement on the standard was premised on representations by the participants that no firm held intellectual property rights that might block others from developing towards the standard. The anticompetitive potential of the standard setting activity surfaced when Dell Computer alleged that the new standard infringed on its patent, despite twice certifying, along with other members of the Association, that it had no intellectual property conflicts. Dell made its claim only after the bus was highly successful, and its claim for royalties gave it effective control of the standard. If Dell had provided information on its patent claim up front, the participants could have made an informed choice on using the Dell technology. Because Dell instead resorted to its patent ambush, its actions were anticompetitive.³⁴

31. See David Balto and Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULLETIN 583 (1998); Yale Braunstein and Lawrence White, *Setting Technical Compatibility Standards: An Economic Analysis*, 30 ANTITRUST BULL. 337 (1985).

32. The increasing returns that a dominant network enjoys, along with lock-in and other network effects, may make market power more durable. See FTC Staff Report, *supra* note 8, Ch. 9 at 3 ("the combination of demand-side scale economies and consumer switching costs may render dominance of a firm in control of an interface standard unusually enduring and give reason for more careful attention to anticompetitive practices.").

33. See *Dell Computer Co.*, *supra* note 4.

34. The Commission's position in this case is entirely consistent with the condemnation found in the patent law for surprise assertions of patents, which can lead to equitable estoppel against the party asserting infringement. See, e.g., *Wang Lab. v. Mitsubishi Elec. Am.*,

Dell's belated assertion of patent ownership in this case enabled it to exercise market power. The Commission's complaint specifically alleged that industry acceptance of the new standard was delayed and that uncertainty about the acceptance of the design standard raised the cost of implementing the new design. Other firms avoided using the new bus because they were concerned that the patent dispute would reduce its acceptance as an industry standard. In addition, willingness to participate in industry standard setting efforts was chilled.

The consent order requires that Dell refrain from enforcing its patent against any computer manufacturer using the new design in its products. In addition, Dell is prohibited from comparable behavior in its future standard setting involvements.

C. Fraudulent Procurement

Fraudulent procurement of intellectual property almost always leads to anticompetitive effects. This is not a new area of the law for the Commission. Over thirty years ago, the Commission successfully challenged a cross-licensing arrangement between American Cyanamid and Pfizer for the sale of tetracycline.³⁵ The Commission found that the patents had been procured by fraudulent behavior that included suppressing of material information and misrepresentation of material facts, and that the subsequent cross-licensing and sale of the drug constituted illegal monopolization in violation of section 5 of the FTC Act.

In attacking the fraudulent procurement of patents, of course, the Commission is not attacking the patent system. Just the opposite. The Commission's actions in these cases help protect the system in which patent examiners must rely on truthful representations by inventors seeking patents. Where that standard is not met, and a potential monopoly is wrongfully awarded, antitrust enforcement is appropriate.

The Commission's laser eye surgery case involves such a charge. The complaint charges that VISX obtained one of its key patents through a pattern of fraud and inequitable conduct, and asks that VISX be enjoined from enforcing its patent.³⁶ More specifically, the complaint alleges that VISX intentionally withheld from the Patent and Trademark Office highly material "prior art" that might prove that the claimed invention was not patentable because it was already known to others in

Inc., 103 F.3d 1571 (Fed. Cir. 1997); *Hewlett-Packard Co. v. Pitney Bowes Corp.*, No. 95-1806-JO, 1998 U.S. Dist. LEXIS, (D. Or. Mar. 23, 1998).

35. See *American Cyanamid Co.*, 72 F.T.C. 623 (1967), *aff'd sub nom. Charles Pfizer & Co., Inc. v. Fed. Trade Comm'n.*, 401 F.2d 574 (6th Cir. 1968).

36. See *In the Matter of Summit Tech., Inc.* (Mar. 17, 1999) (No. 9286) (complaint) available at <<http://www.ftc.gov/os/1998/9803/summit.cmp.htm>>.

the field. Although Summit and VISX have agreed to abandon the patent pool as part of their settlement with the Commission, the charge of fraudulent patent acquisition against VISX continues in administrative litigation. In June 1999, the administrative law judge rejected the fraudulent patent procurement charge against VISX. The Commission staff is appealing that decision to the full Commission.

One interesting issue that came up in that litigation was whether VISX would be allowed to defend that charge by attempting to show that the fraudulently procured patent had no competitive effect, because *other* patents might have prevented any potential entrant from competing in the market. In other words, VISX cleverly sought to make it the government's burden to exclude the possibility that other patents might legitimately have given it some measure of market power over its product. The Commission successfully opposed this motion before the administrative law judge as contrary to well-settled monopolization law.³⁷ But the motion also was highly impractical. What VISX proposed to do was to turn a fairly straightforward inquiry into the circumstances surrounding the acquisition of the one patent into a huge and unwieldy patent infringement trial that would try to resolve whether each and every of several potential entrants—each with somewhat different products and technology—had infringed or would infringe a large number of VISX patents that were otherwise not at issue in the case. Moreover, the relief sought in the case was to enjoin enforcement of the fraudulently procured patent. If other patents validly would have prevented other firms from entering the market, VISX would be free to enforce those patents even after an order enjoining enforcement of the fraudulent patent. Thus, VISX would not be harmed in any way by excluding the line of argument and supporting evidence.

The administrative law judge correctly determined that this approach did not make any sense. In so ruling, the judge was squarely in the mainstream of antitrust jurisprudence, which holds that unjustified conduct that tends to maintain a monopoly, even if it cannot be shown to have an immediate effect on price or output, violates section 2 of the Sherman Act.³⁸

37. See, e.g., *American Tobacco Co. v. United States*, 328 U.S. 781 (1946); *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951); *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973); *Mahone v. Addicks Utility Dist. of Harris County*, 836 F.2d 921 (5th Cir. 1988). See also 3 AREEDA & HOVENKAMP, *supra* note 26, ¶ 706f, at 168 (“[T]he § 2 offense is established by showing that the procured patent made some contribution to that power. It need not be shown that the patent itself conveyed substantial monopoly power.”).

38. See, e.g., *American Tobacco*, 328 U.S. at 836; *Lorain Journal*, 342 U.S. at 153.

D. Maintaining Monopoly Power in a High-Tech Industry

Perhaps one of the most notable recent enforcement actions in the high tech area was the Commission's complaint against Intel, filed in June 1998, which alleged that Intel retaliated commercially against customers who had patents that they either sought to enforce against Intel or refused to license royalty-free to Intel.³⁹ This conduct, according to the complaint, tended to maintain Intel's monopoly power by, among other things, reducing the competitive threat posed by the existence of important technology not under Intel's control or available to it. The case was resolved on the eve of trial in March 1999 and the Commission issued a proposed order settling the charges.

The *Intel* case involved the difficult question of what tactics a monopolist may use to maintain its monopoly. Intel, as you know, makes general purpose microprocessors, the brains of personal computers that process system data and control other devices integral to the system. It is a market that has expanded dramatically each year for more than a decade and in which product generations are measured in months, not years. Despite this fast growth and high rate of innovation, Intel has managed to maintain a market share of approximately 80% of dollar sales. Barriers to entry are high due to sunk costs of design and manufacture, substantial economies of scale, customers' investments in existing software, the need to attract support from software developers, and reputational barriers.

The microprocessor market has several unique features. Computer design and manufacture requires complex coordination between a number of different disciplines, almost always spread among many different firms. Microprocessors, memory components, core logic chips, graphics controllers, various input and output devices, and software must all work effectively with each other in order for the final product to work. To achieve effective integration, computer manufacturers require product specifications and other technical information about each component, and they require such information in advance of designing the computer in order to test and debug to insure the reliability and performance of each component and the system as a whole. This information is provided by all component makers, including Intel, subject to formal nondisclosure agreements. This information sharing has substantial commercial value to both sides of the agreement, the component makers and the computer OEMs.

The Commission complaint charged that Intel suspended its traditional information sharing with three customers—Digital Equipment

39. See *In the Matter of Intel Corp.*, FTC Dkt. No. 9288 (June 8, 1998) (complaint).

Corporation, Intergraph Corporation, and Compaq Computer Corporation—in order to force those customers to end disputes with Intel concerning the customers’ asserted intellectual property rights and to grant Intel licenses to patented technology (not just microprocessor technology) developed and owned by those customers. Digital and Compaq capitulated quickly and entered into cross-license arrangements with Intel. Intergraph was able to resist only because it succeeded in obtaining an injunction against Intel’s conduct in a federal court.⁴⁰

Intel’s conduct reinforced its dominance of the general purpose microprocessor market in at least three ways. First, Intel’s alleged conduct would give it access to technology being developed by others in the industry, disadvantaging other microprocessor manufacturers who are trying to challenge Intel’s dominance. Second, forcing other firms to license away rights to their proprietary technology would dull the incentive to innovate, thus harming competition in several ancillary markets. Third, Intel’s forced acquisition of technology from computer OEMs reduces the ability of those OEMs to support a non-Intel microprocessor platform by taking away an OEM’s proprietary technology that could have been used to market its machines. Thus, Compaq would be much less able to support an AMD or Digital microprocessor system by advertising its own nonmicroprocessor technology because Intel has forced Compaq to license that other technology and Intel could in turn license it back to other OEMs that support an Intel microprocessor platform.

The proposed order remedies all of the concerns in the Commission’s complaint. It prohibits Intel from withholding or threatening to withhold certain advance technical information or microprocessors from a customer for reasons relating to an intellectual property dispute with that customer. This requirement is limited to the types of information that Intel routinely gives to customers to enable them to use Intel microprocessors, and it does not impose a “compulsory licensing” requirement in the first instance. The order allows companies in disputes to continue to receive relevant information except where the customer elects to seek an injunction against Intel’s manufacture, use, sale, offer to sell, or importation of its microprocessors. The order is also careful to protect Intel’s legitimate intellectual property rights. Intel will not be required to continue providing information or products with respect to the microprocessors that the customer is seeking to enjoin. In addition, Intel may withhold information for legitimate business reasons, such as a breach of the disclosure agreement.

40. See *Intergraph Corp. v. Intel Corp.*, 3 F.Supp.2d 1255 (N.D. Ala. 1998).

The *Intel* settlement is important to maintaining competition in several areas. It defines as an abuse of monopoly power the use of that power to extract proprietary, legally-protected intellectual property from potential competitors. Absent this rule of law, a dominant firm in a high tech industry could use its current market power to extend its dominance to complementary products and to next generation products. For instance, as the selling of PCs becomes more commoditized, there is a danger that an unchastised Intel could own the only valuable brand in the industry, which would be “Intel inside.” Thus, Intel might come to dominate an even larger market than microprocessors.

Chairman Pitofsky’s statement on the issuance of the proposed consent summed up its importance:

The heart of the Commission’s complaint against Intel was the principle that a monopolist cannot withhold products or information about products in order to retaliate against customers who find themselves in an intellectual property dispute. We recognize that there is an essential balance to be struck between protecting the incentives of smaller rivals to innovate and unduly constricting a dominant firm’s conduct of its business. The settlement would fully resolve those competitive concerns without interfering with Intel’s legitimate business activities. This is the result that the staff would have sought after a full and successful trial.⁴¹

The Commission’s complaint, filed in June of 1998, has been the subject of some considerable debate, some informed, some less so. Any intelligent discussion of the case and the proper role of antitrust enforcement in high-tech requires a basic understanding of what the case involves and what it does not. The criticism of the case contains two pretty basic legal mischaracterizations.

First, some have suggested that a case such as the Commission’s action against Intel represents an attack on the intellectual property laws. Nothing could be further from the truth. Rather, the complaint addresses allegations that Intel has used commercial retaliation and the threat of retaliation to force others to surrender their patent rights and deprive those third parties of a forum to adjudicate those rights. In other words, the issue presented by the case is whether a monopolist can use its power to deprive others of their intellectual property rights.

It is true that one of the means of retaliation alleged in the complaint is Intel withholding of technical information from customers about its products. But it is important to remember, as the complaint

41. Press Release, March 17, 1999.

states, that the information in question was information Intel ordinarily gave to its *customers* to design computer systems incorporating Intel microprocessors, not information that could be used to help microprocessor *competitors*. This involves no technology exchange or patent cross-license. It is the technical “how to” information computer manufacturers need to make a microprocessor work in their products. Without this information, the cut-off customers were at a real competitive disadvantage. Withholding the “how to” was the functional equivalent of withholding the microprocessors themselves. The complaint alleges that the exclusionary behavior ended only when these firms agreed to license their inventions to Intel.

Actions of this sort are particularly threatening and exclusionary because of the importance of patent protection to innovative technologies in their incubation period. In a market where the patent system is the only protection that breakthrough technologies have to protect the fruits of their research from the reaches of the monopolist, such actions send a powerful message that it is not worth the time, effort and expense to innovate in order to compete with the dominant firm. This inevitably tends to reinforce or maintain the dominant firm’s monopoly power.

A second, and related, concern some have expressed is that the Commission’s action seeks to force compulsory licensing of Intel’s patents to its competitors. Even a cursory reading of the Commission’s complaint and proposed order shows that suggestion to be seriously misleading. If the Commission prevails, all Intel will be prevented from doing is, in the words of Judge Posner, “retaliat[ing] against customers who have the temerity to compete with him, by cutting such customers off.”⁴² The order would prohibit unjustified discrimination between similarly situated customers and not allow a monopolist to cut off customers solely because they are also competitors. Where, however, Intel had “legitimate business considerations,” such as evidence of misuse or misappropriation of its inventions, the company would be free to protect its rights. The case, and the relief sought, focus on exclusionary conduct by an alleged monopolist that injures rivals and lacks a legitimate business justification.

Some have argued that the FTC’s case cannot succeed unless the evidence shows that the monopolist’s action somehow had a further effect on prices or output. That argument seriously misstates the law, which clearly prohibits monopolists from engaging in activities that entrench or preserve their monopoly position. As Justice Scalia had observed, the antitrust laws require that we examine the actions of a

42. *Olympia Equip. Leasing Co. v. Western Union Tel. Co.*, 797 F.2d 370, 376 (7th Cir. 1986).

monopolist “through a special lens: [b]ehavior that might otherwise not be of concern to the antitrust laws . . . can take on exclusionary connotations when practiced by a monopolist.”⁴³ By definition, a monopolist charges a monopoly price and produces just enough output to maintain that price. When a monopolist improperly maintains that monopoly position, there is no immediately measurable increase in anticompetitive effects. Prices do not go up and output does not fall. It is competition that would have brought change and dynamism. Thus, in cases like *Lorain Journal*⁴⁴ and *Otter Tail*,⁴⁵ courts struck down exclusionary conduct even though there was no demonstrable effect on price or output. The Supreme Court noted in *Lorain Journal* that “the antitrust laws are as much violated by the prevention of competition as by its destruction.”⁴⁶

The leading antitrust treatise agrees. Areeda and Hovenkamp argue that courts concerned about monopoly power do not and should not demand “a clear and genuine chain of causation from exclusionary act to the presence of monopoly.”⁴⁷ The burden is too high, with the result that monopoly power will wrongfully be allowed to persist. Rather, they argue the monopolist should be faulted when it attempts “conduct other than competition on the merits, or other than restraints reasonably ‘necessary’ to competition on the merits, that reasonably appear capable of making a significant contribution to creating or maintaining monopoly power.”⁴⁸

The specifics of the Commission’s recent cases lead one back to the basic policy question: Does it make sense for antitrust to play a significant role in preventing the entrenchment of monopoly power in a high-tech industry? The answer clearly is yes. Where a monopolist’s conduct is directed at chilling independent and competing innovation in markets where competition is defined by innovation, the argument for antitrust action is stronger, not weaker. It is usually very difficult to undo the effects of a scheme to monopolize after it has occurred. It would be even more difficult to undo a successful attempt to stifle innovation. If the antitrust laws are concerned with ensuring a continued pace of innovation in high-tech industries, then it is particularly appropriate that the enforcement agencies be able to stop practices that are of the type that

43. *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451, 488 (1992) (J. Scalia, dissenting).

44. *See Lorain Journal*, 342 U.S. at 153.

45. *See United States v. Otter Tail Power Co.*, 417 U.S. 901 (1974).

46. *See Lorain Journal*, 342 U.S. at 154 n.7 (quoting *United States v. Griffith*, 334 U.S. 100, 107 (1947)).

47. 3 AREEDA & HOVENKAMP, *supra* note 26, ¶ 651, at 77.

48. *Id.* at 78.

are likely to stifle innovation and thus cement monopoly power before the harm actually occurs.

IV. CONCLUSION

Applying the antitrust laws to high-tech industries is important in order to secure for consumers the benefits of the innovation that drives economic growth. Neither the rate of innovation in those industries nor the pervasiveness of intellectual property rights is an argument for anti-trust enforcers to withdraw. Instead, these are characteristics to be taken into account, as the special characteristics of every industry and every market are taken into account in antitrust analysis. Through careful, mainstream, but vigorous law enforcement, the Commission and the Antitrust Division can ensure that competition will remain as a spur to innovation and a boon to consumers.