

**THE ANTITRUST RISKS ASSOCIATED WITH BUILDING  
AN INTELLECTUAL PROPERTY PORTFOLIO**

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# THE ANTITRUST RISKS ASSOCIATED WITH BUILDING AN INTELLECTUAL PROPERTY PORTFOLIO

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It is increasingly recognized in the knowledge-based 21st century economy that firms' intellectual property portfolios are often at least as important as their plants and equipment. This paper outlines antitrust issues associated with the creation of an intellectual property portfolio either by internal development or through acquisition, which should be taken into account by companies attempting to build intellectual property portfolios.

## I. Internal Development

Under the Patent Act, 35 U.S.C. §§ 111, 116, patents may only be issued to individual human inventors. Often such inventors are contractually obligated to assign their patents to their employer. For purposes of this paper, by internal development we mean inventions developed by a company's own employees or an outside entity specifically retained to conduct research on behalf of the company where any resulting intellectual property is assigned to the company. As the court reasoned in *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1207 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982), there is little, if any, distinction between patents obtained under contract with a research organization and patents generated internally by a company from its own employees.

## II. Mere Accumulation of Internally Developed Patents Is Not Illegal

Accumulation of numerous internally developed patents can have the effect of extending or perpetuating control over the market for an original patented invention. This is true whether the accumulated patents are improvement patents or cover complimentary products and processes to the original patented invention. Where the accumulated patents do not confer monopoly power or at least substantial market power on the patent owner in the relevant product market, the accumulation of internally developed patents is unlikely to have anticompetitive consequences.

But what about where a monopolist accumulates a large internally developed patent portfolio that has the effect of extending its monopoly and raising barriers to entry? Areeda and Hovenkamp advise that "whether accomplished by internal development or by acquisition, one firm's

aggregation of numerous patents, even less significant ones, can impair actual and potential competition.” They explain:

The more patents in a field possessed by the monopolist, the more difficult it becomes for anyone else to work in or to utilize patents in that field. Many new patents in the field will inevitably be improvements on existing patents. Because the improvements cannot be practiced without infringing the existing basic or prior improvement patents, only the monopolist (or its licensees) can use the new patents. . . . Each additional patent possessed by the monopolist lessens the possibility of competition from others. And the collection of minor improvement patents may extend the period of the monopolist’s control beyond the legal life of its basic patents. . . . [A]lthough rivals or others might be able to ‘invent around’ the monopolist’s patents, they may be discouraged from trying. Inventive effort might seem less likely to produce new basic patents than improvement patents that cannot be practiced without the monopolist’s consent. . . . [On the other hand], the monopolist itself may have both the incentive and the resources to continue steady research and development. As a result, . . . the monopolist might find and patent the alternative methods for the products or processes of its field and thus perpetuate its power. . . .

The treatise suggests further that accumulation of patents may create barriers to entry even when individually of little significance:

[T]he monopolist’s large and possibly growing hoard blanketing its field would confront any new producer with the substantial possibility of patent infringement litigation. And even if all the patents are relatively ‘weak,’ their sheer number threatens that one might be held valid and infringed. The potential newcomer may therefore feel compelled to make its peace with the monopolist before committing substantial investments to the field. Or it may not enter at all.

Areeda & Hovenkamp, *Antitrust Law* ¶ 704b (1996). Nonetheless, no court has ever held that the creation of a large internally developed patent portfolio, without more, violates Section 2 of the Sherman Act, which prohibits monopolization and attempts to monopolize, even where the company is a monopolist and does not practice the accumulated patents. Indeed, the Supreme Court has said that “mere accumulation of patents, no matter how many, is not in and of itself illegal.” *Automatic Radio Mfg. Co. v. Hazeltine Research, Inc.*, 339 U.S. 827, 834 (1950).

A contrary rule would discourage innovation and would require crafting rules that would be difficult to administer. Even the owner of a highly

successful patent monopoly ought to be encouraged to continue to innovate, and it is difficult to distinguish the intent to develop improved products from an intent to exclude rivals. Thus, commentators have almost unanimously agreed that the accumulation of internally developed patents without more should not constitute an antitrust violation. See Areeda and Hovenkamp, *Antitrust Law* ¶ 705a (“we would never hold internal patent development to be a Section 2 exclusionary practice because we do not want to discourage innovation even by a monopolist”).

While the mere procurement of a patent from the Patent and Trademark Office (PTO) does not violate the antitrust laws, the procurement of a patent through fraud of the PTO will render the claims of the patent unenforceable in an infringement action and may expose the patentee to treble damages liability and even criminal prosecution under the Sherman Act. Enforcement of a patent secured by fraud may form the basis for a monopolization claim or a claim under the FTC Act. See *Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*, 382 U.S. 172 (1965); *Charles Pfizer & Co.*, 401 F.2d 574, 579 (6th Cir. 1968), *cert. denied*, 394 U.S. 920 (1969); *American Cyanamid Co. v. FTC*, 363 F.2d 757 (6th Cir. 1966). On the other hand, fraudulent procurement, standing alone, without assertion or enforcement, does not give rise to an antitrust claim. *Walker-Process* claims, therefore, while based upon efforts to obtain a patent, are generally raised as counterclaims in patent infringement actions.

Similarly, infringement litigation that is “objectively baseless” and subjectively motivated by an intent to use “the governmental process – as opposed to the outcome of that process – as an anticompetitive weapon” is unlawful under *Professional Real Estate Investors, Inc. v. Columbia Pictures, Inc.*, 508 U.S. 49, 61 (1993). In *Noblepharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 876 (1998), the Federal Circuit held that *Walker Process* and *PRE* constitute distinct and separate means for defeating *Noerr-Pennington* immunity for claims arising out of the prosecution or enforcement of patents. (Details of both the *Walker Process* and *Noerr-Pennington/PRE* doctrines are beyond the scope of this paper, and will be addressed by other speakers at the program, but are worth noting in efforts to build an intellectual property portfolio.)

### **III. Patent Acquisition as Part of a Monopolization Scheme**

Assignments of patents have been held to violate the Sherman Act only where the assignment is part of a broader monopolization scheme or agreement among competitors to restrain trade. In the seminal *United States v. United Shoe Machinery Corp.* case, the Department of Justice sued in 1935, alleging antitrust violations from patent accumulations as well as mergers and leasing practices. The complaint alleged that United Shoe dominated the market for shoe production equipment in part through its more than 2,000 patents blocking entry. In fact, the vast majority of the patents –

over 95 percent – flowed from in-house R&D efforts. The court found no antitrust violation, apart from United Shoe’s leasing practices, and even concluded that United Shoe’s position in the industry was the result of “superior skill, foresight and industry.” 110 F. Supp. 295, 344 (D.Mass. 1953), *aff’d*, 347 U.S. 521 (1954). The court nonetheless questioned United’s acquisitions of patents, suggesting its legitimate purposes could have been served by non-exclusive licenses. “Taking the further step of acquiring the patents . . . buttressed United’s market power [and] made it less likely that United would have competition. *Id.* at 333.

In *Kobe, Inc. v. Dempsey Pump Co.*, 198 F.2d 416 (10th Cir.), *cert. denied*, 344 U.S. 837 (1952), the court found that the acquisition, non-use, and enforcement of “every important patent” in the field with a purpose to exclude competition, together with other anticompetitive acts, violated Section 2 of the Sherman Act. In *United States v. Singer Manufacturing Co.*, 374 U.S. 174 (1963), the Supreme Court held that the transfer of a patent to facilitate bringing infringement actions as part of a broader monopolistic scheme also violated the Sherman Act. *See also United States v. United States Gypsum Co.*, 333 U.S. 364 (1948); *Hartford-Empire Co. v. United States*, 323 U.S. 386 (1945).

Most recently, in *DiscoVision Associates v. Disc Manufacturing Inc.*, 42 U.S.P.Q.2d (BNA) 1749 (D. Del. 1997), a district court held that a firm’s right to file patent applications was qualified, “subject to abuse and antitrust scrutiny” if the firm sought “to expand the monopoly granted by the patent laws by misuse, agreement, or accumulation.” Given allegations that DiscoVision had done more than just accumulate patents, including engaging in dilatory and deceptive practices before the Patent and Trademark Office, the court denied a motion to dismiss monopolization claims.

If mere accumulation of an internally generated patent estate by a monopolist does not violate the antitrust laws, can the refusal to license that intellectual property to would-be competitors constitute a violation? Other than the Ninth Circuit’s decision in *Image Technical Services v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997), the courts have consistently answered that question in the negative.

In *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982), Xerox licensed key patents relating to plain paper office copiers non-exclusively from Battelle, a research and development think tank. At the same time, Xerox itself was accumulating a large internally generated patent portfolio. Subsequently, it acquired the Battelle patents outright, years before the first mass market plain paper copier had been sold – in other words before the relevant product market existed.

SCM Corp. filed a private antitrust suit against Xerox alleging that it had been excluded from the plain paper copier market due in large part to Xerox's patent estate. SCM alleged that at the time of Xerox's acquisition of the Battelle patents it could have reasonably foreseen that it would create a monopoly. In fact, the Battelle patents did permit Xerox to obtain a monopoly in the market for plain paper copiers. One key aspect of SCM's case was its theory that Xerox's refusal to license patents to SCM constituted anticompetitive conduct in violation of Section 2 of the Sherman Act. The jury found for the plaintiff and awarded damages after trebling of \$111 million. The district court reversed the damage award but certified the matter for appeal before considering SCM's claim for equitable relief - a request for a court ordered license.

The Court of Appeals went one step further than the district court and rejected the finding of liability as matter of law thereby also precluding prospective relief (i.e. a compulsory license) as well as damages. *SCM Corp.*, 645 F.2d at 1197. The court recognized that the role of investors in "both the inventive process and commercialization of inventions" is important and procompetitive, noting Xerox participated financially in both the inventive process by funding research at Battelle and the subsequent commercialization of xerography. *Id.* at 1206 n. 9. The court reasoned that the acquisition of patents from Battelle occurred at a time at which no plain paper copier market existed and Xerox "possessed no power whatsoever in even the inchoate market" *Id.* at 1211. The court concluded that "the procurement of a patent . . . will not violate § 2 even where it is likely that the patent monopoly will evolve into an economic monopoly." *Id.* at 1206.

Since the patent laws expressly provide the patentee the right to exclude others, to subject a patentee that internally develops or lawfully acquires patents to antitrust liability where the patent portfolio subsequently blossoms into a monopoly would "unduly trespass upon the policies that underlie the patent law system." *Id.* at 1212. The court noted that Section 154 of the Patent Act confers on the patent owner the right to unilaterally refuse to license, and "where a patent has been lawfully acquired, subsequent conduct permissible under the patent laws cannot trigger any liability under the antitrust laws." *Id.* at 1206. Thus, the court held that the owner of internally developed patents and/or lawfully acquired patents, even if a monopolist, was not required by Section 2 of the Sherman Act to license parties to compete.

Historically, the owner of intellectual property acting unilaterally has been regarded as having an absolute right to refuse to license since the right to exclude is the essence of the patent right. *Zenith Radio Corp. v. Hazeltine Research Inc.*, 395 U.S. 100, 135 (1969); *Continental Paper Bag Co. v. Eastern Bag Co.*, 210 U.S. 405 (1908). Following the *SCM v. Xerox* case, most practitioners believed refusing to license internally developed and lawfully acquired intellectual property to would-be competitors was beyond the

reach of the antitrust laws even where the patent owner was a monopolist. For example, in *United States v. Westinghouse Electric Corp.*, 648 F.2d 642 (9th Cir. 1981), the Ninth Circuit said “(no) court has ever held that the antitrust laws require a patent holder to forfeit the exclusionary power inherent in his patent the instant his patent monopoly affords him monopoly power.” quoting *SCM v. Xerox*, *supra* at 1204. And, the First Circuit held that copyrights, even those that conferred a monopoly on its owner, should not be viewed as an “essential facility” which must be shared with competitors with the possible exception of where such intellectual property was acquired by unlawful means. Rather, the Court held that “the exercise of patent rights is a legitimate means by which a firm may maintain its monopoly power.” *Data General Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994), citing *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 230 (1st Cir. 1983). See also *Cygnus Therapeutic Sys. v. Alza Corp.*, 92 F.3d 1147 (Fed. Cir. 1996); *Miller Insituform v. Insituform of North America*, 830 F.2d 606 (6th Cir. 1987), *cert. denied*, 484 U.S. 1064 (1987); *Crucible v. Stora Kopparbergs Bergslags AB*, 701 F. Supp. 1157, 1162 (W.D. Pa. 1988) (refusal to license lawfully acquired patents cannot be antitrust violation).

But the Ninth Circuit’s decision in *Image Technical Services v. Eastman Kodak Co.*, 125 F.3d 1195 (9<sup>th</sup> Cir. 1997), cast doubt on the *SCM v. Xerox* decision and subsequent cases. In *Kodak*, the Ninth Circuit held that the antitrust laws could be used to compel Kodak to license its (presumably internally developed) intellectual property to independent service organizations in order to enable them to compete with Kodak in servicing and supplying spare parts for Kodak equipment. The Court, without expressly distinguishing *SCM v. Kodak*, seemed to reject its fundamental premise that antitrust liability cannot be based on conduct expressly permitted by the Patent Act. Instead, the Court held that the patent right merely provided the patentee with a presumptively valid “business justification” for refusing to license its intellectual property. Absent such business justification, unilateral conduct by the owner of intellectual property, including a refusal to sell or license, may violate the antitrust laws if it adversely affects competition. The Court then found that the defendant’s subjective intent to exclude competition from independent service organizations was the real reason for Kodak’s conduct. Kodak’s reliance on its intellectual property as a basis for refusing to license plaintiffs was therefore “pretextual” and, thus, Kodak’s “business justification” disappeared. As a result, Kodak had a duty to license any actual or potential competitor. The Court acknowledged that it was not relying on the essential facilities doctrine and that it could “find no reported case in which a court has imposed antitrust liability for a unilateral refusal to sell or license a patent or copyright.” *Id.* at 1216.

Whether *Kodak* will be followed by other courts remains to be seen but the courts which have considered the question to date have expressly repudiated it. See *In re Independent Serv. Orgs. Antitrust Litigation*, 989

F.Supp. 1131 (D.Kan. 1997). Commentators also have strongly criticized it. See Areeda & Hovenkamp, *Antitrust Law* ¶ 704.1 (2000 Supp.). Most recently, the Federal Circuit explicitly rejected the Ninth Circuit's approach in *Kodak* and held that it is improper to consider the purpose or effect of a unilateral refusal to license intellectual property in *Independent Service Organizations Antitrust Litigation (Xerox)*, 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, \_\_\_ U.S. \_\_\_ (2001). The Federal Circuit held that absent illegal tying, fraud on the Patent and Trademark Office or sham litigation, a patent owner may not be subjected to antitrust liability for its refusal to license its patents or sell patented parts (as in *Kodak*, presumably these patents were internally developed), regardless of the patentee's intent (subjective or otherwise) or any anticompetitive effect that refusal may have in related service markets. The plaintiffs were independent service organizations providing maintenance and repair service for Xerox copiers. Xerox refused to sell spare parts or its copyrighted diagnostic software to plaintiffs. The complaint alleged that this conduct violated the antitrust laws. The Federal Circuit disagreed saying:

We see no more reason to inquire into the subjective motivation of Xerox in refusing to sell or license its patented works than we found in evaluating the subjective motivation of the patentee in bringing suit to enforce that same right. In the absence of any illegal tying, fraud on the Patent and Trademark Office, or sham litigation, the patent holder may enforce the statutory right to exclude others from making, using or selling the claimed invention free from liability under the antitrust laws. We therefore will not inquire into his subjective motivation for exerting his statutory rights, even though his refusal to sell or license his patent invention may have an anticompetitive effect, so long as that anti-competitive effect is not illegally extended beyond the statutory patent grant.

#### **IV. The Killer Patent Portfolio**

By 1975, Xerox's patent portfolio continued to grow and threatened to entrench Xerox's monopoly well beyond the expiration of the initial basic patents, perhaps even permanently. The Federal Trade Commission filed a complaint alleging that Xerox had monopolized the market for plain paper office copies. The complaint focused on Xerox's accumulation of a so-called "killer patent portfolio" by both internal development and acquisition, as well as unlawful marketing practices including alleged tying, exclusive dealing, price discrimination and restrictive licensing agreements. Xerox agreed to settle the matter by entry of a Consent Order requiring it to abandon the challenged marketing practices and license its patents for a modest royalty. *Xerox Corp.*, 86 F.T.C. 364 (1975).

According to Professor F.M. Scherer, then chief economist at the FTC, the heart and soul of the case was the "killer patent portfolio."

[Xerox] had somewhere between 1,000 and 2,000 patents in the mid-1970's. They were adding to their portfolio at a rate of several hundred patents a year. They had the technology completely encircled, and a consideration that prompted our decision to intervene with compulsory licensing was that the 914 Copier was introduced in 1959. The case came for a decision in 1975. They had enjoyed 16 years of a spectacular patent monopoly. How long should a monopoly last?

We intervened because we thought essentially that 17 years was what the law had in mind, 17 years was enough. . . .

[T]he essence of the case was, frankly, social engineering. It was time to break open this monopoly and create competition. . . . The theory about acquisition and some of the price discrimination practices, and so forth, was fluff. The center of the case was the extension over time of the monopoly through patent accumulation.

“Roundtable Discussion on Competition Policy, Intellectual Property and Innovation Markets” in *Competition Policy and Intellectual Property Rights in the Knowledge Based Economy* 448-9 (R. Anderson & N. Gallini, eds.1998).

Since the Xerox complaint and consent order involved alleged unlawful marketing and licensing practices, this is not a case where, without more, the development of a killer patent portfolio which ripened into and protected a monopoly was deemed unlawful under the antitrust laws. But it does highlight the dilemma at the core of traditional Section 2 law: what to do about lawfully acquired monopolies such as those acquired by superior efficiency or technology. After all, the harmful effects of these legitimately acquired monopolies are the same as the effects of monopolies achieved through unlawful conduct. But our antitrust laws recognize that punishing legitimately acquired monopolies can have an even greater anticompetitive effect by creating a disincentive for successful companies to compete aggressively out of fear of succeeding too much. *United States v. Aluminum Co. of America*, 148 F.2d 416, 430 (2d Cir. 1945); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 273 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980). So we tolerate, even accept, lawfully acquired monopolies which do not engage in unlawful exclusionary conduct. And while monopolies protected by patents (even lawfully acquired killer patent portfolios) may be more persistent, entrenched and long lived than most, there appears to be no principled reason for treating them differently.

A quarter of a century later, concern about the notion of the killer patent portfolio resurfaced at the FTC. This time, it arose in the context of a merger of two pharmaceutical *companies*, each of whom had developed a substantial portfolio of patents relating to gene therapy *Ciba-Geigy Ltd.*, 123 F.T.C. 842 (1997). Like the copier technology involved in the *SCM v. Xerox* case, gene

therapy technology was in its early development stage and actual gene therapy products were years away from the marketplace. But by this time, antitrust law and theory had evolved to the point where it was flexible enough to consider the potential effects of transactions on markets which may not evolve until some unspecified time in the future. The 1992 DOJ/FTC *Horizontal Merger Guidelines* (“*Merger Guidelines*”) and 1995 DOJ/FTC *Antitrust Guidelines for the Licensing of Intellectual Property* (“*Intellectual Property Guidelines*” or “*IP Guidelines*”) do this through the concept of research and development or innovation markets. In the *Ciba-Geigy* case, the Commission feared the creation of a killer patent portfolio in gene therapy by combining the merging parties’ patent estates. The parties entered into a consent order agreeing to license their patents to third parties at commercially reasonable rates. This case is discussed in more detail below.

## **V. Acquisitions of Intellectual Property**

Acquisition for the purpose of this article refers to (1) the transfer of ownership or control of intellectual property as part of the purchase of, or merger with, another company or (2) the acquisition of an exclusive license to specific intellectual property. Of course, obtaining a non-exclusive license to intellectual property is the acquisition of intellectual property but it does not raise antitrust concerns unless the terms of the license or the circumstances render it a *de facto* exclusive license.

Both the Sherman Act, Sections 1 and 2, and Section 7 of the Clayton Act apply to acquisitions of intellectual property. The legal analysis employed in most cases today is standard merger analysis set forth in the *Merger Guidelines* and the *IP Guidelines* with the possible exception of patent pooling and cross licensing cases.

Mergers and acquisition are generally analyzed under Section 7 of the Clayton Act, which prohibits such transactions where “the effect . . . may be substantially to lessen competition, or to tend to create a monopoly.” 15 U.S.C. § 18. A merger can also be challenged under the Sherman Act, as a “restraint of trade” or “monopolization.” 15 U.S.C. §§ 1, 2. Additionally, the FTC may challenge a merger or acquisition under Section 5 of the FTC Act, which prohibits “unfair methods of competition.” 15 U.S.C. § 45. The standards for challenging mergers under all these statutes are virtually identical. See *United States v. Rockford Memorial Corp.*, 898 F. 2d 1278, 1281-82 (7th Cir.), *cert. denied*, 498 U.S. 920 (1990).

The DOJ/FTC *Horizontal Merger Guidelines* set forth the analysis to determine if a merger is likely to have anticompetitive effects, such as higher prices, reduced output or reduced innovation. That analysis requires consideration of market shares, the likelihood of unilateral anticompetitive

effects or coordinated interaction, an assessment of entry conditions, and consideration of efficiencies.

## **VI. Patents, Trademarks and Copyrights are Assets for Purpose of Clayton 7**

The assignment of a patent to another by the patentee is specifically authorized by the Patent Act. Indeed, the Patent Act expressly permits assignments to be exclusive. See 35 U.S.C. § 261. Patent acquisitions are not immune, however, from the antitrust laws.

A number of courts have held that patents, trademarks and copyrights are “assets” and acquisitions of such intellectual property are subject to scrutiny under Section 7 of the Clayton Act and Section 5 of the FTC Act.

*See, e.g., SCM v. Xerox Corp.*, 645 F.2d 1195, 1210 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982); *Crucible, Inc. v. Stora Kopparbergs Bergslags AB*, 701 F. Supp. 1157, 1162-63 (W.D. Pa. 1988); *Telectronics Proprietary, Ltd. v. Medtronic, Inc.*, 687 F. Supp. 832, 844 (S.D.N.Y. 1988); *SCM v. Xerox Corp.*, 463 F. Supp. 983, 1001 (D. Conn. 1978), *rev'd on other grounds*, 599 F.2d 32 (2d Cir. 1979); *In re Yarn Process Patent Validity & Antitrust Litig.*, 398 F. Supp. 31, 35 (S.D. Fla. 1974), *aff'd in part and rev'd in part*, 541 F.2d 1127 (5th Cir. 1976), *cert. denied*, 433 U.S. 910 (1977); *Automated Building Components v. Trueline Truss Co.*, 318 F. Supp. 1252 (D.Ore. 1970); *United States v. Lever Bros. Co.*, 216 F. Supp. 887, 889 (S.D.N.Y. 1963) (trademark); *United States v. Columbia Pictures Corp.*, 189 F. Supp. 153, 181-82 (S.D.N.Y. 1960) (copyrights); *Great Lakes Chem. Corp.*, 103 F.T.C. 467, 471 (1984).

Areeda notes that a trademark may in fact represent the essence of a firm's ability to compete. Thus, an acquisition of a trademark may result in a buyer acquiring the seller's market share attributed to the brand, particularly for easily manufactured but highly differentiated consumer goods where consumer acceptance of a brand name is the limiting factor in the business. This is likely where a seller retains its facilities and its personnel for other uses while exiting the relevant business and transferring it as a going concern. Areeda & Turner, *Antitrust Law* ¶ 1202f1. Similarly an acquisition of copyrights on a library of films or a patent that carries with it the market share enjoyed by the patent owner may result in an amalgamation of competitive forces. On the other hand, Areeda suggests that the typical transfer of a copyright or patent that does not involve the loss of a going concern or the transfer of market share to a rival should not raise antitrust concerns. *Id.* at ¶¶ 1202f2, 1202f3.

In *United States v. Procter & Gamble Co.*, Civ. No. 90-5144 (E.D. Pa. Aug. 7, 1990), DOJ filed suit alleging a violation of § 7 of the Clayton Act to block Procter & Gamble, which produced and sold the over-the-counter

stomach remedy Pepto Bismol, from acquiring rights to Rhone-Poulenc Rorer, Inc.'s Maalox line of stomach remedies. P&G proposed to acquire the exclusive right to market and distribute, and proposed to obtain an option to purchase the assets used to manufacture, the Maalox line. DOJ alleged that the transaction would lessen competition substantially in an over-the-counter stomach remedies market. P&G and Rorer subsequently announced their intention to terminate the proposed transaction.

## **VII. A Patent Acquisition Does Not Constitute Patent Misuse**

Even if a patent acquisition may be unlawful, that fact will not help most infringement defendants. Thus, in *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1558 (Fed. Cir. 1997), the court held that whether or not a dominant firm's acquisition of exclusive rights to enforce a patent was unlawful, the infringement defendant did not suffer antitrust injury. The court reasoned that Goodyear's injuries were caused by enforcement of the patent and would have been the same regardless of who enforced the patent. The court held that "[a]cquisition of and enforcement of a patent do not in and of themselves constitute patent misuse."

## **VIII. An Exclusive Intellectual Property License is Also an Asset Subject to Section 7**

An exclusive intellectual property license is also considered an asset for the purpose of Section 7 analysis. See, e.g., *Western Geophysical Co. v. Bolt Assocs.*, 305 F. Supp. 1248 (D. Conn. 1969) (exclusive patent license); *United States v. Lever Bros.*, 216 F. Supp. 887, 889 (S.D.N.Y. 1963)(trademark); *United States v. Columbia Pictures Corp.*, 189 F. Supp. 153, 181-83 (S.D.N.Y. 1960)(copyright). See also *Universal Brands, Inc. v. Philip Morris Inc.*, 546 F.2d 30, 38 n. 7 (5th Cir. 1977) (dissent) (grant of sole and exclusive right to use trademarks "for all intents and purposes" amounts to a merger).

The characterization of a license as exclusive or non-exclusive can have a significant effect on the analysis of a license under the *Intellectual Property Guidelines*. An exclusive license may raise antitrust concern, according to the *Guidelines*, if licensees or the licensor and licensees are in a horizontal relationship. On the other hand, a non-exclusive license of intellectual property that does not contain any restraints on the competitive conduct of the licensor or the licensee generally does not present antitrust concerns even if the parties to the license are in a horizontal relationship, because the non-exclusive license normally does not diminish competition that would occur in its absence. *IP Guidelines* ¶ 4.1.2.

In *United States v. American National Can Co.*, Civ. No. 96-01458 (D.D.C. 1996), 61 Fed. Reg. 34,862 (1996), DOJ challenged an exclusive license from a Swiss firm, KMK Maschinen AG, to American National Can, which allowed American National Can to use KMK's technology for

manufacturing laminated toothpaste tubes in the United States. DOJ alleged that before entering the license the two firms had used their own tube-making technology and equipment to manufacture finished tubes and sell them in competition with each other to U.S. buyers. DOJ alleged that American National Can agreed to cease manufacturing tube-making equipment while KMK agreed to cease the manufacture and sale of laminated tubes in the United States. DOJ concluded that by precluding KMK from selling laminated tube-making equipment or licensing laminated tube making technology to others in North America, the agreements reduced competition in laminated tube, laminated tube-making equipment, and laminated tube-making technology markets.

More recently, the FTC obtained consent agreements from FMC Corporation and Asahi Chemical Industry Co., Ltd., prohibiting the two firms from dividing markets for pharmaceutical microcrystalline cellulose (MCC), which is a binder used in the manufacture of pills. The FTC alleged that FMC licensed its trademark for use with MCC produced by Asahi in manner that effectively allocated international markets. According to the FTC, FMC originally entered into a trademark licensing agreement with Asahi in 1968, and extended the agreement in 1984, giving Asahi the exclusive right to use FMC's trademark in Japan and the Asia Pacific region. The FTC alleged that the companies also entered an unwritten agreement that FMC would not sell to Japan or Asia Pacific without the consent of Asahi, and that Asahi would not sell into the United States or Europe without the consent of FMC. According to the FTC, FMC adhered to the agreement by refusing to enter into global supply contracts with pharmaceutical manufacturers that required MCC in Japan and the Asia Pacific region. *FMC Corporation and Asahi Chemical Industry Co., Ltd.*, FTC File No. 981-0237 (Dec. 21, 2000).

The companies agreed to consent agreements that would prohibit FMC and Asahi from entering any agreements to allocate customers, markets, contracts or territories, and would prohibit FMC from acting as the U.S. distributor for MCC produced by any other global manufacturer for ten years. The proposed order would, however, permit FMC and Asahi each to enter into agreements that are reasonably related to a license if reasonably necessary to achieve procompetitive benefits, and would allow FMC and Asahi each to enter into exclusive trademark license agreements. However, if in the future the Commission alleges violations of the order, each respondent would bear the burden of proof in demonstrating that its conduct satisfied the conditions of the exemptions.

*Compare United States v. Westinghouse Electric Corp.*, 648 F.2d 642 (9th Cir. 1981) (rejecting a claim that Westinghouse's grant of an exclusive license to Mitsubishi in Japan and its acquisition of non-exclusive licenses from Mitsubishi outside of Japan were unlawful, reasoning that such selective licensing is "precisely that which the patent laws authorize").

A draft of the *IP Guidelines* suggested that non-exclusive licenses as well as exclusive licenses could be treated as acquisitions subject to Section 7 in some circumstances. This position was withdrawn for bona fide non-exclusive licenses. See ABA, *The 1995 Federal Antitrust Guidelines for the Licensing of Intellectual Property: Commentary and Text*, 64-65 (1996).

**IX. Non-Exclusive Licenses That Are De Facto Exclusive Will Be Treated Like Exclusive Licenses**

The government and the courts will examine whether a license is *de facto* exclusive even if nominally non-exclusive. That is, one must consider the actual practice and its effects and not just the formal terms of an arrangement. Thus, a non-exclusive license may have the effect of exclusive licensing if it is structured so that the licensor is unlikely to license others or to practice the technology itself. On the other hand, a licensing arrangement will not be treated as exclusive merely because a party chooses to deal with a single licensee or because only a single licensee has chosen to take a license. *IP Guidelines* ¶ 4.1.2.

In *United States v. S.C. Johnson & Son, Inc.*, 1995-1 Trade Cas. (CCH) ¶ 70,884 (N.D. Ill. 1994), 59 Fed. Reg. 43,859 (1994), the DOJ alleged that a nominally non-exclusive license for household insecticides was exclusive in fact since the licensor refused all offers to license and refrained from using its technology itself. DOJ sued to block an arrangement between Bayer AG, a German company, and S.C. Johnson, the dominant U.S. insecticide maker. DOJ alleged that Bayer was planning to enter the U.S. market but instead granted an effectively exclusive license for the active ingredient in its product to S.C. Johnson. DOJ alleged that the arrangement had the effect of reducing Bayer's incentive to compete in the manufacture and sale of household insecticides. The complaint thus alleged that by purchasing some of the assets Bayer would have used in entering the market and obtaining what was in effect an exclusive license to Bayer's innovative active ingredient, Johnson effectively eliminated competition that could have helped drive down the price of household insecticides.

The *IP Guidelines* in fact contain a hypothetical example of a firm, Omega, on the verge of entering a pharmaceutical market granting a license to the incumbent monopolist in the market, Delta. In the hypothetical, the license is "nominally non-exclusive." Omega has, however, "rejected all requests by other firms to obtain a license . . . despite offers by those firms of terms that are reasonable" in relation to those in the license to Delta. The *Guidelines* conclude that "[a]lthough Omega's license to Delta is nominally non-exclusive, the circumstances indicate that it is exclusive in fact." Moreover, Omega would be a likely potential competitor of Delta in the absence of the licensing arrangement, and thus the two firms are in a horizontal relationship in the relevant market, and the government would apply a merger analysis to the

transaction since it involves the acquisition of a likely potential competitor. *IP Guidelines*, Example 11.

**X. Patent Acquisitions are Subject to Rule of Reason Analysis Under the NCRPA**

The acquisition of patent rights in connection with research and development ventures covered by the National Cooperative Research and Production Act (NCRPA) must be judged under the rule of reason. The NCRPA was first enacted as the National Cooperative Research Act of 1984, and was extended to production joint ventures by the National Cooperative Production Amendments of 1993, Pub. L. No. 103-42, 107 Stat. 117 (1993). The Act provides that the legality of ventures covered by the Act, including the acquisition of patent rights in connection with the venture, is to be judged under the rule of reason. Moreover, if parties file the statutorily prescribed notification of the venture with the DOJ and FTC, plaintiffs would be limited to single, rather than treble damages, in any action challenging the venture. 15 U.S.C. § 4302.

**XI. HSR Rules Require Notification of Some Intellectual Property Transactions**

The Hart-Scott-Rodino Antitrust Improvements Act of 1976, Section 7A of the Clayton Act, 15 U.S.C. § 18a, may require prior notification to the federal government of certain intellectual property licensing transactions, as well transactions structured as acquisitions of intellectual property assets.

The HSR Act generally requires pre-merger notification of voting securities or asset acquisitions that meet the statutory size-of-transaction test (\$50 million, as amended effective February 1, 2001) and size-of-transaction test (one \$100 million person and one \$10 million person, for any transaction under \$200 million).

The FTC Premerger Office views exclusive intellectual property licenses as asset acquisitions. A license will be considered exclusive if any aspect of the license is exclusive, for instance, if it is exclusive in a particular territory or for a particular use. On the other hand, a license will be deemed non-exclusive if the licensor retains the unrestricted right to use the licensed intellectual property or to license it to others. See ABA, *Premerger Notification Practice Manual* Interpretation No. 49 (1991).

The size of the transaction may be based upon the aggregate amount of future royalties (not discounted to present value) over the term of the license or a good faith estimate of fair market value if future royalties are speculative. See ABA, *Premerger Notification Practice Manual* Interpretation No. 129 (1991).

The staff position is that where aggregate royalties are determined (e.g., by a lump sum payment), or where a specified minimum royalty is agreed to, the aggregate sum should be treated as the acquisition price. Future payments of “interest” may be disregarded if separately identified in the license but the FTC staff will not permit an attempt to designate a portion of future royalties as “interest” if such an amount is not so identified. That is, interest is not included in the size-of-transaction test, but installment payments cannot be revalued to reflect their present worth. The result is that if an agreement says “licensee will pay licensor \$3 million annual royalties for 17 years” the transaction is reportable, whereas, if the agreement says “licensee will pay licensor \$2.5 million per year in royalties, and \$500,000 per year in interest for 17 years” the acquisition is not reportable. The fair market value of the license will control if it is greater than the aggregate of future payments. Moreover, where aggregate royalties cannot be accurately predicted, (e.g., the royalties are stated as a percentage of future sales of a patented item), the parties must determine the present fair market value of the patent license. *Id.*

The acquiring party must calculate the fair market value of the acquired assets within 60 days of filing an HSR Notification and Report Form or, if no filing is required, within 60 days of consummation of the transaction. The board of directors or a person authorized by the board must determine in good faith the fair market value of the asset.

## **XII. Acquisitions of Intellectual Property are Subject to Merger Standards**

The *IP Guidelines* provide explicitly that transfers of intellectual property are to be analyzed under standards set forth in the Merger Guidelines:

Certain transfers of intellectual property rights are most appropriately analyzed by applying the principles and standards used to analyze mergers, particularly those in the 1992 Horizontal Merger Guidelines. The Agencies will apply a merger analysis to an outright sale by an intellectual property owner of all of its rights to that intellectual property and to a transaction in which a person obtains through grant, sale, or other transfer an exclusive license for intellectual property (i.e., a license that precludes all other persons, including the licensor, from using the licensed intellectual property). Such transactions may be assessed under section 7 of the Clayton Act, sections 1 and 2 of the Sherman, and section 5 of the Federal Trade Commission Act.

*IP Guidelines* ¶ 5.7.

*SCM v. Xerox* teaches that “in scrutinizing acquisitions of patents . . . the focus should be upon the market power that will be conferred by the patent in relation to the market position then occupied by the acquiring party.” 645 F.2d at 1207. Since Xerox had “no power whatsoever in even the inchoate [plain paper copier] market,” it could not violate Section 2 of the Sherman Act or Section 7 of the Clayton when it acquired the Battelle patents. *Id.* at 1211. The court rejected SCM’s proposed rule, which would have focused only on the potential for commercial success of the patent to be acquired and would have ignored the market position of the acquiring party. *Id.* at 1208. The acquisition of a monopoly by a firm with no market power in a relevant market merely transfers the monopoly to the acquiring firm.

Areeda and Hovenkamp propose three rules: (1) acquisition by a monopolist of exclusive rights in related patents should presumptively be a Section 2 exclusionary practice; (2) a monopolist should be free to acquire exclusive rights in unrelated patents, and free to acquire non-exclusive rights in any patent; and (3) patent acquisitions should be lawful if the acquirer is not a monopolist at the time the acquisition was made, and remain lawful even if it should acquire a monopoly thereafter. Areeda & Hovenkamp, *Antitrust Law* ¶ 707a.

Areeda and Hovenkamp recognize that competitive effects are speculative when a monopolist acquires a patent covering a process or product that is clearly superior to its own, as the new patent may confer a significant market monopoly on whoever acquires it, such that it makes no difference whether the new monopoly is held by the old monopolist or a new one. On the other hand, the monopolist deprived of access to the superior patent may be able to survive and intensify competition by developing superior technology of its own or by competing with its inferior product. *Id.* ¶ 707b.

A recent extended investigation that was ultimately closed that addressed these issues involved Eli Lilly’s proposed licensing agreement with Sepracor, whereby the manufacturer of a leading branded antidepressant medication sought to acquire the intellectual property rights to a successor product. See Sheila F. Anthony, *Riddles and Lessons from the Prescription Drug Wars: Antitrust Implications of Certain Types of Agreements Involving Intellectual Property*, Remarks before the ABA “Antitrust and Intellectual Property: The Crossroads” Program (June 1, 2000). Commissioner Anthony identified a concern about the competitive implications of a potential share-shifting strategy, by which Lilly might attempt to market products in such a way as to move its Prozac share to the new drug, and thereby shield Lilly’s overall market share from generic competition, but decided to trust doctors and patients to determine the relative worth of any new product.

Importantly, Areeda and Hovenkamp suggest that a monopolist has a legitimate interest in acquiring non-exclusive rights to improvement patents

that cannot be practiced without infringing the monopolist's basic patent. Indeed, their treatise suggests that the public and the outside inventor will be deprived of any benefit from the improvement until the basic patent expires if the monopolist cannot practice the improvement or chooses to license its basic patent. *Id.* ¶ 707c. Of course, prohibiting the monopolist from obtaining exclusive rights may prevent the patentee's ability to reap the full reward of its patent and thus discourage investment. *Id.* ¶ 707d.

### **XIII. Patent Acquisitions Are Analyzed in Traditional Product Markets as well as Technology and Innovation Markets**

The *IP Guidelines* distinguish three types of markets that may be affected by intellectual property licensing arrangements:

If an arrangement may adversely affect *competition to develop new or improved* goods or processes, the Agencies will analyze such an impact either as a separate competitive effect in relevant *goods or technology markets*, or as a competitive effect in a *separate innovation market*.

*IP Guidelines* ¶ 3.2.3. These concepts, spelled out in the *IP Guidelines*, have had their greatest impact on merger enforcement.

*Goods markets* are comprised of goods or services and are the markets with which antitrust has been traditionally concerned, such as markets for pharmaceuticals, computer chips, or computer services. *IP Guidelines* ¶ 3.2.1.

*Technology markets* are markets in which companies compete in the licensing of intellectual property. The FTC and DOJ will analyze the competitive effects in technology markets when rights to intellectual property are marketed separately from the products in which they are used. *IP Guidelines* ¶ 3.2.2.

*Innovation markets*, sometimes called research and development or R&D markets, are markets in which firms compete in research and development. The *IP Guidelines* explain:

A licensing arrangement may have competitive effects on innovation that cannot be adequately addressed through the analysis of goods or technology markets. For example, the arrangement may affect the development of *goods that do not yet exist*. Alternatively, the arrangement may affect the development of new or improved goods or processes in geographic markets where there is *no actual or likely potential competition* in the relevant goods.

*IP Guidelines* ¶ 3.2.3. Just as a goods market consists of goods or services and close substitutes for such goods or services, an innovation market consists of “the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development.” Significantly, the FTC and DOJ have represented that they will:

delineate an innovation market only when the capabilities to engage in the relevant research and development can be associated with *specialized assets or characteristics of specific firms*.

*IP Guidelines* ¶ 3.2.3. Such specialized assets most often include physical assets, experience, production capability, and intellectual property. Thus, while the next important software program may come from the lone inventor in his garage and the next drug from a university scientist in her laboratory, the next jet fighter is almost certainly going to come from a defense contractor. According to the *Guidelines*, the government will not pursue an innovation market analysis if it cannot reasonably identify the firms with the required capability and incentive to engage in R&D.

See generally M. Howard Morse, *The Limits of Innovation Markets*, ABA Antitrust Section Intellectual Property Committee Newsletter (Spring 2001) (attached).

Perhaps the most significant recent government merger enforcement action involving significant intellectual property was the FTC’s challenge to the merger of pharmaceutical companies Ciba-Geigy Ltd. and Sandoz Ltd. into Novartis AG. *Ciba-Geigy Ltd.*, 123 F.T.C. 842 (1997). The FTC there alleged the transaction would combine the two leaders in the field of gene therapy. The Commission challenged the merger’s effect on gene therapy R&D in four specific products. The FTC also alleged markets of gene therapy technology and research and development, focusing broadly on the therapeutic technique, recognizing that no product had been approved or was expected to be approved for several years.

The Commission specifically charged that Ciba and Sandoz controlled intellectual property necessary to commercialize gene therapy products as well as other specialized assets – technological, manufacturing, clinical and regulatory know-how and manufacturing capability. The FTC alleged that by combining the two leaders, the merger was likely to lead to “a reduction in, delay of, or redirection of research and development tracks.” Other firms were conducting research but expected to obtain licenses from or joint venture with either Ciba or Sandoz if successful or expected to challenge the validity of their intellectual property. The FTC alleged the merged firm would have less of an incentive to license intellectual property rights or to collaborate with other companies. The agency also alleged that the merger would therefore “heighten barriers to entry by combining portfolios of patents and patent

applications of uncertain breadth and validity, requiring potential entrants to invent around or declare invalid a greater array of patents” – creating a so-called “killer patent portfolio.” BusinessWeek praised that action, writing, “when companies care more about their patent portfolios than their factories, it’s right for trustbusters to ensure that market giants don’t corner know-how.” “Trustbusters Get One Right,” BusinessWeek (Jan. 20, 1997).

More recently, in *Hoechst AG and Rhone-Poulenc S.A.*, FTC Docket No. C-3919 (Jan. 18, 2000), the FTC challenged the merger of Hoechst AG and Rhone-Poulenc S.A. to form Aventis S.A. and insisted upon divestiture to resolve concerns that the combination of a firm with an approved drug and its closest R&D competitor would lessen competition. The FTC alleged a market of research, development, manufacture and sale of a narrow class of drugs for the treatment of blood clotting diseases. According to the Commission complaint, Hoechst was the only firm with FDA approval to sell such a product and Rhone-Poulenc was the only firm in the final stages of developing such a product. The agency’s Analysis to Aid Public Comment made clear that the firms were “each other’s closest competitors” in the market. Thus, the FTC alleged the merger would “reduce innovation competition, among researchers and developers of direct thrombin inhibitor products, including the reduction in, delay of or redirection of research and development projects,” and would increase the merged firm’s ability “to exercise market power unilaterally.” As in *Ciba/Sandoz*, the FTC also alleged that the merger would increase barriers to entry “by combining portfolios of patents and patent applications.”

In *United States v. Miller Industries, Inc.*, Civ. Action No. 00CV00305 (D.D.C. Feb. 17, 2000), DOJ challenged acquisitions by Miller of two of its three leading competitors under Section 7 of the Clayton Act. The acquired companies, like Miller, manufactured and sold light-duty tow trucks and light-duty car carriers. In evaluating the alleged decrease in competition resulting from the acquisitions, DOJ examined not only the aggregate market share of the expanded company, but also the reduction in the number of firms able to offer the competitively significant features covered by patents and the elimination of independently competing sources of innovation. Prior to the acquisition, only Miller and one other firm had the right to compete with products incorporating the most significant features of certain patents due to a cross-licensing agreement between them. The third firm offered its own patented design. Through the acquisitions, Miller obtained patents owned by both firms.

Because the acquisitions had already been consummated, DOJ concluded that a broad licensing remedy offered the best prospect for replacing the competition and innovation allegedly eliminated by the acquisitions. A settlement required Miller to grant a non-exclusive license to use certain items of patented technology to any third party that requested a license. The settlement does not require licensing of certain patent claims

which cover features that, prior to its acquisition Vulcan had reserved for its own exclusive use. 65 Fed. Reg. 13309 (March 13, 2000); Stipulation (Feb. 17, 2000); Competitive Impact Statement (Feb. 23, 2000).

In two other cases in recent years, DOJ allowed mergers to be consummated only after the parties agreed to license patents to resolve antitrust concerns that the merger would have combined the only firms with intellectual property rights necessary to compete in a relevant market. In August 1999, DOJ announced that AK Steel Corporation agreed to license patents relating to the manufacture and sale of aluminized stainless steel to resolve concerns that AK's acquisition of Armco would have combined the only U.S. producer of aluminized stainless steel with the only other U.S. company that had rights to make and sell the product under the AK and Armco patents. DOJ Press Release, *Ohio Steel Company Agrees to License Patents in Order to Resolve Justice Department's Antitrust Concerns* (Aug. 26, 1999). In January 1998, DOJ cleared Perkin-Elmer Corporation's acquisition of PerSeptive BioSystems, Inc. after PE agreed to sell off PerSeptive's DNA synthesis patent rights. DOJ announced that the merging firms were the only two companies with the patents necessary for production of certain DNA molecules used in research and development. DOJ Press Release, *Justice Department Clears Merger Between PerSeptive BioSystems and Perkin-Elmer After Parties Agree to Divest Technology to Nextstar Pharmaceuticals* (Jan. 15, 1998).

#### **XIV. Patent Pools; Cross Licensing and Settlement of Litigation**

Cross licensing and the formation of patent pools are ways of gaining access to intellectual property. Like most patent licenses, they have the potential to promote efficiency by integrating complementary technologies, reducing transaction costs or clearing blocking patent positions. *IP Guidelines* ¶ 5.5; *Standard Oil Co. v. United States*, 283 U.S. 163 (1931). But such arrangements also can be anticompetitive and little more than a disguised agreement to allocate markets or fix prices. See, e.g., *United States v. Line Material Co.*, 333 U.S. 287 (1948). They also can be part of a scheme to monopolize in violation of Section 2 of the Sherman Act. See *Kobe Inc. v. Dempsey Pump Co.*, 198 F.2d 916 (10th Cir. 1952). Many of these arrangements involve collateral restraints well beyond the mere acquisition of a license to practice intellectual property and thus are beyond the scope of this paper.

Patent pools and cross licenses that are non-exclusive or between parties that are, but for the license, not actual or potential competitors in a product or innovation market should raise few antitrust issues. Even where exclusive licenses are involved between actual or potential competitors, the general rule is that settlements and cross licensing arrangements do not without something more, violate the antitrust laws. *Boston Scientific Corp. v.*

*Schneider A.G.*, 983 F.Supp. 245 (D.Mass. 1997). Where the cross license is little more than a naked price-fixing or market division arrangements, they will be subject to the *per se* rule. *United States v. New Wrinkle Inc.*, 342 U.S. 371 (1952) however generally such agreements are evaluated under the rule of reason in *Standard Oil v. United States*, *supra* at 170-77. Three recent Department of Justice business review letters with respect to industry-wide patent pools involving the video portion of the MPEG-2 standard and the DVD-ROM and DVD-Video Format illustrate the types of concerns that the Department considers in assessing the likely anticompetitive effects of such patent pools. While acknowledging the procompetitive benefits of such patent pools, the Department also considered whether the patent pool facilitated collusion on prices of the products employing the patented technology, whether only patents essential to complying with the industry standard were included, whether competitors in downstream markets were disadvantaged, whether the pooling arrangements included collateral restraints unnecessary to achieve the industry standard and whether the pooling arrangement reduced incentives to the parties to independently innovate. Business Review Letters, Joel Klein to Garrard Beeney. (June 26, 1997 and Dec. 16, 1998); Business Review Letter, Joel Klein to Carey Ramos (June 10, 1999).

One species of cross license or patent pooling which is the subject of particular interest to the enforcement agency involves the settlement of patent disputes. Assistant Attorney General Joel Klein, "Cross-Licensing and Antitrust Law," Remarks Before the American Intellectual Property Law Association (May 2, 1997). Courts have made clear that settlements are in the public interest:

Public policy strongly favors settlement of disputes without litigation. Settlement is of particular value in patent litigation, the nature of which is often inordinately complex and time consuming. Settlement agreements should therefore be upheld whenever equitable and policy considerations so permit. But such agreements are the burdens of trial spared to the parties, to other litigants waiting their turn before over-burdened courts, and to the citizens whose taxes support the latter. An amicable compromise provides more speedy and reasonable remedy for the dispute.

*Aro Corp. v. Allied Witan Co.*, 531 F.2d 1368, 1372 (6<sup>th</sup> Cir. 1976). See also *Standard Oil Co. v. United States*, 283 U.S. 163, 171 (1931) ("Where there are legitimately conflicting [patent] claims or threatened interferences, a settlement by agreement, rather than litigation is not precluded by the [Sherman] Act"); *United States v. Singer Mfg. Co.*, 374 U.S. 174, 199 (1963) (White, J., concurring) (where only one party's patent is valid, monopoly would have existed in absence of settlements); *Carpet Seaming Tape Licensing Corp. v. Best Seam, Inc.*, 694 F.2d 570, 579-80 (9th Cir. 1982) (blocking patents support the inference that the pooling agreement was for a legitimate rather

than anticompetitive purpose), *cert. denied*, 464 U.S. 818 (1983); *Boston Scientific Corp. v. Schneider AG*, 983 F. Supp. 245, 271 (D. Mass. 1997) (“It is well-established that settlement of patent litigation through a cross-licensing agreement does not in and of itself violate the antitrust laws.”). The *IP Guidelines* teach that “[s]ettlements involving the cross-licensing of intellectual property rights can be an efficient means to avoid litigation and, in general, courts favor such settlements.” When cross-licensing involves horizontal competitors, the government will consider whether the effect of the settlement is to diminish competition among entities that would have been actual or likely potential competitors in the absence of the cross-license. Only in the absence of offsetting efficiencies will such settlements be challenged as unlawful restraints of trade. *IP Guidelines* ¶ 5.5.

Although the vast majority of cross-licenses resulting from the settlement of patent disputes present no antitrust concerns, licenses exchanged to settle litigation have been found to violate Section 2 of the Sherman Act where the parties entered into the agreement for the purpose of strengthening their positions vis a vis unlicensed competitors. *Duplan Corp. v. Deering Milliken, Inc.*, 444 F. Supp. 648 (D.S.C. 1977) *aff’d in part; rev’d in part*, 594 F.2d 97 (4<sup>th</sup> Cir. 1979). More recently, the FTC entered a consent order dissolving a pooling arrangement entered into in settlement of a patent infringement dispute. In *Summit Technology*, FTC Dkt. No. 9286, 63 Fed. Reg. 46452 (1998), the Commission’s complaint alleges that two horizontal competitors, Summit Technology and VISX, Inc., had created an illegal patent pool to monopolize the market for laser eye surgery. The firms, the only companies selling the laser equipment needed for the procedure, formed a joint venture, Pillar Point Partners contributing their patents to it. Through this vehicle, the defendants shared the fees derived from the use of equipment made using either company's patents. The effect of this arrangement was to eliminate competition between the two companies. Summit and VISX maintained that this arrangement was necessary to market technology that otherwise would be subject to each other’s blocking patents. But the FTC asserted that the joint venture was a device to fix prices and that the blocking patent issue could have been resolved through less restrictive means, such as a cross license that did not dictate prices to customers. The FTC specifically alleged that “in the absence of the PPP Agreement, VISX and Summit could have and would have competed with one another in the sale or lease of PRK equipment by using their respective patents, licensing them, or both.” This case suggests that patent pools formed to settle litigation even in circumstances in which litigation may have resulted in one party gaining exclusive control of the patented technology are not immune from antitrust challenge.

Needless to say, the settlement of patent disputes can present very difficult analytical problems for the enforcement agencies, courts and antitrust counsel. Reaching conclusions about whether patents are blocking, likely to

be found valid and infringed or can be easily invented around to name just a few, are fraught with danger. Moreover, the factual record to support any such conclusions is usually incomplete until discovery is concluded and the court has interpreted the claims.

## **XV. Acquisition of Patents in Settlement of Intellectual Property Litigation**

Merger or acquisition in settlement of intellectual property litigation raises a number of interesting issues. The FTC challenged a merger aimed at resolving patent litigation when it filed suit in 1995 to block Boston Scientific Corporation's proposed acquisition of Cardiovascular Imaging Systems, Inc. (CVIS). The FTC alleged the two firms both produced intravascular ultrasound imaging catheters used in the diagnosis and treatment of cardiovascular disease, and that the acquisition would result in a firm with a market share of over 80% of the U.S. intravascular ultrasound catheter market, eliminate a key competitor, and increase the likelihood of diminished product innovation and increased prices. *Federal Trade Commission v. Boston Scientific Corp.*, Civ. No. 95-00198-HHG (D.D.C. Jan. 27, 1995); *Boston Scientific Corp.*, 119 F.T.C. 549 (1995). See also *Hewlett-Packard Co. v. Boston Scientific Corp.*, 77 F.Supp.2d 189, 192 (D. Mass. 1999).

The fact that the Boston Scientific-CVIS merger was in settlement of patent litigation is not clear from the FTC's federal court complaint. But the FTC's memorandum of points and authorities in support of its motion for a preliminary injunction anticipated Boston Scientific's defense to the merger enforcement action. The brief noted that in discussions with the Commission, Boston Scientific had argued that "the acquisition should be allowed because . . . it would resolve ongoing patent disputes between the companies."

The Commission argued that this so-called "patent defense" should be rejected. It characterized Boston Scientific's arguments as (1) asserting that the firm may not be able to continue to compete in the market absent the proposed acquisition because CVIS had alleged Boston Scientific was infringing its patents, and (2) arguing that the transaction should be allowed because it settles the patent litigation. In the only public pleading presenting its argument, Boston Scientific argued that development of intravascular ultrasound had been significantly impeded by intellectual property disputes, and that the company would present evidence at trial that the uncertainty created by those disputes had held back development of the technology.

The Commission rejected the argument that Boston Scientific's current market share, based on past sales, was irrelevant to predicting its future significance. The Commission noted that while Boston Scientific argued to the FTC that it likely would not be able to compete absent the proposed acquisition given CVIS' patent position, the company had argued in the patent

litigation that those patents were invalid and that CVIS was infringing one of its own patents. The Commission argued, “the patent litigation is in its early stages and the ultimate outcome is far from certain.” It concluded, “there is a no reason that the litigation must end in an adjudicated decision that would require Boston Scientific to leave the market.”

The alternatives to Boston Scientific being forced to exit the market were CVIS’ patents being found invalid or the parties reaching a negotiated cross-license. The FTC’s economic expert testified by declaration that while the merger might resolve the parties’ patent dispute and thus reduce litigation costs and uncertainty, the same benefits could be achieved by alternative means, such as licensing, rather than by a means that would result in the complete elimination of competition between the two firms. The FTC alleged in subsequent administrative litigation, “Boston Scientific and CVIS are continuing to compete vigorously while engage in patent litigation in which CVIS asserts Boston Scientific infringes certain of its patents, and Boston Scientific asserts that certain of CVIS’ patents are invalid and that CVIS infringes certain of its patents.” *Boston Scientific Corp.*, 119 F.T.C. 549 (Apr. 28, 1995). The FTC thus focused on inconsistencies between Boston Scientific’s positions in its patent and antitrust litigations, the benefits of current competition while the litigation was pending, and less restrictive means of resolving the dispute.

The FTC characterized the argument that the transaction should be allowed because it settled patent litigation as “curious” in light of the fact the litigation was instituted only in the middle of acquisition negotiations. The Commission argued as a legal matter that even where agreements settle patent litigation, “[w]hen the agreements involve horizontal competitors, they are carefully scrutinized for anticompetitive purpose or effect.” The FTC suggested that immunizing a transaction because it settles patent litigation would create “a new, broad, unwarranted exception to the antitrust laws.”

Settling the charges, the FTC thus allowed Boston Scientific to acquire CVIS, the firm with which it was in patent litigation, but required Boston Scientific to grant a license to its own patents and those of CVIS and another firm that it proposed to acquire that the FTC alleged was a potential entrant into the market. Thus a new competitor with clear rights to compete was created, potentially enhancing premerger competition, which existed under a patent cloud and could have forced one firm to exit the market.

## **XVI. Acquisition of Patents Through Grantbacks**

A grantback is a provision in a patent license requiring the licensee to convey back to the licensor any improvement patent that the licensee may develop, and thus may be a means by which a patent holder may grow its patent portfolio. Grantbacks may be either exclusive or non-exclusive. Non-

exclusive grantbacks to licensors without market power raise few, if any, antitrust issues. A nonexclusive grantback fosters the legitimate procompetitive goal of permitting the licensor to practice improvements in order to fully compete with his licensees while at the same time not limiting access to the improvements to third parties. For example, in *United States v. National Lead Co.*, 332 U.S. 319, 359-60 (1947), the Supreme Court recognized that a licensor's insistence on a non-exclusive grantback to a licensee's improvements to the licensed technology was necessary to assure the licensor a right to continue to use his own technology. Non-exclusive grantbacks to a licensor who is a monopolist have been held in some older cases, as part of a wider course of conduct, to violate Section 2 of the Sherman Act. See *United States v. Imperial Chemical Industries*, 105 F.Supp. 215 (S.D.N.Y.1952) (systematic insistence on nonexclusive grantbacks constituted attempt to monopolize); *United States v. General Electric Co.*, 82 F.Supp. 753, 768, 815-16 (D.N.J. 1949). Nonetheless, most commentators today believe that nonexclusive grantbacks even to monopolists should be *per se* legal. Arreda & Hovenkamp, *Antitrust Law* ¶ 707f.

Even exclusive grantbacks are judged under the rule of reason and may be lawful. *IP Guidelines* ¶ 5.6. In *Transparent-Wrap Machine Corp. v. Stokes & Smith Co.*, 329 U.S. 637 (1947), the Supreme Court held that a license requiring the licensee to assign any improvement patents to the licensor was not *per se* unlawful. The Court said, "One who uses the patent to acquire another is not extending his patent monopoly to articles governed by the general law and as respects which neither monopolies nor restraints on trade are sanctioned. He indeed is using one legalized monopoly to acquire another legalized monopoly." *Id.* at 644. Grantbacks are far more likely to be found to raise concerns under Section 2 especially where the licensor possesses substantial market power. See *Kobe v. Dempsey Pump Co.*, *supra* at 420. *Hartford Empire v. United States*, 323 U.S. 386 Supp. 324 U.S. 570 (1945). The most important factors to be considered in evaluating a grantback are whether the licensor has market power, whether the grantback is exclusive or nonexclusive, and whether the provision is likely to reduce the licensee's incentive to invest in improving the licensed technology, as well as the effect of grantbacks on dissemination of improvements and on licensors' incentive to innovate in the first place. Other relevant factors that courts have considered include whether the licensee retains the right to use improvements, whether the grantback precludes, permits, or requires the licensor to grant sublicenses, whether the grantback is limited to the scope of the licensed patents or covers inventions which would not infringe the licensed patent, the duration of the grantback, and whether the grantback is royalty free. See, e.g., *Santa Fe-Pomeroy Inc. v P&Z Co.*, 569 F.2d 1084, 1101-02 (9th Cir. 1978).

## **The Intellectual Property Guidelines: What Have We Learned in the Last Five Years? The Limits of Innovation Markets**

By M. Howard Morse<sup>1</sup>

Antitrust practitioners have – as the song teaches – “grown accustomed” to innovation markets. Introduced in the 1995 *Antitrust Guidelines for the Licensing of Intellectual Property* with much fanfare and received with initial skepticism and criticism, the “innovation market” concept has quickly become an accepted part of the government’s antitrust arsenal.

For the most part, antitrust enforcement alleging a reduction in innovation has been limited to merger cases involving a unilateral exercise of market power solidly grounded in economic theory, even if not universally accepted. Most of the government’s cases could, in fact, have been pleaded on a potential competition theory. The innovation market rubric in such cases draws attention to competition’s impact on the nature and pace of innovation, as well as on future prices.

In the last couple of years, however, both the Department of Justice Antitrust Division and the Federal Trade Commission have applied the innovation market concept to mergers and acquisitions involving two of four firms in a market. In these cases, the government has alleged that the transaction under review would allow the merged firm to unilaterally eliminate one research and development track. These cases do not allege that the merging firms’ R&D efforts are close substitutes and do not allege that remaining competitors are weak. They therefore would appear to be inconsistent with the current *Merger Guidelines* or confuse “unilateral” and “coordinated interaction” theories of competitive harm. They may confuse the legitimate goal of maximizing “innovation” with maximizing “research and development.” While all of the government’s innovation market challenges to date have been resolved through consent agreements, the government could undermine a valuable concept by being forced into court on a similar case, and should accordingly rein in the use of innovation markets.

### The Road to the IP Guidelines

Historically, antitrust focused on price and output effects in markets for goods and services, based upon an examination of historic market shares. Even the latest version of the government’s *Merger Guidelines* focuses principally upon the likelihood that a merger will enable sellers “profitably to maintain prices above competitive levels for a significant period of time.”<sup>2</sup> That is true even though it is widely recognized that small increases in innovation and technological change dwarf even significant reductions in static efficiency over time.<sup>3</sup> Today’s economy is increasingly dynamic like the computer

industry governed by Moore's law which teaches that computer chip capacity doubles every 18 months. In such high-tech industries, anticompetitive effects on innovation can have far greater impact than effects on price.

At the Federal Trade Commission in the late 1980s and early 1990s, we found the traditional static focus inadequate. We were faced with numerous cases in which parties argued, based on *General Dynamics*, that current market shares overstated the competitive significance of the merging parties.<sup>4</sup> We realized there were other cases in which market shares understated the competitive significance of merging firms, so-called reverse-*General Dynamics* cases.<sup>5</sup> We turned initially to potential competition theory to address competitive concerns.

Indeed, in one leading case, sometimes cited as a precursor to innovation market theory, in 1990, the FTC challenged Roche Holding Ltd.'s investment in Genentech, Inc. as likely to lessen competition in research and development in various biotech products.<sup>6</sup> In two markets, one of the firms was the market leader with a dominant market share and the other was developing an alternative patented production process or product. In a third market, the firms were the most advanced in development and held significant patents and patent applications, but there was no existing product, what at the time was dubbed a "double potential competition" case.

The Justice Department meanwhile was confronted in 1993 with a document in its investigation of a proposed acquisition by ZF Friedrichshafen AG of General Motors' Allison transmission business which revealed that ZF believed that it could either compete with GM in the development of next generation transmissions or acquire Allison.<sup>7</sup> DOJ alleged that GM and ZF, which were actual or potential competitors in only a few small U.S. markets, were "direct horizontal competitors in technological innovation for the design, development, and production of medium and heavy automatic transmissions for commercial and military vehicles." According to DOJ, ZF's introduction of a technologically superior product (the Ecomat) spurred Allison to develop a new line of substantially improved transmissions. DOJ alleged that ZF recognized it had to make a strong competitive response. DOJ quoted one ZF document:

There are only two ways to counter the attack of Ally [Allison] against the European market and the rest of the world: a) Purchase Ally and b) Rethink and reschedule the Ecomat strategy in respect to cost and product line quickly and massively.

The government alleged that the competition between GM and ZF resulted in "improved products, new products, lower costs of manufacture, and lower prices to consumers." Significantly, product improvements benefited all customers, whether or not the transmissions were sold in markets where the firms were actual or potential competitors. DOJ alleged, therefore, that the

merger would lessen competition in a market for worldwide technological innovation in the design, development, and production of transmissions. DOJ alleged that “under any measure, the proposed transaction would reduce the number of competitors in the Innovation Market from three to two,” and alleged that the only other competitor was “less effective” because of its narrow focus on bus transmissions.<sup>8</sup>

### The Theoretical Framework

The DOJ and FTC clarified their thinking about innovation markets in their joint 1995 *Antitrust Guidelines for the Licensing of Intellectual Property*.<sup>9</sup> The *Guidelines* distinguish three types of markets that may be affected by intellectual property licensing arrangements:

If an arrangement may adversely affect *competition to develop new or improved goods or processes*, the Agencies will analyze such an impact either as a separate competitive effect in relevant *goods or technology markets*, or as a competitive effect in a *separate innovation market*.

*IP Guidelines* ¶ 3.2.3. These concepts, spelled out in the *IP Guidelines*, have had their greatest impact on merger enforcement.

Goods markets are comprised of goods or services and are the markets with which antitrust has been traditionally concerned, such as markets for pharmaceuticals, computer chips, or computer services. *IP Guidelines* ¶ 3.2.1.

Technology markets are markets in which companies compete in the licensing of intellectual property. The FTC and DOJ will analyze the competitive effects in technology markets when rights to intellectual property are marketed separately from the products in which they are used. *IP Guidelines* ¶ 3.2.2.

In one leading case involving such technology markets, *Montedison S.p.A.*, the FTC alleged that a proposed joint venture of Montedison and Royal Dutch Shell would lessen competition in licensing of polypropylene technology and polypropylene catalyst technology.<sup>10</sup> While the two firms accounted for only a modest share of polypropylene production, the technologies controlled by the firms accounted for over 80 percent of completed and projected additions to capacity pursuant to technology license and over 70 percent of all polypropylene capacity recently built and projected to be built.

Before approving Dow Chemical Company’s acquisition of Union Carbide earlier this year, the FTC similarly required that Dow divest and license intellectual property for the production of polyethylene used in plastic products such as trash bags, stretch film and sealable food pouches, to BP

Amoco, its former partner in developing the technology.<sup>11</sup> As in *Montedison*, this matter involved allegations that the merging firms' control over production technology would lead to anticompetitive effects both in the licensing of technology and in the market for the product. The FTC alleged that post-merger, two firms (Dow and Exxon working with Union Carbide) would control more than 50% of polyethylene sales, essentially all commercialized catalyst technology, and reactor process technology used in approximately 75% of installed capacity in the United States and Canada.

The FTC order remedies the alleged anticompetitive effects by 1) allowing BP, which had been working with Dow, to develop and license catalysts without being subject to patent claims; and 2) enabling Exxon to develop and license catalysts and reactor process technology independently of Dow. By allowing BP to offer catalysts in connection with licenses of its reactor technology, the FTC order is intended to preserve the viability of that technology.

Innovation markets, sometimes called research and development or R&D markets, are markets in which firms compete in research and development, and are the most controversial. The *IP Guidelines* explain:

A licensing arrangement may have competitive effects on innovation that cannot be adequately addressed through the analysis of goods or technology markets. For example, the arrangement may affect the development of *goods that do not yet exist*. Alternatively, the arrangement may affect the development of new or improved goods or processes in geographic markets where there is *no actual or likely potential competition* in the relevant goods.

*IP Guidelines* ¶ 3.2.3. Just as a goods market consists of goods or services and close substitutes for such goods or services, an innovation market consists of “the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development.” Significantly, the FTC and DOJ have represented that they will:

delineate an innovation market only when the capabilities to engage in the relevant research and development can be associated with *specialized assets or characteristics of specific firms*.

*IP Guidelines* ¶ 3.2.3. Such specialized assets most often include physical assets, experience, production capability, and intellectual property. Thus, while the next important software program may come from the lone inventor in his garage and the next drug from a university scientist in her laboratory, the next jet fighter is almost certainly going to come from a defense contractor. According to the *Guidelines*, the government will not pursue an innovation

market analysis if it cannot reasonably identify the firms with the required capability and incentive to engage in R&D.

### The Debate Over Innovation Markets

The “innovation market” innovation generated substantial controversy in the mid-1990s. The *Roche* and *GM/ZF* cases and the *Guidelines* were not, however, the first time that antitrust recognized the importance of competition on innovation. As early as *United States v. Alcoa*, Judge Learned Hand emphasized that

[p]ossession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; . . . immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress.<sup>12</sup>

In 1969, DOJ challenged an agreement among automobile manufacturers that allegedly would delay the development of pollution control equipment.<sup>13</sup> Congress, in fact, in the National Cooperative Research Act of 1984 suggested that conduct could be found unreasonable based on its effect on competition in “properly defined, relevant research, development, product, process, and service markets.”<sup>14</sup>

Critics nonetheless argue that the literal language of Section 7, which requires anticompetitive effects in a “line of commerce,” does not permit such markets. They rely most heavily on dictum in the Second Circuit decision in *SCM Corp. v. Xerox Corp.*, which suggests that a Section 7 violation cannot be found prior to introduction of products.<sup>15</sup>

Critics also charge that the introduction of the innovation market concept:

- is unnecessary because existing antitrust principles are sufficient to address all significant competitive harm,
- is inappropriate because there is no correlation between concentration and innovation; and,
- has made it more difficult to evaluate the antitrust implications of intellectual property transactions because of the limited available information on firms’ R&D efforts.<sup>16</sup>

The antitrust agencies, on the other hand, have taken the position that the theory as applied is well grounded in economic theory and that traditional antitrust analysis cannot adequately address anticompetitive effects of mergers on the incentive to innovate, particularly where there is no existing market.<sup>17</sup>

While the debate continues as to whether there is a correlation between concentration and innovation, it is increasingly accepted that a firm's size and position within the market affects its incentives to innovate. Thus firms in unconcentrated markets that do not have the scale to support R&D efforts and cannot capture the value of innovation may not engage in R&D. On the other hand, a monopolist generally will have less incentive than a new entrant to engage in R&D that may lead to a substitute for an existing product or that may lower the cost of producing an existing product. This is because such technological improvements may cannibalize the monopolist's supra-competitive profits and make its current sunk investments obsolete. Monopolists may well pursue incremental innovations to existing products and processes, quickly copy innovations introduced by smaller rivals, or engage in other defensive R&D. But they are less likely to pursue "disruptive technologies" or embrace innovations that threaten their dominance. Empirical studies document that "leap-frog" or "paradigm-shifting" innovations are most often created by niche firms and new entrants.<sup>18</sup>

There may well be practical difficulties for firms attempting to predict the likelihood of a government challenge because it is difficult to obtain information necessary to identify participants in innovation markets. That has not, however, prevented the government from taking enforcement action where information about firms engaged in R&D is available to it. The disproportionately large number of innovation market cases in the pharmaceutical industry is probably related to the fact that pharmaceutical R&D is conducted under a regulatory framework that requires disclosure to the government of at least advanced R&D and hence greater transparency than in other industries. The regulatory structure also allows the government to gauge which firms are most advanced in their R&D and most likely to come to market soonest.

When innovation markets were introduced there was much debate about how one would measure market shares in such a market. Proposals ranged from research and development expenditures to numbers of patents issued to shares of identifiable assets or characteristics, shares of related products, or more qualitatively ascertaining the competitive significance of competitors through customer and competitor assessments. Where firms have comparable capabilities and incentives to pursue R&D, it was proposed that the government adopt a bid model and assign equal market shares.<sup>19</sup> That debate, however, was largely irrelevant, so long as one's only concern was merger to monopoly. When firms need to measure Herfindahl-Hirschman Indices for innovation markets, and start worrying about 50 point increases in the HHI above 1800 and 100 point increases in the HHI between 1000 and 1800, we will all be in serious trouble.<sup>20</sup>

### Innovation Markets in Practice

After issuance of the IP Guidelines, for a while it seemed that almost every merger case involved innovation market allegations (or at least innovation effects). Since 1995, the federal enforcement agencies have brought at least 35 such cases involving products ranging from computer software and security equipment to cancer drugs and intravascular ultrasound catheters.<sup>21</sup>

The antitrust agencies appear to have three distinct competitive concerns in their innovation market cases:

- First, there is concern with the impact of the arrangement or acquisition on the diversity of research and development tracks, leading to new, better or cheaper products.
- Second, there is concern with the impact of the arrangement or acquisition on the pace of research and development, leading to better or cheaper products sooner.
- Third, there is concern about competition in post-innovation goods market.

These cases, at least until the last few years, have involved mergers to monopoly or near monopoly with weak competitors and unilateral theories of competitive harm.

Focusing on unilateral rather than coordinated interaction theories of harm in innovation market cases seems appropriate. While collusion in R&D cannot be rejected out of hand in all circumstances, it seems unlikely – particularly in dynamic markets – where innovation market concerns have been raised most often. Reaching terms of coordination on the direction or pace of R&D with its multiple dimensions seems difficult, other than through a market division or a decision not to conduct any R&D. Moreover, the incentive to cheat is high, given the rewards to successful innovation. The ability to cheat undetected is also high since innovation is often conducted in secret, at least in the absence of facilitating devices such as licenses serving as reporting mechanisms.<sup>22</sup> This is especially true of firms without any revenue stream from a current product on the market, such as firms developing new drugs, and in “winner take all” races or situations where there are substantial “first-mover” advantages. Senior DOJ officials have in fact noted, “though it is possible to have coordinated effects, [they] most often expect to see some type of unilateral effect.”<sup>23</sup>

Recognizing that competitive concerns in innovation markets are unlikely except at very high concentration levels, the *IP Guidelines* provide a “safety zone” where a market has at least four independently controlled

competitors in addition to the parties to the license.<sup>24</sup> The *Guidelines* emphasize that arrangements are not anticompetitive “merely because they do not fall within” the safety zone and will not be presumed to be anticompetitive without a detailed inquiry.

The April 2000 *Antitrust Guidelines for Collaborations Among Competitors*, while not explicitly modifying the *IP Guidelines*, specify an expanded safety zone for joint ventures affecting innovation markets.<sup>25</sup> Those *Guidelines* provide that absent extraordinary circumstances, the agencies will not challenge an R&D collaboration on the basis of effects in an innovation market “where three or more independently controlled research efforts in addition to those of the collaboration possess the required specialized assets or characteristics and the incentive to engage in R&D.” Unfortunately, the agencies have been silent about the differences between the two sets of guidelines, leaving uncertainty about the precise contours of these tests.

Most of the innovation market cases brought since issuance of the *IP Guidelines* could have been brought under traditional potential competition theory.<sup>26</sup> By alleging innovation markets, the agencies emphasize current effects on the pace and diversity of research and development, as well as on future prices. Ultimately, of course, current research and development is valuable to consumers only to the extent that it results in improved or lower cost products in the future, that is, a lower quality-adjusted future price. FTC precedents under the potential competition doctrine, however, are particularly restrictive, which may explain the agency staff’s preferred reliance on innovation market theory.<sup>27</sup>

Confusion between these theories is perhaps best illustrated by the complaint in *American Home Products Corp.*<sup>28</sup> The FTC there challenged AHP’s \$9.7 billion acquisition of American Cyanamid, alleging adverse effects on research and development of a vaccine against a diarrheal disease affecting children and also on research and development of biotechnology drugs used in treating cancer. The FTC complaint specifically alleged that the merger would lessen competition by “[e]liminating *potential competition in the relevant Rotavirus vaccine research and development market and cytokines for white blood cell and platelet restoration market.*”<sup>29</sup> One can only assume that the FTC was confused between “innovation market” theory and “potential competition” theory, and that the agency was not serious in alleging a lessening of “potential competition in research and development.” The elimination of a mere potential competitor into research and development cannot seriously raise antitrust concern.

Other cases can be criticized for alleging a U.S. or North American market for innovation when innovation can occur in any part of the world.<sup>30</sup> Barriers may affect which companies are able to commercialize products, but should not lead to excluding foreign R&D from innovation markets, particularly

where innovators can license or sell their research to domestic producers. In fact, the drafters of the National Cooperative Research Act recognized that innovation markets are likely to be global, explaining, “overseas R&D competitors usually will be significant factors in properly defined R&D markets, and in those instances courts must take this international dimension into account.”<sup>31</sup> This seems correct, at least in the absence of statutory or administrative barriers to trade in R&D. Whether this would have affected the outcome of any of the cases brought to date, however, is hard to tell on the public record.

Use of the innovation market concept where potential competition theory is inadequate can be seen in the FTC’s challenge to the merger of pharmaceutical companies Ciba-Geigy Ltd. and Sandoz Ltd. into Novartis AG.<sup>32</sup> The FTC there alleged the transaction would combine the two leaders in the field of gene therapy. The Commission challenged the merger’s effect on gene therapy R&D in four specific products, similar to earlier cases. The FTC also alleged markets of gene therapy technology and research and development, focusing broadly on the therapeutic technique, recognizing that no product had been approved or was expected to be approved for several years.

In *Ciba/Sandoz*, the Commission specifically charged that the merging firms controlled intellectual property necessary to commercialize gene therapy products as well as other specialized assets – technological, manufacturing, clinical and regulatory know-how and manufacturing capability. The FTC alleged that by combining the two leaders, the merger was likely to lead to “a reduction in, delay of, or redirection of research and development tracks.” Other firms were conducting research but expected to obtain licenses from or joint venture with either Ciba or Sandoz if successful or expected to challenge the validity of their intellectual property. The FTC alleged the merged firm would have less of an incentive to license intellectual property rights or to collaborate with other companies. The agency also alleged that the merger would therefore “heighten barriers to entry by combining portfolios of patents and patent applications of uncertain breadth and validity, requiring potential entrants to invent around or declare invalid a greater array of patents” – creating a so-called “killer patent portfolio.” BusinessWeek praised that action, writing, “when companies care more about their patent portfolios than their factories, it’s right for trustbusters to ensure that market giants don’t corner know-how.”<sup>33</sup>

#### Recent Cases Move Beyond Traditional Unilateral Theory

Both the Federal Trade Commission and the Department of Justice have brought innovation market cases in the last few years that move beyond merger-to-monopoly allegations.

United States v. Halliburton Co. DOJ in 1998 challenged a proposed merger of Halliburton and Dresser Industries on the theory it would combine two of only four companies that compete to provide logging-while-drilling tools and services for oil and natural gas drilling projects.<sup>34</sup> The Antitrust Division specifically alleged that the merger would combine “two of the four companies” that are the only sources of current and likely future innovations in new or improved tools, and would therefore “likely” lead to “a slowdown in the pace of . . . innovation.”

The relevant market was made up of four firms – Baker Hughes, Dresser, Halliburton and Schlumberger – known as the Big Four, and a number of smaller fringe players. In fact, according to the complaint, the merging firms were number two and four in the market. Even accepting that the fringe firms lacked the “specialized assets” necessary for innovation, this merger should be characterized as one of “four-firms-going-to-three” in an innovation market, or as DOJ officials have said, a merger that would have combined “two of the only four major innovators.” Indeed, the complaint alleged that “Halliburton and Dresser respond to each other’s innovation efforts, as well as to those of the two others.” DOJ’s explanations make clear that the merging firms were not “close substitutes” and neither was a “maverick” in the market. DOJ explained:

[t]here was no single innovator among the Big Four. The breakthrough innovations were spread out among the group, so that all four of the companies had recent significant innovations. . . . Dresser and Halliburton had two very different innovation strategies. They approached R&D in significantly different ways.<sup>35</sup>

The *Merger Guidelines* in fact suggest anticompetitive concerns are unlikely in a market of differentiated products unless the firms’ products are close substitutes and rivals are unlikely to reposition their products to replace lost competition, at least in the absence the merged firm having a dominant share.<sup>36</sup> There is no concern in the *Guidelines* that a merger of firms with differentiated products that are not close substitutes will drop one and eliminate product diversity, presumably because the merged firm will have the incentive to continue to offer both products if they are desired by the market.

But rather than eliminate a unilateral theory in *Halliburton*, DOJ officials have suggested that the facts supported a “significant anticompetitive problem” on a unilateral theory. DOJ concluded that the merger “threatened to eliminate one of [the merging firms’] approaches, decreasing the chance of successful innovation,” reasoning that the merger would reduce the incentive for the merged firm to innovate and improve tools that the merged firm “might deem redundant.”<sup>37</sup> DOJ alleged that as a result of the acquisition, “the rate of innovation would likely be slower.”

The problem with this analysis is that it ignores the reaction of the other firms. The government's answer is only that "the more attempts there are, the greater the chance that someone will get it right" but that argument puts the government back where the empirical evidence is most uncertain. The same allegation could be made of a merger of two of a hundred firms conducting R&D in a market. In that circumstance, the merged firm may decide to drop one of two R&D tracks, but one would not be concerned that innovation would decrease. In *Halliburton*, DOJ does not suggest that the remaining firms are likely to collude in R&D. DOJ does not suggest even that the other firms have distinct approaches to R&D or that neither would be likely to reposition their approach to replace that eliminated by the merging firms. DOJ simply ignores the reaction of the other firms, instead suggesting that the merging firms' decision to eliminate one approach is a unilateral anticompetitive effect. The complaint's allegation that the rate of innovation would slow seems particularly unfounded in these circumstances.

In the Matter of Pfizer Inc. In challenging Pfizer Inc.'s \$90 billion merger with Warner-Lambert Co., the FTC similarly attacked a four-to-three innovation market merger on a unilateral theory. The FTC alleged a substantial lessening of competition in the research, development, production and sale of Epidermal Growth Factor receptor tyrosine kinase ("EGFr-tk") inhibitors for the treatment of solid tumor cancers.<sup>38</sup> According to the FTC complaint, at the time of the merger, the FDA had not yet approved any product, yet if approved the products would offer a significant improvement in the treatment of solid tumor cancers. The Commission alleged that the market was "highly concentrated" and "only four companies" including Pfizer and Warner had the drug at issue in human clinical testing.

An FTC Analysis to Aid Public Comment explained that in light of perceived medical needs, "scientists" had developed drugs that attempt to inhibit the EGFr activity, and that Pfizer and Warner were "two of only a few companies in clinical development." The Analysis asserted that as a result of the merger, the combined firm "could unilaterally delay, terminate or otherwise fail to develop" one of the two competing drugs it would own, resulting in less product innovation and fewer choices for consumers. In its complaint, the FTC specifically alleged the merger would reduce the number of companies conducting human clinical trials from four to three. The FTC theorized that the merger would lessen competition by increasing the likelihood that the merged firm would "unilaterally delay, deter or eliminate" competing research and develop programs, "potentially reducing the number of drugs reaching the market."<sup>39</sup>

It is of course true that the merged firm "could" delay or terminate a development project. But it is important to understand that in a pharmaceutical indication where there is no drug currently marketed, the first entrant is likely to have a substantial first-mover advantage. The merged firm will be motivated

to beat the other firms developing products by pursuing its development efforts efficiently in order to be the first to market. To suggest that the other firms would slow their development efforts would require a coordinated interaction theory, which is highly unlikely on these facts.

If the merged firm's development efforts are close substitutes, it might make sense to drop the slower project. Otherwise, it would seem to make sense to drop a project only if it is substantially behind and would not offer advantages to consumers. After all, the merged firm's analysis ought to be the same as the proposed by DOJ, that "the more attempts there are, the greater the chance that [it] will get it right." If the merged firm were to decide to drop one project because it determines that project is substantially behind, and its research dollars are better spent on other projects, that is likely to benefit consumers rather than cause consumer harm. That is true even if the dropped project would have been pursued by the firms independently without information about the status of other drugs under development. The goal of antitrust should be to maximize innovation and consumer welfare, and not to maximize R&D expenditures.

Whatever validity there is to the analysis in *Halliburton* with respect to incremental innovation in an oligopolistic durable goods market, there seems to be little basis to conclude that a merger among two of four firms developing a new pharmaceutical – that are not close substitutes – will reduce innovation.

In the Matter of SmithKline Beecham plc. The most recent example of an innovation market challenge based on a merger among two of several firms in a market is the FTC's complaint issued earlier this year against the \$182 billion merger of SmithKline Beecham plc and Glaxo Wellcome plc.<sup>40</sup> The FTC alleged the merger would lessen competition in nine different markets, the most significant of which from a precedential standpoint involve innovation market allegations where there was not current direct competition between Glaxo and SmithKline.

The FTC alleged anticompetitive effects, for example, with respect to research and development of drugs for the treatment of irritable bowel syndrome. Glaxo's drug, the only FDA-approved treatment for irritable bowel syndrome, was taken off the market because of concern about serious side effects in some patients. Glaxo, however, continued to conduct clinical trials with the drug. According to the FTC, SmithKline, while not itself developing any irritable bowel syndrome drugs, had an option to acquire and market a drug under development. The FTC alleged that if SmithKline exercised that option, it would have "one of only three drugs" currently being developed to treat irritable bowel syndrome. The complaint charged that the merger would therefore increase the likelihood the merged firm would reduce innovation.<sup>41</sup>

An FTC Analysis to Aid Public Comment reveals that, in addition to the Glaxo drug and the drug being developed that SmithKline had an option to acquire, “two other drugs” are in clinical development. The Analysis nonetheless asserts that the merger “likely would” eliminate one of the few irritable bowel syndrome drug development efforts. It asserts the merged firm would likely “delay, terminate or otherwise fail to develop” the drug on which it had an option, resulting in less product innovation and fewer product choices for consumers. The FTC thus asserts that the merger – between two of four firms with drugs in clinical trials – would likely lead to reduced innovation.

The FTC was similarly concerned about the elimination of “one of few” research and development efforts with respect to a narrow class of drugs used to treat solid tumor cancers, Topoisomerase I inhibitors. The FTC alleged that the research, development, manufacture and sale of such drugs was a relevant market. The FTC complaint reveals that SmithKline currently markets one such drug in direct competition with another firm on the market. The FTC alleged that Glaxo also “maintains rights” in a Topoisomerase I Inhibitor formulation being developed by another firm. On these facts, the FTC alleged that there was a likelihood the merged firm would reduce innovation “either unilaterally or through coordinated interaction.”<sup>42</sup> The FTC’s Analysis to Aid Public Comment, however, specifically asserts that the merged firm “could unilaterally delay, terminate or otherwise fail to develop” the product in which Glaxo maintains rights, and thus the merger is anticompetitive by “potentially eliminating *one of the few* research and development efforts in this area.”

The FTC allegations may be more solidly grounded – at least theoretically – with respect to anticompetitive effects in the market for the research and development of prophylactic herpes vaccines. According to the FTC, there is no such vaccine currently on the market and the merging firms were “two of the few” firms developing such products. SmithKline was alleged to have the “most advanced” development effort and Glaxo was alleged to also have been developing a vaccine. The FTC alleged that “[o]ther firms that have undertaken efforts to develop a prophylactic herpes vaccine either have failed in their efforts or are far behind [SmithKline and Glaxo], with vaccines that are only in pre-clinical stages of testing.” Thus, according to the FTC, Glaxo and SmithKline were “likely to be the first two competitors to reach the market.”<sup>43</sup> Under these circumstances, where the merging firms were alleged to be the most advanced and closest substitutes, the claim that the merged firm would forego or delay development makes more sense. The merged firm could slow its development efforts and still remain ahead of others. At the same time, where not currently in the market, even a monopolist has an incentive to introduce a product and earn a return on its investment.

Delay in introduction of the most advanced project under development that may challenge an existing dominant share is an even stronger theory, and appears to explain the FTC’s treatment of another drug implicated by the

Glaxo-SmithKline merger. The FTC alleged that Glaxo has a 65% share of a market for triptan drugs for treatment of migraine headaches, competing with two other firms. According to the FTC, SmithKline “maintain[ed] rights” in a drug in the same class, under development by another firm.<sup>44</sup> The FTC Analysis to Aid Public Comment reveals that two other triptan migraine drugs were in clinical development, but were “well behind” the drug in which SmithKline had rights. The Analysis alleged that the merger “likely” would eliminate “one of the few” research and development efforts on triptan drugs to treat migraines.

In the Matter of Hoechst AG and Rhone-Poulenc S.A. The FTC’s January 2000 complaint against the merger of Hoechst AG and Rhone-Poulenc S.A. to form Aventis S.A. similarly insisted upon divestiture to resolve concerns from the combination of a firm with an approved drug and its closest R&D competitor.<sup>45</sup> The FTC alleged a market of research, development, manufacture and sale of direct thrombin inhibitors, for the treatment of blood clotting diseases. According to the Commission complaint, Hoechst was the only firm with FDA approval to sell such a product and Rhone-Poulenc was the only firm in the final stages of developing such a product. The agency’s Analysis to Aid Public Comment makes clear that the firms were “each other’s closest competitors” in the market. Thus, the FTC alleged the merger would “reduce innovation competition, among researchers and developers of direct thrombin inhibitor products, including the reduction in, delay of or redirection of research and development projects,” and would increase the merged firm’s ability “to exercise market power unilaterally.” As in *Ciba/Sandoz*, the FTC also alleged that the merger would increase barriers to entry “by combining portfolios of patents and patent applications.”<sup>46</sup>

United States v. Compuware Corp. DOJ would also appear to be on more solid theoretical ground in challenging mergers of current monopolists and firms with potentially “disruptive technologies.” In *United States v. Compuware*,<sup>47</sup> for example, DOJ filed suit to block a software acquisition by an “overwhelmingly dominant” firm with an alleged 80% share. DOJ noted that this was the latest in a series of transactions in which Compuware had acquired competitors’ product “only to cease sales and upgrades for those products after the acquisition.” DOJ alleged that the proposed acquisition would “eliminate Compuware’s potentially most threatening competitor” and “enable Compuware to protect its commanding market position by eradicating a nascent competitor.” DOJ specifically alleged that the acquisition would likely lead to “less innovation in product development.”<sup>48</sup>

Blocking such an acquisition is consistent with concern that monopolists tend to focus on incremental innovation and are less likely to pursue disruptive technologies, while new entrants that do not have a vested interest in the current technology are more willing to venture in untested directions and fail or leap-frog the competition. Difficult issues arise, however, in dynamic markets,

where the allegedly dominant firm's share is smaller and there are multiple fringe firms with potentially disruptive technologies. On such facts, the acquisition by the leading firm of an entrant with promising new technology may well hasten the commercialization of the entrant's technology, while the presence of other substantial competitors and other potentially disruptive technologies will ensure that the market leader will not suppress or delay introduction of the acquired technology.

The prospect that a merger may lead to efficiencies in R&D has received little attention in the government's analysis of innovation markets to date. In revising the *Merger Guidelines* in 1997 to address efficiencies, the federal enforcement agencies suggested efficiencies from mergers relating to research and development are "potentially substantial" but are generally "less susceptible to verification" than other efficiencies and "may be the result of anticompetitive output reductions."<sup>49</sup> Combining complementary core competencies to create and commercialize better products should not be a difficult story to tell, however, where merging parties have given serious thought to such issues and one can explain how the merger will result in faster, superior innovation and commercialization of products.<sup>50</sup> More difficult but worth pursuing in appropriate cases is the argument that the merging firms' R&D is redundant and after the merger the firms can cut R&D budgets or shift resources to other fields and achieve the same level of innovation at less expense. That argument typically raises government concerns that the efficiency may be an anticompetitive reduction of output but is less likely to do so if the government distinguishes between R&D, the input, and innovation, the desired output. It is not enough to ask whether overall R&D spending will decrease. One must also ask what will happen to the efficiency of the R&D effort.<sup>51</sup> Focusing on R&D efficiencies is the next logical step in the analysis of innovation competition.

### Innovation Markets in the Courts

Despite the continued use of technology and innovation markets by the FTC and DOJ, reported court cases involving such markets are practically non-existent. That is perhaps not surprising since R&D projects generally account for a tiny share of the value of large transactions, and thus it is not worth the cost, delay and risk to fight a government challenge. Over time, however, we should expect innovation markets to appear in private litigation, in merger and non-merger cases and their validity to be litigated.

One court has approved such markets, citing the *Intellectual Property Guidelines*, a 2000 Eastern District of Louisiana decision, *In re Papst Licensing, GmbH Patent Litigation*.<sup>52</sup> The court denied a motion to dismiss antitrust claims alleging that Papst unlawfully required plaintiff Minebea's customers to pay royalties on sales of hard disk drives containing its motors where a previous joint venture and licensing relationship allegedly entitled

Minebea to manufacture such motors. According to Minebea, Papst threatened Minebea's customers with baseless patent litigation. Papst moved to dismiss on the grounds that it did not compete with Minebea, relying on *Intel v. Intergraph*.<sup>53</sup> Minebea alleged it competed with Papst in the market for technology for hard disk drive motors, and Papst claimed there could be "no such thing as a technology market." The court quoted the *IP Guidelines* at length, and denied the motion to dismiss, commenting ironically, "[p]resumably, at the time of the *Intergraph* argument, the *Guidelines* had not yet become an integral part of the materials used for interpretation of antitrust litigation."

There is also a reference to markets for "technology" and "innovation" in recent private litigation challenging the Summit-VISX patent pooling agreement previously challenged by the FTC as well as a merger of Summit and another firm. While noting the plaintiff's economist "confirms plaintiffs' description" of the marketplace as comprising technology and innovation markets and that the economist predicted those markets would suffer anticompetitive effects, the court dismissed the case on the grounds that the plaintiff, which was not a customer of the defendants, lacked antitrust standing.<sup>54</sup>

### Conclusion

As the courts grapple with innovation markets, the FTC and DOJ will be forced to clearly articulate their anticompetitive theories. It is increasingly anomalous that there is so much attention to innovation implications of mergers undergoing antitrust review when the current *Merger Guidelines* are virtually useless as a guide or a predictor of agency treatment of this subject. It is at a minimum time for a *Guidelines* upgrade to incorporate clear guidance on innovation issues, considering both when mergers may be alleged to reduce the pace and diversity of R&D and result in reduced innovation, and when R&D synergies will be credited.

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<sup>2</sup> DOJ/FTC, *Horizontal Merger Guidelines* ¶ 0.1 (April 8, 1997) (hereafter *Horizontal Merger Guidelines*). See also *Eastman Kodak v. Image Technical Servs.*, 504 U.S. 451, 464 (1992).

<sup>3</sup> See F.M. Scherer & D. Ross, *Industrial Market Structure and Economic Performance* 31, 613 (3d ed. 1990) ("an output handicap amounting to 10 percent of gross national product owing to static inefficiency is surmounted" in just 10.6 years if the growth rate can be increased from 3.0 to 4.0 percent).

<sup>4</sup> *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974).

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<sup>5</sup> See, e.g., *Societe Nationale Elf Aquitaine*, 112 F.T.C. 595 (1989) (alleging acquisition would lessen competition by “eliminating Elf as a perceived and potentially more significant competitive force than it is at present”).

<sup>6</sup> *Roche Holding Ltd.*, 113 F.T.C. 1086 (Nov. 28, 1990).

<sup>7</sup> *United States v. General Motors Corp.*, Civ. No. 93-530 (complaint filed D.Del. Nov. 16, 1993).

<sup>8</sup> *Id.*, Complaint ¶¶ 35-45.

<sup>9</sup> DOJ/FTC *Antitrust Guidelines for the Licensing of Intellectual Property* (April 6, 1995) (hereafter “*IP Guidelines*”).

<sup>10</sup> *Montedison S.p.A.*, 119 F.T.C. 676 (1995).

<sup>11</sup> *The Dow Chemical Company and Union Carbide Corp.*, FTC Dkt. No. C-3999 (Mar. 15, 2001). See also *United States v. Pilkington plc*, 1994-2 Trade Cas. (CCH) ¶ 70,842 (D. Ariz. 1994) (alleging that restraints in license agreements, unjustified by sufficiently valuable intellectual property rights, harmed competition in the licensing of float glass technology).

<sup>12</sup> *United States v. Aluminum Co. of America*, 148 F.2d 416, 427 (2d Cir. 1945). See also *FTC v. PPG Industries, Inc.*, 628 F. Supp. 881 (D.D.C.), *aff’d in part and rev’d in part*, 798 F.2d 1500 (D.C. Cir. 1986) (“[e]xperience teaches that without worthy rivals ready to exploit lapses in competitive intensity, incentives to develop better products . . . are . . . diminished to the detriment of consumers”).

<sup>13</sup> *United States v. Automobile Mfrs. Ass’n*, 307 F. Supp. 617 (C.D. Cal. 1969), *appeal dismissed sub nom. City of New York v. United States*, 397 U.S. 248 (1970).

<sup>14</sup> 15 U.S.C. §§ 4301-06.

<sup>15</sup> *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1203 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982).

<sup>16</sup> See generally R. Rapp, *The Misapplication of the Innovation Market Approach to Merger Analysis*, 64 *Antitrust L.J.* 19 (1995); G. Hay, *Innovations in Antitrust Enforcement*, 64 *Antitrust L.J.* 7 (1995); R. Hoerner, *Innovation Markets: New Wine in Old Bottles*, 64 *Antitrust L.J.* 49 (1995); J. Schumpeter, *Capitalism, Socialism and Democracy* (1950).

<sup>17</sup> See generally FTC Staff Report, *Anticipating the 21<sup>st</sup> Century: Competition Policy in the New High-Tech, Global Marketplace* (May 1996); R. Gilbert & S. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 *Antitrust L.J.* 569 (1995); R. Gilbert & S. Sunshine, *The Use of Innovation Markets: A Reply to Hay, Rapp and Hoerner*, 64 *Antitrust L.J.* 75 (1995); T. Dahdouh & J. Mongoven, *The Shape of Things to Come: Innovation Market Analysis in Merger Cases*, 64 *Antitrust L.J.* 405 (1996).

<sup>18</sup> See, e.g., C. Christenson, *The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail* (1997); J. Utterbach, *Mastering the Dynamics of Innovation* (1994); K. Arrow, *Economic Welfare and the Allocation of Resources to Invention*, in *The Rate and Direction of Inventive Activity* (National Bureau of Economic Research 1962); F.M. Scherer & D. Ross, *Industrial Market Structure and Economic Performance* 630-660 (3d ed. 1990); W. Cohen & R. Levin, *Empirical Studies of Innovation and Market Structure*, in 2 *Handbook of Industrial Organization* 1059 (R. Schmalensee & R. Willig eds. 1989).

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<sup>19</sup> See, e.g., C. Varney, *Antitrust and the Drive to Innovate: Innovation Markets in Merger Review Analysis* Antitrust at 16 (Summer 1995); *IP Guidelines* ¶ 3.2.3.

<sup>20</sup> See *Horizontal Merger Guidelines* ¶ 1.51.

<sup>21</sup> *The Dow Chemical Company and Union Carbide Corp.*, FTC Dkt. No. C-3999 (Mar. 15, 2001); *Glaxo Wellcome plc*, FTC Dkt. No. C-3990 (Jan. 26, 2001); *Valspar Corp.*, FTC Dkt. No. C-3995 (Jan 26, 2001); *Novartis AG*, FTC Dkt. No. C-3979 (Dec 15, 2000); *Pfizer Inc. and Warner-Lambert Co.*, FTC Dkt. No. C-3957 (June 19, 2000); *United States v. Miller Industries, Inc.*, Civ. No. 00-0305 (D.D.C. complaint filed Feb. 17, 2000); *MacDermid, Inc.*, FTC Dkt. No. C-3911 (Feb. 4, 2000); *Hoechst AG and Rhone-Poulenc S.A.*, FTC Dckt No. C-3919 (Jan 18, 2000); *RHI AG*, FTC File No. 991-0281 (consent agreement accepted for public comment Dec. 30, 1999); *Precision Castparts Corp.*, FTC Dkt. No. C-3904 (Dec. 17, 1999); *United States v. AlliedSignal Inc.*, Civ. No. 99-02959 (D.D.C. complaint filed Nov. 8, 1999); *United States v. Compuware Corp.*, Civ. No. 99-02884 (D.D.C. complaint filed Oct. 29, 1999); *SNIA S.p.A.*, FTC Dckt No. C-3889 (July 28, 1999); *Rohm and Haas Co.*, FTC Dkt. No. C-3883 (July 13, 1999); *Zeneca Group plc*, FTC Dkt. No. C-3880 (June 7, 1999); *Medtronic, Inc.*, FTC Dkt. No. C-3879 (June 3, 1999); *Merck & Co.*, FTC Dkt. No. C-3853 (Feb. 18, 1999); *Medtronic, Inc.*, FTC Dkt. No. C-3842 (Dec. 21, 1998); *United States v. Halliburton Co.*, Civ. No. 98-2340 (D.D.C. complaint filed Sept. 29, 1998); *Roche Holding Ltd.*, 125 F.T.C. 919 (1998); *S.C. Johnson & Son, Inc.*, 125 F.T.C. 753 (1998); *United States v. Lockheed Martin Corp.*, Civ. No. 98-00731 (D.D.C. complaint filed March 23, 1998) *Automatic Data Processing, Inc.*, 124 F.T.C. 456 (1997); *Cadence Design Systems, Inc.*, 124 F.T.C. 131 (1997); *Mahle GmbH*, 123 F.T.C. 1431 (1997); *Baxter Int'l, Inc.*, 123 F.T.C. 904 (1997); *Ciba-Geigy Ltd.*, 123 F.T.C. 842 (1997); *The Upjohn, Co.*, 121 F.T.C. 44 (1996); *Hoechst AG*, 120 F.T.C. 1010 (1995); *Glaxo plc*, 119 F.T.C. 815 (1995); *Montedison S.p.A.*, 119 F.T.C. 676 (1995); *Sensormatic Elecs. Corp.*, 119 F.T.C. 520 (1995); *Wright Medical Technology, Inc.*, 119 F.T.C. 344 (1995); *Boston Scientific Corp.*, 119 F.T.C. 344 (1995); *American Home Products Corp.*, 119 F.T.C. 217 (1995).

<sup>22</sup> See DOJ/FTC, *Horizontal Merger Guidelines* ¶ 2.1 (lessening of competition through coordinated interaction requires conditions conducive to reaching terms of coordination and to detecting and punishing deviations).

<sup>23</sup> C. Robinson, *Leap-Frog and other Forms of Innovation*, Before the American Bar Association (June 10, 1999). Two cases alleging innovation markets appear to suggest that there will be a reduction in innovation based on coordinated interaction. In both cases, the FTC challenged a merger involving two of three major competitors currently in a medical device market, manufacturing heart-lung machines in one case and defibrillators in the other. In each case, the FTC focused primarily on the likelihood of collusion on price. The FTC did, however, also allege that each merger would increase the likelihood that innovation would be reduced. *SNIA S.p.A.*, FTC Dkt. No. C-3889 (July 28, 1999); *Medtronic, Inc.*, FTC Dkt. No. C-3842 (Dec. 21, 1998).

<sup>24</sup> *IP Guidelines* ¶ 3.3.

<sup>25</sup> DOJ/FTC, *Antitrust Guidelines for Collaborations Among Competitors* ¶ 4.3 (April 2000). The *Guidelines* caution that they do not apply to competitor collaborations to which a merger analysis is applied, but are instructive as to agency thinking even in the merger context.

<sup>26</sup> See generally *United States v. Marine Bancorporation*, 418 U.S. 602 (1974); DOJ, *Merger Guidelines* ¶ 4.11 (1984). While later guidelines supersede the 1984 *Merger Guidelines* with respect to horizontal mergers, the provisions in the 1984 *Guidelines* regarding non-horizontal mergers have not been modified.

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<sup>27</sup> See, e.g., *B.A.T. Industries*, 104 F.T.C. 852, 910-930 (1984) (adopting “clear proof” standard that entry will occur in the “near future” and requiring “proof of concrete internal plans for independent entry that have been at least tacitly approved at the governing levels of corporate management”); *Roche Holding Ltd.*, 113 F.T.C. at 1107 (Owen, dissenting) (arguing “there are as yet no firms or products in [this] market, so drawing conclusions about competitive performance in this market in the relatively distant future is speculative at best”).

<sup>28</sup> *American Home Products Corp.*, 119 F.T.C. 217 (1995).

<sup>29</sup> *Id.*, Complaint ¶ 20f.

<sup>30</sup> See, e.g., *Sensormatic Elecs. Corp.*, 119 F.T.C. 520 (1995) (Azcuena, concurring) (objecting to the complaint’s definition of the relevant market as limited to North America).

<sup>31</sup> S. Rep. No. 98-247, 9th Cong., 2d Sess. 18 (1984), reprinted in 1984 U.S.C.C.A.N. 3105, 3115. See also R. Pitofsky, *The Effect of Global Trade on United States Competition Law and Enforcement Policies* (Oct. 15, 1999) (recognizing that “if a merger raises concerns only with respect to innovation, the innovation market could be global even if product markets are national”), available at [www.ftc.gov/speeches/pit1.htm](http://www.ftc.gov/speeches/pit1.htm).

<sup>32</sup> *Ciba-Geigy Ltd.*, 123 F.T.C. 842 (1997).

<sup>33</sup> “Trustbusters Get One Right,” *BusinessWeek* (Jan. 20, 1997).

<sup>34</sup> *United States v. Halliburton Co.*, Civ. No. 98-2340 (D.D.C. complaint filed Sept. 29, 1998).

<sup>35</sup> C. Robinson, *Leap-Frog and other Forms of Innovation*, *supra* note 23, at 11.

<sup>36</sup> See *Merger Guidelines* ¶ 2.21. Even if one assumes that the three remaining firms are equal competitors in innovation and apply a bid-model, the 33% market share assigned to the merged firm does not meet the *Guidelines*’ 35% unilateral effects threshold.

<sup>37</sup> C. Robinson, *Leap-Frog and other Forms of Innovation*, *supra* note 23, at 11.

<sup>38</sup> *Pfizer Inc. and Warner-Lambert Co.*, FTC Dkt. No. C-3957 (June 19, 2000).

<sup>39</sup> *Id.*, Complaint ¶¶ 24, 29d.

<sup>40</sup> *Glaxo Wellcome plc*, FTC Dkt. No. C-3990 (Jan. 26, 2001).

<sup>41</sup> *Id.*, Complaint ¶¶ 25, 28h.

<sup>42</sup> *Id.*, Complaint ¶¶ 24, 28g.

<sup>43</sup> *Id.*, Complaint ¶¶ 22, 28e.

<sup>44</sup> *Id.*, Complaint ¶ 26.

<sup>45</sup> *Hoechst AG and Rhone-Poulenc S.A.*, FTC Dkt. No. C-3919 (Jan 18, 2000).

<sup>46</sup> *Id.*, Complaint ¶¶ 9-10, 16c, g.

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<sup>47</sup> *United States v. Compuware Corp.*, Civ. No. 99-02884 (D.D.C complaint filed Oct. 29, 1999).

<sup>48</sup> *Id.*, Complaint ¶¶ 20, 25-26.

<sup>49</sup> *Merger Guidelines* ¶ 4.

<sup>50</sup> See *FTC v. H.J. Heinz, Co.*, 116 F. Supp. 2d 190, 199-200 (D.D.C. 2000) (“conditions for increased competition in the form of product innovation . . . will be enhanced by the merger”).

<sup>51</sup> C. Robinson, *Leap-Frog and other Forms of Innovation*, *supra* note 23, at 9.

<sup>52</sup> *In re Papst Licensing, GmbH Patent Litigation*, 2000 U.S. Dist. Lexis 12076 (Aug. 10, 2000).

<sup>53</sup> *Intel Corp. v. Intergraph Corp.*, 195 F.3d 1346 (Fed. Cir. 1999).

<sup>54</sup> *Garabet v Autonomous Technologies Corp.*, 116 F. Supp. 2d 1159 (C.D. Cal. 2000). See also *In re Ticketmaster Corp. Antitrust Litig.*, 929 F. Supp. 1272 (E.D. Mo. 1996) (dismissing case for lack of antitrust injury where plaintiff alleged that Ticketmaster made acquisitions that foreclosed entry and <sup>54</sup>slowed innovation in the industry).