



The American
Antitrust Institute

COMMENTS OF THE AMERICAN ANTITRUST INSTITUTE

WORKING GROUP ON THE NEW ECONOMY

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INTRODUCTION

These are the Comments of a Working Group on The New Economy established by the American Antitrust Institute for purposes of responding to the AMC's request for public comments. These comments reflect a consensus of the Working Group. But it should not be assumed that all agree with every statement or position herein. The Working Group is chaired by Rudolph Peritz (New York Law School). The other members are Joseph Bauer (Notre Dame), Michael Carrier (Rutgers, Camden), Albert Foer (AAI), Phil Nelson (Economists, Inc.), Roger Noll (Stanford), Mark Patterson (Fordham), Douglas Rosenthal (Sonnenschein, Nath & Rosenthal), Jonathan Rubin (AAI), F.M. Scherer (Harvard), Robert Skitol (Drinker Biddle & Reath) and Phil Weiser (U. Colorado).¹

The AMC's request for public comment on the "New Economy" is organized into three broad categories, each containing a series of questions. This introduction will summarize the Working Group's approach to each category. The remainder of these Comments is then divided into three parallel sections that provide more detailed comments.

The first category is entitled *Antitrust analysis of industries in which innovation, intellectual property, and technological change are central features*. Restated as a question, the title seems to ask: What kinds of economic analysis are suitable for the New Economy? In our view, there is no clear boundary line separating old and new economies. Rather, virtually all sectors reflect to differing degrees the impact of innovation, intellectual property and technological change. In this light, the AMC should urge antitrust analysts to take advantage of the broad range of dynamic economic tools available to make sense of "actual market realities," particularly the innovation economics and strategic marketing scholarship that have matured in the past 20 years.

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The second category is entitled *Specific issues at the interface of intellectual property, innovation, and antitrust*. The category rests on the underlying question: What is the proper relationship between antitrust and intellectual property rights? In our view, a special antitrust exemption for intellectual property is unfounded because both Supreme Court doctrine and congressional legislation have made it clear that intellectual property owners must comply with the antitrust laws, as they must with other legal obligations. Moreover, competition policy has always been at the core of intellectual property rights, both enabling and tempering them, just as property rights have always been at the core of antitrust, shaping competition policy. Neither trumps the other. Accordingly, the AMC should urge the abolition of broad antitrust immunity of the sort proffered by the Federal Circuit in the *Xerox* (2000) opinion discussed below. Moreover, the AMC should recommend the fact-based approach taken by the Ninth Circuit in *Kodak* (1998), which reflects the dynamic nature of the relationship between competition and property rights, between access and exclusion. Indeed, more recent opinions out of the First and Eleventh Circuits are consistent with *Kodak*. They not only confirm the wisdom of *Kodak*'s approach but reflect the jurisdictional fact that the Federal Circuit decision is not binding in antitrust matters.²

In this light, the switching costs in markets for competing technologies, as well as the tipping tendencies of network industries, call for early antitrust attention to conduct with anti-competitive potential, particularly in light of the informational asymmetries that are common in such markets. For example, tying, exclusive dealing and cross-licensing can unduly channel innovation, accelerate tipping and create switching costs, raising barriers to inter-technology competition and stifling extra-network innovation. In short, the market evolution should be based on the merits of the competitive offerings and not anticompetitive conduct that exploits structural advantages.

Finally, we would caution against over-dependence on traditional measures of market power, particularly market share, and traditional approaches to market definition that typically turn on historical demand patterns. Of course, traditional antitrust jurisprudence has long permitted alternatives, including direct evidence of effects, that can carry equal or greater probative value. At the same time, we recognize that market definition and market share can often provide a sound starting point for evaluating the degree of anti-competitive effects if accompanied by close attention to ongoing market dynamics.

The third category is entitled *Examination of the reports on the patent system by the National Academies Board on Science, Technology, and Economy Policy and by the Federal Trade Commission*. Here, questions are posed about the place of competition policy in the patent system. We agree with the wide range of economists, historians and legal scholars who recognize that, in the words of the FTC report, "patent law [i]s part of a whole panoply of tools that are used to promote innovation," including antitrust law.

² *Image Tech. Serv. v. Eastman Kodak, Inc.*, 125 F.3d 1195 (9th Cir. 1998); *In re Independent Services Organizations Antitrust Litigation*, 203 F.3d 1322 (Fed. Cir. 2000). *Telecom Technical Services Inc. v. Rolm Co.*, 388 F.3d 820 (11th Cir. 2004); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994).

Patents are not simply handed out. To receive the legal monopoly of a patent, an applicant must overcome what amounts to a presumption that competition rather than exclusivity serves the public interest in promoting progress. Only by satisfying a set of requirements, including showings of non-obviousness and utility, does the applicant receive a grant of limited exclusivity, which denies others the possibility of competition by reverse-engineering or independent invention. The FTC report emphasizes that patent system requires viable doctrines of non-obviousness and utility to promote innovation.

A. Antitrust analysis of industries in which innovation, intellectual property, and technological change are central features.

There is no clear boundary line dividing industries into old and new economies. Virtually all sectors reflect to differing degrees the impact of innovation, intellectual property and technological change. Consistent with the rule of reason approach at the heart of modern antitrust jurisprudence, courts and agencies should take advantage of the broad range of dynamic economic tools already available to make sense of “actual market realities,” particularly the innovation economics and strategic marketing scholarship that have developed in the past 20 years.³

We now turn to the particular questions posed.

1. Does antitrust doctrine focus on static analysis, and does this affect its application to dynamic industries?

Current antitrust doctrine does not focus only on static analysis. Informed by the powerful tool kit of modern economics already at hand, recent judicial opinions and agency actions reflect the fact that current antitrust doctrine has the flexibility needed to deal with the dynamic aspects of modern markets.

As Louis Gerstner, chief executive officer of IBM, recently stated: "I resist the idea that there is a new economy—something that is separate and distinct from some other economy." An unlikely example of old and new economies interwoven is IKEA, the multinational retailer that sells tables, chairs and other home furnishings—a seemingly old economy enterprise. But IKEA’s production and distribution of even the simplest coffee table has involved a complex and shifting network of specialized sub-contractors that both cooperate and compete to improve production and lower costs. The result is a continually improving table whose price has not increased in 25 years. Perhaps more than Intel or Microsoft, IKEA’s approach has long reflected an awareness of “dynamic global markets characterized by flexible . . . production – where risk,

³ For an introduction to the market economics tool kit, see ELEANOR M. FOX, ET AL, U.S. ANTITRUST IN GLOBAL CONTEXT at pp. 56-76 (2d. ed. 2004); Peritz, *Toward a Dynamic Antitrust Analysis of Strategic Market Behavior*, in *Third Annual Symposium of the American Antitrust Institute*, 47 N.Y.L.S. L.REV. 101 (2003) (describing historical development of market analysis in antitrust). For an extensive example of a game theory approach to antitrust analysis, see Bolton, Brodley & Riorden, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L.J. 2239 (2000).

innovation, being first-to-market, and forging strategic alliances rule the day.” Indeed, only recently has Microsoft announced a strategic shift to intellectual property joint ventures, whose effect might be to drive small start ups out of the market.⁴ Antitrust modernization should not proceed from a false dichotomy of old and new economy sectors.

Instead, antitrust analysis should reflect the approach taken by the Supreme Court in *Image Technical Services, Inc. v. Eastman Kodak, Inc.* (1992),⁵ which extends the range of acceptable market economics beyond static price theory. The Court declared that antitrust cases should turn on “actual market realities” rather than “formalistic distinctions” found in any particular economic approach. When sifting through the commercial circumstances and determining likely intentions and effects, antitrust market analysts should always consider the newer economic models that open windows to the wide range of commercial conduct practiced in modern markets. Since *Kodak*, numerous lower court decisions and FTC/DOJ actions have reached into an economics tool kit that includes neoclassical price theory but also innovation economics and basic game theory. Most notable among them are the federal and state governments’ *Microsoft* case, FTC investigations of firms in high technology markets, and the federal enforcement agencies’ *Guidelines for the Licensing of Intellectual Property*.⁶ In mature markets for durable staple products, static price theory may be adequate for some purposes. But in markets that reflect network effects or informational asymmetries, for example, innovation economics or strategic marketing theory are better suited to determine the competitive effects of market behavior. Antitrust analysis cannot proceed as if two sizes fit all in a binary world divided into old economy and new economy markets.

⁴ “What New Economy?” at <http://www.techreview.com/articles/01/01/qa0101.1.asp> (MIT: Technology Review.com, accessed 7.1.5) (Gerstner interview). Hakan Hakansson, “Business Networks—Consequences for Economic Policy,” Invitational Roundtable on Complexity, Networks and the Modernization of Antitrust, American Antitrust Institute, Washington, D.C., June 20, 2005, available at <http://www.antitrustinstitute.org> (IKEA network). “New Economy - The End or Just the Beginning?” at <http://www.ecommercetimes.com/story/9661.html> (E-Commerce Times), accessed 7.1.5 (“dynamic global markets . . .”). For Microsoft’s recent emphasis on patent alliances, see, e.g., Steve Lohr, “Microsoft to Lease Some Ideas to Start-Ups,” *New York Times*, May 5, 2005, at Page C7 (“Microsoft Intellectual Property Ventures”); Todd Zaun, “Two Giants Agree to Cross-License Some Patents,” May 14, 2005, at Page C2 (Microsoft and Toshiba). Microsoft’s shift is discussed in Section C below.

⁵ 504 U.S. 451 (1992). *Cf. Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 229 (1993) (“[W]hen the realities of the market and the record facts indicate that [predatory pricing] has occurred and was likely to have succeeded, theory will not stand in the way of liability.” [citing *Kodak*, 504 U.S. at 466, 467]).

⁶ *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001), *aff’ing and rev’ing in part*, 87 F.Supp.2d 30 (D.D.C. 2000); court documents and associated materials are available at <http://www.usdoj.gov/atr>. The FTC proceedings against *Dell* and *Rambus* are discussed in the text accompanying note 14. Department of Justice and Federal Trade Commission, *Antitrust Guidelines For the Licensing of Intellectual Property* (1995)(available at <<http://www.ftc.gov/atr/public/guidelines>>) (delineating markets in technology and in innovation as well as in goods).

Three primary cautions apply when using arguments that relate to technological change, complementarities and other dynamic factors: they relate to empirical proof, timing, and balancing of benefits and harms.

Theoretical arguments about the presence of network effects, economies of joint production, and the presence of Schumpeterian competition are useful for setting a framework for evaluating the net effects of a firm's strategies and actions; however, whether these factors are significant is an empirical question requiring proof. The assertion of these factors by a defendant should not shift the burden of proof to the plaintiff to show that these factors are unimportant unless the defendant presents empirical evidence to support its theory.

Timing is another concern, especially when the issue is technological competition. An important element in determining whether the anticompetitive aspects of an act are anticompetitive is the duration of the anticompetitive effect. For example, the assertion that an act is not anticompetitive because a new technology undermines a firm's market power requires demonstration that implementation of the new technology is imminent, not something under development for implementation a few years down the road.

Finally, acts that otherwise would be anticompetitive but that are argued to be justified based on dynamic arguments about the underlying technology need to be evaluated by the same balancing tests that apply to other "business justifications" under the standard rule of reason test.

There will be times when the choice of economic approach will be a contentious matter. But that only underlines the importance of considering alternative approaches. Indeed, the opinions by Justices Blackmun and Scalia in *Kodak* applied dynamic and static economic approaches, respectively, to give conflicting antitrust significance to the conduct under scrutiny. In our view, Justice Blackmun's opinion for the Court reflects the better approach, not because it was dynamic but because it gave priority to commercial facts that supported a dynamic rather than a static economic analysis in those particular commercial circumstances.

To reiterate, today's mainstream antitrust doctrine does not focus only on static analysis. Informed by the powerful tool kit of modern economics, current antitrust doctrine has the flexibility needed to deal with the dynamic aspects of modern markets.⁷

2. What features, if any, of dynamic, innovation-driven industries pose distinctive problems for antitrust analysis, and what impact, if any, should those features have on the application of antitrust analysis to these industries?

Although industries that are manifestly innovation-driven or that are characterized by network effects do not pose distinctive problems for antitrust analysis, they can exhibit more powerful forms of efficiency-suppressing or efficiency-channeling attributes than

⁷ For examples of game theory and strategic marketing frameworks for Sherman Act Sections 1 & 2, see Peritz and Bolton, et al articles, *supra* note 3.

those seen in other markets. These attributes include (1) informational asymmetry, (2) switching costs with adequate informational transparency, and (3) network or system effects that can lead to winner-take-all market equilibria whose onset point and longevity can only be determined in retrospect. When these attributes reflect privately sponsored industry standards or technological incompatibilities, they can combine to produce (4) customer lock-in or competitor lock-out. These transaction costs raise barriers to new competition in technologies and standards because technological superiority at competitive prices may be insufficient. The superiority or price advantage must be great enough to overcome the switching costs that lock-in customers to the incumbent.

These attributes and the anti-competitive tendencies they sometimes produce have important antitrust implications. As a general matter, they call for attention to market realities rather than reliance on formal assumptions about the way markets should function. Attention to market realities requires courts and enforcement agencies to consider the whole array of economic approaches taken by mainstream economists, including the dynamic economics applied in the Supreme Court's *Kodak* (1992) opinion and the D.C. Circuit's *Microsoft* (2001) decision.⁸

The switching costs in markets for competing technologies, as well as the tipping tendencies of network industries, call for early antitrust attention to conduct with anti-competitive potential, particularly in light of the informational asymmetries that are common in such markets. For example, tying, exclusive dealing and cross-licensing can unduly channel innovation, accelerate tipping and create switching costs, raising barriers to inter-technology competition and stifling extra-network innovation. Whether to maintain a level playing field where competition is for markets or to limit the anti-competitive effects after tipping has occurred, courts and agencies should continue to consider compulsory licensing and other conduct remedies that promote informational transparency and market access.

Informational Asymmetry

To begin, dynamic markets by their very nature breed informational asymmetry. Trading partners and rivals depend on market and government institutions for dissemination of information about fluid or unstable market conditions. Public transactions themselves produce some information that can be organized and disseminated. The Patent Office makes public the information in patent applications upon issuance. Many products are to some extent self-disclosing. On the other hand, trade secrets are another form of intellectual property that is often chosen in place of patent or copyright protection, particularly with processes.⁹ Copyright protection no longer

⁸ See, e.g., Gregory J. Werden, *Network Effects and Conditions of Entry: Lessons from the Microsoft Case*, 69 Antitrust L.J. 87 (2001).

⁹ See Richard C. Levin, Alvin K. Klevorick, Richard R. Nelson, Sidney G. Winter, *Appropriating the Returns from Industrial Research and Development*, Brookings Papers on Economy Activity, 3, 1987.

requires publication and even when patent protection is chosen, the published information can have limited use value, particularly with software patents.¹⁰

A familiar example of informational asymmetry is the *Kodak* case itself. The Supreme Court concluded that there was sufficient evidence to support the claim that many if not most customers in the primary market were not able to determine the total cost of copiers over their useful life, including repair costs. As a result, those customers would not be able to compare the total costs of competing copiers before making an initial purchasing decision. This market dysfunction would hinder competition in the primary market for copiers from disciplining Kodak's pricing in derivative markets for parts and repair. While the dissenting Justices did not disagree with the presence of informational asymmetry, they dismissed it as typical of many markets and as short-lived, concluding that it should not have any antitrust significance in the case.

In our view, the *Kodak* majority took the better approach in treating informational asymmetry as a question of fact. It is consistent with the broad consensus among economists that informational asymmetry is a market imperfection that can lead to market failure.¹¹ Moreover, it makes intuitive sense that when the market supplies misinformation or insufficient information, people are more likely to make poor decisions. Antitrust doctrine should always treat informational asymmetry as a question of fact, as it should evidence of other market imperfections. Formalistic assumptions of market self-correction are inconsistent with basic economic theory and, in consequence, with the antitrust law policy of promoting competition.

Switching Costs

Another market imperfection that can lead to market failure is the presence of switching costs, which can deter market transactions.¹² Switching costs can take several forms. A buyer who wants to switch computer platforms may incur immediate costs in purchasing an entirely new system. For example, the cost of switching to Mac OS from Microsoft Windows, includes not only the licensing fee for the new operating system but also the purchase price of Apple hardware. Even when such costs do not arise, as in a switch from Microsoft Windows to Lindows, the user would likely have to license Lindows-compatible versions of word processing, spread sheet and other applications programs to replace their Windows-compatible software. Moreover, a buyer who wants

¹⁰ See, e.g., *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565 (Fed. Cir. 1997) (requiring only general description of SABRE software functions and permitting trade secret protection of particular program modules).

¹¹ The classic treatment can be found in George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970). Robert Cooter & Thomas Ulen, *Law and Economics* 189 (2d ed. 1997). See also Stephen Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 HARV. L. REV. 549, 556 (1979).

¹² Although the inefficiencies resulting from transaction costs are typically understood as a function of their amount—greater transaction costs lead to deeper imperfections, innovation economists and strategic marketing scholars observe that customer lock-in does not vary directly with switching costs. See, e.g., C. SHAPIRO & H. VARIAN, *INFORMATION RULES* 116 (1999) (“Even small switching costs can be critical.”).

to switch sometimes must be willing to incur costs of learning to use the new system. A supplier that seeks to facilitate switching must undertake the costs of developing cross-platform interfaces to permit applications for one platform to operate on the other. IP law can inhibit the development of cross-platform translators to the extent the IP holders are permitted to exclude developers of translators from reverse engineering or access to their interfaces.

In addition, there would likely be some new learning or retraining necessary. Moreover, in the longer term, there would be the risk of abandonment, the risk that Lindows or the compatible applications software producers would not survive or would turn their production facilities to other uses. Success in inter-technology and inter-system competition would have to overcome significant switching costs. Simple superiority in new technology would not be enough. Such conditions seem to call for strong antitrust rules against conduct that strengthens industry standards.

The benefit of industry standards is that they can lower the costs of intra-standard innovation. They invite improvement and they create efficiencies by providing platforms for further development in complementary products and services. Standards assure continuity and invite investment not only in complementary goods markets but in markets for complementary technology and innovation as well. Standards provide the giants' shoulders on which inventors and authors stand to reach new heights in innovation. They provide the platform for incremental improvement but also, in Joseph Schumpeter's familiar imagery, the ground for "perennial gales of creative destruction." These implications seem to counsel for antitrust rules that promote the development of industry standards.

Because industry standards can not only promote but restrain innovation, they can be both pro- and anti-competitive. Industrial history is filled with examples of rivals agreeing on product standardization for reasons of efficiency and safety or for cartelization. Standardization will almost always have some advantage for consumers and other users in eliminating repetitive search costs or simplifying compliance with standard protocols, but some cost in inhibiting some types of competition and technological change. In this light, antitrust analysis should take a flexible fact-based approach toward standards in all markets, as it currently does, to determine competitive effects in particular circumstances. In the absence of price fixing or market division, courts have rightly approved of most industry standard-setting efforts.

Cases concerning the competitive effects of standard-setting have a long history. In *Fashion Originators Guild* (1940), for example, the Supreme Court sought to distinguish between protection of intellectual property rights and their anticompetitive enforcement or extension by concerted action. In the *Allied Tube* (1988) decision, the Court declined to extend antitrust immunity to a non-profit standard-setting organization that formulated building and safety codes that were adopted nationwide. Evidence of economic self-interest that opened the non-profit process to antitrust scrutiny was the conduct of one member who recruited commercially interested parties to become members and paid their fees and expenses to ensure attendance to defeat a rival technology's certification. The

Court refused to recognize either the state action or the petitioning government defense to antitrust liability despite a mission that clearly fell within the corridors of petitioning government.¹³

More recently, the FTC has investigated abuse of standard-setting initiatives by single firms. In both the *Dell* (1996) and *Rambus* (2002) matters, the Commission filed enforcement actions against patent holders who participated in standard-setting but failed to notify the association that they held patents covering components that were later adopted as industry standards. Although the Federal Circuit's ruling in a related private cause of action calls for factual determinations about Rambus's state of mind, it does not question the importance of the participant's duty to disclose information relevant to industry standard-setting proceedings, at least when the organization calls for disclosure and final standards are adopted.¹⁴ In our view, courts should impose an obligation to disclose relevant information whether or not the organization calls for it, at least until the Patent Office's data base is accessible without incurring substantial information costs. Certainly the patent holder is currently best-placed to minimize such costs.

Where sponsored technology has become the *de facto* industry standard, antitrust issues of access to both compatibility information and the technology itself are raised. These issues are discussed in the introduction to Section B, below, which addresses the question of the proper relationship between antitrust and intellectual property rights. At this juncture, nonetheless, it is useful to observe that antitrust doctrine should be consistent with the competition policies reflected in intellectual property doctrines such as fair use, experimental use and the privilege of reverse engineering.¹⁵ For example, the fair use defense to copyright infringement permits copying of computer software as part of decompilation efforts to gain access to information about functional modules in platforms, information needed to develop compatible applications software that competes with the platform owner's applications.¹⁶ Although discussion of reverse engineering and related topics is beyond the scope of this document, we do urge the AMC to encourage antitrust judges and enforcement agencies to develop a clearer understanding of the

¹³ *Fashion Originators Guild of Amer. v. FTC*, 312 U.S. 457 (1941); *Allied Tube & Conduit v. Indian Head, Inc.*, 486 U.S. 492 (1988). Of course, standard-setting can sometimes facilitate collusion. See, e.g., *C-O-2 Fire Equip. Co. v. U.S.*, 197 F.2d 489 (9th Cir.), cert. den., 344 U.S. 892 (1952); for a useful discussion, see Horizontal Restraints—Industry Standard Setting. Commission Member's View, 1994 Trad. Reg. Rpts. (CCH) ¶ 50,132 (Remarks by FTC Member Deborah K. Owen).

¹⁴ *Dell Computer*, 121 FTC 616 (1996); *Rambus*, 2002 FTC Lexis 31 (FTC Dkt. No. 9302, June 18, 2002) (complaint). See also, *Rambus v. Infineon Techs.*, 155 F.Supp. 668 (E.D.Va. 2001), rev'd, 318 F.3d 1081 (Fed. Cir. 2003)(reversing ruling on fraud counterclaim).

¹⁵ Both patent and copyright misuse defenses to infringement should come into play as well to the extent they reflect the competition policies indigenous to the copyright and patent regimes.

¹⁶ See, e.g., *Sega Enter. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992) (software APIs not copyrightable); *Atari Games Corp. v. Nintendo of Amer.*, 975 F.2d 832 (Fed. Cir. 1992) (same).

competition policies within patent and copyright law in order to recognize that antitrust and these intellectual property regimes are not in intractable conflict. Rather, they are complementary approaches to promoting innovation and, thus, call for determining the appropriate degrees of exclusion and access to the invention or expression.¹⁷

Network/System Effects

Another market imperfection seen in industries that have developed standards or protocols is the presence of network or system effects, meaning that the value of a product to one buyer is enhanced if other buyers also use it. In consequence, they place greater value on large networks or systems than small ones.¹⁸ Familiar examples include physical networks of telephone land lines and the virtual network of Microsoft Office users. These effects lead to suboptimal market equilibria precisely because they affect third parties rather than the actors themselves. When the third party effects are positive, demand for membership is more intense. As membership increases, the attractiveness of membership increases.¹⁹ If a network product is sold by several suppliers, no seller will take into account the incremental value to other sellers and their customers arising from adding another user. In this situation, the size of the number of network users can be smaller than economically warranted.²⁰

Inventors and authors produce information and ideas that is a form of public good, to the extent that the cost of the information they create is independent of the number of

¹⁷ See, e.g., A. Douglas Melamed & Ali M. Stoeppelwerth, *The CSU Case: Facts, Formalism and the Intersection of Antitrust and Intellectual Property Law*, 10 Geo. Mason L.Rev.407 (2002) (arguing that antitrust and intellectual property regimes not in intractable conflict); Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. Pa. L. Rev. 761(2002)(arguing that innovation is achieved through different routes in different industries and calling for an antitrust analysis based on the industry).

The competition policy within the patent regime is reflected, for example, by requirements of utility and non-obviousness, as well as description and enablement, which only make sense in the context of a public knowledge benefit to spur competition by innovation. Patent rights in general only make sense as legal artifacts to enable competition. See Rudolph J.R. Peritz, "Re-Thinking U.S. Antitrust and Intellectual Property Rights," available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=719745.

Comments in Section C below address some of these issues, particularly recent FTC efforts to bring into focus the competition policy within patent law.

¹⁸ It should be noted that larger systems and networks can also create negative externalities such as pathway congestion. Externalities, both positive and negative, have been usefully described as "effects that the actions of some consumers or producers have on the utility of other consumers or on the output of other producers, none of whom have invited these effects." HEINZ KOHLER, MICROECONOMICS 509 (1992).

¹⁹ Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 483-4 (1998); Carl Shapiro, *Antitrust In Network Industries*, Address Before the American Law Institute and American Bar Association (Jan. 25, 1996), available at <http://www.usdoj.gov/atr/public/speeches/shapir.mar>.

²⁰ A number of antitrust cases have involved network effects. See Mark Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 Cal. L. Rev. 479, 500-23 (1998) (discussing several antitrust cases involving network effects).

users. The basis for intellectual property law is the recognition that creators can not recover enough of the cost of creating information unless the law enables them to control access to their creations. The economic logic of patent and copyright is to internalize this positive externality, to create the conditions for market transactions by privatizing the public goods of ideas and information to the extent necessary “to promote progress in science and the useful arts.”²¹

The constitutional mandate to promote progress is difficult to implement efficiently because both competition and legal monopoly, both access and exclusion, play important roles in progress through innovation as well as in capturing static economic efficiencies. Determining the optimal mix of competition and legal monopoly for the economy in general is fraught with uncertainty because the incremental value of patent and copyright protection as incentives is often difficult to assess empirically.²² Natural experiments that begin from a baseline of no protection or measurably different protection must be devised and then a measure of the value of incremental innovation must be developed. While simply counting patents or measuring R&D expenditures sometimes offers helpful information, frequently such measures cannot be counted on to provide useful quantitative measures of the incentive value of patent or copyright protection. Finally, even when those hurdles were overcome, there is the danger of the fallacy of correlation as causation: getting the effects right but incorrectly attributing the cause because of unaccounted-for historical events.²³ Nonetheless, there have been excellent studies of

²¹ U.S. CONST., ART. I, § 8, ¶ 8. Ideas and information as such are neither copyrightable nor patentable. Copyright protects original expressions of ideas and information. Patent protects useful and non-obvious embodiments of ideas and information. Ideas and information are dedicated to the public domain in exchange for patents and copyrights, which encourage commercial exploitation of inventions and expressions. The fundamental and evasive question of public policy is to determine the shape copyright and patent protection that best serves the public interest of progress. It is the goal of progress, not the means of patent or copyright protection, that is to be promoted. For the problematic relationship between goals and means, see discussion in text that follows.

²² Fritz Machlup, “An Economic Review of the Patent System” (U.S. Senate, Committee on the Judiciary Study No. 15, 1958 (arguing no empirical approach for measuring across economy); Peritz, *supra* note 17 and sources cited therein (difficulties of measuring across economy); Richard Brunell, *Appropriation in Antitrust: How Much is Enough?*, 69 ANTITRUST L.J. 1 (2001). See Section C, *infra*, at notes 47-48 for modern empirical studies of particular industries. See also Edwin J. Mansfield, et al., “Imitation Costs and Patents: an Empirical Study,” 91 ECON. J. 907 (1981) and Mansfield, “Patents and Innovation: An Empirical Study,” 32 MGMT. SCI. 173 (1986), estimating, *inter alia*, the extent to which patent protection delayed imitation or raised cost of imitation. Cf. Phil Weiser, *The Internet, Innovation and Intellectual Property Policy*, 103 COL. L. REV. 534 (2003).

²³ One source for the causation fallacy may be the probabilistic character of network effects. Adoption of a technology that leads to tipping might have an accidental element to it, based on historical clusters of demand that are not attributable to product characteristics. For the pioneering work in this stochastic analysis, see W. BRIAN ARTHUR, INCREASING RETURNS AND PATH DEPENDENCE IN THE ECONOMY (1994) at Ch. 2 (early, more technical version of *Competing Technologies, Increasing Returns, and Lock-In by Historical Events*, 99 ECON. J. 116 (1989)); Peritz, *supra* note 3 (discussing Arthur’s implications for false-path dependency and dynamic inefficiency).

individual industries showing that the effects of patent protection seem to have varied over time and economic sectors.²⁴

Antitrust Implications

Given the uncertainties associated with evaluating the relationships between competition and technology, we believe that courts and agencies should approach particular cases from the presumption that more competition rather than more protection better serves innovation. The burden of proof should be placed on the party seeking to assert that IP law or some broader aspect of technological imperatives justifies actions that otherwise would fail the test of having a reasonable business justification. A presumption in favor of competition is consistent with not only antitrust but intellectual property policies, which both recognize competition as an effective means to promote innovation. Moreover, competition serves other purposes that are associated with antitrust, including market access and multiplicity of innovation sources. The approach taken in both judicial and regulatory proceedings remains the rule of reason, with an initial presumption favoring access and competition. The analysis should remain the fact-intensive balancing of pro- and anti-competitive effects, with special attention to the dynamics of competition by innovation. Outcomes should result in more competition unless the proponent of more protection or greater restraints carries its burden of showing a legitimate business justification beyond simply the exercise of an exclusionary right.

Finally, in substantive terms, we urge the AMC to recommend early antitrust attention to conduct with anti-competitive potential in network and high technology industries, particularly to tying, exclusive dealing, standard-setting and cross-licensing, in order to permit a pre-tipping determination of whether they unduly channel innovation, push the market toward tipping or create switching costs, thereby raising barriers to inter-technology competition and stifling extra-network innovation.²⁵ The anti-competitive effects are not limited to pre-tipping circumstances. For example, economist Carl Shapiro has found that network effects increase the likelihood that an incumbent monopolist can use exclusive contracts to prevent new entry.²⁶ As discussed above, factual issues would include the presence and effects of informational asymmetries that are common in network and high technology markets. Whether to maintain a level playing field when competition is for markets or to limit the anti-competitive effects after

²⁴ The studies are discussed in Section C.

²⁵ See, e.g., William F. Baxter, *The Definition and Measurement of Market Power in Industries Characterized by Rapidly Developing and Changing Technologies*, 53 ANTITRUST L.J. 717, 725-26 (1984) (“[T]he owner of a technology is entitled to the expropriation of all the consumer surplus under the demand curve for his invention. . . . What he is not entitled to do is to suppress rivalry between technologies [or] erect entry barriers.”)

²⁶ Carl Shapiro, *Exclusivity in Network Industries*, 7 GEO. MASON U. L. REV. 673, 674 (1999). See also W. BRIAN ARTHUR, INCREASING RETURNS AND PATH DEPENDENCE IN THE ECONOMY at 159 *et seq.* (1994) (showing that strategic manipulation of price can dampen or amplify the effects of positive feedback loops).

tipping has occurred, courts and agencies should continue to consider compulsory licensing and other conduct remedies that promote informational transparency and market access.²⁷

3. Are different standards or benchmarks for market definition or market power appropriate when addressing dynamic, innovation-driven industries, for example to reflect the fact that firms in such industries may depend on the opportunity to set prices above marginal costs to earn returns? Or, are existing principles sufficiently flexible to accommodate the facts relevant to dynamic industries?

Existing principles are flexible enough to accommodate the facts relevant to dynamic industries. We take “existing principles” to mean rule of reason jurisprudence informed by the array of approaches to market performance and firm behavior available in mainstream economics, including innovation economics and game theory. As for setting prices above marginal costs, antitrust has traditionally permitted individual firms, including dominant firms, to set prices as high as they choose without fear of antitrust liability therefor.

Market definition has always been a contentious issue in antitrust cases. Throughout the course of antitrust history, courts and enforcement agencies have confronted a choice between two plausible market definitions. Dynamic industries can be less amenable to functional description by market definition. Moreover, individual firms in dynamic industries may view themselves more flexibly as pursuing opportunities in shifting geographic and product arrays. Thus, the static notion of a market may not be sufficient. Although static approach to market definition can provide a useful starting point for understanding the competitive effects of firm conduct, to ignore dynamic effects is perilous and should be discouraged. But the complexities of rapid innovation and network effects does not make market definition impossible or render it useless. The underlying principle—that a market is something that can be profitably monopolized, taking account both demand and supply substitution, remains valid. The necessary additional ingredient is the possibility that technology is the basis for substitution, in addition to switches in purchases and production among a fixed set of choices.

²⁷ See *United States v. Glaxo Group, Ltd.*, 410 U.S. 52, 60 (1973). Also see F.M. Scherer, Technological Innovation and Monopolization, AAI Working Paper 05-07, July 15, 2005, available at <http://www.antitrustinstitute.org/recent2/431.pdf>. **Error! Main Document Only.** This paper reviews the history of seven "great" U.S. monopolization cases in high-technology fields: Standard Oil (1911), the electric light cases, the AT&T cases, cellophane, Xerox, IBM, and Microsoft. It analyzes the extent to which innovativeness was a successful defense to monopolization charges, the success of remedies in correcting monopoly problems, their impact on incentives for continuing innovation, and the ability of the courts to deal with complex high-technology issues. It concludes that the courts are indeed capable of analyzing innovation - monopolization tradeoffs, but that the process has typically taken far too long, and in the mean time, secure monopoly positions tended to delay, not accelerate, innovation. Changes are proposed for adjudication procedure, notably, greater use of court-appointed experts, and in the duration of patent-based monopolies.

The existing standards have been successfully applied to some of the most dynamic industries. For example, they have been applied to defense markets, where competition is focused on developing next-generation weapon systems. They have also been applied to dynamic industries such as the pharmaceutical industry, where R&D are key activities. Given this successful track record, there appears to be little reason to adopt different standards for analyzing innovation-driven industries.

The adoption of special standards for innovative industries not only is unnecessary, but it is likely to raise serious practical problems. In particular, if one is to apply different standards to "innovation-driven" industries," how is one to determine whether a particular industry is "innovation-driven"? For example, aren't most consumer products markets "innovation-driven" to some extent? Clearly the "toy industry" involves significant innovative effort. Is this industry to be treated as an "innovation-driven" industry? If not, why not? If so, then where does one draw the line? Aren't other consumer markets ranging from breakfast cereals to hair sprays innovative markets?

In sum, absent any obvious serious problem with existing standards, there appears to be little reason for change, especially since the introduction of separate standards for "innovation-driven" industries would introduce serious practical problems.

B. Specific issues at the interface of intellectual property, innovation, and antitrust

As a framework for discussing the specific questions posed, we address the fundamental issue of the proper relationship between antitrust and intellectual property rights. Competition policy has always been at the core of intellectual property rights, both enabling and limiting them. Indeed, the economics of intellectual property rights explains that the exclusionary rights granted by patents and copyrights transform a public good into an economic good. Without competition, these exclusionary rights have no commercial value. Like other property rights, they create the conditions for exchange and, thus, for competition.

In this light, a special antitrust exemption for intellectual property is unfounded. Accordingly, the AMC should urge the abolition of broad antitrust immunity of the sort announced by the Federal Circuit in the *Xerox* (2000) opinion discussed below. Rather, the AMC should recommend the approach taken by the Ninth Circuit in *Kodak* (1998), which reflects the dynamic nature of the relationship between competition and property rights, between access and exclusion.²⁸

²⁸ For a recent discussion of the tension between the two approaches, see Joseph Bauer, Refusals to Deal with Competitors by Owners of Patents and Copyrights: Reflections on the *Image Technical* and *Xerox* Decisions, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=743365.

The Supreme Court, lower federal courts and Congress all have made it clear that intellectual property owners, like other property owners, must comply with the antitrust laws.

Federal courts have long observed that intellectual property owners must comply with the antitrust laws. To begin, it must be recognized that patent and copyright do not grant use privileges. They grant patent and copyright holders only rights to exclude others. Use privileges as a general matter do not require patents or copyrights. But use privileges do depend on compliance with statutory and common law rules. Thus, for example, using or selling a firearm does not require a patent. At the same time, obtaining a patent for a firearm does not insulate its sale or use from criminal laws. Creating and running computer software does not require a copyright. But a copyright does not authorize a programmer to write and run a software virus that corrupts databases or shuts down computer systems. Nor does a patent or copyright shield price-fixing cartels or forced tying arrangements from antitrust liability.

Indeed, the Supreme Court has recognized that “[t]he policy of free competition runs deep in our [patent] law.”²⁹ Further, the Court has long held that “the antitrust laws represent a fundamental national economic policy” and, in that light, that “exemptions from the antitrust laws are strictly construed and strongly disfavored.”³⁰ More recently, the D.C. Circuit Court of Appeals made clear in the *Microsoft* case that “intellectual property rights do not confer a privilege to violate the antitrust laws.”³¹ The Ninth Circuit took a similar approach in *Kodak*, refusing to confer a privilege. Still, the *Kodak* court did give ample weight to the patent law’s grant of exclusivity to encourage innovation, stating that a patent holder’s “desire to exclude others . . . is a presumptively valid business justification for any immediate harm to consumers.”³²

The Supreme Court stated some time ago that “the patent laws . . . are *in pari materia* with the antitrust laws and modify them *pro tanto*.”³³ Since then, two courts have taken that statement to mean that patent laws limit the application of basic antitrust

²⁹ *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 221 (1980).

³⁰ *Square D Co. v. Niagara Frontier Tariff Bureau*, 476 U.S. 409, 421 (1986). See also *Silver v. N.Y.S.E.*, 373 U.S. 341, 357 (1963) (“[I]t is a cardinal principle of construction that repeals [of the antitrust laws] by implication are not favored.”) (quoting *United States v. Borden Co.*, 308 U.S. 188, 198 (1939)).

³¹ *United States v. Microsoft Corp.*, 253 F.3d 346, 359 (D.C. Cir. 2001). Microsoft claimed “an absolute and unfettered right to use its intellectual property as it wishes: ‘[I]f intellectual property rights have been lawfully acquired,’ it says, then ‘their subsequent exercise cannot give rise to antitrust liability.’” The court characterized Microsoft’s argument as “border[ing] on the frivolous. . . . That is no more correct than the proposition that use of one’s personal property, such as a baseball bat, cannot give rise to tort liability.” *Id.*

³² 125 F.3d at 1218.

³³ *Simpson v. Union Oil Co.*, 377 U.S. 13, 24 (1964).

principles. The Second Circuit Court of Appeals in *SCM Corp. v. Xerox* (1981) determined that “where a patent has been lawfully acquired, subsequent conduct permissible under the patent laws cannot trigger any liability under the antitrust laws.”³⁴ More recently, the Federal Circuit in *Independent Service Organizations Antitrust Litigation (Xerox)* (2000) stated that a patent owner who brings suit to enforce a statutory right to exclude others from the claimed invention is virtually exempt from the antitrust laws. The *Kodak* presumption was replaced with a broad exemption.³⁵ Still, the *Xerox* opinion was careful to reiterate the dominant view that “intellectual property rights do not confer a privilege to violate the antitrust laws.”³⁶

What is to be made of these two differing approaches? To begin, it should be recognized that there is broad agreement about basic principles: Patent and copyright do not provide shields against antitrust liability. Antitrust and federal intellectual property rights regimes seek to promote innovation. Finally, competition policy is at the heart of both regimes.³⁷ The difference in approach taken by the Federal and Ninth Circuits relates only to the exclusionary right granted under the patent statute—that is, to refusals to deal. Other conduct that may occur at the intersection of antitrust and intellectual property rights is not addressed in the opinions and falls under the basic tenets that are held in common, including the centrality of competition policy to both regimes.

The *Kodak* approach begins with a presumption of the refusal’s legality that the antitrust plaintiff can overcome with evidence that the patent holder’s asserted business justification—its patent right to exclude others—“does not legitimately promote competition or that the justification is pretextual.”³⁸ The court found evidence to support the plaintiff’s claim that the patent right justification was pretextual.³⁹ The *Xerox*

³⁴ 645 F.2d. 1195, 1206 (2d. Cir. 1981).

³⁵ For a discussion of this and other Federal Circuit decisions creating apparent exemptions to antitrust laws, see James Langenfeld, *Intellectual Property and Antitrust: Steps Toward Striking a Balance*, 52 CASE W. RES. L. REV. 91-110 (2001).

³⁶ 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001). The court did permit infringement defendants to prove that the patent was obtained through knowing and willful fraud or that infringement suit is mere sham to cover what is actually no more than an attempt to interfere directly with business relationships of competitor.

³⁷ Indeed, the Federal Circuit earlier stated that “the aims and objectives of patent and antitrust laws may seem, at first glance, wholly at odds. However, the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition.” *Atari Games Corp. v. Nintendo of America, Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990). The competition policy within the patent regime is reflected, for example, by requirements of utility and non-obviousness, as well as description and enablement, which only make sense in the context of a public knowledge benefit to spur competition by innovation. See Peritz, *supra* note 17.

³⁸ *Id.* at 1212.

³⁹ *Id.* at 1219.

approach does not allow the plaintiff to offer such evidence and, in consequence, extends the patent holder's exclusionary right. Reading Section 271(d)(4) of the Patent Act broadly, the Federal Circuit held that the owner of patented products has a right to refuse to sell to others, a right that amounts to an antitrust exemption.⁴⁰ In short, if patent law is satisfied, the refusal to deal is immune from antitrust scrutiny. We believe the *Kodak* approach is more consistent with both patent law and antitrust policy for reasons discussed below.

The *Kodak* approach is correct both as a matter of patent law and as an expression of competition policy. We agree with antitrust scholars who have read the patent statute and its legislative history closely and who have concluded that Congress did not intend Section 271(d) to limit antitrust liability. Clearly, in defining the patent holder's right to refuse licensing or use, the language of section 271(d)(4) does not explicitly address antitrust liability. The silence regarding antitrust liability is explained by a close reading of "the legislative history of the 1988 amendment [which] makes plain that it was originally conceived not as an antitrust exemption for patent holders, but rather as an effort to address certain judicial precedents that Congress thought subjected intellectual property owners to harsher treatment than that afforded to owners of other forms of property. . . . A review of the Congressional record discussing the 1988 amendment and subsequent related bills reveals a consistent Congressional intent to create a 'level playing field' under the antitrust laws for all forms of property—not to provide special treatment, or an antitrust immunity, for patent and copyright holders."⁴¹

The congressional record, the court doctrine discussed above and the basic economics of innovation since Schumpeter recognize the centrality of competition to spurring innovation. The approach taken in the *Xerox* opinion not only misconstrues Section 271(d)(4) but underestimates the importance of competition policy in understanding the relationship among innovation, patent law and antitrust. Accordingly, if choosing between the two approaches, we urge the AMC to reject the virtual exemption to antitrust liability associated with the Federal Circuit's opinion in *Xerox* (2000) and to recommend the *Kodak* (1998) approach of presumptive legality, which more accurately reflects Congressional intent with regard to patent law, better serves the

⁴⁰ Patent Act Section 271(d) states "No patent holder otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of having . . . (4) refused to license or use any rights to the patent." 35 U.S.C.A. § 271 (d). The relationship between this section and antitrust doctrine can be understood as turning on the meaning of "otherwise entitled to relief." The relationship is discussed below. According to the Federal Circuit, the patent holder's exclusionary right is defeated only by an "indication of illegal tying, fraud . . . or sham litigation." *Id.* at 1327. The court shaped a comparably broad refusal right for copyright holders.

⁴¹ A. Douglas Melamed & Ali M. Stoeppelwerth, *The CSU Case: Facts, Formalism and the Intersection of Antitrust and Intellectual Property Law*, 10 GEO. MASON L.REV.407, 411-413 (2002) (citing committee reports and floor debate).

competition policies of both patent and antitrust, and remains consistent with the rule of reason jurisprudence that informs modern antitrust law.

We now turn to the particular questions posed.

1. Should there be a presumption of market power in tying cases when there is a patent or copyright? What significance should be attached to the existence of a patent or copyright in assessing market power in tying cases and in other contexts?

We reserve comment at this time and recommend that the AMC postpone consideration of these questions until the Supreme Court decides *Illinois Tool Works Inc. v. Independent Ink, Inc.*, 396 F.3d 1342 (Fed. Cir. 2005), *cert. granted*, ___ U.S.L.W. ____ (June 20, 2005).

2. In what circumstances, if any, should the two-year time horizon used in the *Horizontal Merger Guidelines* to assess the timeliness of entry be adjusted? For example, should the time period be lengthened to include newly developed products when the introduction of those products is likely to erode market power within two years? Is there a length of time for which the possession of market power should not be viewed as raising antitrust concerns?

The *Horizontal Merger Guidelines*' two-year time horizon is generally a very useful benchmark, but under certain limited circumstances it may not be appropriate.

In dynamic markets the potential anticompetitive harm (e.g., reduced new products competition) may not be anticipated until years in the future. For example, effective entry or product development by merging firms may not occur for over two years, with the harm to competition beginning more than two years after the merger. Accordingly, there is the possibility under the *Horizontal Merger Guidelines* of completely discounting potential entry beyond two years, when the competitive concerns would exist only after this time frame. Therefore, under certain conditions it may be appropriate to extend the relevant time period for evaluating potential entry. However, any such adjustment should require substantial evidence of likely committed entry.⁴² Moreover, as suggested in the *Guidelines*' discussion of its durable goods exemption to the two year rule, there should be an inquiry into whether customers will be able to protect themselves from any interim reduction in competitive between the merging firms

⁴² The *Horizontal Merger Guidelines*' implicitly accept some trade-off between the potential for short run anticompetitive effects from a merger and the impact of later committed entry, even when that entry may occur in less than two years. However, the threat of committed entry has been seen to deter or mitigate the competitive harm. See, for example, Malcolm Coate & James Langenfeld, *Entry Under the Merger Guidelines, 1982-1992*, 38 ANTITRUST BULL. 557 (1993). Evidence of the impact of threatened entry should be considered as part of the weight given to entry beyond two years.

and “would deter or counteract the competitive effects of concern with the two year period”.⁴³

2. Should antitrust law be concerned with “innovation markets”? If so, how should antitrust enforcers analyze innovation markets? How often are “innovation markets” analyzed in antitrust enforcement?

The concept of "innovation markets" has been advanced to provide a framework for analyzing situations where two firms do not currently sell competing products to customers, but where the firms nonetheless are significant competitors. Firms can be significant competitors even when they do not currently supply substitutable products to customers in several ways. First, the firms may be competing to develop a new product and the presence of the rival firm places competitive pressure on them to aggressively pursue their innovative efforts. Second, the innovative efforts of one or both firms may cause them to be perceived or actual potential competitors, which can affect both current pricing and long-term pricing.

The concept of innovation markets is clearly a helpful concept when evaluating situations where two firms are not currently offering competing products for sale, but where there is evidence that they are nonetheless competing in a well-defined economic activity (such as research and development) or would likely be close competitors in the future. However, it is also clear that much of the innovation market concept is well-captured by "potential competition" theory, if one allows potential competition theory to include both perceived and actual potential competition (which may not be adequately recognized under existing case law). Whether one uses an innovation market or potential competition approach, it is essential to recognize that two firms can be very close competitors even when they are not both currently producing substitutes. Put simply, the fact that a firm has invested extensive time or money in efforts to enter a particular market can have crucial implications for the long-run structure of a market that must be recognized and may be too easily ignored absent a concept like "innovation markets."

While the concept of innovation markets is important to antitrust analysis, it is a concept that must be used with caution. First of all, it is necessary to ask whether the two firms under antitrust scrutiny are likely potential competitors that are currently exerting competitive pressures on each other. If they are, then the extent of competitive pressure

⁴³ As the *Horizontal Merger Guidelines* are written, they already recognize one explicit potential extension of the two year period -- when there are durable goods. The rationale is “consumers, in response to a significant commitment to entry, may defer purchases by making additional investments to extend the useful life of previously purchased goods and in this way deter or counteract for a time the competitive effects of concern. In these circumstances, if entry can occur outside of the two year period, the Agency will consider entry to be timely so long as it would deter or counteract the competitive effects of concern within the two year period.” (Section 3.2) There are other ways consumers can be protected in the two year period, depending on nature of the market. For example, if customers have long run contracts with the merging firms that would prevent a price increase for more than two years, then these customers may be able to encourage new entrants to be viable alternatives when the contracts expire, even if this entry took longer than two years.

must be determined. It is also important to determine the extent to which other firms are developing substitutes that might exert such pressure. Finally, while it is an important part of a market power analysis to consider the extent to which firms that currently are not developing a particular product could develop substitutes, one must be careful to consider whether these alternatives are realistically “timely, likely, and effective” alternative sources of supply.

C. Examination of the reports on the patent system by the National Academies Board on Science, Technology, and Economic Policy and by the Federal Trade Commission

The following comments respond to the questions asked about the National Academies Board on Science, Technology, and Economic Policy report, *A PATENT SYSTEM FOR THE 21ST CENTURY* (hereafter, STEP report); and the Federal Trade Commission report, *TO PROMOTE INNOVATION* (hereafter, FTC report):

- 1. Do the reports fully capture the role of patents and patent-related activity over the last 25 years?**
- 2. Are the concerns or problems regarding the operation of the patent system well-founded?**
- 3. Which recommendations for change should be adopted?**
- 4. Are other issues regarding the operation of the patent system not addressed?**

It should be recognized that most of the recommendations in both reports concern what might be called issues of patent system housekeeping, e.g., on issued patent quality, exemptions from the general patent law, and presumptions in litigation, whose bearing on antitrust policy is largely indirect. The FTC report, issued in October 2003, says that a second report, prepared jointly by the FTC and the Department of Justice, will make recommendations for maintaining a proper balance between antitrust and the patent system. It is now nearly two years later, and that report, which would presumably have more relevance to the Commission's work, has not materialized. The most that can be said is that the FTC report in particular and, to a lesser degree, the STEP report, provide a rich array of facts and opinions that can guide and constrain inferences about the relationship between antitrust and patent policies. We return to that untapped potential later.

The principal expressed concern of both reports is the belief that quality control in the Patent Office has deteriorated, leading to a proliferation of weak patents and "patent thickets" that raise transaction costs and, under some conditions, impede technological progress. Several recommendations are made, with which the Working Group generally concurs, subject to some detailed reservations.

Both reports recommend legislation to create an opposition system, under which third parties with information relevant to the validity of patents can present their evidence in an administrative context without the rigidities and costs of formal litigation. We concur strongly in the recommendation, although we dissent from the recommendation of both reports that opposition be limited to already issued patents. Since, as the FTC report reveals, 90 percent of patent applications are now published 18 months after filing, we see no good reason why the opposition process should not begin then, rather than waiting. In this way uncertainties about a challenged patent's validity will be clarified at the earliest possible time, after which innovators can proceed with a better road map. European opposition systems function well with first publication as a triggering event.

Both reports recommend that the criteria for determining whether an invention is obvious and hence not patentable should be revised to avoid protecting inventions that stem from routine product and process improvement efforts. We concur. This is partly a matter of revising the law on the quantum of inventive progress required for a patent and partly a problem of obtaining information, e.g., on new business methods and software programs, accurately describing the prior art where there are few previous patents to provide guidance. In revising the law, the Congress should consider among other things the writings of the Nation's first patent examiner, Thomas Jefferson, on obviousness and also by research on the sociology of invention.⁴⁴

Both reports conclude that the Patent Office needs more resources to do its difficult job well. We concur, but with a reservation considered only tangentially by the STEP report (p. 108). At present, the Patent Office is financed primarily by user fees. This pleases a Congress facing huge budget deficits, but it is not what economists call incentive-compatible. The Patent Office examiner who rejects an application is foregoing an immediate issue fee of \$1,400 -- several days' salary -- plus periodic maintenance fees that could total \$7,000. It is no wonder, as the FTC report observes at Ch. 6, p. 21, that "The primary mission of the Patent [Office] is to help customers get patents." To encourage a proper balancing of reward to invention against cluttering the highways to technological progress, the Patent Office should be financed by lump-sum appropriations or, if that is politically infeasible, by fees designed, as the Food and Drug Administration's user fee system is following a 1996 amendment to the original 1992 law, not to enhance incentives for excessive patent issue. Both reports express concern over a decision by the Appellate Court for the Federal Circuit weakening the so-called experimental use defense, exempting academic researchers from many patent barriers to

⁴⁴ Jefferson's letters are well-indexed, e.g., under "patents" and "inventions," in the Jefferson Cyclopedia. Seminal works on the dynamics of inevitability include W. F. Ogburn and D. S. Thomas, "Are Inventions Inevitable?" Political Science Quarterly, vol. 37 (1922), pp. 83-98; Robert Merton, "Singletons and Multiples in Scientific Discovery," Proceedings of the American Philosophical Society, vol. 105 (1961), pp. 370-386; Abbott Payson Usher, A History of Mechanical Inventions (rev. ed., Harvard University Press: 1954), Chapter 2; and Thomas S. Kuhn, The Structure of Scientific Revolutions (University of Chicago Press: 1962).

their research.⁴⁵ We agree with the FTC report's conclusion (Ch. 4, p. 35) that the jeopardy in which academic research has been placed "could have a chilling effect on university research" and urge a clear Congressional override.

The FTC and STEP reports express concern over the rules of evidence applied in determining whether infringement of a patent has been willful, warranting treble damages. If an opposition system is created, one apprehension in both reports -- that third parties avoid reading rivals' patent specifications to minimize evidence of willful infringement -- would have to disappear, since opposition cannot function properly without careful monitoring by third parties. The STEP report (p. 122) expresses its concern over using subjective evidence to infer inequitable conduct, e.g., when material information is withheld from the Patent Office in applications and patent prosecutions. We have no objection to its recommendation that such evidence be excluded from patent validity contests, assuming, consistent with the STEP report recommendations, that evidence of misrepresentation and other inequitable conduct before the Patent Office continues to be admissible in monopolization cases.

The FTC report (Executive Summary, pp. 15) urges that Patent Office decision-makers consider "whether granting patents on certain subject matter in fact will promote [progress of science and useful arts] or instead will hinder competition that can effectively spur competition." It also recommends (pp. 14, 15) greater cooperation between the Patent Office and the antitrust agencies and asserts that the FTC will ask the Patent Office to reconsider questionable patents that raise competitive concerns. Although we applaud the intent, we believe the recommendations ask more than can be expected of agencies such as the Patent Office, with a narrow and clearly-defined mission. Antitrust questions, we believe, should be addressed by the antitrust agencies and the courts -- including, when the jurisdictional parameters require, an Court of Appeals for the Federal Circuit that undertakes a more even-handed balancing between patent and antitrust concerns than it has exhibited thus far. The Federal Circuit Court is discussed below.

Chapters 2 and 3 of the FTC report provide a foundation for analyzing rationally questions of balance between patent policy and antitrust policy. There has been a huge amount of research, both theoretical and empirical, on how the patent system does its primary job -- enhancing incentives for innovation. Despite a few incautious lapses, the FTC report for the most part, and the STEP report more superficially, summarize well the main research findings. The FTC report recognizes repeatedly that competition policy and patent policy work in tandem and that both can encourage innovation, with the balance of effect depending upon a variety of identifiable conditions. It recognizes that excessive patent protection or protection of the wrong inventions can discourage

⁴⁵ *Madey v. Duke University*, 307 F. 3d 1351 (2002), *cert. den.* 123 S. Ct. 2639 (2003). On the importance of a viable experimental use defense to infringement claims, *see, e.g., Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860, 873 (Fed. Cir. 2003) (Newman, J., concurring in part and dissenting in part); Rochelle Dreyfuss, *Protecting The Public Domain of Science: Has The Time For An Experimental Use Defense Arrived?*, 46 ARIZ. L. REV. 457 (2004).

invention. E.g., at Ch. 2, p. 8, it observes that "The threat of being sued for infringement by an incumbent -- even on a meritless claim -- may 'scare away' venture capital financing" and that "a patentee may prolong its market power by precluding access to technology necessary for the next generation of products to emerge." It summarizes repeatedly validated research findings that in most industries, the expectation of patent protection is a relatively minor spur to investment in innovation, surpassed in effectiveness by diverse first mover advantages,⁴⁶ the alternative of keeping process inventions secret, and the fear of being left behind competitively. It recognizes that exceptions exist.

Chapter 3 provides rich analyses of the differing roles competition and patent rights play in several major industries -- pharmaceuticals and biotechnology, where the expectation of patent protection is important because of huge R&D costs, high risk, low imitation costs (in pharmaceuticals), and a preponderance of startup firms operating at a marketing disadvantage (in biotech); and computer hardware, software, and semiconductors, where competition tends to have a more potent driving impact and patent thickets arguably impede innovation (as they may also in biotech). Even in pharmaceuticals, where the incentive effects of patents are generally positive, the FTC report recognizes (Ch. 3, p. 11) that the threat of patent expiration and competition from generic suppliers "forces brand-name firms to come up with new products to replenish their revenue streams." Recognizing this, the Federal Trade Commission has led the way in combating patent-life-extending and buy-out tactics pursued by companies seeking to delay the onset of generic competition⁴⁷ -- applications of the antitrust laws that the Working Group lauds. Quite generally, it is clear from the substantial research literature, considerable portions of which are summarized in the FTC report, that the judicious implementation of antitrust where monopoly positions rest upon patent rights need not impede technological progress and may well accelerate it. Making the best of this balance is the challenge with which the planned joint FTC - Department of Justice report must cope.

Acknowledging that its hearings did not address certain fundamental questions, the FTC report observes (Ch. 1, pp. 35-36) that:

Some panelists noted a correlation between a strengthened patent system during the 1980s and subsequent robust performance of the U.S. economy; they suggested a causal link between those events. Regardless of whether and to what extent such a link exists, there is no gainsaying the innovation that businesses report that the patent system has spurred.

The intellectual challenge posed by these assertions is not revisited when specific

⁴⁶ For pioneering research on first-mover advantages, see Ronald S. Bond and David F. Lean, Sales, Promotion, and Product Differentiation in Two Prescription Drug Markets (FTC Staff Report, 1977).

⁴⁷ FTC Report, Ch. 3, pp. 12-14. See also the FTC report, Generic Drug Entry Prior to Patent Expiration (July 2002).

industry conditions are examined in Chapter 3 of the FTC report. If they were, a paradox would be observed. It is generally acknowledged that the more rapid productivity growth experienced by the United States during the 1990s and early 2000s was driven primarily by the revolution in information technology.⁴⁸ But in the industries underlying that revolution – computers, semiconductors, and computer software – patents were for the most part considered relatively unimportant, and competition much more important, as spurs to innovation. An analogous mismatch could be found in the relatively rapid growth of productivity during the 1950s and 1960s, when patent-based monopolies and cartels were under heavy attack through antitrust cases, and the slow growth during the 1970s and 1980s, when the antitrust agencies had nearly ceased bringing patent-based actions.⁴⁹

It is regrettable too that the FTC report did not address the implications of major high-technology antitrust cases recently concluded, or still underway, at the time the FTC hearings were conducted. In the FTC's *Intel* case, for example, the central issue was Intel's efforts to break through the thicket of patents covering microprocessor design and production by discriminatorily denying interface information to companies unwilling to license their patents to Intel on favorable terms. The case was settled with a mild but efficacious order that Intel not withhold interface information from patent holders seeking only damages but not injunction for patent infringement.⁵⁰

The FTC report also ignores the *Microsoft* case, perhaps because patent issues played no significant role. However, Microsoft appears to have moved in a new strategic direction, accumulating patents on inventions made by its own staff and also buying up other firms and/or their patents. Chapter 2, p. 35 of the FTC report says that witnesses before the FTC did not suggest that patent fences developed by a firm's own research should be antitrust violations, but that "building a fence through acquisitions of patents ... could raise issues under Section 7 of the Clayton Act." We concur that Microsoft's program of patent acquisitions should be subjected to careful antitrust scrutiny and, if used to throttle competition, viewed as evidence of continued attempts to monopolize. Consistent with the FTC report's conclusion that competition can under many conditions be more conducive to innovation than monopoly, we believe that the question of patent

⁴⁸ See Martin N. Baily, "Distinguished Lecture on Economics in Government: The New Economy: Post Mortem or Second Wind?," 16 J. Econ. Perspectives, 3-22 (2002); Robert J. Gordon, "Technology and Economic Performance in the American Economy," National Bureau of Economic Research Working Paper 8771 (February 2002); William Nordhaus, "The Sources of the Productivity Rebound and the Manufacturing Employment Puzzle," National Bureau of Economic Research Working Paper 11354 (May 2005).

⁴⁹ See, e.g., F. M. Scherer, *Antitrust, Efficiency, and Progress*, 62 N.Y.U. L. Rev. at 1014-1018 (1987).

⁵⁰ In Ch. 4, p. 31, the FTC report recommends legislation to protect from infringement claims a third party who reduces to practice a product or process before another party's patent claims on the product or process have been published. This is a fairly radical step, but given the problems of obviousness when invention is simultaneous, one in which we concur.

fences achieved through internal development requires further scrutiny. That a monopoly position may be sustained through pyramided patenting for a period much longer than the limits implied in the patent grant seems to us a serious question requiring a careful balancing of monopoly and patent policy considerations. No principle of competition policy is enshrined more deeply in the U.S. Constitution than the proposition that exclusive rights to inventors and authors shall be "for limited periods." [emphasis added]

The FTC report dismisses (Ch. 1, p. 18) as lacking a sound economic foundation and an appreciation for innovation incentives the so-called "nine no-no's" of patent licensing articulated by the Department of Justice in 1972, superseded in 1995 by inter-agency intellectual property guidelines. We agree that the 1972 no-no's were excessive, but believe that a more nuanced revisit taking into account inter alia what has been learned about the incentive effects of patent protection would be worth attempting.

Treading on ground treacherous for an enforcement agency whose actions are subject to appellate review, the FTC report observes that the Court of Appeals for the Federal Circuit was created in 1982 to harmonize patent protection, but that its decisions have in fact strengthened presumptions in favor of patent rights and weakened the criteria for patentability.⁵¹ In creating such a specialized court, Congress ignored among other things the caveat in a classic study of American adjudicative processes:⁵²

While technical knowledge is often needed for the adjudication of disputes, there are grave objections to giving judicial power into the hands of specialists whose outlook is confined to a single field. The worst defect of our domestic tribunals ... is the opportunity they provide for narrow professional instincts and group habits to insert themselves without let or hindrance...

Although the Federal Circuit is not quite so specialized, it appears to have been captured by patent advocates; it does not, FTC hearings witnesses testified, "think ... in economic ways;" and it "has not seen patent law as part of a whole panoply of tools that are used to promote innovation."⁵³ We recommend that the President seek greater diversity of backgrounds in his appointments to the Court or, failing that, that Congress revisit the whole idea of an integrated court for intellectual property appeals. We naively propose that, on its excursions into the domain of intellectual property, Congress pay more attention to the community of scholars conducting systematic research on patent matters. In sum, the FTC Report brings to light the importance of viewing not only patent law but competition's "perennial gales of creative destruction" as necessary public policy tools to spur innovation.

⁵¹ See especially Ch. 1, p. 20; Ch. 4, pp. 8 and 15; and Ch. 6, pp. 8-10 and 15.

⁵² MARVER BERNSTEIN, *REGULATING BUSINESS BY INDEPENDENT COMMISSION* (Princeton University Press: 1955), pp. 116-117.

⁵³ FTC Report, Ch. 6, pp. 8-9.

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