

Anticipating the 21st Century

Competition Policy in the New High-Tech, Global Marketplace

Volume I

A Report by Federal Trade Commission Staff

May 1996

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FOREWORD

The Office of Policy Planning would not have been able to accomplish this report without the invaluable help of both outside advisors and experts and Federal Trade Commission staff. We wish to thank the many, many witnesses who gave of their time and devoted serious thought to written submissions and testimony on the various subjects raised in the hearings. We are also grateful to the Alfred P. Sloan Foundation for the insightful research that the Foundation shared with us from studies that are being conducted in the semiconductor, computer, steel, textile, financial services, automobile, and powder metal industries, as well as to the witnesses who addressed these studies at the hearings. In addition, we thank the outside experts who helped us to launch this project and to ensure that the issues we are tackling are in fact those that matter as we approach the twenty-first century.

No project can ever be done without the constant support of internal staff. We would like to thank the audio-visual group whose endurance enabled us to preserve the hearings on tape, and the printing group and services unit, on which the size of this project placed heavy demands. Special thanks go to Sula Miller and Benjamin Hadley who spent many more hours than the federal government or public will ever imagine in helping us to conduct the hearings and create this report.

COMPETITION AND CONSUMER PROTECTION POLICY IN THE NEW HIGH-TECH, GLOBAL MARKETPLACE¹

OVERVIEW

Forces of globalization and innovation that have been rippling through our economy for more than 200 years are now ripping up the established terrain of many economic sectors. Whether driven by improvements in computers, biotechnology, communications or other technologies, tumbling transportation costs, falling regulatory barriers or freer domestic and international capital markets, increasing globalization and rapid innovation are profoundly altering the marketplace. These changes create new possibilities and raise new problems for consumers, businesses, and government agencies. It is in everyone's interest that government understand these developments in order to make sure that the marketplace continues to work competitively for businesses and consumers.

Beginning in October 1995, the Federal Trade Commission held two months of public hearings on these issues. The Commission's power to investigate and make public marketplace developments was the basis for these groundbreaking hearings on how globalization and innovation are affecting the economy and what, if anything, this agency should do to keep pace with these developments. This investigatory mission was part of the FTC's original mandate and has been the basis for important studies in the past. For example, a study of the radio broadcasting industry influenced passage of the Radio Act of 1927 (a predecessor to the Federal Communications Act of 1934), while the FTC's disclosure of securities issues abuses played a role in heightening Congress' recognition of the need for securities industry regulation and led to the Securities Act of 1933.

These hearings also flow from the Federal Trade Commission's unique ability to evaluate the effects of marketplace changes on both businesses and consumers. The Commission is the only federal agency that has investigatory, regulatory, and enforcement powers over both consumer protection and competition issues. Its twin mission is to see that consumer information

¹ This report was prepared by staff at the FTC. It does not necessarily reflect the views of the Commission or any individual Commissioner.

in the marketplace is not deceptive or misleading and to prevent anticompetitive mergers and other business practices without interfering with legitimate business activities. Ultimately, this mission ensures the best possible functioning of free markets -- competition among producers and accurate information for consumers generate the best products at the lowest prices, spur efficiency and innovation, and produce benefits for consumers, workers and investors alike.

The hearings were organized to elicit ideas from a diverse group about how increasing globalization and faster-paced innovation cycles are affecting businesses and consumers and whether any adjustments to competition and consumer protection policies are required.² During the hearings on competition issues, businesses reported that they are facing stiffer competition in their home markets and abroad, and that they are seeking cost savings, engaging in restructuring, and entering collaborative ventures to improve their competitive position. They also have improved their production methods, invested in R & D, and actively sought intellectual property protection for their inventions in a race to keep up with innovation in their industries and to be first to market. During the hearings on consumer protection issues, experts reported that, while globalized markets and new communications technologies offer consumers the benefits of more choice in goods and services, access to vast amounts of information, and greater shopping convenience, the potential misuse of the technologies also may raise the risk of greater consumer fraud and deception.

Notwithstanding this changing marketplace -- and in striking contrast to the more ideological debates of the 1980s -- no one questioned the core elements of competition or consumer protection law or policy. Rather, businesses and consumers alike stressed that vigorous competition and consumer protection enforcement is crucial to maintaining a marketplace that benefits U.S. consumers and that positions U.S. firms to compete fiercely abroad. But one clear message was that government alone cannot resolve all of the novel issues

² All of the testimony (both oral and written statements) from the hearings is available on the FTC's Home Page on the Internet and from the FTC's Public Records Branch. More than 200 business and consumer representatives, practitioners, government officials, and academicians participated. See Appendices in Volumes I and II for a list of the participants and a review of the full agenda and the processes by which the testimony was solicited for both the competition and consumer protection portions of the hearings.

that are arising. To solve certain problems, we need to think of ourselves not only as law enforcers but also as a potential partner with consumers, businesses, non-profit institutions, and other government agencies (whether state or foreign).

For competition policy, this staff report analyzes and makes recommendations on how to continue the FTC's missions in light of increased global and innovation-based competition. Although the report proceeds from hearings testimony and proposals, its analysis relies on many other sources as well, including case law and policy, empirical data and research literature, and discussions with FTC staff within the Bureaus of Competition, Consumer Protection, and Economics. Our goal was to articulate recommendations that would effectively ensure the competitiveness of U.S. markets without imposing unnecessary costs on private parties or governmental processes. In the consumer protection area, discussed in Volume II, where the hearings explored new and still evolving technologies and their impact on consumers, the staff report does not make specific recommendations. Based on the hearings record, it reports the views of the hearings participants on the changing marketplace, emerging consumer protection issues, and possible approaches to address those issues. The report will be used to assist Commission staff in planning a consumer protection agenda and will be followed by a report next year on the steps taken to address issues raised during the hearings.

EXECUTIVE SUMMARY AND PRINCIPAL CONCLUSIONS

The hearings testimony emphatically confirmed the two premises on which the hearings were based. First, global competition -- that is, imports, exports, cross-border investment, and international joint ventures -- is expanding at a rapid rate. U.S. firms can no longer be content with besting domestic competitors; their fiercest rivals now are often foreign firms. Second, in many markets, the basis for competition today includes not only the price at which a product is sold but the ingenuity, variety, and speed of development of new goods and services. This innovation contributes powerfully to our economy and our future well-being, generally more so than do cost savings gleaned in existing ways of doing business. The hearings also provided a number of suggestions for adjustments to the FTC's competition enforcement mission so as not to impede unnecessarily the ability of U.S. businesses to compete worldwide and so as to foster innovation.

Changes in Business Conduct and Transactions in Response to Global and Innovation-Based Competition

In general, U.S. businesses are now confronting increasingly stiff competition as a result of the "globalization" of trade. Domestic firms face a greater number of foreign competitors in their home markets and are under pressure to expand their operations abroad. In this global marketplace, U.S. businesses stress both the importance of achieving efficiencies -- that is, cost savings -- and the importance of entering new markets, whether to attract new foreign customers or to remain competitive for their U.S. customers now doing business around the world. Mergers and other collaborative ventures are sometimes the vehicles they use to achieve these goals. Given this hearings testimony and current research on these trends, it is timely to reassess certain aspects of competition policy toward mergers and collaborative ventures to ensure that procompetitive, efficiency-enhancing transactions are permitted.

Competitor collaborations are also important for staying at the forefront in markets characterized by innovation-based competition. Such combinations may allow firms to assemble complementary assets in order to produce new and improved technologies or goods or may enable the massive funding needed to pursue certain R&D. Other forms of business conduct also are emerging, as companies race to be first with a product whose life cycle may be as short as 6-

to-12 months. Some of the strategic business conduct being observed is grounded in advantages that firms gain by protecting intellectual property or by successfully promoting their technology as the governing standard in an industry. Other conduct stems from the special properties that inhere in networks such as computer and telecommunications systems, whose value tends to rise as they attract more users. While customers will value a telephone system more as the number of new customers that join and new parties that can be reached increases, business competitors may find it hard to survive against a burgeoning network. The hearings testimony reflects fierce debate over the extent to which any of this business conduct may be anti- rather than procompetitive. What the hearings and additional research did suggest is that business conduct involving research and development combinations, intellectual property, standards, and networks needs to be carefully evaluated to ensure that innovation -- both by pioneers and successor firms - - is promoted, not stifled.

Mergers: The Analysis of Efficiencies

One strategy for businesses seeking to improve their competitive position today is to achieve efficiencies through mergers. At present, the enforcement agencies may take efficiencies into account in determining whether to challenge a proposed merger, but old yet still extant Supreme Court case law expresses considerable skepticism about recognizing efficiencies in court in support of a proposed merger.

The hearings testimony established a strong basis for reexamining how efficiencies obtained through mergers might be analyzed. Accordingly, we propose that the FTC and the Antitrust Division of the Department of Justice put together a joint task force to study whether changes in this area are warranted and, if so, what ones. This report sets forth one approach for how antitrust decisionmakers could take into account whether a merger is likely to achieve efficiencies with competitive significance.

The proposed conceptual framework is that enforcers would assess the extent to which merger-created efficiencies may affect the merged firm's abilities and incentives in ways that increase competition or deter any likelihood of lessened competition in a relevant market post-merger. Efficiencies evidence relevant to the central question of merger analysis -- that is, the probable competitive effect of a transaction -- would be admissible in court. Merger analysis

should consider a wide range of efficiencies as possibly procompetitive. The weight and significance accorded to efficiencies should be a function of their magnitude and probability, the degree to which they will enable the merged firm to be a better competitor and thereby enhance (or not lessen) competition for the benefit of consumers, and the delay with which such consumer benefits are to be realized. Since efficiencies evidence typically resides with the merging parties and is difficult to corroborate, the merging parties should produce credible evidence of any claimed efficiencies and their likely procompetitive effects. Efficiency justifications should be rejected, however, if there are significantly less restrictive means of achieving comparable efficiencies and use of those means is practical and feasible as a business matter.

Finally, even if efficiencies generated by a merger would not deter probable post-merger anticompetitive effects, the Commission always retains the option not to challenge a merger likely to generate significant efficiencies. Historically, however, the Commission's use of its prosecutorial discretion in this manner has been rare.

Mergers: Distressed Industries, "Flailing" Firms, and Failing Firms

The rapid rate of marketplace change is causing some firms or industries to fall on hard times. One response of firms buffeted by changing market conditions is to merge, sometimes with a stronger competitor. When faced with mergers involving firms in distressed industries or near-failing firms, antitrust should assess such transactions in terms of their likely competitive effects. While the strict requirements of the failing firm defense function adequately in the unusual circumstances for which that defense was designed, those requirements should not be loosened as a means to address distressed industry or near-failing firm circumstances. Rather, by focusing on the merger's competitive effects, antitrust analysis can flexibly accommodate factors such as changing industry conditions that may reduce competitive concerns in such mergers. Moreover, if efficiency considerations were incorporated into merger analysis as suggested in the staff proposal summarized above, the need to revise current law with respect to failing firms, flailing firms, and distressed industries would become considerably less pressing.

Mergers: The Definition of Geographic Markets

In today's increasingly interconnected world, merger analysis should take care to define relevant geographic markets to include foreign supply response as appropriate, giving due regard both to actual barriers to trade and to the increasing trend toward the globalization of trade and services. The current *DOJ/FTC 1992 Horizontal Merger Guidelines (1992 Merger Guidelines)* provide an analytical framework that is flexible enough to keep pace with increasingly global markets. The hearings record revealed that FTC staff already is incorporating foreign imports appropriately into the relevant geographic market definition.

Small Businesses and Competition Policy

Small businesses provide significant innovation in the U.S. economy, but they may need collaborative ventures in order to perform some types of research and development and to expand their operations abroad. The FTC should work with other governmental and private entities to find ways to keep small businesses better informed about what types of collaborative activity do and do not raise antitrust concerns.

Innovation, Intellectual Property, and Competition Policy

The evidence suggests that both intellectual property protection and competition are important to spur innovation. Business testimony asserted the importance of intellectual property protection to encourage initial innovation, but some noted that, if intellectual property protection is overbroad, it may stifle follow-on innovation. Business testimony also stressed the significance of competition as a force motivating innovation, a principle that economics so far neither conclusively confirms nor rejects.

Mergers: Combinations of Innovation Efforts

Antitrust law already requires enforcers to assess whether a merger is likely substantially to lessen competition in innovation, although the *1992 Merger Guidelines* do not specify precisely how to do so. This report confirms that it is important to our economic welfare that enforcers continue -- with care -- to make such assessments in mergers. A transaction that combines an existing innovation effort with a competing innovation effort or with a competing good may substantially lessen innovation competition and thereby harm consumers in two basic ways. First, a next-generation product might not reach consumers as quickly or with the same

quality or diversity as would be the case absent the transaction. Second, consumers may be deprived of likely potential price and quality competition in current or future goods markets. Conversely, such a transaction may benefit consumers by enhancing the merged firm's ability and incentive to compete in innovation. The challenge to antitrust is to find the right way to distinguish between these possibilities.

If revised in some respects, the potential competition doctrine, which identifies losses of competition from potential competitors in sales of goods or services, could be used to analyze likely competitive effects in goods markets, if one assumed that the product under development ultimately would be introduced in a current or future goods market. To analyze a merger's likely competitive effects on current innovation competition itself, however, one must ask whether a proposed merger would likely change the merged firm's abilities or incentives to engage in innovation competition post-merger. Innovation market analysis, which identifies losses of competition in innovation rather than in the goods that innovation produces, provides one appropriate framework for such an analysis.

Innovation market analysis is not always appropriate, however. As specified in the *DOJ/FTC Antitrust Guidelines for the Licensing of Intellectual Property (IP Guidelines)*, innovation market analysis should be applied only where the innovation is directed toward a particular good and where the innovation can be associated with specialized assets or characteristics of specific firms. This principle holds true for mergers as well. In mergers, a safe harbor should apply if five or more independent, substitutable innovation efforts would exist post-merger. Moreover, collusion over innovation is often likely to be very difficult. The proper role of entry in assessing a merger's likely effects on innovation competition requires further study. The agency should continue to proceed with care in enforcing the law in this area.

Competition Analysis of Business Conduct related to Intellectual Property Assets

In the last twenty years, antitrust authorities have challenged business conduct involving intellectual property only rarely. The recently promulgated *IP Guidelines* reflect this careful enforcement approach, noting that, in general, intellectual property licensing is procompetitive. Nonetheless, especially with respect to new technologies such as biotechnology and computers, there is concern that overbroad grants and enforcement of intellectual property rights may

increase incentives for anticompetitive conduct such as illegal patent pooling or sham litigation. In addition to continued monitoring for such possibilities, the FTC should bring the potential competitive consequences of intellectual property policy choices to the attention of intellectual property decisionmakers, such as the courts, the Patent and Trademark Office, and Congress.

Competition Analysis for Business Conduct related to Networks and Standards

Networks, a system of links such as telephone lines, provide pathways for interaction among different users or terminals. Standards, on the other hand, establish a common mode of interaction, which enables users to understand each other's communication. Both share the distinctive characteristic that their value tends to rise as more users subscribe. Just as a telephone system becomes more valuable as new customers join because more parties can be reached through it, so, too, the English language becomes more important to learn as it becomes more prevalent throughout the world.

The special characteristics of networks and standards require heightened attention from antitrust enforcers. In particular, networks and standards frequently exhibit substantial customer-side scale economies (that is, the more customers who use one, the lower its costs) and also impose certain costs on a consumer who switches to alternative providers. To the extent that substantial customer-side scale economies render competition outside a network less viable, heightened scrutiny of membership denials may be appropriate. A combination of customer-side scale economies and consumer switching costs may cause dominance of a firm in control of an interface standard to be unusually enduring and give reason for careful scrutiny of possible anticompetitive practices. In this context, however, antitrust policy must take care not to dampen incentives sufficient to generate new networks and standards and not to impose remedies that may increase, rather than decrease, competitive problems. Although not novel, this set of issues is assuming great importance in an increasingly technology-driven economy.

Joint Ventures and Other Collaborations among Competitors

Global and innovation-based competition is driving firms toward ever more complex collaborative agreements to achieve goals such as expanding into foreign markets, funding expensive innovation efforts, and lowering production and other costs. Antitrust enforcers recognize that such agreements are often procompetitive, and Congress and the antitrust agencies

have used various mechanisms -- including legislation and specialized agency guidelines and policy statements -- to inform businesses of the types of collaborative conduct that do *not* raise antitrust concern or that may obtain protection from full antitrust liability. Nevertheless, the hearings testimony indicated that businesses remain sufficiently wary of potential antitrust liability that some forms of procompetitive collaborations among competitors may be chilled. Such a possible chilling effect warrants concern. To ensure that competition policy supports rather than chills procompetitive collaborations, the FTC should consider moving to develop and adopt joint venture guidelines that synthesize, clarify, and simplify the application of competition policy to collaborations among competitors.

Epilogue: Themes for the Future

The hearings testimony produced a vast quantity of creative and thoughtful ideas for agency activity. The agency will continue to consider ideas from this testimony as competition policy evolves to meet the challenges of the twenty-first century. We highlight four recurring themes for the Commission's attention. First, antitrust should continue its careful approach, viewing government intervention in markets as the exception rather than the norm. Second, the FTC should continue its willingness to evaluate the success and efficacy of its own actions and should devote even more resources to *ex post* review of enforcement initiatives. Third, witnesses requested that, consistent with the agency's confidentiality obligations, the FTC provide even greater "transparency" in its consent orders and other agency documents, so that businesses and antitrust practitioners may better understand why a particular business transaction or activity was or was not challenged. Finally, the witnesses urged the Commission proactively to bring competition issues to the attention of policy makers and enforcers in other governmental institutions, the courts, and the Congress.

PRINCIPAL CONCLUSIONS

This staff report proposes:

1. In assessing a merger or acquisition's likely competitive effects, the agency should take into account credible evidence produced by the merging parties regarding: a) the extent to which the transaction is likely to achieve efficiencies, and b) the extent to which such merger-created efficiencies may affect the merged firm's abilities and incentives in ways that likely

increase competition or deter any likelihood of lessened competition in a relevant market post-merger. The introduction of such evidence in court should not be opposed. The Commission's prosecutorial discretion to take efficiencies into account, of course, would remain unaffected by this proposal.

Recognizing that this is not the only possible approach to efficiency analysis in mergers, we propose that the FTC and DOJ form a joint task force that would consider whether the *1992 Merger Guidelines* approach to efficiencies should be changed or fleshed out.

2. For a merger or acquisition involving a distressed industry or near-failing firm, the agency should analyze the transaction's likely competitive effects, taking care to consider any efficiency-related competitive effects or other factors that may reduce competitive concerns in such circumstances. The failing firm defense should be retained to address the unusual circumstances for which it was designed, but it should not be broadened as a means to address distressed industry or near-failing firm circumstances.

3. The agency should continue to apply the analytical framework for the definition of relevant geographic markets set forth in the *1992 Merger Guidelines*, which is flexible enough to ensure that the agency defines relevant geographic markets to include foreign supply response as appropriate, giving due regard both to actual barriers to trade and to the increasing trend toward the globalization of trade and services.

4. The agency should work with other governmental and private entities to find ways to keep small businesses better informed about what types of collaborative activity do and do not raise antitrust concerns.

5. The agency has jurisdiction to and should continue to examine, with care, whether a merger or acquisition is likely substantially to lessen innovation competition and thereby harm consumers. The agency may find a revised potential competition doctrine useful to assess whether the transaction may eliminate potential price competition in a current or future goods market. However, an innovation market analysis may well be required to assess a transaction's competitive effects on current innovation competition. The agency should continue to apply an innovation market analysis with restraint.

6. With respect to intellectual property protection for certain new technologies such as biotechnology and computers, the agency should bring the potential competitive consequences of overbroad grants or enforcement of intellectual property rights to the attention of intellectual property decisionmakers, as well as continue to monitor for anticompetitive conduct such as illegal patent pooling or sham litigation.

7. The agency should apply heightened scrutiny to the assessment of competitive conduct in the context of networks and/or standards, since both may have characteristics -- such as customer-side scale economies and costs to consumers from switching to alternate suppliers -- that warrant special attention.

8. The agency should consider acting to develop and promulgate joint venture guidelines that synthesize, clarify, and simplify the application of competition policy to collaborations among competitors.

CHAPTER 1

COMPETITION AT THE CLOSE OF THE CENTURY

Only fifty years ago, the United States economy faced the world from a position of unrivaled strength. It had emerged from World War II as the only major developed nation with its industrial plant intact and had benefited from the influx of much of Europe's scientific talent. Its economy was over eight times larger than its nearest rival, essentially national in scope, and rather parochial in outlook. Its potential for growth seemed boundless.

Although the next twenty-five years saw a flurry of export activity to rebuild the economic infrastructures of Europe and Japan, U.S. prosperity ultimately flourished in relative isolation. U.S. firms tended not to consider foreign competition and thrived by fighting to produce better and cheaper products than their domestic rivals while working within a common economic climate, be it the costs of capital and labor, governmental regulation, or the technological challenges and opportunities that faced the country. For the most part, the key to success for U.S. firms was large scale production of standardized goods to satisfy this nation's demand.¹

That paradigm of competition has since shifted. First, U.S. companies can no longer be contented with beating domestic competitors, but often find their fiercest rivals in foreign firms. By the same token, U.S. firms can compete today in more markets abroad than ever before. Second, the basis for competition increasingly includes not only the price at which a given standardized product is sold, but the ingenuity, variety, and speed of the production, development, and delivery of new goods and services. Innovation has become crucial to the survival of a good segment of our economy.

Back in the early years after World War II, some of the seeds of this change were sowed when the first steps toward a General Agreement on Tariffs and Trade (GATT) were taken, and

¹ See MICHAEL L. DERTOUZOS ET AL., *MADE IN AMERICA: REGAINING THE PRODUCTIVE EDGE* 23-24, 46, 49 (1989); Raymond Vernon, *Same Planet, Different Worlds*, *THE GLOBAL ECONOMY* 17 (William E. Brock & Robert D. Hormats eds., 1990); Harald B. Malmgren, *Technology and the Economy*, in *id.* at 103; ROBERT B. REICH, *THE NEXT AMERICAN FRONTIER* 119 (1983).

the Cold War spurred the development of semiconductors, automated data processing equipment, and the network of military computers. In the past twenty-five years, however, the pace of change quickened considerably, and the results are already profound.²

A. Global Markets, Global Competition

The globalization of the marketplace is embodied in several trends. The first trend, which is perhaps the only movement towards globalization that can be traced to conscious planning, is the reduction of direct burdens on trade through international tariff and trade negotiations. But other barriers to trade, such as transportation costs and regulatory restrictions in foreign countries, have decreased as well. Foreign trade and cross-border investment have surged, and many U.S. firms have globalized their internal organization. As the representative of the National Association of Manufacturers noted at the FTC hearings, “Global competition has virtually exploded over the last 20 years.”³ For the most part, numbers tell the story best.

1. Tariffs, Transportation, and Trade

Successive rounds of negotiations under the GATT have reduced tariffs on goods among member nations from an average of 40% to around 6% and will have cut these down to 4-6% once the most recent reductions, negotiated in the latest Uruguay Round, are implemented.⁴ The

² Some of the trends discussed in this chapter have been the subject of recent attention in Congress. See Joint Economic Comm., 104th Cong., *JEC Makes History: Mack holds ‘first of its kind’ 21st Century hearings on the 21st Century Economy* (Press Release, June 12, 1995). In discussing these developments, this chapter grounds the testimony presented at the FTC’s hearings on global and innovation-based competition in the broader literature on the subject.

³ Rogers 293. This is not to say that, historically, competition has never been global. Indeed, for a provocative view arguing against “late 20th-century conceit that we invented the global economy just yesterday,” see PAUL KRUGMAN, *POP INTERNATIONALISM* (1996). Krugman maintains that significant global trade and international investment flows existed at the turn of the last century but were subsequently dampened, in part, by the two world wars, and he points out “a little-known but startling fact that world trade as a share of world production did not return to its 1913 level until about 1970.” *Id.* at 208.

⁴ JESÚS SEADE, ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD), *A GLOBAL MARKETPLACE FOR CONSUMERS* 15 (1995); ECONOMIC REPORT OF THE PRESIDENT 205 (1995) [hereinafter ERP 1995]. For one view of the expected benefits of the Uruguay Round, see International Monetary Fund, *The Uruguay Round: Results and*

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pace of change is scheduled to persist with the lowering of non-tariff barriers and the inclusion of a General Agreement on Trade in Services (GATS), which addresses a sector that accounts for a growing share of G-7 economies, makes up over one-fifth of all international trade, and is one in which the United States has generally enjoyed a trade surplus for over 20 years.⁵ Moreover, commitments among nations in other fora, such as the North American Free Trade Agreement (NAFTA), the Asian and Pacific Economic Cooperation Agreement (APEC), and the European Union (EU), are aimed at or have already achieved the elimination of cross-border barriers to trade within various regions across the globe.

At the same time as government obstacles to trade have fallen, transportation costs have declined due to technological improvements and regulatory reforms. In the rail industry, deregulation in the early 1980s has been associated with a 30% decline in real rates from 1981 to 1991.⁶ At the same time, service quality has markedly improved and the rail industry's share of shipments has stabilized after decades of decline.⁷ In the trucking industry, which underwent deregulation and benefited from several technical improvements, real rates have declined 23% from 1980 to 1994.⁸ Containerization in ocean shipping dramatically improved productivity,⁹

⁴(...continued)

Implications, WORLD ECONOMIC OUTLOOK 82-88 (May 1994) (Annex I).

⁵ ERP 1995, *supra* note 4, at 207-08 & 299, Table B-22; OECD, INDUSTRY & TECHNOLOGY SCOREBOARD OF INDICATORS 1995 at 22 (1995) [hereinafter SCOREBOARD 1995]; UNITED NATIONS CENTRE ON TRANSNATIONAL CORPORATIONS, WORLD INVESTMENT REPORT 1991: THE TRIAD IN FOREIGN DIRECT INVESTMENT 16 (1991) [hereinafter UNCTC 1991]. *See generally* OECD, SERVICES: STATISTICS ON INTERNATIONAL TRANSACTIONS 1970-1989 (1992).

⁶ Office of Economics, Interstate Commerce Commission, *Rail Rates Continue Multi-Year Decline* 1 (Nov. 1993). A similar decline was estimated for the subsequent two years.

⁷ *See* Ronald R. Braeutigam, *Consequences of Regulatory Reform in the American Railroad Industry*, 59 S. ECON. J. 468 (1993).

⁸ STANDARD & POOR'S INDUSTRY SURVEYS: RAILROADS AND TRUCKING, Dec. 8, 1994, at R39.

⁹ Refinement of containerization technology in the shipping industry during the 1970s and (continued...)

although regulation and shipping conferences continue to pose a significant threat to competition.¹⁰ Air transportation rates have reportedly decreased by an average of 3% a year over the last thirty years, and the share of U.S. exports traveling by plane, measured by value, has increased from 20% in 1970 to as much as 42% in 1992.¹¹ The shift in economic activity toward information-based services and electronics (which have a higher ratio of value to weight) has further diminished the insulating effects of transportation costs on the U.S. economy.

Since trade hurdles have begun to erode, U.S. foreign trade has risen dramatically. United States exports as a percentage of gross domestic product nearly doubled from just over 5.5% in 1970 to around 10% in 1990 and exceeded 12% in the preliminary figures for 1994.¹² Whether the result of a renaissance of U.S. productivity, a decline in the value of the dollar,¹³ or a

⁹(...continued)

1980s dramatically increased labor productivity. Between 1970 and 1985, output per labor hour increased from an average of 1 ton to an average of 3 tons. J.O. JANSSON & D. SHREERSON, *LINER SHIPPING ECONOMICS* 23-27 (1987); LANE C. KENDALL & JAMES J. BUCKLEY, *THE BUSINESS OF SHIPPING* 171-192, 222-224 (6th ed. 1994). Containerization also enhanced shipping economics by allowing direct intermodal transfers to railway and trucking networks without unpacking and repacking, saving both time and money. KENDALL & BUCKLEY, *supra*, at 199-209. For example, containerization reduced the average shipping time between Chicago and southern Germany from 35 days to 18 days. ERNST FRANKEL, *THE WORLD SHIPPING INDUSTRY* 205-207 (1987).

¹⁰ See Paul S. Clyde & James D. Reitzes, United States Federal Trade Commission, *THE EFFECTIVENESS OF COLLUSION UNDER ANTITRUST IMMUNITY: THE CASE OF LINER SHIPPING CONFERENCES* (1995).

¹¹ INSTITUTE FOR THE FUTURE, *THE FUTURE OF AMERICA'S RESEARCH-INTENSIVE INDUSTRIES* 61 (1995). The American Almanac 1995-96 finds that the share of the value of exports transported by air has increased from around 20% in 1980 to around 30% in 1994, while the share in weight carried by air increased from roughly 3% to 6% during that time. *THE AMERICAN ALMANAC 1995-96: STATISTICAL ABSTRACT OF THE UNITED STATES* 662, Table 1081 (The Reference Press, 1995) [hereinafter *AMERICAN ALMANAC*].

¹² ERP 1995, *supra* note 4, at 276-77, Table B-2; OECD, *HISTORICAL STATISTICS 1960-1990* at 71, Table 6.12 (1992).

¹³ Any change in the U.S. trade flow must be viewed against the backdrop of significant fluctuations in the strength of the dollar. As the 1995 Economic Report of the President
(continued...)

combination of both, the growth in exports since 1985 has been especially dramatic, averaging annually over 9%, well over triple the annual growth in Gross Domestic Product (GDP). Imports have soared even higher. Imported cars, to cite a prominent example, represented less than 1% of sales in 1955 but accounted for 31% of sales in 1987, yielding, according to one account, an auto import deficit of \$60 billion in 1987.¹⁴ With further entrants (such as China) on the horizon, the pressure is unlikely to let up. Instead, the automotive sector will “truly become a very intensely competitive global business.”¹⁵ More broadly, total imports across all sectors accounted for less than 7% of GDP in 1970,¹⁶ whereas by 1990 that figure had risen to 11.5% and by 1994 the preliminary numbers showed imports of over 14%. In other words, by 1994 the trade across our borders was equal to over one quarter of the value created within the U.S. domestic economy. Aside from the trade deficit inherent in this development, the sheer volume of cross-border trade and pace of its recent growth works a considerable change in the nature of competition.

The surge in foreign trade reflects a worldwide trend. From 1980 to 1993 alone, world imports and exports rose by over 80%, reflecting an annual compounded growth rate of over 5%, which far exceeds the annual growth of GDP for vibrant industrialized economies.¹⁷ Among

¹³(...continued)

indicates, the multilateral trade-weighted value of the U.S. dollar dropped from a 100 point benchmark in 1973 to 87.4 in 1980, climbed to a peak of 143 in 1986, and sank to around 92 within three years, where, after intermittent fluctuations, the dollar stood in 1994. ERP 1995, *supra* note 4, at 402, Table B-112.

¹⁴ DERTOUZOS ET AL., *supra* note 1, at 18. Another account places road vehicle imports in 1993 at \$83 billion, with exports lagging behind at \$41 billion. THE UNIVERSAL ALMANAC 1996 at 358 (John W. Wright ed., 1995). Lower figures and more extended surveys can be found in OECD IMPEX Database, Version 2.0 (sector search of exports and imports, 1995), and ERP 1995, *supra* note 4, at 396, Table B-106.

¹⁵ Hudler 1347-48.

¹⁶ Again, Krugman notes that “[i]n 1890 the corresponding figure was eight percent.” See KRUGMAN, *supra* note 3, at 212.

¹⁷ AMERICAN ALMANAC, *supra* note 11, at 844, Table 1359.

OECD members, for example, the annual growth rate of exports for most of the years 1976-1991 was over 80% greater than the annual growth in GDP, the exception being that during the trade slump of the early 1980s exports grew “only” 60% faster than GDP.¹⁸ As for imports, internationally traded goods are a significant factor in the U.S. economy and tend to be even more important for the domestic economies of the other G-7 countries (except for Japan). For example, import penetration (the ratio of imports to total domestic demand) more than doubled in the United States during the 1980s in the labor-intensive industries, such as textiles, apparel, leather, and fabricated metal products. The same was true for goods supplied by specialized suppliers, such as communications equipment and semiconductors, which ultimately accounted for over 20% of U.S. domestic demand in 1991 and 1992. Only in Japan was import penetration in both these sectors still in the single digits in 1991 and 1992. In Italy, imports in the labor-intensive industries amounted to around 15% of domestic demand, while in Germany, France, the U.K., and Canada they exceeded 30% of domestic demand. Imports of goods supplied by specialized manufacturers rose to over 20% of domestic demand in Germany and Italy, to nearly 40% in France and the U.K., and to nearly 60% of domestic demand in Canada.¹⁹

Cross-border investments are burgeoning as well. Private direct investment by U.S. investors abroad has roughly doubled from 1985 to 1993, while foreign direct investment in the United States has grown by a factor of 2.5. Total cross-border direct investment involving U.S. investors or investments in the U.S. exceeded \$1.7 trillion in 1993.²⁰ Total worldwide foreign direct investment outflows are estimated to have grown at an annual rate of 28.9% during the

¹⁸ EMERGENCY COMMITTEE FOR AMERICAN TRADE, MAINSTAY II: A NEW ACCOUNT OF THE CRITICAL ROLE OF U.S. MULTINATIONAL COMPANIES IN THE U.S. ECONOMY 28, Table App-1 (1993).

¹⁹ SCOREBOARD 1995, *supra* note 5, at 94, Graph 11.5. The figure for special supplier import penetration in Canada is for the year 1990.

²⁰ AMERICAN ALMANAC *supra* note 11, at 805, Table 1322. *Cf.* ERP 1995 *supra* note 4, at 393, Table B-104 (reporting value of U.S. assets abroad and foreign assets in the U.S. for 1985-1993); U.S. Congress, Office of Technology Assessment, *Multinationals and the U.S. Technology Base*, OTA-ITE-612, at 105-112 (Sept. 1994) [hereinafter OTA 1994] (estimating total world stock of inward direct investment at \$2 trillion in 1992).

period from 1983-1989, which is over three times the projected annual growth rate of world exports and four times the growth in world GDP.²¹

The surge in foreign investment in the 1980s coincides with the worldwide relaxation of regulatory barriers to participation of foreign firms and investors in domestic markets. It also coincides with an increased willingness on the part of heavily indebted countries to offer equity interests in their domestic industries in exchange for debt relief.²² With the recent opening to foreign investment of the Central and Eastern European Countries, as well as the former Soviet Union, and with the scheduled attack on non-tariff barriers to trade, cross-border investments promise to grow even more.²³

2. Global Business Structures

The rise in international trade has structural manifestations. Firms are developing globally integrated approaches to production and sales with international affiliates around the world, giving rise to substantial amounts of intrafirm trade.²⁴ U.S. transnationals have begun to establish regional core networks. The “big three” U.S. automobile manufacturers, for example, devoted between 48% and 82% of total sales of their Mexican plants in 1987 to exports, most of which were destined for their own manufacturing plants in the United States and Canada.²⁵ And

²¹ UNCTC 1991 *supra* note 5, at 4. *See generally* OECD, INTERNATIONAL DIRECT INVESTMENT: POLICIES AND TRENDS IN THE 1980S (1992) [hereinafter IDI 1992].

²² UNCTC 1991, *supra* note 5, at 25-29. *See also* IDI 1992, *supra* note 21, at 11; International Monetary Fund, *The Recent Surge in Capital Flows to Developing Countries*, WORLD ECONOMIC OUTLOOK 48-64 (Oct. 1994).

²³ UNCTC 1991, *supra* note 5, at 14, 21, 23-25.

²⁴ *See* Dam 102, 104-05; MICHAEL E. PORTER, THE COMPETITIVE ADVANTAGE OF NATIONS 14 (1990).

²⁵ In the case of Chrysler, 82% of Mexican sales were to its own North American plants, whereas Ford exported 68% of Mexican sales to North America, 80% of which were devoted to its own plants. As for GM, it had exports of 48% of Mexican sales, sending 60% of these to North America and 30% to Japan where GM has joint operations with Japanese automobile manufacturers; ultimately intrafirm trade accounted for 80% of its Mexican exports. UNCTC 1991, *supra* note 5, at 58-59.

in the pharmaceutical sector, excess manufacturing capacity, which existed worldwide due to geographic boundaries of markets, is projected to decrease with interfirm and intrafirm adjustments of production and distribution made possible by the lowering of restrictions on trade.²⁶

The Coca Cola Company reacted to the rise in its international sales and diminished relative share of U.S. sales (now 21% of total sales) by eliminating the labels “international” and “domestic” in its organizational hierarchy. The company’s new approach is international management on a regional basis, with each region’s president reporting directly to the company president and chief operating officer.²⁷ The General Electric Company, whose total foreign investment (excluding financial services) more than doubled from 1988 to 1994, also saw the importance of its international sales rise from 16% of total sales in 1970 to one third of total revenues from continuing operations in 1994. The source of its international revenue, moreover, largely shifted to its foreign operations.²⁸ GE’s management moved with this tide in the early 1980s by developing a globally integrated organizational structure in which management centered not around countries or regions, but around the various product lines so that “[t]oday, each GE business has its own president and staff and is organized on a global basis.”²⁹

This developing phenomenon of cross-border intrafirm transfers is not restricted to U.S. firms, but appears to be a trend common to firms of other advanced industrial nations as well. Some Japanese transnational corporations, for example, have replaced conventional export strategies, whereby products are produced at home and shipped abroad or produced locally for sale to specific foreign markets, with a system of regionally integrated networks of suppliers that

²⁶ Cooney 672.

²⁷ Glenn Collins, *Coke Drops ‘Domestic’ and Goes One World*, N.Y. TIMES, Jan. 13, 1996, at 35, 37.

²⁸ Heineman 164-166. In 1985 exports from the U.S. to external customers amounted to half of GE’s international revenues, whereas by 1994 sales by operations located outside the United States accounted for over two thirds of its total international revenues.

²⁹ *Id.*

serve its foreign manufacturing affiliates or subsidiaries.³⁰ More broadly, as a result of cross-national, vertical integration roughly half of all merchandise imports to, and exports from, the United States in 1988 passed through either a U.S. affiliate of a foreign transnational corporation or a foreign affiliate of a U.S. transnational corporation. Intrafirm trade accounted for over one third of U.S. trade in merchandise.³¹ Between the U.S. and Europe, intrafirm trade accounted on average for 43% of merchandise trade between 1983 and 1992.³² Between the U.S. and Japan the figure is even higher (over 71%), with virtually all of the intrafirm trade (92% of intrafirm trade) being conducted by Japanese networks of firms.³³

The development of technological innovations, on the other hand, at least insofar as the research departments of U.S.-based transnational enterprises are concerned, lies predominantly with the home base despite the globalization of production and information networks. In 1991, for example, U.S. parents spent 2.1% of total sales on R&D efforts, while their foreign affiliates set aside only 0.8% of sales for this purpose.³⁴ As might be expected from the disparity in R&D expenditures between parents and affiliates, technology transfer within transnational enterprises is immense. Multinationals accounted for 79% of all technology exports and 67% of imports during 1986-1992, with over 90% flowing intrafirm. A corollary to this centralized structure of R&D expenditures is that intrafirm trade as a proportion of total industry trade tends to be high in science-based industries, such as pharmaceuticals, computers, and semiconductors, which usually exhibit high R&D costs and low transportation costs. Intrafirm trade is also high, however, in

³⁰ UNCTC 1991, *supra* note 5, at 42, 44-53.

³¹ *Id.* at 68-70. *See generally* OECD, *Intra-Firm Trade*, 1 TRADE POLICY ISSUES (1993).

³² OTA 1994, *supra* note 20, at 14.

³³ *Id.* at 16.

³⁴ *Id.* at 6-10. *See also* Pari Patel, *Localised Production of Technology for Global Markets*, 19 CAMBRIDGE J. ECON. 141 (1995). According to one report, affiliates of European transnationals tend to spend a greater amount of R&D in the United States, while Japanese affiliates in the United States spend less. That report also notes that the proportion of R&D expenditures of foreign affiliates in the U.S. has been increasing. *See generally* *Multinationals and Location of Innovation*, in OTA 1994, *supra* note 20, at 75-100.

scale-intensive industries with significant product differentiation in which intermediate parts are frequently used for final assembly in a foreign plant, such as motor vehicles and consumer electronics. Intrafirm trade is less important in industries that are resource or labor intensive, such as nonferrous metals, clothing, and steel.³⁵

3. Summary

Although the world may not quite have become a global village, this sketch illustrates that “the globe is fast becoming a single marketplace.”³⁶ As one investment report put it: “The character of business has not been so profoundly altered since the 1890s when giant steel, tobacco and other corporations set up shop and national markets emerged. Today, the U.S. market is being transformed into a part of a new global business system that will change the way many of us live and work.”³⁷

Ideally, global competition permits absorption of new and more productive processes and thereby spurs overall productivity. Indeed, some observers claim that productivity leaders are found among those who are exposed to the best external, as well as internal, producers.³⁸ But most important, as one commentator noted, now that suppliers of tradeable goods and services face competition from their best rivals around the globe, “[b]eing best in the neighborhood isn’t good enough anymore.”³⁹

B. Technological Innovation

³⁵ OTA 1994, *supra* note 20, at 141-42 (Pharmaceuticals (70%), Computers (50-80%), Semiconductors (70%), Motor vehicles (50-80%), Consumer Electronics (30-50%), Nonferrous metals (30%), Steel (5-10%), Clothing (5-10%)).

³⁶ REICH, *supra* note 1, at 125.

³⁷ GROWTH FUND RESEARCH, INC., 28 GROWTH FUND GUIDE: THE INVESTORS GUIDE TO DYNAMIC GROWTH FUNDS 23 (Jan. 1996).

³⁸ Martin Neil Baily & Hans Gersbach, *Efficiency in Manufacturing and the Need for Global Competition*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 1995 at 340 (1995).

³⁹ ROSABETH MOSS KANTER, WORLD CLASS: THRIVING LOCALLY IN THE GLOBAL ECONOMY 91 (1995). *Cf.* Dam 109-110 (non-tradeable goods remain unaffected by globalization).

The magnitude of the technological advances over the past fifty years rivals that of late nineteenth-century advances, such as the internal-combustion engine, electric light bulb, radio, telephone, motion picture, and the commercialization of steel. The current state of technology has truly reached new heights. More critical, however, is the sustained, swift pace of change we witness today. It has ushered in an era in which everyday competition is often driven by innovation itself.⁴⁰ The eruption of activity in the high technology sector, the burgeoning costs of research, and the intense competition along the dimensions of innovation have radically altered many firms' basic approaches to designing, manufacturing, and distributing goods and services throughout the world.

1. Young and Vibrant Industries

Research-intensive industries, such as the computer, semiconductor, software, communications, aerospace, pharmaceuticals, scientific instruments, and chemicals industry, have grown at an average of twice the rate of growth in real GDP from 1972-1992, with computers, semiconductors, and software leading the group.⁴¹ Most of these industries have a considerably higher export share of production than the average industry.⁴² Considering that many of these sectors were in their infancy just after World War II, their current importance is remarkable.

⁴⁰ Cf. ANTITRUST, INNOVATION, AND COMPETITIVENESS (Thomas M. Jorde and David J. Teece eds., 1992). A member of the computer industry pointed out the flip side of this phenomenon at the hearings: "In traditional industries, consumers tend to be victimized by monopolies through higher prices. In the computer industry, consumers tend to be victimized by lack of innovation." Morris 3563.

⁴¹ INSTITUTE FOR THE FUTURE, *supra* note 11, at 58-59.

⁴² All industries combined have an export share of 12%. With the exception of pharmaceuticals, all research-intensive industries have a higher export share of production, with Software (46%), Semiconductors (38%), Computers and Office Equipment (33%), Aerospace (31%), and Scientific Instruments (22%), at the top of the group. *Id.* at 60-61. For two sets of export and import figures of high-technology industries, see U.S. General Accounting Office, *High-Technology Competitiveness: Trends in U.S. and Foreign Performance* GAO/NSIAD-92-236, at 21-22 (September 1992) [hereinafter GAO 1992]. For a breakdown of U.S. trade in high-technology products by technology, see AMERICAN ALMANAC, *supra* note 11, at 816, Table 1339.

It was less than fifty years ago, for instance, that Bell Telephone Laboratories invented the transistor. But by 1987, worldwide production in the semiconductor industry had grown to about \$30 billion, and by the year 2000, the semiconductor market is estimated to reach perhaps \$200 billion.⁴³ Similarly, the copier industry, essentially based on a 1959 American invention, had expanded to a worldwide \$22 billion industry by 1987.⁴⁴ The computer industry, also of recent vintage, had brought its products onto the desks of 5% of American workers and into 4% of American households by 1982. By 1992, the figures had surged to 45% and 31%, respectively.⁴⁵ The apparent consumption of computer equipment in the United States alone reached \$66.8 billion in 1993,⁴⁶ while software sales grew annually by 28% during the 1980s.⁴⁷ One report valued the U.S. software industry at \$35 billion in 1990 and global revenues in 1989 at \$65 billion.⁴⁸ From 1985 to 1995, the worldwide number of software competitors is said to have grown from 2,000 to 21,500, that of hardware vendors from 120 to 350, and that of service providers (programmers, consultants, maintenance, and systems operators) from 1,715 to 30,000.⁴⁹

⁴³ DERTOUZOS ET AL., *supra* note 1, at 248-49, 260. The worldwide secondary semiconductor manufacturing equipment market was valued at \$2 billion in 1980 and \$10 billion in 1991, with the U.S. secondary market in those goods valued at \$1 billion in 1980 and \$3 billion in 1991. GAO 1992, *supra* note 42, at 60-61.

⁴⁴ DERTOUZOS ET AL., *supra* note 1, at 270.

⁴⁵ INSTITUTE FOR THE FUTURE, *supra* note 11, at 61.

⁴⁶ Office of Computers and Business Equipment, U.S. Department of Commerce, *Computer Equipment Industry Trends and Forecasts 1* (Mar. 1995). Figure arrived at by taking total U.S. product shipments, subtracting exports, and adding imports.

⁴⁷ INSTITUTE FOR THE FUTURE, *supra* note 11, at 61.

⁴⁸ U.S. Congress, Office of Technology Assessment, *Finding A Balance: Computer Software, Intellectual Property, and the Challenge of Technological Change*, OTA-TCT-527 at 93-95 (May 1992) [hereinafter OTA 1992].

⁴⁹ Phelps (Stmt) 6.

The communications sector has been marked by a similarly brisk rise in growth. According to some estimates, the U.S. fiber optics market rose from \$830 million to \$1.4 billion in the four years from 1986 to 1990 alone.⁵⁰ Since deregulation of the telecommunications industry, the breakup of the American Telephone and Telegraph Company in 1984, and some easing of telecommunications regulation in other countries, the flow of telecommunications equipment across our borders has risen tremendously. In 1980 the U.S. exported nearly \$1.6 billion and imported almost \$800 million worth of telecommunications equipment, whereas by 1994 exports of such equipment were valued at over \$12 billion and imports at over \$11 billion.⁵¹ Moreover, as the Council of Economic Advisors noted, “It is widely recognized that equally important advances in [communications] technology are on the horizon.”⁵² But since competition in some communications sectors has become so intense, the Council was able to identify only the nature of certain products of the future, but not their basic structure or source.⁵³

The rise in new information-based systems has increased the importance of the network effect to our modern economy, that is, we are frequently confronted with products and economic actions whose “net value . . . is affected by the number of agents taking equivalent actions.”⁵⁴

⁵⁰ GAO 1992, *supra* note 42, at 56. The world market in fiber optics was valued at \$1.5 billion in 1986 and \$3.8 billion in 1990. *Id.*

⁵¹ Office of Telecommunications, U.S. Department of Commerce, *U.S. Exports of Telecommunications Equipment and U.S. Imports of Telecommunications Equipment*, fax transmission from Linda Gossack, U.S. Department of Commerce, to Scott Mitnick, Federal Trade Commission (July 12, 1995) (on file in FTC Policy Planning Office).

⁵² Council of Economic Advisors, *Economic Benefits of the Administration’s Legislative Proposals for Telecommunications 2* (June 14, 1994).

⁵³ *See, e.g., id.* at 2 (“Two way, interactive broadband service will someday be the norm, although we cannot now know whether the emerging broadband network will be formed from wires, fiber optic lines, wireless technologies, or hybrids of these alternatives.”). For a collection of views on the impending emergence of new information networks, *see* THE NEW INFORMATION INFRASTRUCTURE (William J. Drake ed., 1995).

⁵⁴ S. J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8 J. ECON. PERSP. 133, 135 (1994). *See* Phelps 3531; Black 3574-75. Development of

(continued...)

Just as adding new subscribers to a telephone network enhances the value of the network, today's information-based products depend crucially on their ability to attract large numbers of subscribers in order to make the product itself attractive.⁵⁵ The particular structure of automatic teller networks, computer operating systems, facsimile communication protocols, word processing programs, video game systems, spread sheet programs, cable TV systems, and office e-mail are therefore critically influenced by the product structure employed by market leaders. Competition occurs both among networks and among individual suppliers within each network, but failure of the former can influence the latter significantly. When network effects pervade a large segment of the marketplace, one may thus witness an increase in the rapid disappearance of products and technologies that cannot sustain a parallel existence with the dominant system.⁵⁶ To counteract this effect, standardization and interface controls may be employed to facilitate competition at the supplier level when competition at the network level fails.⁵⁷ For example, as

⁵⁴(...continued)

information-based systems such as the Internet may also create new mechanisms for anticompetitive conduct. According to one participant at the hearings, the pricing information disseminated via on-line markets may facilitate indirect communication among competitors, enabling rival sellers to coordinate their pricing. Gertner 2762-67. At the same time, the risk of coordinated pricing might be somewhat reduced by low entry costs for selling products on-line. Gertner 2767-69.

⁵⁵ See, e.g., Rosenblum 3630-31; Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93, 95-96, 103 (1994) (citing examples); *The Fruitful, Tangled Trees of Knowledge*, THE ECONOMIST, June 20, 1992, at 85-86 (discussing Internet); Amy Cortese, *Here Comes the Intranet*, BUS. WK., Feb. 26, 1996, at 76-84 (discussing intranets).

⁵⁶ A classic example of such a scenario is the disappearance of the beta format for video tape after several years of coexistence with the VHS format. See Miller 1261-63; Katz & Shapiro, *supra* note 55, at 105-6. This phenomenon is as old as the "QWERTY" keyboard. See Paul A. David, *Understanding the Economics of QWERTY: The Necessity of History*, in ECONOMIC HISTORY AND THE MODERN ECONOMIST (William N. Parker ed., 1986); *but see* S.J. Liebowitz & Stephen E. Margolis, *The Fable of the Keys*, 33 J. L. & ECON. 1 (1990) (arguing that QWERTY keyboard did not displace more efficient alternatives).

⁵⁷ See Besen 3649-61. The flip side of standardization is that this, too, might be controlled by the dominant firm, which carries with it the danger of being exploited for strategic purposes. See, e.g., Stiglitz 21; Black 3575, 3579.

one participant in the FTC hearings noted, the computer sector has been marked by an increase in demand for “interoperability,” that is “the ability of hardware or software manufactured by one company to communicate with or work compatibly with products of competing or complementary suppliers.”⁵⁸ In response, collaboration to achieve this through “ad hoc voluntary coalitions . . . to set compatibility standards or . . . interface definitions” has become prevalent in many of these industries.⁵⁹

2. The Burdens of Research

In this climate, it has become both important and expensive to remain on the leading edge of research and innovation. While the eight most research intensive industries account for only one third of total manufacturing sales, they account for 55% of all employed scientists and engineers in research-performing companies and for 70% of all R&D spending in the United States.⁶⁰ The research intensity of these industries means, of course, that up-front fixed costs of production are high as compared to the long-run marginal cost of additional units of production. This feature may become even more pronounced as the focus of research and development in the United States (as well as in Canada and Australia) slowly shifts away from high-technology manufacturing and into the non-manufacturing (*e.g.*, software and services) sectors.⁶¹

⁵⁸ Miller 1152. *See also, e.g.*, Phelps 3531; Black 3574-78.

⁵⁹ Miller 1153. *See also, e.g.*, Katz 1136-41 (VISA network); Simon 3569 (“the [computer] industry, driven principally by consumer demands, has been going towards compatibility, has been going towards interoperability, has been going towards integration of systems . . . largely without government intervention”); Cutler 3639 (cellular telephone carriers’ “private standard making system was . . . essential”); Cutler 3644; Pieper 3751-58 (noting private standard-setting initiatives in network industries but arguing for government involvement). On standards generally, *see* Marasco 3779-88 (American National Standards Institute).

⁶⁰ INSTITUTE FOR THE FUTURE, *supra* note 11, at 27-31.

⁶¹ SCOREBOARD 1995, *supra* note 5, at 67. Another study finds that the sectoral distribution of business R&D in the United States has shifted in the decade from 1981 to 1991 in that R&D investment in electrical machinery has declined from 6.7% to 1.4%, while R&D for communication technologies increased from 13.2% to 15.3%, and R&D for office and computing technology increased from 8.5% to 11.4%. The most significant change in R&D was registered in the service sector whose share of business expenditures for R&D more than doubled from

(continued...)

According to some accounts, the up-front research and development outlays for manufacturing new products have been rising.⁶² For example, in the case of micro-chips, one report estimates that the cost of a new generation micro-chip plant has grown from \$10 million in 1985 to \$1.2 billion in 1995.⁶³ Another explains that “[i]n the semiconductor industry, since the mid-1970s, every technology generation has seen more than a doubling in the scale of R&D and capital investment required to compete.”⁶⁴ Research budgets are also continually being challenged to straddle scientific boundaries, such as those between computer and telecommunications technologies, or among biotechnology, pharmaceuticals, and food processing.⁶⁵ Some traditional industries have not been spared the increase in R&D expenditures. For example, annual spending on R&D by the automobile industry has been steadily rising, reaching nearly \$10 billion in 1988 in the United States alone,⁶⁶ and costs to develop new aircraft have risen annually by 20%.⁶⁷

Private spending on R&D has become all the more important because U.S. Government spending has declined. Much of the early support for research and development in the United States came from the government, whether via contract from the Department of Defense, the Department of Energy, or the National Aeronautics and Space Administration, or in the form of grants and other support from the National Science Foundation or the National Institutes of

⁶¹(...continued)

4.1% in 1981 to 8.8% in 1991. OTA 1994, *supra* note 20, at 53-54 and n.10. For a comparison with sectoral R&D distribution in other countries, *see id.* at 55-57.

⁶² *See, e.g.*, DAVID C. MOWERY & NATHAN ROSENBERG, TECHNOLOGY AND THE PURSUIT OF ECONOMIC GROWTH 213 (1991).

⁶³ INSTITUTE FOR THE FUTURE, *supra* note 11, at 131.

⁶⁴ OECD, TECHNOLOGY AND THE ECONOMY: THE KEY RELATIONSHIPS 28-29 (1992) [hereinafter TECHNOLOGY AND THE ECONOMY 1992].

⁶⁵ MOWERY & ROSENBERG, *supra* note 62, at 213.

⁶⁶ TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 29.

⁶⁷ MOWERY & ROSENBERG, *supra* note 62, at 171-73, 213.

Health. The inevitable spillover into the commercial areas from government-sponsored projects provided private industry with a steady stream of ideas and knowledge for new products.

In recent years, however, this source of innovation has begun to dry up.⁶⁸ First, the end of the Cold War arms build-up has decreased government procurement in the defense sector by nearly 50% from 1986 to 1993 alone.⁶⁹ For many companies, this has meant substantial downsizing of both production and R&D facilities.⁷⁰ Second, commercial spillover from the defense sector to civilian commerce has become less common today than it was in the 1950s and 1960s.⁷¹ Total funding of R&D in the United States as a percentage of GNP had reached its peak of 2.96% in 1964 when the U.S. was leading the U.K., France, West Germany, and Japan in R&D investments, fell to around 2.2% in 1978, and rose back to 2.8% in 1985. Since then, it has decreased slightly to 2.77% in 1992, which is slightly ahead of Germany's investment in R&D (2.53%), ahead of the U.K.'s and France's (2.12% and 2.36%, respectively), and close to Japan's (2.80%).⁷² As the numbers indicate, the importance of government sponsorship of research and

⁶⁸ ECONOMIC REPORT OF THE PRESIDENT 193-194 (1994) [hereinafter ERP 1994]. See generally *id.* at 189-204.

⁶⁹ Report of the Defense Science Board, *Antitrust Aspects of Defense Industry Consolidation* 5-6, 8 (Apr. 12, 1994) (citing Secretary of Defense William J. Perry), *summary reprinted in* 7 Trade Reg. Rep. (CCH) ¶ 50,138. Globally, defense spending dropped from \$1.2 trillion in 1985 to \$868 billion in 1993 (in 1993 prices). *American monsters, European minnows*, THE ECONOMIST, Jan. 13, 1996, at 63 [hereinafter *Monsters and Minnows 1996*]; see also AMERICAN ALMANAC, *supra* note 11, at 359, Table 555.

⁷⁰ See, e.g., Augustine 1322-23, 1328-29.

⁷¹ See ERP 1994, *supra* note 68, at 193-194; cf. *Monsters and Minnows 1996*, *supra* note 69, at 63 (noting that electronics that turn "platforms," such as airframes, missiles and warships, into weapons systems are more easily converted for civilian use than are the platforms themselves).

⁷² See MOWERY & ROSENBERG, *supra* note 62, at 127 Table 6.2; AMERICAN ALMANAC, *supra* note 11, at 614, Table 985.

Defense related federal funding dropped from over 50% of total R&D outlays in 1960 to 21% in 1993. *Id.* at 611, Table 979. Non-Defense R&D spending was 1.9% of GNP for the
(continued...)

development as compared to that of private industry has declined over the years. While the government was funding well over half of all research and development from the 1950s through the early 1970s, that figure had declined to just over one third in 1993.⁷³

3. Competition in Innovation

Competition has begun to focus on the dimensions of innovation, such as the speed of developing, producing, and marketing improved products and the ease of responding to shifts in customer demands and supplier capabilities. This has changed the face of production and delivery in many industries, and it has facilitated the successive introduction of new generations of products.

a. Innovative Production and Delivery

The origins of a significant innovation in the production and delivery of goods can be traced, perhaps ironically, to an immensely successful manufacturing approach that repeatedly rejected computer aided controls even as they were being employed by competitors.⁷⁴ The conventional, American approach to manufacturing had been designed to exploit economies of scale and long production runs, and it used large inventories of materials and intermediate components that were pushed along the production process. The key to success of this kind of system is speed of production, which usually involves monitoring the flow of large inventories throughout the system. Beginning in 1948, Toyota pioneered a manufacturing technique according to which materials and components are not “pushed” through assembly lines, but

⁷²(...continued)

U.S., 3.0% for Japan, 2.7% for Germany, 1.8% for France in 1990, and 1.9% for the U.K. in 1989. U.S. Bureau of the Census, *Statistical Abstract of the United States: 1993* at 598, Table 979 (113 ed. 1993). See also SCOREBOARD 1995, *supra* note 5, at 51 (comparing EU with North America and Asia-Pacific investments); U.S. Bureau of the Census, *supra*, at 598, Table 979 (noting greater lead in R&D investments as percent of GNP for Japan); MOWERY & ROSENBERG, *supra* note 62, at 127, Table 6.2, 208.

⁷³ AMERICAN ALMANAC, *supra* note 11, at 611, Table 979; See also MOWERY & ROSENBERG, *supra* note 62, at 126, Table 6.1; F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 615 (3d ed. 1990).

⁷⁴ See Jonathan B. Baker, *Fringe Firms and Incentives to Innovate*, 63 ANTITRUST L.J. 621, 630 (1995); MICHAEL A. CUSUMANO, THE JAPANESE AUTOMOBILE INDUSTRY 296-298 (1989).

“pulled” in by downstream production units in need of upstream supplies.⁷⁵ Toyota’s “just-in-time” system focused on smaller lots and shorter production cycles, and the challenge to efficient production was not so much speed as the elimination of production bottlenecks (which conveniently served to identify the least efficient element of the production line). The competitive advantage of this system is the ability to change production runs rapidly and achieve the product variety consumers want at low cost.⁷⁶ To capitalize on that advantage, research and development of new designs is emphasized and the process of innovation is vertically integrated to include suppliers, customers, product engineers, and floor workers.⁷⁷

A different tack on improving upon the American approach was taken by Nissan. Its automated manufacturing system took the American model as its baseline, but emphasized robotics, quality control at each manufacturing stage, and computerized scheduling.⁷⁸ With recent advances in flexible robotics, a hybrid “agile manufacturing” has emerged, which combines the strengths of Nissan’s and Toyota’s approaches and works closely with consumers and suppliers to achieve flexible, long-run production lines that work efficiently with supply capabilities and satisfy varied demand.⁷⁹

According to GAO estimates, the number of flexible manufacturing systems that have been adopted worldwide has grown by about 20-30% per year since 1975. Although in 1975 there were only two such facilities in Western Europe, eight in the United States, and twenty-five

⁷⁵ CUSUMANO, *supra* note 74, at 265.

⁷⁶ *See generally* Baker, *supra* note 74.

⁷⁷ *See* TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 96. On “fordism” versus “toyotism” *see generally id.* at 89-100.

⁷⁸ Baker, *supra* note 74, at 627.

⁷⁹ *Id.* at 633. *See also* THE TRANSITION TO AGILE MANUFACTURING: STAYING FLEXIBLE FOR COMPETITIVE ADVANTAGE (Joseph C. Montgomery & Lawrence O. Levine eds., 1996); *cf. International Motor Vehicle Program, Summary of Research Activities, July 1, 1993 - June 30, 1994* at 3-4 (Oct. 21, 1994) (discussing what appear to be variations on agile manufacturing processes in today’s most advanced automobile production lines); Kasouf 1859-60 (discussing vertical cooperation in the powder metallurgy industry between powder suppliers, parts producers, and automobile manufacturers).

in Japan, by 1988 the numbers had risen to over 400 in Western Europe, between 170-190 in the United States, and around 200 in Japan.⁸⁰

The adoption of lean and flexible systems has not been limited to manufacturing, however. Especially in conjunction with the use of bar coding and rapid information transfer from the vendor to the manufacturer, the retail sector has employed its own version of the “just-in-time” system. Vendors communicate fluctuations in demand directly to manufacturers who adjust production in the wink of an eye. This drastically reduces wholesale and retail inventory requirements and increases product variety and the competitiveness of U.S. suppliers. The apparel industry, for example, has used this approach to change its system from the traditional one in which retailers ordered large quantities of apparel far ahead of sales from wholesalers who, using warehouses, provided lead time to the manufacturer to produce and then ship in bulk. Under the old arrangement, variations in demand both in overall volume and specific sizes were handled by large orders that exceeded volume expectation and eventual clearance sales. With greater lead time, foreign apparel suppliers, who benefited from lower labor costs, were well situated to compete for the business of U.S. retailers. Today, as a Sloan Foundation study indicates, the increased use of “lean” retailing with an emphasis on vertical cooperation in the apparel industry has minimized inventory requirements, increased product variety, and decreased the quantity of excess supply. Retailers are now able to respond quickly to small changes in demand, and nearby manufacturers who can adjust the flow of products on a tight schedule gain a competitive advantage over distant suppliers who need greater lead time.⁸¹ Similarly, the food

⁸⁰ GAO 1992, *supra* note 42, at 65.

⁸¹ Weil 317-344; Weil (Stmt) 1; *See generally* Frederick H. Abernathy et al., *The Information-Integrated Channel: A Study of the U.S. Apparel Industry in Transition*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 1995. This aspect of competition, however, has certainly not eliminated the pressures of foreign competition on domestic manufacturers in the textile and apparel industries. *See* John Holusha, *Squeezing the Textile Workers*, N.Y. TIMES, Feb. 21, 1996, at D1, D20.

retailing sector has begun to make use of electronic tracking systems in an effort to make production and purchasing more efficient.⁸²

As demonstrated in a series of recent studies funded by the Sloan Foundation, technological advances have enabled several industries to fine-tune their production processes, lower certain costs, and better service customer demands in a variety of ways. For example, communications and information technology in the banking sector have, according to an industry observer, “changed the nature of the market itself” and, as in the case of innovative mortgage management, “made products possible that were not possible before.”⁸³

U.S. steel production has witnessed several improvements as well. Scrap steel “minimills” using electric arc furnaces now account for 40% of U.S. raw steel production and represent the most profitable segment of the industry. They operate on a smaller scale, locate closer to customers, and focus more intently on satisfying specific customer needs. In addition, major technological advances and carefully targeted use of computers in manufacturing have revitalized the larger, integrated steel mills, which now focus on higher value, specialized steel. As a result, the U.S. steel industry has regained some of its competitiveness. Imports in the 1990s have fallen back below 20% of U.S. supply, and U.S. capacity utilization rates have increased above 85%.⁸⁴

The pharmaceuticals industry found its revolution in the use of biotechnology. The traditional method of investigating a vast variety of potentially therapeutic compounds, which involved significant economies of scale of mass testing, has begun to give way to a new

⁸² See Judann Pollack, *The Food Chain*, ADVERTISING AGE, May 6, 1996, at 28; Leah Haran, *With 4M+ Cards, VonsClub Helps Target Shoppers*, ADVERTISING AGE, Oct. 16, 1995, at 24; John Larkin & Jim Koppenhaver, *Get the Right Tools*, 14 FOOD & BEVERAGE MARKETING 25 (May 1995) (Westlaw, TRD&IND); *A Sense of Where We Are: The Conversion to Scanner-Based Marketing Principles is Simple: Just Change Everything*, PROGRESSIVE GROCER, July 1, 1994, 1994 WL 2874234 (Westlaw, MAGSPLUS); Michael Garry, *Inventory Control: Moving Ahead*, PROGRESSIVE GROCER, Jan. 1, 1993, 1993 WL 3043153 (Westlaw, MAGSPLUS).

⁸³ Santomero 486-88.

⁸⁴ Richard J. Fruehan et al., *The Future Steelmaking Industry and its Technologies*, SLOAN STEEL INDUSTRY COMPETITIVENESS STUDY 22, 25 (1994). See also Fruehan (Stmt) 4 (noting that currently imports represent between 25%-30% of domestic steel consumption).

generation of research marked by two features: first, the development of a direct molecular understanding of the critical compounds involved in disease and the methodical design of agents to influence their function, and second, the emergence of genetic approaches to diagnosis and cure.⁸⁵ Although scale effects in approval trials and marketing remain similar to what they once were, these new techniques promise increased competition by smaller firms in the early stages of drug discovery. One participant at the hearings summed up the trend this way:

Drug discovery once was considered to be the province of the individual firms, not to be out-sourced, to be retained as a resource, as a unique competitive advantage. As a consequence of new techniques -- of combinatorial chemistry, combinatorial biology, screening of a large number of molecules against very specific targets -- the issue of drug discovery to find those initial nuggets of lead compounds has become the province of not just the large companies but very many of the small companies as well. . . .⁸⁶

In other words, for parts of the industry, size no longer spells success.

b. Innovative Products

As far as end-products that embody a significant amount of technological innovation are concerned, a major change has been the shortening of the time-frame within which innovative products appear and fade away. The time it takes for a new product to move from conception to production and on to marketing has been reduced dramatically in some industries, as has been the life cycle of new products once they reach the market.⁸⁷ Texas Instruments, for instance, has built a chip-making plant that will cut the time it takes to move from prototype to market in half (from an average of 24-36 months to 12-18 months),⁸⁸ and new generations of micro-chips are

⁸⁵ U.S. Congress, Office of Technology Assessment, *Pharmaceutical R&D: Costs, Risks and Rewards*, OTA-H-522, at 105-132 (Feb. 1993). See generally Thomas J. Allen et al., *MIT Program on the Pharmaceutical Industry, Annual Report of Research and Educational Programs* (1994).

⁸⁶ Cooney 655.

⁸⁷ Platt 35.

⁸⁸ INSTITUTE FOR THE FUTURE, *supra* note 11, at 122. Another study estimates that each new generation of semiconductors takes five years from R&D to commercialization.

(continued...)

expected to displace their predecessors within half the time they once did.⁸⁹ The time frame for design and development of new automobiles has been shortened as well. The average development time for a technologically innovative automobile runs about five years in the U.S., a few months less in Europe, and under four years in Japan.⁹⁰ Some companies are straining to beat even that average. Fiat, for example, announced that its new production process would permit compressing design-time of an automobile from sixty months to only thirty-six months.⁹¹ Other companies, such as 3M, have attempted to quantify their performance in innovation by tracking the share of sales attributable to recently introduced products. At 3M, sales attributable to products introduced in any given year should account for 10% of that year's sales, and 30%-40% of its sales should derive from products that have been on the market for less than four years.⁹² Finally, the hastening of innovation and streamlining of delivery in the retail sector has most likely contributed to the delivery of the 3,883 new consumer packaged goods that were introduced in 1994, which represents a three-fold increase over the number of new goods introduced in 1980.⁹³

4. Managing the Costs and Benefits of Innovation

⁸⁸(...continued)

TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 28.

⁸⁹ INSTITUTE FOR THE FUTURE, *supra* note 11, at 122 (estimating life cycle of current chip generation at two years). *See* Platt 35 (estimating current life cycle of semiconductors at 6-12 months); Phelps 3534 (same). *But see* TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 28 (estimating life cycle of new generation of semiconductors at constant of four years).

⁹⁰ TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 29.

⁹¹ MIT Industrial Performance Center, *International Conference on the Future of Industry in Advanced Societies* 5 (Apr. 6-7, 1995).

⁹² Coyne 205-07.

⁹³ AMERICAN ALMANAC, *supra* note 11, at 557, Table 874. Similarly, the number of products that may be found on supermarket shelves has reportedly doubled in the decade from 1985-95 while shelf space grew by only 10%. *See* INSTITUTE FOR THE FUTURE, *supra* note 11, at 12 (citing *Annual Report of the Grocery Industry*, PROGRESSIVE GROCER, April 1994).

Having adopted new technologies for process and product, many firms are turning their attention to the changes that lie ahead. New strategies for managing innovation are being explored everywhere as firms try to stay on top and reap the fruits of their own technological contributions, while working with others where it appears too costly to go it alone.

a. Being First

It has generally been accepted that product innovation is costly, more so than imitation, and it often has been said that being the first to introduce a product at a commercially viable level of distribution may assure long-term advantages over later entrants.⁹⁴ Although intellectual property protection is one obvious aid in gaining some return on initial investment in research and development,⁹⁵ frequently a greater benefit of being first is, simply put, winning a place in consumers' hearts and minds.⁹⁶ Having done that, pioneers often can claim for themselves a rich share of the most lucrative segments of the market.⁹⁷ One study, for example, found that across 371 mature consumer goods businesses, pioneers had 29% of the market, while early followers

⁹⁴ For a survey of first mover literature, see William T. Robinson et al., *First-Mover Advantages from Pioneering New Markets: A Survey of Empirical Evidence*, 9 REV. INDUS. ORG. 1, 15 (1994). An important caveat to any conclusion about first movers is the difficulty of properly identifying first movers, especially due to the inherent danger of picking them "with 20-20 historical hindsight after the winners and losers have sorted themselves out." F.M. Scherer, *First-Mover Advantages from Pioneering New Markets: Comment*, 9 REV. INDUS. ORG. 173 (1994). Some have suggested that "the real success goes to 'early leaders,'" instead of the true pioneers, because "pioneers often fail to conjure up a mass market." See *Why First May Not Last*, THE ECONOMIST, Mar. 16, 1996, at 65.

⁹⁵ On the relative importance of intellectual property protection for various industries, see generally Scherer 3301-11; compare Dyson 3319 ("there should still be a strong connection between the creator of the intellectual property and the property itself but . . . that connection is rarely likely to lead to financial gain in itself") with Wayman 3522 ("in a sense . . . the real value of that [software] company is based entirely on intellectual property laws and the ability to protect that property"). On the special importance of intellectual property protection for the pharmaceutical and biotechnology sectors, see Schafer 718-19; Bloom 719-20; Green 720-21; Cooney 722. See also *infra* Chapter 6.

⁹⁶ Robinson et al., *supra* note 94, at 5, 8, 10-11, 19.

⁹⁷ *Id.* at 10.

had only 17%, and later entrants 12%.⁹⁸ Although the gap between later entrants and pioneers tends to decrease over time, some have concluded that “later entrants typically do not catch the market pioneer.”⁹⁹ Add to that the learning curve that generally makes manufacturing more efficient as the production process ages,¹⁰⁰ and the result is a prescription to move early and quickly to the market. This point has been seconded by many of the participants in the hearings. As one participant noted, “A poor starter, particularly in a more advanced class of product and process technologies, takes a long time to overcome the effects of a poor start and . . . catch up with the best performers within a product class.”¹⁰¹

Understanding the rewards that first movers may reap by introducing new products may, however, present new challenges in high technology markets. When the life cycle of products is shortened and the speed with which competitors can turn out new products is enhanced, being first may no longer yield long-term benefits with the certainty it once did. One study of five technical subfields of medical diagnostic imaging, for example, found that later entrants tended to survive longer, suggesting, perhaps, that in certain high technology fields the calculus of first mover advantage may differ somewhat from that in other industries.¹⁰² For example, although a high premium is placed on being first to introduce a given generation of semiconductors, it far from guarantees mastery of the next.¹⁰³ Moreover, the learning curve for semiconductors, which was once thought virtually certain to appear, has recently been found to be a function of

⁹⁸ *Id.* at 9 (citing William T. Robinson & C. Fornell, *Sources of Market Pioneer Advantages in Consumer Goods Industries*, 22 J. MARKETING RES. 305-317 (1985) and W.T. Robinson, *Sources of Market Pioneer Advantages: The Case of Industrial Goods Industries*, 25 J. MARKETING RES. 87-94 (1988)).

⁹⁹ Robinson et al., *supra* note 94, at 18.

¹⁰⁰ *See, e.g.*, SCHERER & ROSS, *supra* note 73, at 372-73.

¹⁰¹ Mowery 755-56; *see also, e.g.*, Coyne 209.

¹⁰² Will Mitchell, *Dual Clocks: Entry Order Influences on Incumbent and Newcomer Market Share and Survival When Specialized Assets Retain Their Value*, 12 STRATEGIC MANAGEMENT J. 85-100 (1991).

¹⁰³ Mowery (Stmt) 3, 6.

“engineering hours in the production fab[rication plant], and therefore [susceptible to] manage[ment].”¹⁰⁴

To be sure, the prospect of comfortable reliance on lucrative production niches for first movers was already dimmed by tales from the decline of a number of American industries, such as machine tools, copiers, and consumer electronics.¹⁰⁵ The video and medical imaging markets, for example, have each been characterized by the retreat of U.S. first movers into high-end applications, only to find their hoped-for market shares later squeezed by foreign companies, who had first perfected the efficient production of low-end models and then turned their sharpened wits to higher-end applications.¹⁰⁶ Similarly, 3M lost any advantage it may have enjoyed as inventor of the thermal fax copying process when product improvement lagged behind and the technology introduced by Xerox took over the market.¹⁰⁷ Thus, notwithstanding the importance of being first, lessons like these have made continuous improvement and innovation the goal of many U.S. technology firms.

b. Using Ideas

The diffusion of ideas presents yet another challenge to innovative producers. In the high technology sector the progressive elimination of geographic market boundaries brings with it a globalization of the exchange and implementation of new ideas. Whereas firms traditionally sought out new technologies at home and would test a novel product in the domestic market before venturing elsewhere, firms now scan the globe for possible products and production techniques and introduce innovations at home and abroad at once.¹⁰⁸ Today, technology

¹⁰⁴ Mowery (Stmt) 8; *see also* Mowery 759.

¹⁰⁵ *See* DERTOUZOS ET AL., *supra* note 1, at 55. On consumer electronics, *see, e.g., id.* at 217-231.

¹⁰⁶ *Id.* at 54-56.

¹⁰⁷ Coyne 204-05. Similarly, Xerox had seen its market share in photocopiers shrink to one third. DERTOUZOS ET AL., *supra* note 1 at 270. *See also* Morris 3559 (“the concept that a technical paradigm shift can undermine a dominant player is now known”).

¹⁰⁸ Vernon, *supra* note 1, at 28; *See generally* MOWERY & ROSENBERG, *supra* note 62, at (continued...)

introduced in one place spreads quickly throughout the world. In addition to the resulting product-based diffusion of technology, ideas are increasingly being conveyed without trade in the product itself. As an OECD report observed, “A potentially radical change between past and future trends lies in the fact that the diffusion of technologies is becoming increasingly disconnected from the trade in products which embody the technologies.”¹⁰⁹

The surge in technology transfer and the concomitant threat of uncompensated diffusion have contributed to a heightened focus on the legal protection of ideas. For better or worse, many science based industries have recently been marked by a rush to obtain patents.¹¹⁰ Patents granted each year in the United States to U.S. applicants grew by over 60% from 1982 to 1995, while the number granted to foreign companies grew by 90% during that time. The total number of U.S. patents granted in 1995 exceeded 100,000.¹¹¹ Since the formation of the special federal

¹⁰⁸(...continued)

205-213; Heineman (Stmt) 7. *But see supra* note 34 and accompanying text.

¹⁰⁹ MOWERY & ROSENBERG, *supra* note 62, at 210, citing OECD, THE NEWLY INDUSTRIALIZING COUNTRIES 8 (1988). On technology diffusion generally, *see* TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 47-65.

¹¹⁰ *See* Robert P. Merges & Richard R. Nelson, *Market Structure and Technical Advance: The Role of Patent Scope Decisions*, in *supra* note 40, at 185, 213-15. For a critical analysis of the use of patent statistics in economic analysis, *see* Zvi Griliches, *Patent Statistics as Economic Indicators: A Survey*, 28 J. ECON. LIT. 1661 (1990).

¹¹¹ U.S. Patent and Trademark Office, *All Technologies Report Jan 1963-Dec 1995* at A1-1 (Mar. 1996). 45,680 patents were granted to foreign applicants, and 55,739 to U.S. applicants. For a breakdown of patents granted by industry, *see* AMERICAN ALMANAC, *supra* note 11, at 557, Table 873. U.S. patents held by Japanese applicants head the list for most frequently cited U.S. patents. *See* GAO 1992, *supra* note 42, at 32-33. Resident patent applications in the U.K., the EU, and France have remained roughly constant during the 1980s, while Germany's have declined somewhat and Japan's have increased significantly (attributable, according to one report, to its unique patent system which encourages multiple filings). Non-resident patent applications, on the other hand, have increased in most industrialized states. *See* OTA 1994, *supra* note 20, at 69-73.

Although the precise number of patents issued for software-related inventions is a matter of considerable dispute, one study found the number to have risen from 64 in 1983 to 602 in
(continued...)

appeals court to hear patent cases, moreover, enforcement of these patents has become more stringent as well.¹¹² In global comparison, the United States far exceeds Japan, Germany, and France in receipts from technology payments.¹¹³

While firms have thus been led to increase the number of individual patents they seek, they also endeavor to gain control over broader patents and clusters of related patents. Especially the latter strategy also is engaged in for “defensive” purposes, *i.e.*, to surround an invention with a thicket of patents so as to fend off potential competition in the area.¹¹⁴ Although history provides many instances of exceedingly broad patents,¹¹⁵ it has become even more common in recent years to seek patents that are rather broad in scope and cover basic tools of research, particularly in the realm of biotechnology.¹¹⁶ Often strategies for enhancing intellectual property protection are bolstered, and the (potentially positive as well as troubling) effects on competition are magnified, when firms seek to cover multiple aspects and multiple generations of an area of innovation.¹¹⁷

¹¹¹(...continued)

1991, *see* OTA 1992, *supra* note 48, at 55, while a more recent study reported the numbers to be 1,353 in 1991, 2,008 in 1993, and 3,334 (est.) in 1996, *see* electronic mail transmission from Richard Nearing, EDS Shadow Patent Office, to Daniel Halberstam, Federal Trade Commission (May 2, 1996) (on file in FTC Policy Planning Office). Recently, the Patent and Trademark Office proposed examination guidelines for computer-implemented inventions, addressing the treatment of software under current patent law. *See* 60 Fed. Reg. 28,778 (June 2, 1995). Intellectual property protection for software was a matter of debate at the hearings as well. *See infra* Chapter 8.

¹¹² *See, e.g.*, Scherer 3316; Frankel 3399; Barton (Stmt) 1.

¹¹³ SCOREBOARD 1995, *supra* note 5, at 101.

¹¹⁴ Stiglitz 24-25.

¹¹⁵ Stiglitz 22-23 (discussing patent on automobile).

¹¹⁶ Barton 3409-20; Barton (Stmt) at 1. The breadth of patents can significantly affect the value of the innovative firm. *See* Joshua Lerner, *The Importance of Patent Scope: An Empirical Analysis*, 25 RAND J. ECON. 319-33 (1994).

¹¹⁷ SCHERER & ROSS, *supra* note 73, at 624; Allen et al., *supra* note 85, at 12.

Partly in response to the proliferation of patents, cross-licensing agreements, and rising R&D expenses, firms are taking more care to patent their own developments, create special incentives for their research departments, and are generally exploring comprehensive approaches to manage the economic impact of patents on their business. For example, one participant in the hearings explained: “[T]here [are] really two ways that you can get the return on . . . investment [in R&D]. One is by making and selling the product . . . and the other . . . is to get some value for intellectual property.”¹¹⁸ Texas Instruments, for instance, has begun to fund most of its research and development from the proceeds it receives from patent licensing agreements with other firms.¹¹⁹ Moreover, since it has become increasingly “hard to keep an area exclusively to yourself,” especially when “there is much parallel technology being developed that you need to build on and utilize,” many firms have turned to strategic alliances and cross-licensing agreements to get “value” for their ideas, share research costs, and gain the necessary freedom to operate.¹²⁰ Cooperation has become commonplace since “[t]echnology companies,” as another participant noted, “typically build their products by using technology tools from others.”¹²¹ To avoid doing so unnecessarily, however, companies like 3M have structured their research so that scientists take into account potential blocking patents before investing resources in any given avenue of innovation.¹²²

c. Teaming Up

The globalization of competition, advantages of combining complementary technologies, increased focus on innovation, and rising research expenses have made collaboration among

¹¹⁸ Donaldson 788.

¹¹⁹ *The Global Patent Race Picks Up Speed*, BUS. WK., Aug. 9, 1993, at 58.

¹²⁰ Donaldson 789; *see id.* at 788-97.

¹²¹ Heckman 1821.

¹²² Coyne 221.

competitors both at home and abroad more common.¹²³ As one commentator observed at the hearings, “Foreign investment today often does not take the simple form of establishing a subsidiary or branch in a particular country[, but] . . . increasingly take[s] the form of joint ventures, strategic alliances, intellectual property licenses and the like.”¹²⁴ As a matter of global trade, joint ventures with foreign firms carry the promise of opening markets that might otherwise resist entry and of permitting investment where procurement of a partial financial stake or complete acquisition is either legally or economically unattractive.¹²⁵ As a matter of more ordinary business efficiencies, joint ventures are said to help defray high research and development costs, reduce innovation time, spread risk, and exploit complementary expertise and technological capabilities.¹²⁶ One change over the past twenty years, has been that collaborative ventures focus less on cooperating with foreign manufacturing plants to save on labor costs or produce specific goods for a foreign market. They are, instead, increasingly concerned with benefiting from a transfer of knowledge or with sharing the burdens of research and development of new products and production processes.¹²⁷

As far as sheer numbers are concerned, international technical alliances have grown from only 86 during the period from 1973-1976 to 988 in the years 1985-1988, predominantly in high technology fields (and especially in information technologies and biotechnology).¹²⁸ In several

¹²³ See generally MOWERY & ROSENBERG, *supra* note 62, at 238-73; TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 67-87, 209-36.

¹²⁴ Dam 104.

¹²⁵ See, e.g., OTA 1994, *supra* note 20, at 102, 115-118.

¹²⁶ See, e.g., *id.* at 117; Vernon, *supra* note 1, at 29.

¹²⁷ See, e.g., Mowery 751-84 (discussing SEMATECH); Apelian 1107; MOWERY & ROSENBERG, *supra* note 62, at 243. For a brief description of the benefits of each, see Donaldson 791-92.

¹²⁸ OTA 1994, *supra* note 20, at 97-99. See *id.* at 98 (general analysis by industry). See also *Holding Hands*, THE ECONOMIST, Mar. 27, 1993, at 14-15 (listing numbers of alliances from 1980-89 by sector and field). Another study found there to have been 13 alliances between U.S.

(continued...)

industries, the number of strategic links entered into by each individual firm rose dramatically as well. While each of the ten firms with the most alliances in information technologies had an average of 45 strategic links with other firms in 1980-1984, that average rose to 99 links per firm for 1985-1989; in telecommunications the average number of alliances per firm rose from 11 to 28, in industrial automation from 6 to 12, in micro-electronics from 19 to 37, and in software from 14 to 34.¹²⁹ Analyzing the reasons for joint ventures announced in 1993-94, one study finds 13% of domestic and international ventures engage in marketing and distribution, 2% of domestic and 10% of international ventures are active in constructing or exploiting material, 5% of domestic and 36% of international ventures are formed to manufacture products, 44% of domestic and 27% of international alliances seek to provide a joint service, and 36% of domestic and 14% of international alliances are entered into for the purpose of researching and developing a new product.¹³⁰

On the manufacturing and marketing front, the automobile industry, to take a well-documented example, has seen joint ventures proliferate throughout the world.¹³¹ Collaboration “occurs at all levels,” one industry observer noted: “It occurs at the R&D level, . . . in product development, . . . in manufacturing[,] . . . and . . . in distribution.”¹³² General Motors, for example, has been involved in a staggering variety of alliances. Its Chevrolet division produces the Metro in a Canadian plant that is jointly owned by Suzuki and the Prism in a venture with Toyota in California, while the Storm is built by Isuzu in Japan, and the Tracer is manufactured

¹²⁸(...continued)
and foreign electronics firms in 1980, and 105 in 1986. U.S. Department of Commerce, *The Competitive Status of the U.S. Electronics Sector* 5-6, Table 3 (1990) [hereinafter DOC 1990].

¹²⁹ See TECHNOLOGY AND THE ECONOMY 1992, *supra* note 64, at 229, Table 53. The number of alliances per firm fell only in computers, and there only slightly from 15 to 14. *Id.*

¹³⁰ INSTITUTE FOR THE FUTURE, *supra* note 11, at 39.

¹³¹ PETER F. COWHEY & JONATHAN D. ARONSON, MANAGING THE WORLD ECONOMY: THE CONSEQUENCES OF CORPORATE ALLIANCES 104-120 (1993); *Spot the Difference*, THE ECONOMIST, Feb. 24, 1990, at 74; Baker, *supra* note 74, at 632 and nn. 56-58; Rogers 292-97.

¹³² Roos 287-88.

by Suzuki in Japan. In addition to other links with Suzuki and Isuzu around the world, GM bought a 50% stake of Saab and announced collaboration agreements with foreign firms in former East Germany, the Czech republic, Hungary, the former Soviet Union, and China.¹³³ Ford, on the other hand, works with Mazda, Nissan, and Volkswagen, bought Jaguar, and acquired a 75% stake in Aston Martin.¹³⁴ Chrysler has entered into alliances with Mitsubishi Motors, Hyundai, and the Austrian Steyr-Daimler-Puch, and bought Lamborghini.¹³⁵ In collaborating with Toyota in California, GM mainly sought to gain manufacturing expertise,¹³⁶ while Ford's collaboration with Mazda capitalizes on sharing in Mazda's research and development of new car models.¹³⁷

Joint ventures are also prevalent and expected to rise in the semiconductor industry where the complexity of the product and production process is enormous, the developments of product and process are intimately intertwined, and competition is intense.¹³⁸ In addition to simple outsourcing of the production of components to foreign suppliers,¹³⁹ the industry has been marked by an explosion of domestic and international collaboration for reasons from avoiding trade friction and developing new products to sharing risks, know-how, and fixed costs for research and development.¹⁴⁰ The ventures are too numerous to describe in these pages, but they extend to big players in the market, with alliances among such firms as Intel and Hewlett

¹³³ COWHEY & ARONSON, *supra* note 131, at 105.

¹³⁴ *Id.* at 106-107.

¹³⁵ *Id.* at 108-109.

¹³⁶ PORTER, *supra* note 24, at 66.

¹³⁷ COWHEY & ARONSON, *supra* note 131, at 107.

¹³⁸ *See, e.g.*, Mowery 753-54; Donaldson 788-97.

¹³⁹ *See, e.g.*, DOC 1990, *supra* note 128, at 41; MOWERY & ROSENBERG, *supra* note 62, at 210-11. *See also* Rogers 296 (“My own company Ford takes quotes from suppliers all over the world now as a matter of routine.”)

¹⁴⁰ COWHEY & ARONSON, *supra* note 131, at 146.

Packard; IBM, Motorola, and Apple; IBM, Siemens, and Toshiba; Sun Microsystems and Fujitsu; AT&T and NEC; Intel and Sharp; Texas Instruments and Hitachi; Hitachi and Goldstar; and Motorola and Toshiba.¹⁴¹ In addition, there have been prominent, government sponsored industry consortia for research and development of semiconductors, such as the well-noted Sematech program.¹⁴² Founded in 1987 and funded by industry and federal and state governments, this alliance among 14 manufacturers sought to regain U.S. international competitiveness in the semiconductor market through domestic collaboration. Since that time, the American share of the semiconductor market has improved, and, as participants in the hearings noted, much has been learned during the course of the project about the dynamics of domestic research collaboration.¹⁴³

Alliances have also figured prominently in other industries from which participants in the hearings reported. For example, over the last five years, General Electric's lighting division formed a joint venture in India and China, commenced joint distribution and sales ventures in Japan and Thailand, and set up an Indonesian lighting firm.¹⁴⁴ GE's aircraft engines division began a joint venture with the French firm Snecma, producing engines that have already been installed in the Boeing 737.¹⁴⁵ In the steel sector, foreign joint ventures by U.S. integrated steel companies have contributed to the recent halt of their decline.¹⁴⁶

¹⁴¹ INSTITUTE FOR THE FUTURE, *supra* note 11, at 131; COWHEY & ARONSON, *supra* note 131, at 148-149 (listing thirty major semiconductor alliances). *See also* DOC 1990, *supra* note 128, at 119 (charting major strategic alliances of U.S. workstation suppliers).

¹⁴² *See generally* Mowery 752. Similar coordinated strategies have been sponsored, most notably, in the semiconductor industry by the Japanese government, and in the aircraft industry by a number of European governments. DERTOUZOS ET AL., *supra* note 1, at 259, 206-207.

¹⁴³ *See generally* Mowery 761-84; Noll 1225-38.

¹⁴⁴ Heineman 167.

¹⁴⁵ Heineman 194-95.

¹⁴⁶ *See* DERTOUZOS ET AL., *supra* note 1, at 76. *But see* Fruehan 470-480 (noting that although joint R&D exists at several levels in the steel industry today, including certain

(continued...)

European joint ventures have been noted as posing serious competition in the defense industry.¹⁴⁷ Cryogenic Product Recovery, Inc., formed several joint ventures abroad to produce energy efficient lighting and is negotiating foreign joint ventures to recycle the chemical components of tires.¹⁴⁸ 3M works with partners to produce a new laser-based information storage and retrieval system, as well as to develop an electrically driven car.¹⁴⁹ Kodak, Fuji, and three other firms joined efforts to develop a new advanced photographic system with the goal of sharing research costs and jointly establishing a worldwide standard.¹⁵⁰ And Visa and Microsoft have explored a joint venture to develop and implement software systems to provide secure credit card transactions on the Internet.¹⁵¹ Finally, a representative of the Walt Disney Company noted that “joint ventures have, to a large measure, become the corporate structure of choice, especially when one is looking at trying to mount a strong competitive effort in foreign market[s], and perhaps, most importantly, where companies desire to open new markets in emerging areas of the world, including specifically Eastern Europe, Latin America and Asia.”¹⁵²

5. Summary

The development of communications, computer, and transportation technologies alone has led one commentator to observe that “[o]f the various factors that transformed the U.S. relationship to the international economic environment between 1950 and 1990, technological

¹⁴⁶(...continued)
cooperation with customers, it is not of the type or scope that would lead to introduction of new technology at the front end of steel making).

¹⁴⁷ Augustine (Stmt) 20-21.

¹⁴⁸ Berends 1757-58.

¹⁴⁹ Coyne 214-15.

¹⁵⁰ Faulkner 508-09.

¹⁵¹ Katz 1132.

¹⁵² Litvak 59.

innovation heads the list.”¹⁵³ Technological innovation has truly become a focal point of change in our economy. In many high technology sectors, the advent of the next generation of ideas continually threatens the market shares of incumbent firms, while the necessary research to stay ahead appears more daunting than ever before. In other industries, the influx of computer and information technologies has unleashed unprecedented opportunities to satisfy consumers’ demands for variety in products and services. In this fast-changing market, it is simply no longer a guarantee for success to have been the first with a good idea.

C. Conclusion

The premise of the antitrust side of the FTC hearings, which was not challenged by a single participant, is well documented by the facts. Competition in America has truly undergone a seismic shift. First, geographic boundaries to the competitive markets in which U.S. firms operate have declined. U.S. firms are active all over the world, and more frequently it is the best firm that wins here and elsewhere, regardless of where it has its home.¹⁵⁴ Second, firms continually look to what tomorrow’s technology may bring. Competition is fueled by innovation, as well as price, as U.S. firms invest energy and resources to remain on the cutting edge of technological developments in an effort to offer a variety of innovative products to consumers throughout the world.¹⁵⁵

The remaining chapters of this report will examine a string of issues to determine whether competition policy and enforcement in the United States needs to be adjusted to take these major changes meaningfully into account. For example, when firms resort increasingly to mergers, joint ventures, and other strategic alliances to cut costs and to compete in today’s global, innovation-based markets, antitrust must take special care to weed out actions that harm competition while not discouraging others that are procompetitive. For mergers, this means antitrust must give more attention to efficiencies claims than it may have previously done. Even

¹⁵³ Vernon, *supra* note 1, at 24.

¹⁵⁴ *See, e.g.*, Platt 35; Litvak 59; Fruehan 458-70, 460; Teece 813; MacLeod (Stmt) 1.

¹⁵⁵ *See, e.g.*, Coyne 211-13; Phelps (Stmt) 3; Simon (Stmt) 1; Frankel (Stmt) 2; MacLeod (Stmt) 1.

when firms struggle or entire industries erode, preserving competition should prevail over special dispensation for the distressed firm, but increased attention to efficiencies should avoid unnecessarily harsh effects of enforcement. For joint ventures, the report suggests further study of how best to simplify and clarify antitrust assessments.

When the competitive horizon begins to broaden so as to include the world, a careful definition of the geographic market holds the key to an examination of competition that reflects reality. When small businesses enter the fray of global, innovation-based competition, they need increased access to information about competition enforcement policies. And when innovation is the mark of competition of the day, antitrust faces new challenges in analyzing the competitive effects of single and multi-firm transactions and strategies, as well as acting affirmatively while protecting incentives and the property of pioneers. The importance of these issues is only enhanced with the growth in communications networks and the increasing demand for compatibility among products that are to present viable alternatives for consumers.

APPENDIX

Tables:

- 1) Composition of manufactured OECD exports
- 2) Export-Import ratios by type of industry
- 3) Exposure to foreign competition
- 4) Import penetration by industry
- 5) Export market shares by type of industry

CHAPTER 2

ENHANCING THE ANALYSIS OF EFFICIENCIES IN MERGER EVALUATION

I. INTRODUCTION

Antitrust case law and agency policy since the mid-1970s have evolved substantially but unevenly in terms of incorporating new insights about competitive analysis and efficiencies. One of the most prominent changes on the non-merger side has been that cost savings associated with certain business conduct -- generally called “efficiencies” -- have been accorded far more competitive significance than previously was the case.

Important Supreme Court non-merger cases over the past two decades repeatedly have recognized that efficiencies produced by business practices may contribute importantly to competition.¹ In the process, the Court has addressed how to take credible efficiencies into account in the overall analysis of a restraint’s likely competitive effects. The Supreme Court’s merger case law, in contrast, has not evolved to recognize credible efficiencies as potentially relevant to the likelihood of a transaction’s procompetitive or anticompetitive effects. The Court has not heard a merger case in more than twenty years.² The last Supreme Court cases to discuss efficiencies in the context of merger analysis -- now thirty years ago -- took a decidedly skeptical view.³

Given the increased competitive pressure on firms to achieve efficiencies -- often in order to respond to foreign competition or to keep pace with consumer demands for faster new product introduction -- it is worth looking at whether merger analysis should follow non-merger analysis

¹ See, e.g., *NCAA v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85 (1984); *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1 (1979); *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

² The most recent Supreme Court merger cases are: *United States v. Citizens & S. Nat’l Bank*, 422 U.S. 86 (1975); *United States v. Marine Bancorporation*, 418 U.S. 602 (1974); *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974).

³ See *FTC v. Procter & Gamble Co.*, 386 U.S. 568 (1967); *United States v. Philadelphia Nat’l Bank*, 374 U.S. 321 (1963); *Brown Shoe v. United States*, 370 U.S. 294 (1962).

more closely in assessing the likely competitive significance of efficiencies. Although efficiencies will not necessarily ensure that mergers are procompetitive, it is important both to U.S. consumers and to the competitiveness of U.S. companies that efficiency-enhancing mergers receive appropriate antitrust treatment.

Based on our review of the relevant hearings testimony, case law, and economic and legal literature, as well as discussions with Federal Trade Commission (FTC *or* Commission) staff, we have crafted one possible conceptual framework for analyzing efficiency claims in mergers, described in Section III of this chapter. That approach, grounded in Section 7's purpose to avoid any lessening of competition, would ask whether the merger likely would create credible efficiencies that would deter any increased likelihood of the exercise of market power post-merger. As always, the Commission would retain its traditional discretion, albeit rarely exercised, not to challenge mergers involving significant efficiencies.

Of course, this is not the only possible approach to revising the *Guidelines'* analysis of efficiencies. Accordingly, the FTC and the Antitrust Division of the Department of Justice (DOJ *or* Department) may wish to consider establishing a joint task force to study whether to undertake any change in the treatment of efficiencies under the *Guidelines* and, if so, what approach to adopt. The approach outlined in this chapter is one that we believe deserves serious consideration, but it is only one of several possibilities if a task force is formed.

A. Non-Merger Case Law and Efficiencies

In non-merger cases, the Supreme Court has recognized the significant role that efficiencies can play in competitive dynamics. For example, in *Continental T.V., Inc. v. GTE Sylvania Inc.*,⁴ the Court relied extensively on efficiencies analysis to find that Sylvania's contractual restriction on where retailers could resell Sylvania products was not a *per se* violation of Section 1 of the Sherman Act. The Court considered various economic theories to assess the

⁴ *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

market impact and procompetitive efficiencies that might be gained from this vertical restriction and from intrabrand competition.⁵

Similarly, in *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*,⁶ the Supreme Court held that the issuance of blanket licenses by BMI -- arguably a horizontal restriction on price competition among rivals -- was not a *per se* violation of Section 1, because the practice facially appeared “to ‘increase economic efficiency and render markets more, rather than less, competitive.’ ”⁷ The Court identified several efficiencies resulting from issuance of the licenses, including transaction, monitoring, and enforcement cost savings, before remanding the case for consideration under the rule of reason test.⁸

Further, in *NCAA v. Board of Regents of the University of Oklahoma*, the Court held that the NCAA’s plan for televising football games, which prevented member institutions from competing against each other on the price or kind of television rights that could be offered to broadcasters, was not justified by any “procompetitive efficiencies which enhanced the competitiveness of college football television rights.”⁹ The Court noted that if the NCAA’s plan had produced procompetitive efficiencies, rather than being a naked restraint on price and output, the plan would have “increase[d] output and reduce[d] the price of televised games.”¹⁰

⁵ *GTE Sylvania*, 433 U.S. at 54-56 (“Economists have identified a number of ways in which manufacturers can use such restrictions to compete more effectively against other manufacturers. . . . Economists also have argued that manufacturers have an economic interest in maintaining as much intrabrand competition as is consistent with the efficient distribution of their products.” (citations omitted)).

⁶ *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1 (1979) (*BMI*).

⁷ *BMI*, 441 U.S. at 20 (quoting *United States v. United States Gypsum Co.*, 438 U.S. 422, 441 n.16 (1978)).

⁸ *BMI*, 441 U.S. at 20-23.

⁹ *NCAA v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85, 114 (1984) (*NCAA*).

¹⁰ *NCAA*, 468 U.S. at 114. Lower courts, following *BMI* and *NCAA*, generally
(continued...)

B. Merger Case Law and Efficiencies

1. Legislative History

The legislative history of Section 7 of the Clayton Act does not expressly address efficiencies or whether efficiencies could be evaluated in a Section 7 action. Neither the Supreme Court nor any lower court nor the Federal Trade Commission has ever interpreted the legislative history as expressly requiring or absolutely foreclosing a consideration of efficiencies in a merger analysis under Section 7. Legal commentators who have examined this question differ on whether the legislative history contemplates the consideration of efficiencies.¹¹

¹⁰(...continued)

recognize that efficiencies can have a significant impact on competition. *See, e.g.*, SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958 (10th Cir. 1994), *cert. denied*, 115 S. Ct. 2600 (1995).

¹¹ *See, e.g.*, STEPHEN ROSS, PRINCIPLES OF ANTITRUST LAW (1993) (reading legislative history as allowing an efficiency defense only for a merger of small firms); ROBERT H. BORK, THE ANTITRUST PARADOX 50-71, 90-92 (1993) (arguing that consumer welfare, defined as economy-wide efficiency, is the only goal consistent with the legislative intent behind the antitrust laws); Alan A. Fisher & Robert H. Lande, *Efficiency Considerations in Merger Enforcement*, 71 CAL. L. REV. 1580, 1592 (1983) (reading the legislative history as demonstrating that Congress' concern was the prevention of the formation of "market power that would unfairly transfer wealth from consumers to monopolists," but contending that Congress did not understand the possible tradeoff between productive efficiency and market power that merger policy might confront); 4 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 941 at 151 (1980) (stating that "neither the language nor the legislative history of § 7 forecloses an economies defense"); Derek C. Bok, *Section 7 of the Clayton Act and the Merging of Law and Economics*, 74 HARV. L. REV. 226, 318 (1960) ("The possibility of lower costs was brushed aside in the legislative deliberations and there is every reason to believe that Congress preferred the noneconomic advantages of deconcentrated markets to limited reductions in the cost of operations." (footnote omitted)).

2. Supreme Court and Lower Court Cases

Thirty years ago when the Supreme Court last addressed efficiencies in the context of mergers, it was less than receptive to such claims. In *Brown Shoe Co. v. United States*,¹² which involved a merger between two manufacturers and retailers of shoes, the Court acknowledged that some of the merger-related “results of large integrated or chain operations [would benefit] consumers,” but declined to factor them into the competitive equation.¹³ Relying on the intent of Congress in enacting the antitrust statutes, the Court stated:

[W]e cannot fail to recognize Congress’ desire to promote competition through the protection of viable, small, locally owned businesses. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favor of decentralization. We must give effect to that decision.¹⁴

The last Supreme Court merger case addressing efficiencies was *FTC v. Procter & Gamble Co.*¹⁵ Again, the Court found the acquisition to violate Section 7.¹⁶ While acknowledging that the merger had afforded possible economies in advertising, the Court suggested that the advertising savings were achieved through market power, not actual cost reductions. The Court concluded that “[p]ossible economies cannot be used as a defense to illegality. Congress was aware that some mergers which lessen competition may also result in economies but it struck the balance in favor of protecting competition.”¹⁷ These earlier cases

¹² *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962).

¹³ *Brown Shoe*, 370 U.S. at 344.

¹⁴ *Id.* *But see* *Northern Pac. Ry. v. United States*, 356 U.S. 1 (1958) (identifying economic efficiency as one of the main goals of antitrust). The goal of decentralized competition is not the aspect of congressional intent most recognized by the lower courts today.

¹⁵ *FTC v. Procter & Gamble Co.*, 386 U.S. 568 (1967).

¹⁶ *Procter & Gamble*, 386 U.S. at 570.

¹⁷ *Procter & Gamble*, 386 U.S. at 580 (citing *Brown Shoe Co. v. United States*, 370 U.S. 294, 344 (1962)). After *Brown Shoe* and before *Procter & Gamble*, the Court decided *United States v. Philadelphia Nat’l Bank*, 374 U.S. 321 (1963). In that case, the Court declined

(continued...)

need to be read in context, however, because the claimed “economies” may not in fact be the type of cost savings or process improvements that today would be deemed efficiencies.

Since *Brown Shoe* and *Procter & Gamble*, the Court has issued only a few opinions involving Section 7 of the Clayton Act. In *United States v. General Dynamics Corp.*,¹⁸ the Court acknowledged the relevance of economic evidence to a court’s merger analysis. The Court stated that it was appropriate to consider a range of economic factors (in this case the future availability of coal reserves) in assessing a company’s market power. It concluded that past market shares were not necessarily an accurate indication of a company’s future ability to compete.¹⁹ The Court reiterated this point in *United States v. Marine Bancorporation*,²⁰ when it reviewed a proposed merger between two commercial banks in Washington. While neither of these opinions

¹⁷(...continued)

to consider merger-related socially beneficial effects in holding that a merger between the second and third largest banks in the Philadelphia area violated Section 7:

We are clear . . . that a merger the effect of which ‘may be substantially to lessen competition’ is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. A value choice of such magnitude is beyond the ordinary limits of judicial competence, and in any event has been made for us already, by Congress when it enacted the amended § 7.

Philadelphia Nat’l Bank, 374 U.S. at 371. Defendants in that case did not argue that a larger bank would be more economically efficient or that the merger would generate certain cost savings. Rather, they argued that a larger bank would get more business, which would be better for the local economy. Thus, the “reckoning of social or economic debits and credits,” *id.*, did not refer to weighing efficiencies against anticompetitive effects. The Court also concluded that defendants had abandoned their claims regarding economies of scale. *Philadelphia Nat’l Bank*, 374 U.S. at 334-35 n.10.

¹⁸ United States v. General Dynamics Corp., 415 U.S. 486 (1974).

¹⁹ *General Dynamics*, 415 U.S. at 501-04.

²⁰ United States v. Marine Bancorporation, 418 U.S. 602, 631 (1974).

addressed efficiencies, they are noteworthy for the Court's seemingly increased willingness to consider economic evidence in Section 7 actions.²¹

Although the Supreme Court thus far has not embraced efficiencies in the merger context, lower courts have been somewhat more receptive. Many lower courts that have considered efficiencies have done so in the context of an absolute defense to an otherwise anticompetitive transaction;²² others have seemed to suggest that certain efficiencies may be relevant in determining the transaction's likely procompetitive or anticompetitive effects.²³

The Federal Trade Commission has concluded that efficiencies are appropriately considered in merger analysis. In *American Medical International, Inc.*,²⁴ the Commission set forth criteria that must be satisfied for alleged efficiencies to qualify "as a procompetitive effect . . . to be balanced against the anticompetitive impact of [the] acquisition."²⁵ The case involved a hospital acquisition in California in which AMI argued that significant cost savings would result from the transaction. The Commission, however, found that AMI had not made a sufficient showing that such efficiencies exist to warrant their consideration.

²¹ A third case is *United States v. Citizens & S. Nat'l Bank*, 422 U.S. 86 (1975); its analysis of Section 7 issues is brief.

²² See, e.g., *FTC v. Alliant Techsystems Inc.*, 808 F. Supp. 9 (D.D.C. 1992); *United States v. United Tote, Inc.*, 768 F. Supp. 1064 (D. Del. 1991); *United States v. Rockford Memorial Corp.*, 717 F. Supp. 1251 (N.D. Ill. 1989), *aff'd*, 898 F.2d 1278 (7th Cir.) (Posner, J.), *cert. denied*, 498 U.S. 920 (1990).

²³ See, e.g., *FTC v. University Health, Inc.*, 938 F.2d 1206 (11th Cir. 1991); *United States v. Country Lake Foods, Inc.*, 754 F. Supp. 669 (D. Minn. 1990); *cf.* *United States v. Carilion Health Sys.*, 707 F. Supp. 840 (W.D. Va. 1989), *aff'd without opinion*, 892 F.2d 1042 (4th Cir. 1989). Certain regulatory agencies may also in part be analyzing claimed efficiencies from mergers in terms of how they affect the "competitive impact" of the transaction, although their "competitive impact" analysis follows different legislative standards. See, e.g., *Burlington Northern Inc.*, Finance Dkt. No. 32549 (ICC Aug. 16, 1995).

²⁴ *American Medical Int'l, Inc.*, 104 F.T.C. 1, *modified on other grounds*, 104 F.T.C. 617 (1984), *modified*, 107 F.T.C. 310 (1986) (*AMI*). The decision also analyzed the Supreme Court cases discussed in this section.

²⁵ *AMI*, 104 F.T.C. at 220.

C. Merger Guidelines and Efficiencies

The Department of Justice has issued merger enforcement guidelines on four separate occasions -- 1968,²⁶ 1982,²⁷ 1984,²⁸ and most recently jointly with the FTC in 1992.²⁹ Before the joint *1992 Guidelines*, the FTC issued its *Statement Concerning Horizontal Mergers* in 1982.³⁰

Between the *1968 Guidelines* and the joint *1992 Guidelines*, the treatment of potential merger-related efficiencies has evolved dramatically as legal and economic thinking regarding mergers has advanced. At least with respect to the exercise of the agencies' prosecutorial discretion, the trend has been toward more sympathetic treatment of efficiency claims.

In the *1968 Guidelines*, efficiencies (then referred to as "economies") were accorded nominal significance in horizontal merger analysis. The *Guidelines* stated: "Unless there are exceptional circumstances, the Department will not accept as a justification for an acquisition normally subject to challenge under its horizontal merger standards, the claim that the merger

²⁶ U.S. Department of Justice, *Merger Guidelines* (1968), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,101 (*1968 Guidelines*). The *1968 Guidelines* discussed three types of mergers: horizontal, vertical, and conglomerate.

²⁷ U.S. Department of Justice, *Merger Guidelines* (1982), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,102 (*1982 Guidelines*). The *1982 Guidelines* addressed two categories of mergers: horizontal and non-horizontal mergers.

²⁸ U.S. Department of Justice, *Merger Guidelines* (1984), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,103 (*1984 Guidelines*).

²⁹ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* (1992), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,104 (*1992 Guidelines*).

³⁰ Federal Trade Commission, *FTC Statement Concerning Horizontal Mergers* (1982), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,200 (*1982 Statement*).

will produce economies.”³¹ Under the *1968 Guidelines*, efficiencies essentially were treated as a defense, albeit unlikely, to a merger that would otherwise be challenged.

The DOJ *1982 Guidelines* explicitly classified efficiencies as a defense. Like the 1968 version, the *1982 Guidelines* relegated efficiencies to consideration in only “extraordinary cases” as a mitigating factor for a merger that would otherwise be challenged.³² Further, the *1982 Guidelines* required proof of “substantial cost savings” by “clear and convincing evidence,” noting that, in any event, they would be considered “only in resolving otherwise close cases.”³³

The FTC also issued its *Statement Concerning Horizontal Mergers* in 1982, which accorded efficiencies only minimal significance in merger analysis. The *1982 Statement* specifically rejected efficiencies as a legally cognizable defense, allowing consideration of efficiencies only in the exercise of “prosecutorial discretion at the pre-complaint stage.”³⁴ Moreover, parties asserting efficiencies claims must provide “substantial evidence that the resulting cost savings could not have been obtained without the merger and clearly outweigh any increase in market power.”³⁵

³¹ *1968 Guidelines*, 4 Trade Reg. Rep. (CCH) at 20,524. The *Guidelines* explained that efficiencies would be considered only in extraordinary circumstances because:

- (i) the Department’s adherence to the standards will usually result in no challenge being made to mergers of the kind most likely to involve companies operating significantly below the size necessary to achieve significant economies of scale;
- (ii) where substantial economies are potentially available to a firm, they can normally be realized through internal expansion; and
- (iii) there usually are severe difficulties in accurately establishing the existence and magnitude of economies claimed for a merger. *Id.*

³² *1982 Guidelines*, 4 Trade Reg. Rep. (CCH) at 20,542.

³³ *Id.* at n.53. Efficiencies specifically identified included scale economies, integration of production facilities, or multiplant operations. *Id.*

³⁴ *1982 Statement*, 4 Trade Reg. Rep. (CCH) at 20,904 (footnotes omitted).

³⁵ *1982 Statement*, 4 Trade Reg. Rep. (CCH) at 20,904. While concluding that consideration of efficiency claims was to be limited to prosecutorial discretion at the pre-complaint stage, the *1982 Statement* seemed to recognize that some efficiencies might be

(continued...)

In 1984, the Department issued revised *Guidelines*, reflecting significant modification in the treatment of efficiencies from the 1982 *Guidelines*. The introductory statement to the 1984 *Guidelines* noted that its predecessor “had a restrictive, somewhat misleading tone” by indicating that efficiency claims would be considered only in extraordinary cases.³⁶ It further stated that the Department practice “never ignores efficiency claims,” and accords them “appropriate weight.”³⁷ But in a significant change of course from the 1982 version, the 1984 statement specifically indicated that efficiencies “do not constitute a defense to an otherwise anticompetitive merger,” but rather were “one of many factors . . . considered by the Department in determining whether to challenge a merger.”³⁸

The 1984 *Guidelines* explained that “the primary benefit of mergers to the economy is their efficiency-enhancing potential,” and that, in the majority of cases, firms would be allowed to achieve available efficiencies without Department interference.³⁹ They noted that “[s]ome mergers that the Department might otherwise challenge may be reasonably necessary to achieve significant net efficiencies.”⁴⁰ When established by “clear and convincing evidence,” such efficiencies will be considered by the Department in determining whether to challenge the

³⁵(...continued)

analyzed under Section III (Non-Market Share Considerations) and potentially could bear on the market power effects of a merger. In contrasting these two modes of analyzing efficiencies, Section IV (Efficiency Considerations) noted: “Unlike the issues discussed previously [in Section III], the question here is not really whether efficiency considerations reduce or enhance the market power effects of a merger, but whether efficiencies should be treated as an independent countervailing factor in merger analysis.” *Id.* It went on to say that, as a countervailing factor, efficiencies could be taken into account in two ways -- either by raising the market share thresholds (an approach that the 1982 *Statement* supported), or in a case by case efficiencies defense (which the *Statement* rejected in favor of prosecutorial discretion). *Id.*

³⁶ 1984 *Guidelines*, 4 Trade Reg. Rep. (CCH) at 20,554.

³⁷ *Id.*

³⁸ *Id.*

³⁹ 1984 *Guidelines*, 4 Trade Reg. Rep. at 20,564.

⁴⁰ *Id.*

merger.⁴¹ The *1984 Guidelines* warned that the Department would reject efficiencies that could “reasonably be achieved” through other means.⁴² Further, the more significant the competitive risks of a transaction, the greater the magnitude of efficiencies needed.⁴³

The *1992 Guidelines* jointly issued by the Department and the FTC reflected no change with regard to efficiencies from the *1984 Guidelines*, with only one exception. The *1992 Guidelines*, consistent with their purpose of not describing litigation rules, omitted the express requirement that efficiencies be proven by clear and convincing evidence.⁴⁴

II. SUMMARY OF WITNESS TESTIMONY

Business witnesses unanimously affirmed the importance of cutting costs and achieving efficiencies in order to become and remain competitive with foreign producers in the emerging global economy. The vast majority of antitrust practitioners at the hearings -- lawyers and economists -- advocated a more generous treatment of efficiencies in the merger context, although sometimes through different mechanisms. Most practitioners recognized that efficiencies can pose evidentiary problems, particularly because evidence about efficiencies is typically in the hands of the merging parties and often is difficult to confirm through third-party sources. Nonetheless, most agreed that evidentiary issues could be addressed by placing the burden of demonstrating efficiencies on the merging parties. Some advocated various restraints on efficiencies claims in merger analysis to help retain antitrust’s focus on competition. Views regarding the need for requirements that efficiencies be “merger-specific” or “passed-on to

⁴¹ *Id.* The *1984 Guidelines* specifically identified as cognizable efficiencies economies of scale, integration of production facilities, plant specialization, lower transportation costs, and similar efficiencies relating to specific manufacturing, servicing, or distribution operations of the merging firms. Other efficiencies that the Department might consider included efficiencies resulting from reductions in general selling, administrative, and overhead expenses. *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *1992 Guidelines*, 4 Trade Reg. Rep. (CCH) at 20,573-11.

consumers” often varied according to whether efficiencies were analyzed in terms of their competitive effects or as an affirmative defense.

A. Cost Savings Are Important for U.S. Businesses to Compete in a Global Economy

Faced with increasingly globalized markets and the increasing expense of innovation and research and development, U.S. businesses consistently stated that efficiency enhancing measures are critical to their ability to compete. Nowhere is that more evident than in the U.S. automotive industry, which, almost 25 years ago, began encountering tremendous competition from Japan.⁴⁵ In order to better compete, auto makers replaced U.S. systems of mass production with Japanese-honed lean production techniques, and consequently have emerged as leaner, more efficient and ultimately stronger competitors.⁴⁶

Like the automobile industry, the U.S. steel industry began facing increased global competition in the late 1960s.⁴⁷ While foreign competition seemed to threaten the U.S. integrated steel industry, ultimately it led to innovation in products and processes and capacity rationalization, resulting in the overall restoration of the competitiveness of U.S. integrated steel producers.⁴⁸

Business testimony also emphasized the importance of efficiency-enhancing measures in the merger context. For example, the president of Lockheed Martin Corporation testified that two recent mergers have generated over \$2 billion in savings for Lockheed Martin.⁴⁹ A General Electric Company executive similarly testified that efficiency-generating mergers are important

⁴⁵ See Roos (Stmt).

⁴⁶ *Id.* See also *supra* Chapter 1.

⁴⁷ See Fruehan (Stmt).

⁴⁸ *Id.* See also *supra* Chapter 1. The efficient and low-cost innovative processes developed by U.S. minimills also forced the integrated producers to improve their performance. Fruehan (Stmt). See also *infra* Chapter 5.

⁴⁹ Augustine 1318.

for competing in the global arena.⁵⁰ Empirical literature on the results of mergers, however, shows that mergers do not consistently produce the predicted efficiencies.⁵¹

B. The Agencies Should Be More Hospitable to Efficiencies in Analyzing Proposed Mergers

There was strong support for the proposition that efficiencies are generally procompetitive and should play an enhanced role in merger analysis and, according to some, in other areas as well.⁵² As an initial matter, no one disputed that Section 7 provides jurisdiction to consider whether probable cost savings will reduce the likelihood of an anticompetitive effect from a merger.⁵³ Moreover, virtually all witnesses agreed that the agencies should reassess the

⁵⁰ Heineman 186, 194 (Because of global competition, it is “essential to ring [sic] out all the excesses, to get to efficient low cost, high quality products. . . . [T]o the extent that we have control of our ability to ring [sic] out efficiencies, to be more productive, to make unilateral decisions in terms of manufacturing process, sourcing,” mergers are preferred.).

⁵¹ Studies indicate that some mergers roughly realize the projected efficiency gains, but others have produced efficiencies well below expectations. *See generally* Paul A. Pautler & Robert P. O’Quinn, *Recent Empirical Evidence on Mergers and Acquisitions*, 38 ANTITRUST BULL. 741 (Winter 1993); F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* (3d ed. 1990); DAVID J. RAVENSCRAFT & F.M. SCHERER, *MERGERS, SELL-OFFS, AND ECONOMIC EFFICIENCY* (1987). Articles report that businesses often cannot predict accurately which mergers are likely to create efficiencies, in part because many factors influence a merger’s success. *E.g.*, *The Case Against Mergers: Even in the ‘90s, most still fail to deliver*, BUSINESS WEEK (Oct. 30, 1995), at 122 (corporate culture clash, overestimated synergies and high transaction costs contribute to merger disappointment).

⁵² Collins 1415 (Efficiencies is one of the most important topics in merger antitrust law, particularly today where so many markets are characterized by rapid technological innovation and changing cost structure. “[W]e really do need to figure out how efficiencies should figure into the antitrust calculus.”); Calvani 1644-45; Muris 1669 (It is time to approach efficiencies “without undue skepticism.”); Goldschmid 3991-94; Griffin 396; *but cf.* Fox 4232. *See also* Captain 1963-69 (efficiencies in non-merger area).

⁵³ Rill 138 (“I don’t know of any serious scholar, or for that matter, any antitrust enforcement official that would take [*Brown Shoe*’s] position today.”); Goldschmid 3986 (“The words ‘unreasonable restraint of trade,’ ‘substantial lessening of competition,’ ‘unlawful monopolization,’ have more than enough breadth and flexibility . . . to consider efficiency in antitrust.”).

Merger Guidelines' treatment of efficiencies.⁵⁴ Support for this began building on the very first day when a principal author of the *1992 Guidelines*, former Assistant Attorney General James Rill, urged that, with these hearings and particularly with the expansion of global competition, "the time is ripe" to address and more fully articulate how to handle efficiencies.⁵⁵

C. The Agencies Should Analyze Efficiencies as Part of the Assessment of a Merger's Likely Competitive Effects

A large portion of testimony supported the idea that efficiencies should be evaluated as part of the analysis of a merger's likely competitive effects rather than as an absolute defense.⁵⁶ Some witnesses suggested that efficiencies may help to explain the business rationale for a transaction and would enable a more realistic, complete story of the competitive dynamics resulting from the merger.⁵⁷ It was noted that the "very best" of FTC staff already are evaluating efficiencies as part of competitive effects analysis.⁵⁸ Others maintained that efficiencies belong as part of a competitive effects analysis because they may affect the net impact of the transaction on price.⁵⁹

There was some disagreement about whether efficiencies should be "merger-specific" when evaluated as part of a transaction's overall competitive effects. Proponents thought that efficiencies should be relatively specific to the transaction because if they were easily achievable

⁵⁴ Jones 1398-99; Calvani 1644-45 (It is appropriate that the Commission "consider this issue anew."); McDavid 3947; Goldschmid 3991-94 (The Guidelines should be revised to "deal more seriously and analytically with efficiencies issues.").

⁵⁵ Rill 138-40.

⁵⁶ Egan 1409, 1459-60; Arquit 3965 ("Look at [efficiencies] within Section 2 of the Guidelines, where you're doing the overall analysis of competitive effects and really make that your primary efficiency analysis."); Fox 4232-34, 4237-39.

⁵⁷ McDavid 3948-49, 4022; Arquit 3978-79, 4016-17; *see also* Goldschmid 4012 (agencies can be more flexible in analyzing efficiencies under competitive effects rather than as an absolute defense).

⁵⁸ McDavid 3949-50, 4021-22.

⁵⁹ Collins 1423-27; Salop 1434-35, 1455.

unilaterally or by a joint venture, then the merger was not necessary.⁶⁰ One response was that such a requirement was unnecessary under a competitive effects analysis because the only issue was whether price would rise as a result of the transaction.⁶¹

Several witnesses suggested that when part of competitive effects analysis, efficiency benefits should not be required to be “passed-on” in savings to consumers, because such a requirement is already captured in the concept that there be downward pressure on price from efficiencies.⁶² Others thought that the agencies should look for “pass-on” of savings to consumers over the long term.⁶³ Many argued that efficiencies claims should not be limited to certain concentration levels or certain industries when considered under the rubric of competitive effects,⁶⁴ but few thought that even substantial efficiencies should justify a merger to monopoly or near-monopoly.⁶⁵

⁶⁰ Salop 1441-42; Goldschmid 3985.

⁶¹ Collins 1429-30.

⁶² Collins 1430; Salop 1434-35; Arquit 3969-70, 3974-75.

⁶³ McDavid 3941-42; Goldschmid 4025.

⁶⁴ Collins 1415; Salop 1438 (efficiencies would be relevant at all levels of concentration); Goldschmid 4011-14, 4024-25 (efficiencies net can be cast wide and reviewed on a case-by-case basis). *But cf.* Egan 1412 (because efficiencies are so hard to measure, they should be limited to only close cases).

⁶⁵ *Cf.* Goldschmid 4011-13 (undue concentration can be avoided by recognizing only credible efficiencies).

D. Efficiencies Should Be Treated as an Affirmative Defense

Some testimony supported viewing efficiencies as an affirmative defense,⁶⁶ which would arise only in the context of an otherwise illegal transaction that may be “excused” by efficiencies claims.⁶⁷ Supporters suggested that it was most logical to consider efficiencies only *after* an anticompetitive effect has been established.⁶⁸ Others urged that efficiencies be placed in an affirmative defense framework in order to avoid in routine cases the evidentiary difficulties associated with evaluating efficiencies claims.⁶⁹

Several witnesses would retain the “merger-specific” requirement when efficiencies are an affirmative defense, since, in this context, a likely increase in market power has already been established.⁷⁰ Others would not place the burden on the parties to prove that efficiencies were “merger-specific.”⁷¹ Most criticized any rigorous requirement that efficiency savings be “passed-on” to consumers in the affirmative defense context.⁷² Some testimony suggested that consumer “pass-on” is important and should be required to some extent, at some point, since consumer

⁶⁶ Witnesses generally categorized the treatment of efficiencies as a “defense” or under a “competitive effects” analysis. However, it was not always entirely clear in the testimony that every witness intended the same meaning of these terms.

⁶⁷ Some witnesses suggested that efficiencies could be considered both when analyzing competitive effects and/or as a separate affirmative defense. Calvani 1698; Muris 1701-02; Kattan 1958; Goldman 4257-58 (there is no inherent reason why the agency or the parties should be put to an “either-or” choice between a competitive effects approach or an efficiencies defense).

⁶⁸ Jones 1399; Muris 1692.

⁶⁹ Jones 1400; Brodley 1700-01; Gilbert 1984.

⁷⁰ O’Connor 1737-38; Arquit 3968.

⁷¹ Muris 1674; Brodley 1739.

⁷² Jones 1405 (requiring parties to prove actual savings realized by consumers would extinguish the defense); Muris 1671; Brodley 1747 (immediate pass-on not required).

benefit is critical to ensuring general acceptance of efficiencies.⁷³ Most supported some form of cap on efficiencies claims when considered as an affirmative defense.⁷⁴

E. The Evidentiary Issues Posed by Efficiencies Are Difficult, but Manageable

Most witnesses took the general position that efficiencies were no more difficult to prove than other types of issues in merger analysis.⁷⁵ Others suggested that merger-created efficiencies can be more difficult both to prove and disprove than other factors.⁷⁶ Some pointed out that there are differences in how hard it is to prove various types of efficiencies.⁷⁷ Further, business testimony indicated that it may be hard for the merging parties to measure likely efficiencies accurately pre-merger, often because the antitrust laws prohibit substantial information exchanges -- particularly about sensitive topics such as price and cost -- before a merger takes place.⁷⁸

⁷³ Calvani 1646-48, 1743-45.

⁷⁴ Jones 1405-06 (efficiencies should be considered in only moderately concentrated markets); Brodley 1679 (efficiencies claims should not be considered where concentration is over 1800 HHI or the market share of the merged firm would be over 35 percent). *HHI* refers to the Herfindahl-Hirschman Index.

⁷⁵ Salop 1443-44; Collins 1452; Sanderson 1506; Muris 1731; Correia 2152; Arquit 4019-20.

⁷⁶ Egan 1447-48; Kattan 1960; Gilbert 1984.

⁷⁷ Muris 1730-31 (innovation talents of persons capable of growing a niche market may be hard to measure); Arquit 3976 (production efficiencies are often the easiest to quantify and identify); Brodley 4292-94 (innovation efficiencies are particularly difficult to measure, but they also produce the greatest magnitudes of gain).

⁷⁸ Augustine 1318-19 (“[F]rom the industry standpoint, our attorneys advise us that we should not exchange, prior to having antitrust approval, detailed cost and pricing data with our proposed partner. And without having that data, one doesn’t know exactly how you will restructure the company so that you can determine the savings on which the antitrust approval may hinge. And so one finds oneself in somewhat of a circular circumstance.”); Pitts 1380-81. *See also* Proger 1605-07; Sims 2026-28.

A few critics argued that efficiencies raise severe evidentiary issues. For example, one scholar took the position that because of the overwhelming problems of predictability and proof, efficiencies should be accommodated only by raising the HHI thresholds in the *Guidelines*.⁷⁹ Another cautioned that, because of the evidentiary problems, efficiencies should be considered only in limited cases.⁸⁰

Testimony uniformly concluded that information about efficiencies is generally in the hands of the merging parties and may be difficult to confirm through third-party sources.⁸¹ Consequently, virtually everyone believed that the burden of production regarding efficiencies should be on the merging parties.⁸² Regarding the burden of persuasion, some thought that the government should bear the ultimate burden of proof when efficiencies were considered as part of the competitive effects of a transaction.⁸³ When efficiencies were asserted as an affirmative defense, some thought that the merging parties should bear the burden of persuasion.⁸⁴ However, most witnesses maintained that, in either case, “clear and convincing” was too strict a standard for proving efficiencies.⁸⁵

⁷⁹ Lande 1947. Other hearing witnesses, however, advised against raising the HHI numbers, warning of artificial precision that is both over and under inclusive. Arquit 3973; McDavid 4023.

⁸⁰ Egan 1448-49.

⁸¹ Muris 1708; O’Connor 1724; Arquit 3972 (Efficiencies information “is largely in the hands of the merging parties who have all kinds of incentives . . . to put it in the context that’s most beneficial to themselves.”).

⁸² Collins 1426-28; Muris 1708; O’Connor 1724; Arquit 3972.

⁸³ Collins 1426-28; Goldschmid 3989-90.

⁸⁴ Muris 1708-09; Goldschmid 3989-90; Addy 4205.

⁸⁵ Jones 1405 (To require such proof of the magnitude of the efficiencies would be to “extinguish” the defense.); Calvani 1648-49 (It is inappropriate for the “government to base its case on inferences largely taken from market structure but require the parties to make a . . . clear and convincing case on the efficiencies point.”); American Hospital Association (Stmt) 8 (Such a requirement is too strict and suggests that the efficiencies defense is disfavored); *cf.* Goldschmid (continued...)

F. A Broad Range of Efficiencies Should Be Considered

Several witnesses suggested that a broad range of efficiencies should be considered in merger analysis, generally favoring recognition of non-pecuniary efficiencies and rejection of pecuniary efficiencies.⁸⁶ Some suggested that all types of production and innovation economies should be recognized, as well as R&D and managerial efficiencies.⁸⁷ One participant, however, cautioned that real weight should be given a more narrow range of efficiencies, namely production economies and innovation efficiencies, while transitory efficiencies like managerial and capital raising economies should be given little if any weight.⁸⁸

G. Post Hoc Review Generally Is Not Feasible

One option for enforcers who are forced to decide whether to challenge a transaction at a time when potential anticompetitive effects and redeeming procompetitive efficiencies are highly uncertain is to clear that transaction conditionally, subject to later review. Critics of such a proposal at the hearings argued that post hoc review after conditional clearance was not feasible. Several asserted that in cases where efficiencies are not realized, it is simply too difficult to disentangle transactions after consummation.⁸⁹ One commentator suggested that the difficulty of unscrambling consummated mergers was the very reason that Congress enacted the Hart-Scott-

⁸⁵(...continued)

3989-90 (Parties should be required to prove efficiencies by clear and convincing evidence, but quantification is “extremely difficult,” and “unrealistic demands” should not be made.).

⁸⁶ Jones 1401; Muris 1712; Brodley 1714; Calvani 1716. Pecuniary efficiencies, such as cost savings from tax advantages, merely transfer wealth without reducing the resources used to produce the product in question. One commentator, however, suggested that anything that causes price to go down, including pecuniary efficiencies, should be cognizable. Salop 1440-41.

⁸⁷ Brodley 1677, 1714, 4292-93; O’Connor 1716-17, 1724 (less concerned about which efficiencies to consider than about making sure that, for those that were considered, the burdens were properly assigned); Arquit 3976.

⁸⁸ Goldschmid 3985, 3988; *cf.* Arquit 3976.

⁸⁹ Addy 4206-07; Fox 4234-35.

Rodino legislation.⁹⁰ Others warned that efficiencies are highly subject to party manipulation down the road.⁹¹ Some business testimony also criticized post hoc review as impracticable.⁹² Supporters responded that merging parties should be given the option of undergoing post hoc review rather than having their deal challenged on the basis of speculative concerns.⁹³ Testimony noted that monitoring of overhead reduction and plant rationalization is relatively easy.⁹⁴

III. STAFF ANALYSIS AND RECOMMENDATIONS

A. The *Guidelines*' Treatment of Efficiencies Should Be Clarified

Virtually all witnesses agreed that at least some mergers lead to substantial efficiencies.⁹⁵ If U.S. firms are intent on achieving efficiency through merger, whether to compete more effectively in world markets or at home, antitrust enforcers should be sensitive to that purpose. This is fully consistent with antitrust enforcers' care to avoid mistaken prohibitions of efficiency-enhancing transactions that do not substantially lessen competition and actually might reduce prices for U.S. consumers and increase competitive advantages for U.S. companies.

The hearings testimony calling for changes in the analysis of efficiencies in mergers was sufficiently broad-based and reasoned to warrant serious consideration of possible changes to ensure that antitrust policy keeps pace with business strategies to achieve efficiencies and

⁹⁰ Lande 1951-55.

⁹¹ Jones 1404-05; Lande 1955; Fox 4234-35.

⁹² Augustine 1328 (From a business perspective, it was "not practical" to unwind a transaction. It would be "like trying to get the worms back in the can."). However, another business representative asserted that conditional approval was appropriate for transactions in the automotive industry because of the nature of efficiencies in that industry. Rogers 316.

⁹³ Brodley 1676-89 (post hoc review substitutes the measure of actual achieved efficiencies for speculative future estimates; monitoring also forces parties to make more realistic efficiency claims that must later be demonstrated); Goldman 4225-26; Kovacic 4255-56.

⁹⁴ Addy 4209.

⁹⁵ There is some dispute in the empirical literature as to the extent that mergers accomplish efficiencies and whether those efficiencies are procompetitive. *See supra* note 51.

compete better.⁹⁶ Indeed, both the testimony and FTC staff reported that a revised approach to efficiencies already has been considered in some matters. As noted earlier, this portion of the chapter outlines one possible conceptual approach to change in merger analysis of efficiencies. This approach is presented for consideration by the Commission and the Antitrust Division in the hope that a joint task force of the FTC and the Antitrust Division of the Department of Justice might resolve whether to undertake any change in merger analysis of efficiencies and, if so, how.

B. The *Guidelines*' Treatment of Efficiencies Should Hew to Section 7's Purpose as an Incipency Statute

Any incorporation of efficiencies into merger analysis must not subvert Section 7's purpose as an incipency statute. As the Supreme Court noted in *Brown Shoe*, “[A] keystone in the erection of a barrier to what Congress saw was the rising tide of economic concentration, was [Section 7's] provision of authority for arresting mergers at a time when the trend to a lessening of competition in a line of commerce was still in its incipency.”⁹⁷ Indeed, Congress made clear that its intent in focusing on incipient tendencies was to reach monopolies and trade restraints outside the scope of the Sherman Act and “well before they have attained such effects as would justify a Sherman Act proceeding.”⁹⁸ The surge of merger activity today makes it vitally important to continue to be alert to the problems associated with undue concentration.

Section 7 asks for a *predictive* judgment about the likelihood and magnitude of a merger's competitive effects. As the Supreme Court continues to emphasize, “[A] plaintiff need only prove that [the merger's] effect ‘*may be* substantially to lessen competition.’”⁹⁹ The inherent difficulties of prediction have led courts to adopt simplifying rules and view mergers

⁹⁶ See Rill 139-40; 150-51 (*1992 Guidelines* failed to develop fully the agencies' analysis of efficiencies).

⁹⁷ *Brown Shoe Co. v. United States*, 370 U.S. 294, 317 (1962).

⁹⁸ *Brown Shoe*, 370 U.S. at 318 n.32 (quoting legislative history).

⁹⁹ *California v. American Stores Co.*, 495 U.S. 271, 284 (1990) (emphasis in original). See also *FTC v. Elders Grain, Inc.*, 868 F.2d 901, 906 (7th Cir. 1989) (Posner, J.) (Section 7 “requires a prediction, and doubts are to be resolved against the transaction.” (citations omitted)).

“functionally” in the context of their particular industry.¹⁰⁰ As Areeda and Turner noted, “[E]conomic theory, except in the more obvious cases, does not permit confident judgments on those [competitive effects] issues even when all the economically relevant facts can be assembled.”¹⁰¹ Areeda and Turner understandably regarded “refined appraisals resting on every theoretically relevant variable” as beyond the capacity of the legal process as well.¹⁰² It is considerations like these that inform the original *Philadelphia National Bank* presumption that when a merger produces a firm controlling “an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market,” it is so “inherently likely to lessen competition substantially” that it should be enjoined absent credible evidence showing that the merger is not likely to have such anticompetitive effects.¹⁰³

Over time, agency merger analysis has evolved into an integrated consideration of a variety of factors. The *1992 Guidelines* now describe when mergers in moderately and highly concentrated markets raise competitive concerns. Section 2 of the *Guidelines* further outlines how to evaluate market factors relevant to the possibility of adverse competitive effects. It discusses two ways in which a merger might diminish competition -- either by making collusion (i.e., coordinated interaction¹⁰⁴) among firms more likely or by increasing the likelihood of single-firm anticompetitive conduct. Its analysis applies a variety of factors, such as the extent of

¹⁰⁰ United States v. Philadelphia Nat’l Bank, 374 U.S. 321, 362-63 (1963); *Brown Shoe*, 370 U.S. at 321-33.

¹⁰¹ 4 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 905c at 15-16 (1980).

¹⁰² *Id.* at 15.

¹⁰³ *Philadelphia Nat’l Bank*, 374 U.S. at 363.

¹⁰⁴ The *1992 Guidelines* define “coordinated interaction” as “actions by a group of firms that are profitable for each of them only as a result of the accommodating reactions of the others,” and note that such conduct “includes tacit or express collusion, and may or may not be lawful in itself.” *1992 Guidelines* § 2.1, 4 Trade Reg. Rep. (CCH) at 20,573-6. For purposes of simplicity, we use the terms “coordinated interaction” and “collusion” interchangeably; they should both be understood to include the same conduct as that specified in the *Guidelines*’ definition of “coordinated interaction.”

product heterogeneity, the availability of key information concerning transactions and individual competitors, and the characteristics of buyers and sellers,¹⁰⁵ in conjunction with market share and market concentration data, to assess the likely post-merger competitive dynamics in the relevant market. This assists the agency in determining whether collusion, single-firm anticompetitive conduct, or competitive, independent business conduct are likely post-merger scenario(s)¹⁰⁶ for the relevant market.

The *Guidelines*' inquiry takes agency analysis far beyond the market share and concentration data of *Philadelphia National Bank*. But while the evidence supporting the FTC's prima facie case has become increasingly more sophisticated over time, that case remains tethered to the relationship between market structure and market power.¹⁰⁷

Courts have recognized that market concentration and market share data are ample to establish the government's prima facie case.¹⁰⁸ The above-listed types of evidentiary factors that aid in predicting the competitive impact of a merger buttress the concentration story. In addition, although entry analysis is not a requisite part of the government's prima facie case,¹⁰⁹ the agency acknowledges that effective entry may counteract or deter any competitive effects of concern. Accordingly, the FTC's prima facie case generally is supplemented with evidence as to why there is not likely to be timely and sufficient entry to solve competitive concerns.

The *Philadelphia National Bank* presumption continues to retain legitimacy in part because the agency's prima facie case is now supported by this enriched analysis of a market's competitive dynamics. When faced with proper evidence of a moderately or highly concentrated

¹⁰⁵ 1992 *Guidelines* § 2.1, 4 Trade Reg. Rep. (CCH) at 20,573-6 et seq.

¹⁰⁶ "Because an individual merger may threaten to harm competition through more than one of these effects, mergers will be analyzed in terms of as many potential adverse competitive effects as are appropriate." 1992 *Guidelines* § 2.0, 4 Trade Reg. Rep. (CCH) at 20,573-6.

¹⁰⁷ See, e.g., 1992 *Guidelines* § 2.0, 4 Trade Reg. Rep. (CCH) at 20,573-6 to -9.

¹⁰⁸ See, e.g., *United States v. Baker Hughes Inc.*, 908 F.2d 981, 992 (D.C. Cir. 1990).

¹⁰⁹ See *Baker Hughes*, 908 F.2d. at 992. See also *Philadelphia Nat'l Bank*, 374 U.S. at 363; *FTC v. University Health, Inc.*, 938 F.2d 1206, 1218 (11th Cir. 1991).

market, often buttressed by evidence of relevant market dynamics, a court should be willing to defer to a presumption of anticompetitive effects, absent credible evidence to the contrary. Precise quantification of likely anticompetitive effects has never been required nor is it destined to be terribly accurate.¹¹⁰ The Supreme Court’s admonition about the “danger of subverting congressional intent by permitting a too-broad economic investigation”¹¹¹ of mergers remains pertinent today as a justification for the structured inquiry implicit in the *Philadelphia National Bank* presumption. Incorporating efficiencies into merger analysis is not intended to alter this reality. Set forth below is one way antitrust can accommodate efficiencies in merger analysis while respecting the difficulties inherent in predicting future events and remaining faithful to the incipiency standard.

C. Our Approach Advocates an Efficiencies Justification That Focuses on Whether Efficiencies Positively Affect the Competitive Dynamics of the Marketplace

Section 7 asks whether a transaction’s effect may be substantially to lessen competition. Credible efficiencies likely to be achieved through a transaction may contribute to the overall probable competitive effect of the merger. For this reason the merging parties should be able to put forward likely procompetitive efficiencies at the agency review stage, in administrative litigation, and in court. Because both courts and agencies have jurisdiction over mergers, there is little basis for suggesting that a court ignore what an agency may consider. Moreover, the introduction of competitively relevant efficiency evidence in court better aligns merger policy with other areas of competition law.

We begin with the recognition that other things being equal, market concentration affects the likelihood that one firm, or a small group of firms, could successfully exercise market power

¹¹⁰ See 4 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 905c at 15-16 (1980). See also *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 n.38 (1962); cf. *United States v. Rockford Memorial Corp.*, 898 F.2d 1251, 1285 (7th Cir. 1990), cert. denied, 498 U.S. 920 (1990) (“antitrust cases are decided on the basis of theoretical guesses as to what particular market-structure characteristics portend for competition”).

¹¹¹ *Philadelphia National Bank*, 374 U.S. at 362 (citation omitted).

and thus substantially lessen post-merger competition.¹¹² Efficiencies also may affect post-merger competitive dynamics, although their usual effects are procompetitive rather than anticompetitive.¹¹³ That is, if a merger is likely to achieve efficiencies, those efficiencies may affect the merged firm's abilities and incentives in ways that deter any increased likelihood of the exercise of market power post-merger, or even make the relevant market more competitive. Efficiencies likely to be obtained through a merger may increase the competitiveness of the merged firm and improve (or not impair) the competitive performance of the market(s) in which the merged firm operates, ultimately resulting in lower prices, increased output and/or higher quality goods or services for consumers and other buyers. An efficiency justification would thus enable credible efficiencies to be evaluated for their contribution to the overall likely competitive effect of the merger in a relevant market -- the central question on the merits. This is likewise the focus of the Supreme Court's inquiry under the Sherman Act when it analyzes efficiencies arguably obtained through horizontal restraints: "[T]he criterion to be used in judging the validity of a restraint on trade is its impact on competition."¹¹⁴ Accordingly, this proposed efficiency justification would constitute a rebuttal, not an affirmative defense.¹¹⁵

Under this competitive dynamics framework, the proposed efficiencies justification would rest on the answers to two questions: (1) is the merger likely to result in credible

¹¹² See *1992 Guidelines* §2.0, 4 Trade Reg. Rep. (CCH) at 20,573-6 et seq.

¹¹³ Cf. Pascual Garcia Alba Iduñate (Stmnt) 1-2 (proposing size dominance index for market structure analysis that recognizes procompetitive potential of efficiency enhancing mergers).

¹¹⁴ *NCAA v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85, 104 (1984) (footnote omitted).

¹¹⁵ Because efficiencies or cost savings under the proposed methodology are not being balanced against already established anticompetitive efforts to see if they "outweigh" them, efficiencies would not be an affirmative defense that must be established by clear and convincing evidence. See *infra* Section III.H. Rather, like evidence on ease of entry or changing market conditions, efficiencies evidence under the proposed conceptual framework would be part of defendant's effort to rebut the government's prime facie case by showing that the government's evidence gives an inaccurate reflection of the acquisition's probable effect on competition within the relevant market. See *United States v. Citizens & S. Nat'l Bank*, 422 U.S. 86, 120-21 (1975).

efficiencies and (2) if so, how are those efficiencies likely to change the merged firm's abilities and incentives so as to deter the likelihood of lessened competition post-merger or increase competition in a relevant market? There are several ways in which claimed efficiencies might do so.¹¹⁶ For example, if merger-related efficiencies would enable a firm to lower its costs, those lowered costs may disrupt market conditions so as to make collusion less likely or to disturb the terms by which firms previously were able to coordinate their conduct. Similarly, if a merger combined complementary technologies and thus enabled the creation of a new or improved product, the increased product variety, in itself of value, might stimulate competition or impede competitors' ability to coordinate. Likewise, if merger-related efficiencies eliminated a technology disadvantage, the merged firm might become a more significant constraint on market leaders. And merger-related efficiencies might enable the merged firm to reposition itself and constrain existing unilateral price elevation in a market for differentiated products.

In addition, competition may intensify long term if competing firms are able over time to imitate a merged firm's efficiencies that resulted in reduced costs, improved processes, or improved product quality. The work of Salop and Roberts emphasizes that the very processes that lead firms to discover and copy rivals' innovations may also create spillover effects with respect to the broad range of efficiencies obtained through merger.¹¹⁷ We do not suggest that this issue is one that could routinely be assessed in individual merger cases, since it likely would require speculation about the likelihood of events far into the post-merger future. For example, it might take competitors some time to replicate the efficiency, since a merger would not have been required if the efficiency could be imitated quickly. And some merger-induced efficiencies (such as process-related ones, which tend to be less visible) may not be easily imitable. Nonetheless, a general recognition of this factor weighs in favor of assessing the likely competitive effects of merger-obtained efficiencies, because if there is a ripple effect from imitation of those

¹¹⁶ As an initial matter, lowered costs may give a firm an incentive to increase output or reduce price, putting aside how the merger may alter the way in which firms in the industry compete.

¹¹⁷ Salop (Stmt). *See also* Joseph Kattan, *Efficiencies and Merger Analysis*, 62 ANTITRUST L.J. 513, 522-27 (1994).

efficiencies, it would spread the benefits of lowered costs or a wider availability of new or improved products beyond the merged firm and benefit more consumers than efficiency analysis has traditionally assumed.

In sum, our review and analysis suggests that the *Guidelines* be clarified to provide an efficiency justification that offers merging parties the opportunity to show why merger-created, credible efficiencies may deter any increased likelihood of the exercise of market power or even improve a market's competitive dynamics post-merger. The merging parties should make their efficiency submissions to the agency at an early stage of its review of the transaction in order to facilitate an accurate and serious assessment of the nature, probability and magnitude of claimed efficiencies, both in terms of likely creation by the merger and their effect on the competitive performance of the relevant market. This framework is consistent with not only the Supreme Court's approach to analyzing efficiencies in the non-merger context but also the general approach of some lower courts that have begun to consider efficiencies claims in mergers. Those courts have perceived that "evidence that a proposed acquisition would create significant efficiencies benefiting consumers is useful in evaluating the ultimate issue -- the acquisition's overall effect on competition."¹¹⁸ Evaluating whether claimed efficiencies likely contribute to the competitive performance of the market in which the merged firm operates will keep the focus on the proper inquiry -- the merger's probable effect on future competition in the relevant market.¹¹⁹

¹¹⁸ FTC v. University Health, Inc., 938 F.2d 1206, 1222 (11th Cir. 1991). See also United States v. Country Lake Foods, Inc., 754 F. Supp. 669 (D. Minn. 1990). In *University Health*, 938 F.2d at 1223, the court used language that suggested comparing the gains realized through greater efficiencies with the anticompetitive costs of the acquisition, as many courts do, but the court's ultimate focus on the transaction's impact on competition is the important one.

¹¹⁹ United States v. Baker Hughes Inc., 908 F.2d 981, 991 (D.C. Cir. 1990); California v. American Stores Co., 872 F.2d 837, 842 (9th Cir. 1989), *rev'd on other grounds*, 495 U.S. 271 (1990).

D. A Competitive Effects Analysis of Efficiencies Subsumes the Question of Whether Efficiency Benefits Are Likely to Be Passed on to Consumers Over Time

Some courts have expressly required that, for efficiencies to be given weight in merger analysis, the efficiencies must be “passed on” to consumers.¹²⁰ When efficiencies are evaluated in terms of their competitive effects, however, the extent to which benefits from efficiencies are passed through to consumers becomes part of the overall competitive analysis. If the likely efficiencies attributable to the merger will prevent a lessening of, or possibly increase, competition, then the post-merger market will retain sufficient competition to benefit consumers through lower prices or improved quality goods over time. That is, enforcers could continue to rely upon post-merger competition to ensure consumer benefits from efficiencies.

However, many efficiencies may only be accomplished over time as opposed to immediately. In fact, to ensure that all efficiency-related savings are passed through immediately to consumers would require a near perfectly competitive market (and by definition any merger would not be a matter of concern).¹²¹ Precisely because a strict and immediate pass-on requirement would often eliminate the possibility of an efficiency claim, many witnesses counseled against such a requirement.¹²² To take this into account, the agency needs to employ a sufficiently flexible time frame in its analysis in order to capture adequately the dynamic effect of efficiencies that likely contribute to more (or no less) competitive market behavior post-merger and likely result over time in a downward pressure on price or improved quality goods.¹²³

¹²⁰ See *United States v. United Tote, Inc.*, 768 F. Supp. 1064, 1085 (D. Del. 1991); *cf.* *United States v. Rockford Memorial Corp.* 717 F. Supp. 1251, 1288-89 (N.D. Ill. 1989), *aff’d*, 898 F.2d 1278 (7th Cir.) (issue not addressed), *cert. denied*, 498 U.S. 920 (1990). Neither the 1982 nor the 1992 *Guidelines* explicitly required that efficiency benefits be passed-on to consumers.

¹²¹ Robert Pitofsky, *Proposals for Revised United States Merger Enforcement in a Global Economy*, 81 GEO. L.J. 195, 207-08 (1992).

¹²² Jones 1405; Muris 1671; Brodley 1746; Goldschmid 4025; *cf.* O’Connor 1749-50.

¹²³ The appropriate time frame within which efficiencies should be assessed is a complicated issue that the joint task force, if formed, should consider. See also *infra* note 145 (continued...)

E. Efficiencies Should Be Merger-Specific but Parties Need Not Prove That the Merger Is the Least Restrictive Way of Achieving Efficiencies

Much of the testimony indicated that requiring parties to prove that a proposed merger is the least restrictive way of achieving the claimed efficiencies is an overly onerous burden, for in some theoretical sense, there is virtually always a less restrictive alternative -- internal growth by the firm. The courts have occasionally imposed the strict requirement that relevant efficiencies “must be made possible *only* through the merger and in no other manner.”¹²⁴ Such a strict requirement might make sense if the underlying analysis involved comparing a pile of likely adverse effects or costs from a merger with another pile of probable efficiencies or cost savings related to a merger (since a very efficient merger to monopoly might look desirable from this perspective).¹²⁵ But the efficiency justification proposed here --which recognizes only those efficiencies that positively affect the competitive dynamics of the market -- does not involve such an analysis.

Determining the extent to which efficiencies should be obtainable only through a proposed merger, rather than by other means, requires an understanding of what Congress meant when it said that Section 7 was intended to arrest anticompetitive tendencies in their “incipiency.” As the Supreme Court noted in *Philadelphia National Bank*, Section 7 “requires not merely an appraisal of the immediate impact of the merger upon competition, but a prediction

¹²³(...continued)
and accompanying text.

¹²⁴ United States v. Rockford Memorial Corp., 717 F. Supp. 1251, 1289 (N.D. Ill. 1989) (emphasis added), *aff’d*, 898 F.2d 1278 (7th Cir.) (not addressing issue), *cert. denied*, 498 U.S. 920 (1990).

¹²⁵ See, e.g., FTC v. University Health, Inc., 938 F.2d 1206, 1222 n.30 (11th Cir. 1991) (noting that if such a balancing of anticompetitive effects and cost savings were to occur, “it might be proper to require proof that the efficiencies to be gained by the acquisition cannot be secured by means that inflict less damage to competition, such as internal expansion or merger with smaller firms”).

of its impact upon competitive conditions in the future.”¹²⁶ The Supreme Court has thus required an examination of a market’s “ ‘structure, history and *probable future*’ ”¹²⁷ and, in doing so, has compared the likely competitive effect of proposed acquisitions with the likely future state of competition if the acquisitions were denied.¹²⁸ Lower courts have also evaluated the probability of substantially lessened competition that Section 7 requires by contrasting a future *with* the merger to a future *without* the merger: “[W]hen examining a merger, a court must necessarily compare what may happen if the merger occurs with what may happen if the merger does not occur.”¹²⁹

The courts’ requirement that agencies compare the probable future with the merger to the probable future without the merger is thus the relevant litmus test for determining which efficiencies are cognizable. Logically, the agency need not consider procompetitive efficiencies that likely would occur absent the proposed merger when evaluating the merger’s likely competitive effects. For example, if one of the two firms likely would achieve equivalent efficiencies unilaterally, such efficiencies should not be considered as procompetitive benefits of the merger because they would be part of the probable future without the merger. Likewise, if the parties could obtain certain comparable efficiencies through joint venture or licensing and the industry practice often is to do so, such efficiencies likely would occur without the merger and should not count toward its procompetitive effects. In addition, as noted in the case law, antitrust enforcers should consider efficiencies net of any costs associated with their attainment.¹³⁰

¹²⁶ United States v. Philadelphia Nat’l Bank, 374 U.S. 321, 362 (1963).

¹²⁷ United States v. General Dynamics Corp., 415 U.S. 486, 498 (1974) (emphasis added) (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 322 n.38 (1962)).

¹²⁸ See, e.g., *United States v. Citizens & S. Nat’l Bank*, 422 U.S. 86, 121-22 (1975).

¹²⁹ *FTC v. Nat’l Tea Co.*, 603 F.2d 694, 700 (8th Cir. 1979). See also *United States v. Baker Hughes Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990) (aim is to predict “the relevant transaction’s probable effect on future competition”).

¹³⁰ *United States v. Rockford Memorial Corp.*, 717 F. Supp. 1251, 1289 (N.D. Ill. 1989), *aff’d*, 898 F.2d 1278 (7th Cir.), *cert. denied*, 498 U.S. 920 (1990).

The current *Guidelines* formulation of the courts’ “least restrictive alternative” is both more generous and less precise than the judicial formulation. It states that the agencies “will reject claims of efficiencies if equivalent or comparable savings can reasonably be achieved by the parties through other means.”¹³¹ It would be helpful to clarify this formulation by linking it to Section 7’s intent to assess what the future is likely to be with and without the merger. That would require rejecting efficiency claims if there are significantly less restrictive means of achieving comparable efficiencies and it is practicable and feasible as a business matter to do so, because the party(ies) likely would accomplish such efficiencies even without the merger. The “least restrictive” formulation in the *Intellectual Property Guidelines*¹³² comes close to this objective. Those *Guidelines* state in relevant part that if

the parties could have achieved similar efficiencies by means that are significantly less restrictive, then the Agencies will not give weight to the parties’ efficiency claim. In making this assessment, however, the Agencies will not engage in a search for a theoretically least restrictive alternative that is not realistic in the practical prospective business situation faced by the parties.¹³³

Efficiencies should not be excluded from consideration solely on the basis that they theoretically could be attained through internal growth, a joint venture, a specialization agreement, or a licensing, lease, or other contractual agreement. Although it is important to consider what practically could happen without the merger (and the merging parties are free to rebut the feasibility of such a scenario), it is not for antitrust enforcers to require some imagined alternative business arrangement.

¹³¹ 1992 *Guidelines* § 4, 4 Trade Reg. Rep. (CCH) at 20,574.

¹³² U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* (1995), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132 (*IP Guidelines*).

¹³³ *IP Guidelines* § 4.2, 4 Trade Reg. Rep. (CCH) at 20,743.

F. Many Types of Efficiencies Are Potentially Relevant in Merger Analysis

When considering the likelihood that a transaction will create efficiencies that may affect post-merger competitive dynamics, the FTC should not foreclose examination of a potentially wide range of efficiencies (both product and process), from economies of scale and plant specialization to distributional, promotional, transactional, managerial, and innovation efficiencies that may differ from traditional efficiency claims.¹³⁴ However, not all efficiencies are equally susceptible to reliable proof nor are all efficiencies equally likely to enhance competitive dynamics. Plant and production economies of scale are generally accepted as important to a firm's competitiveness and subject to reasonable assessment as to their likely magnitude and probability.¹³⁵ Claims of innovation efficiencies may be more difficult to evaluate, depending on whether they rely on combinations of clearly complementary patent-protected technology or on vague assertions of synergies from combined personnel with certain scientific expertise, for example. Nonetheless, innovation efficiencies may make a particularly powerful contribution to competitive dynamics, the national R&D effort, and consumer (and overall) welfare.¹³⁶ Accordingly, we suggest an initial focus on economies of scale and innovation efficiencies, to

¹³⁴ The efficiencies identified in Section 4 of the *1992 Guidelines* include: economies of scale, better integration of production facilities, plant specialization, lower transportation costs and similar efficiencies related to specific manufacturing, servicing or distribution operations of the merging firms. The *Guidelines* also mention reductions in general selling, administrative, and overhead expenses. *1992 Guidelines* § 4, 4 Trade Reg. Rep. (CCH) at 20,573-11 to 20,574.

¹³⁵ See 4 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* ¶¶ 949-50 at 175-76 (1980); Pitofsky, *supra* note 121, at 216-17; Timothy Muris, *The Efficiency Defense Under Section 7 of the Clayton Act*, 30 CASE W. RES. L. REV. 381, 418-19 (1980).

Economies of scale exist when a firm can produce higher volumes of output at a lower average cost than lower volumes of output. Economies of scope, which may lead to similar efficiency-enhancing results in a merger, exist when it is less costly to produce two or more goods together rather than separately.

¹³⁶ See Joseph F. Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare and Technological Progress*, 62 N.Y.U. L. REV. 1020, 1026 (1987); Pitofsky, *supra* note 121, at 240-44. See also Brodley (Stmt) 7-8; Salop 1436-37.

the extent they are susceptible to analysis, when assessing the magnitude and probability of efficiencies proffered by the parties.

Other efficiencies, such as distributional or promotional ones, are less likely to be substantial and are often likely to be difficult to assess.¹³⁷ For example, before giving weight to distributional or promotional efficiencies, Areeda and Turner would require parties to show that significant economies of scale exist in distribution or promotion, that distributors can efficiently handle only a single brand, or that the merging firms suffer from promotional diseconomies in the available markets.¹³⁸ Nonetheless, the merging parties should have the opportunity to demonstrate that efficiencies such as these, as well as administrative, overhead, and managerial efficiencies, are likely to be created by the merger and are likely (perhaps in combination with other efficiencies) to change the merged firm's incentives and abilities so as to deter any increased likelihood of the exercise of market power or increase competition in a relevant market post-merger. Of course, managerial skill and imagination often may be difficult to measure, abundantly available through contract, or unpersuasive as a factor that positively affects competitive dynamics.¹³⁹

Given the weight of the testimony recognizing the general efficiency of capital markets,¹⁴⁰ there is no persuasive reason to recognize capital-raising savings as efficiencies, absent a strong showing that the merger would address identifiable capital market imperfections. And although tax savings and other pecuniary efficiencies may in fact have a downward effect on prices,¹⁴¹ the overwhelming consensus is that because they represent mere transfers of wealth (from society to

¹³⁷ 4 AREEDA & TURNER, ANTITRUST LAW ¶¶ 953-54 at 181-88; Pitofsky, *supra* note 121, at 217.

¹³⁸ 4 AREEDA & TURNER, ANTITRUST LAW ¶¶ 953-54 at 181-88.

¹³⁹ Muris 1731, 1733; Goldschmid 3988-89.

¹⁴⁰ See Brodley (Stmt) 8-9; Goldschmid 3988.

¹⁴¹ Salop 1440.

the firm) rather than resource savings, they should not be considered efficiencies for purposes of merger analysis.¹⁴²

The weight and significance accorded to different types of efficiencies should be a function of their magnitude and probability, the degree to which they likely will enable the merged firm not only to be a better competitor but to enhance (or not lessen) competition and thus benefit consumers, and the delay with which these consumer benefits are realized.¹⁴³

Although overhead and other fixed cost savings may be less likely to be passed on to consumers in the short run, they may be passed on over time, for example as large buyers bargain for their benefits. An arbitrary exclusion of fixed costs from cognizable efficiencies is unwarranted because savings in fixed costs may affect competition and have an ultimate downward effect on price.¹⁴⁴

Overall, realistic expectations of what is and is not possible should govern the weight and significance to be accorded claimed efficiencies. Precise quantification of the magnitude and probability of claimed efficiencies is impossible, as is a finely tuned weighing of claimed efficiencies' likely timing or effects on post-merger competitive dynamics. However, relative judgments can and should be made about the probability of a merger creating the claimed efficiencies, about the magnitude and timing of those efficiencies and about the likelihood of those efficiencies having the claimed procompetitive effects. Similarly, likely future competitive benefits (or harms) often deserve less weight than likely current effects of similar magnitude, in part given varying degrees of certainty that future events will occur.¹⁴⁵ In sum, although an exact

¹⁴² Jones 1401; Muris 1712; Brodley 1677-78; Calvin 1716.

¹⁴³ In evaluating possible procompetitive effects of efficiencies, it is important to recognize that the effect of any marginal cost reduction on price depends in part on the way buyer demand responds to large price changes. For example, if a large price reduction would not lead to a much greater increase in sales than would a small price reduction, a firm's incentive to pass through cost savings may be limited.

¹⁴⁴ See Kattan, *supra* note 117, at 533 n.85.

¹⁴⁵ See William Baxter, *The Definition and Measurement of Market Power in Industries Characterized by Rapidly Developing and Changing Technologies*, 53 ANTITRUST L.J. (continued...)

calculation is impossible, antitrust enforcers generally can make overall assessments of the relative likelihood of a post-merger procompetitive or anticompetitive scenario, which will depend on many factors in addition to claimed procompetitive efficiencies.

G. While Efficiencies Are Not Intractable to Assess, Verification Is a Problem That Agencies and Courts Cannot Ignore

Because merger analysis by definition is forward-looking and predictive, it requires an assessment of evidence that is usually difficult to quantify or put into neat categories. Typically, merger analysis draws on evidence from many different sources, such as customers, suppliers, competitors, the merging parties, and other market participants, and evidence of many different types, such as business documents, historical price lists, and customer interviews. Although each source may not make or support precisely the same prediction about a merger's likely competitive effects, the accretion of evidence pointing in a certain direction assists antitrust enforcers in evaluating a merger's likely net competitive effects.

In many respects, efficiencies are one more piece of evidence to fit into this predictive puzzle. Witnesses at the hearings believed that efficiencies evidence is susceptible to analysis and is as manageable as many other aspects of merger analysis.¹⁴⁶ Canadian officials stated they have been able to analyze efficiency claims.¹⁴⁷

However, the witnesses also generally agreed that efficiencies evidence differs from other evidence relevant to merger analysis in that efficiencies evidence usually lies exclusively in the hands of the merging parties.¹⁴⁸ Thus, in the experience of FTC staff, obtaining the same type of third-party corroboration of efficiencies evidence is often more difficult than it is for other types

¹⁴⁵(...continued)
717, 723-24 (1984).

¹⁴⁶ Collins 1422, 1431, 1452; Salop 1443-44; Sanderson 1506; Muris 1731; Correia 2152; Arquit 4019-20.

¹⁴⁷ Sanderson 1506. *See also* Matte 1487-92.

¹⁴⁸ *See* Collins 1428; Sanderson 1500; O'Connor 1695-96; Muris 1708-09; Arquit 3972.

of relevant evidence.¹⁴⁹ In those cases where staff has been able effectively to evaluate efficiencies evidence, staff usually has had some type of corroborating third-party evidence (such as industry studies, historical business documents, or insights from sophisticated, knowledgeable customers).¹⁵⁰

The potential difficulty in independently corroborating efficiency claims calls for some caution on the part of the agencies and the courts. In general, to ensure the reliability of efficiencies evidence, antitrust enforcers may wish to require efficiencies evidence that can be adequately confirmed through third-party market participants, government experts, or others who have no observable bias or interest in any particular outcome. Other reliable evidence would be independent studies of economies of scale in the relevant product market or historical evidence that such efficiencies have been achieved as a result of other similar mergers.¹⁵¹

In addition, it will often be logical to rely more heavily on business documents of the merging parties that were created in the ordinary course of business before agreeing to the merger or before entering into a letter of intent, rather than on business documents created after that point.¹⁵² Documents created after the merger agreement or “after-found efficiencies” generally should be viewed with skepticism, since they were not the ostensible basis for the business decision. It is fair to note here that experience has taught the agencies to be wary of efficiency studies by party-sponsored experts, since they often contain more speculation than reasonably probable assessments of actual cost savings.¹⁵³ Nonetheless, later-created documents should not be discounted entirely. Their weight should depend on circumstances such as whether the later

¹⁴⁹ Discussions with FTC staff.

¹⁵⁰ Discussions with FTC staff.

¹⁵¹ Brodley 4248-49. *See also* F.M. Scherer, *Economies of Scale and Industrial Concentration*, in *INDUSTRIAL CONCENTRATION: THE NEW LEARNING* (H. Goldschmid et al. eds., 1974) (leading work on statistical studies measuring certain forms of efficiencies); Muris, *supra* note 135, at 420-23.

¹⁵² McDavid 3941, 3948-50.

¹⁵³ *See, e.g.*, Pitts 1380-84.

studies are in the same areas as efficiencies documented earlier and just more precise or whether such later-documented efficiencies are credible. Ultimately, credibility, rather than timing, is key.

H. Parties Should Bear the Burden of Producing Evidence to Demonstrate Efficiencies

Efficiencies are not part of the government’s prima facie case. Rather, the parties bear the burden of producing evidence of competitively relevant efficiencies in seeking to rebut a presumption of likely anticompetitive effect.¹⁵⁴ Moreover, given the information disparity between the agency and the parties with respect to efficiency claims, this burden of production is eminently reasonable. Such an allocation of the burden of production is also generally consistent with existing merger case law.¹⁵⁵

The parties’ efficiencies evidence should not be subject to a “clear and convincing” standard, however. To begin with, efficiencies evidence to rebut a showing of likely anticompetitive effect should not be held to a higher standard of proof than the elements of the case demonstrating likely anticompetitive effect.¹⁵⁶ Moreover, insofar as Section 7 involves the

¹⁵⁴ FTC v. University Health, Inc., 938 F.2d 1206, 1222 (11th Cir. 1991); United States v. Baker Hughes Inc., 908 F.2d 981, 985 (D.C. Cir. 1990) (citing AREEDA & HOVENKAMP, ANTITRUST LAW (Supp. 1989)); United States v. Mercy Health Servs., 902 F. Supp. 968, 987 (N.D. Iowa 1995).

¹⁵⁵ See, e.g., United States v. Citizens & S. Nat’l Bank, 422 U.S. 86, 120 (1975) (After government established prima facie case, “[i]t was . . . incumbent upon [the defendant] to show that the market-share statistics gave an inaccurate account of the acquisitions’ probable effects on competition.”); United States v. Marine Bancorporation, 418 U.S. 602, 631 (1974) (After government established prima facie case, “the burden was then upon appellees to show that the concentration ratios, which can be unreliable indicators of actual market behavior, did not accurately depict the economic characteristics of the [relevant] market.” (citation omitted)).

¹⁵⁶ The requirement that efficiencies be proved by “clear and convincing” evidence was removed from the 1992 *Guidelines*, according to Jim Rill, precisely to allay concerns that the government was not sufficiently recognizing efficiencies and to make clear that efficiencies would be accorded the same significance as other elements of the agencies’ analysis. Rill 139.

difficult task of assessing *probabilities*, the concerns of many witnesses that a clear and convincing standard could vitiate an efficiencies defense are well-founded.¹⁵⁷

In fact, “clear and convincing” is technically a burden of persuasion standard, not a burden of production term. And there is no question that the burden of persuasion as to whether a transaction is likely to lessen competition substantially remains with the government. Courts have rejected attempts to impose a clear and convincing standard on merging parties who introduce evidence that a transaction is arguably procompetitive, noting that if the burden of production placed on the defendants becomes too onerous, then the intended distinction between that burden of production and the government’s burden of persuasion disintegrates completely.¹⁵⁸

We recognize that analysis of efficiencies will somewhat complicate a merger review process that is already subject to severe time pressures. But inclusion of efficiencies evidence does not change the law at the preliminary injunction stage. A court confronts a “difficult task in justifying anything less than a full-stop injunction”¹⁵⁹ once the FTC has met the *Philadelphia National Bank* presumption and shown through market share and concentration data (often supplemented by the types of market factors and entry evidence discussed in Section III.B *supra*) that a merger would likely substantially lessen competition. Moreover, the inclusion of efficiencies evidence at the preliminary injunction stage would not be novel,¹⁶⁰ and a full trial on

¹⁵⁷ Jones 1405; Calvani 1648-49; American Hospital Association (Stmt) 8.

¹⁵⁸ See, e.g., *Baker Hughes*, 908 F.2d at 991. See also *Kaiser Aluminum & Chem. Corp. v. FTC*, 652 F.2d 1324 (7th Cir. 1981) (rejecting FTC’s characterization of *General Dynamics* as an affirmative defense and noting that while the burden of coming forward would shift to defendant, the burden of persuasion would not).

¹⁵⁹ *FTC v. PPG Industries, Inc.*, 798 F.2d 1500, 1506 (D.C. Cir. 1986). See also *FTC v. Weyerhaeuser Co.*, 665 F.2d 1072, 1081-82 (D.C. Cir. 1981); *FTC v. Harbour Group Investments, L.P.*, 1990-2 Trade Cas. (CCH) ¶ 69,247 at 64,913 n.1 (D.D.C. 1990).

¹⁶⁰ See, e.g., *FTC v. Weyerhaeuser Co.*, 665 F.2d 1072, 1083 (D.C. Cir. 1981) (“[I]t is permissible for the court to weigh among ‘the equities’ the potential benefits, public and private, that may be lost by a merger-blocking preliminary injunction, whether or not those benefits could be asserted defensively in a proceeding for permanent relief.”).

the merits would accord a sufficient opportunity for an appropriate examination of efficiency claims.

Courts, like the agencies, should be cautious in their willingness to credit efficiencies claims that are difficult to corroborate independently. Indeed, once the government has produced credible evidence with respect to market shares, concentration, competitive effects and entry, it likely will have raised, with respect to any countervailing efficiency claims, “questions going to the merits so serious, substantial, difficult and doubtful as to make them fair ground for thorough investigation, study, deliberation and determination by the [Commission] in the first instance and ultimately by the Court of Appeals.”¹⁶¹ It therefore seems unlikely that efficiencies either could or would be the basis for a court’s refusal to grant a preliminary injunction.

I. Careful Assessment of Whether Efficiencies Are Procompetitive Should Be an Effective Limit on the Availability of Efficiency Claims

There is considerable attraction to the notion of disallowing an efficiencies justification above a certain concentration level. Nonetheless, the fact that the Guidelines apply to unique or unusual, as well as routine, transactions counsels against an arbitrary limit.¹⁶² Efficiencies may be significant in analyzing the likely competitive effects of a merger in even highly concentrated industries such as defense and health care.¹⁶³ Moreover, analyzing efficiency claims in terms of their impact on competition should amply discipline against the possibility of undue concentration. This competitive dynamics framework makes it difficult to envisage a situation where efficiencies of any magnitude and probability could justify a merger that left only one or two firms in the relevant market.

¹⁶¹ FTC v. Warner Communications Inc., 742 F.2d 1156, 1162 (9th Cir. 1984); FTC v. Beatrice Foods Co., 587 F.2d 1225, 1229 (D.C. Cir. 1978).

¹⁶² There is, however, considerable merit to the suggestion that in concentrated markets parties should be asked early in the process to explain the efficiency rationale for the transaction. Goldschmid 4013.

¹⁶³ Cf. Report of the Defense Science Board Antitrust Task Force, *Antitrust Aspects of Defense Industry Consolidation* at 28-31 (Apr. 12, 1994), *summary reprinted in* 7 Trade Reg. Rep. (CCH) ¶ 50,138.

Similarly, it seems unwise to limit efficiencies claims from the outset to markets where demand is “declining, stable, or expanding very slowly.”¹⁶⁴ While small firms may be able to expand internally to achieve efficiencies when demand is expanding, internal expansion at times may be less practical or efficient than a merger.¹⁶⁵ Moreover, expanding markets may be precisely where U.S. companies have most to gain in a global context from lowering unit costs of production through merger.

J. The Commission, as Always, Retains its Option of Exercising its Prosecutorial Discretion to Not Challenge Certain Mergers Likely to Generate Significant Efficiencies

Entirely separate is the use of the Commission’s prosecutorial discretion. Allowing an efficiency justification when credible, merger-specific efficiencies likely improve a market’s competitive dynamics should minimize the need for Section 4 of the *1992 Guidelines*, which allows the agencies in their discretion to recognize mergers with compelling efficiencies. Although efficiencies may often result in a merger being overall procompetitive, there may occasionally be substantial efficiencies to be gained in mergers that are likely to raise prices or otherwise reduce competition at least in certain markets or with respect to certain consumers.¹⁶⁶ There is no reason why the agency’s decision to allow a procompetitive efficiency justification would require it to abandon its discretion to recognize significant efficiencies in certain circumstances where the competitive effects are more dubious.¹⁶⁷ Indeed, as currently set out in Section 4 of the *Guidelines*, the question is not whether efficiencies may reduce the market power effects of a merger by improving (or not substantially lessening) competition, but whether

¹⁶⁴ See 4 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 946e at 168-69 (1980).

¹⁶⁵ See Pitofsky, *supra* note 121, at 220-21; Muris, *supra* note 135, at 390-92.

¹⁶⁶ See, e.g., FTC v. Alliant Techsystems Inc., 808 F. Supp. 9 (D.D.C. 1992).

¹⁶⁷ Calvani 1698; Muris 1701-02; Kattan 1958; Goldman 4257-58; Busey 4268-70. Some of the witnesses may have been thinking of efficiencies as a legally cognizable defense rather than as a factor considered as an exercise of prosecutorial discretion.

likely efficiencies are an independent countervailing factor that the Commission wishes to address in the exercise of its prosecutorial discretion.¹⁶⁸

There are a variety of situations where the agency might consider, in the exercise of prosecutorial discretion, withholding a challenge to a merger that may be reasonably necessary to achieve significant net efficiencies with the possibility of relatively small or questionable anticompetitive effects. Of course, in applying its prosecutorial discretion, the Commission would assess factors such as the credibility of the evidence and likely timing of the claimed efficiencies.

As one example, the Commission might decide not to devote substantial resources to a merger that likely would lower costs significantly in one product market and raise costs somewhat in another product market (yet divestiture of that product line would require the firms to forego substantial economies of scope) if consumers virtually always bought both products. Alternatively, the agency might decline to challenge a merger that enabled the elimination or rationalization of capacity where a small group of consumers likely would suffer reduced convenience while the great bulk likely would enjoy reduced prices and improved choice. Limited agency resources might not be applied to challenge a merger that enabled consolidation of production in one plant, with the resulting scale economies leading to lower prices at the plant door and in the major relevant geographic markets but not in a more remote market, when the efficiencies are inextricably linked to products in both markets. Likewise, a merger that required determining what weight to give substantial overhead cost savings in a consolidating industry with overcapacity, when those savings may not in the intermediate term be passed on to consumers, might not be the place to concentrate FTC enforcement resources. These are the very sorts of situations that the Commission's prosecutorial discretion was designed to address.

In this context, where the efficiencies claims are not a procompetitive justification for the transaction, the parties bear a substantial burden to convince the agency through convincing evidence that the transaction has net benefits.

¹⁶⁸ Cf. 1982 Statement, 4 Trade Reg. Rep. (CCH) at 20,904. Cf. Steve Stockum, *The Efficiencies Defense for Horizontal Mergers: What Is the Government's Standard?*, 61 ANTITRUST L.J. 829 (1993) (discussing efficiency analysis tradeoff models).

K. In a Small Set of Cases Where Subsequent Review of a Transaction Appears Feasible, the FTC May Consider Monitoring Efficiencies Post-Merger Rather Than Preventing Consummation

There was a fair degree of skepticism about the feasibility -- from an administrative, a causation, a measurability, and a remedial perspective -- of assessing on a deferred basis whether claimed efficiencies in fact were obtained from a merger.¹⁶⁹ Nevertheless, we believe that the FTC should retain the option of post-merger review to verify efficiency claims in appropriate, albeit very limited, circumstances.

The advantages of such an approach are several. Post-merger review may function as a truth serum, disciplining parties' efficiency claims to those that are truly achievable. It also eliminates some of the uncertainties connected with assessing likely efficiencies on a prospective basis.¹⁷⁰ But the potential downsides of such a process are likewise significant. There is no guarantee that the claimed efficiencies will be substantially easier to measure later.¹⁷¹ And the parties may have an incentive to accomplish certain efficiencies early, while postponing recognition of their costs, or delay other strategies that may adversely affect competition in the market.¹⁷² In addition, the agency may face a difficult assessment problem if not all efficiencies eventuate but the competitive effects are not as adverse as predicted either.¹⁷³ In short, there is no doubt that such monitoring could involve a considerable commitment of agency resources and a potential for micromanagement.

Nonetheless, because parties will have the option of *not* accepting this approach, it is unfair to characterize such a monitoring option as invariably intrusive or regulatory. Moreover, if the parties have made a credible commitment, for example to divest, if the efficiencies are not

¹⁶⁹ Augustine 1328-31; Sanderson 1518-19; Lande 1951-55; Addy 4206-07; Fox 4234-35.

¹⁷⁰ Brodley 1677.

¹⁷¹ Lande 1954-55.

¹⁷² Fox 4234-35.

¹⁷³ See Brodley 4261-66; Kovacic 4261-66.

realized, then monitoring may be a beneficial bargain for all.¹⁷⁴ The agency would not be faced with the dilemma of being unable or unwilling to unscramble the eggs. And the parties (and society) would gain if a merger that in fact achieved efficiencies and did not substantially lessen competition were allowed to proceed.

It may well be that a post hoc review of efficiencies is more appropriate for joint ventures, which can more easily be undone than mergers.¹⁷⁵ Alternatively, the agency could proceed on a trial basis in appropriate cases with areas of promise, such as those involving scale economies, the elimination of overhead, and plant rationalization, which the Canadians have found to be efficiencies that are relatively easy to track post-merger.¹⁷⁶

¹⁷⁴ Kovacic 4255-56.

¹⁷⁵ Goldschmid 3990-91.

¹⁷⁶ Goldman 4225; Addy 4209.

CHAPTER 3
THE ANALYSIS OF FAILING FIRM AND DISTRESSED
INDUSTRIES CLAIMS IN MERGER ANALYSIS

I. INTRODUCTION

As described in Chapter 1, a variety of forces may trigger change: lowered trade barriers, declining transportation costs, industry deregulation, technological innovation, and more rapid communication. Change brings into the marketplace new entrants, new ideas and new products, and firms must adjust to remain competitive. This is strikingly evident in the globalization of markets. With the value of U.S. imports skyrocketing from \$40 billion in 1970 to \$490 billion in 1990,¹ foreign rivals are challenging U.S. companies today more than ever. Change is equally apparent in markets undergoing rapid technological advances. IBM reported that from 1985 to 1995, the number of software competitors worldwide increased more than ten-fold, and the number of hardware vendors worldwide almost tripled.²

Change may affect individual firms or entire industries. Witnesses reported that the hospital industry as a whole faces mounting excess capacity from the pressures of managed care, declining federal subsidies for Medicare and Medicaid and the substitution of out-patient services for traditional in-patient services.³ Likewise, the defense industry is struggling with excess capacity caused by budgetary cut-backs in the post-Cold War era.⁴ Similarly, individual firms in

¹ Winterscheid 393 (citing Robert Pitofsky, *Antitrust Policy in the Clinton Administration*, 62 ANTITRUST L.J. 217, 220 (1993) (citing Department of Commerce, Bureau of the Census, STATISTICAL ABSTRACT OF THE U.S. 804 (1991))). See *supra* Chapter 1.

² Phelps (Stmt) 6.

³ Gilbert 1992-93 (“[T]he number of U.S. community hospitals has declined from over 5,700 in 1984 to under 5,300 in 1993.”); Sims 2005-06; Scott 1552-54; American Hospital Association (Stmt) 1-7.

⁴ Augustine 1311 (“[T]he defense budget in the last seven years has been reduced about 39 percent in real purchasing power. But even of more relevance is the fact that the procurement budget is now down some 71 percent.”); Hughes Aircraft Co. (Stmt) 1. Report of the Defense Science Board Antitrust Task Force, *Antitrust Aspects of Defense Industry Consolidation* (Apr. 12, 1994), summary reprinted in 7 Trade Reg. Rep. (CCH) ¶ 50,138.

markets with rapidly changing technology face continuous pressure to innovate or be left behind by the competition.⁵

One consequence of change is that some firms fall on hard times. Firms or industries faced with import competition or massive overcapacity and the need for painful rationalization may seek protection from Congress. Government subsidies, tariffs, and voluntary import quotas have served as buffers against adversity or change at various times in various industries.⁶ While such measures may provide some temporary relief to industry participants, they do not necessarily address, and at times may only exacerbate, the more fundamental competitive problems within the industry.⁷

An alternative strategic response for struggling firms is to combine in order to achieve competitively necessary efficiencies; either a failing company within a healthy industry or firms in a distressed industry⁸ may resort to this strategy in order to salvage themselves and transition to a stronger market position. Prominent economists have suggested that the *strongest* case for

⁵ Coyne 203-05.

⁶ See Fruehan 461-62; Fruehan (Stmnt) 1-4; Howell 532. See Robert Pitofsky, *Proposals for Revised United States Merger Enforcement in a Global Economy*, 81 GEO. L.J. 195, 228 (1992).

⁷ Fruehan 459-60, 480-81 (Without protectionist measures, the U.S. steel industry's readjustment was much faster and admittedly more painful, but in the long-run more efficient than its European counterparts which are still struggling with capacity reduction because government subsidies have kept inefficient plants operating.). See also Pitofsky, *supra* note 6, at 228.

⁸ A distressed industry tends to be one with a long-term decline in sales, low profits, workers being laid off and substantial underutilization of capacity. Often, these industries are concentrated, exhibit scale economies in manufacturing, have high capital or technology entry requirements and, in many instances, experience difficulty competing with foreign imports. See, e.g., Harry First, *Structural Antitrust Rules and Int'l Competition: The Case Of Distressed Industries*, 62 N.Y.U. L. REV. 1054, 1055 n.2 (1987). Most witnesses believed that it would be difficult to define standards for distressed industries and that, for example, industries caught in short but extreme down cycles, would clamor for inclusion. Sims 2024; Correia 2145, 2147; Boast 2178.

permitting mergers in order to achieve efficiencies arises with respect to distressed industries.⁹ Lockheed Martin Corporation concurred that firms in the defense industry seek combinations “to reduce cost, to become more efficient, [and] to eliminate duplicative expenditures.”¹⁰

This chapter examines these issues in the context of current case law and policy, hearings testimony, and other learning. It recommends that the failing firm defense should be retained but not expanded; instead, near-failing firm and distressed industry mergers should be analyzed by factoring changing industry conditions and potential efficiencies into an assessment of the overall competitive effects of the transaction.

A. Case Law Involving Failing Firms

Failing companies looking to merge have long argued that they should be exempt from Section 7 of the Clayton Act.¹¹ The Supreme Court first recognized the “failing firm” defense in a Depression era case, *International Shoe Co. v. FTC*.¹² The Court held that International Shoe’s acquisition of a financially troubled competitor did not violate Section 7:

In light of the case thus disclosed of a corporation with resources so depleted and the prospect of rehabilitation so remote that it faced the grave probability of business failure with resulting loss to its stockholders and injury to the communities where its plants were operated, we hold that the purchase of its capital stock by [International Shoe] . . . does not substantially lessen competition or restrain commerce.¹³

⁹ See MICHAEL PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* 663 (1990); F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 164 (3d ed. 1990).

¹⁰ Augustine 1316-17.

¹¹ 15 U.S.C. § 18 (1988). Section 7 of the Clayton Act prohibits mergers and acquisitions that “may . . . substantially . . . lessen competition, or tend to create a monopoly.”

¹² 280 U.S. 291 (1930).

¹³ *Id.* at 301-02.

Congress recognized a failing firm exemption in the legislative history to the 1950 amendments to Section 7,¹⁴ although Congress' intent in doing so has been subject to various interpretations. Some have suggested that Congress intended to exempt failing firms from Section 7 merger analysis in order to protect private interests, such as shareholders and employees, when firms are failing.¹⁵ Others caution that while Congress was perhaps concerned about private interests in the failing firm situation, it did not intend to override antitrust's primary concern with competition.¹⁶

Almost thirty years after *International Shoe*, the Court in *Citizen Publishing Co. v. United States*,¹⁷ carefully restricted merging companies' ability to invoke the failing firm defense. In rejecting a newspaper's claim of looming demise absent the merger, the Court outlined a rigid three-part failing firm test. To be failing, (1) a firm must face " 'the grave probability of . . . business failure' "; (2) the acquiror must be the "only available purchaser"; and (3) "the prospects of reorganization [for the firm] . . . [must] be dim or nonexistent."¹⁸

Because the failing firm defense immunizes an otherwise anticompetitive merger from the antitrust laws, its requirements are by design difficult to satisfy, and the burden of proof falls "on those who seek refuge under it."¹⁹ Courts have rigorously demanded a showing of

¹⁴ See S. REP. NO. 1775, 81st Cong., 2d Sess. 7 (1950); H.R. REP. NO. 1191, 81st Cong., 1st Sess. 6 (1949).

¹⁵ See 4 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 925c at 105-06 (1980); HERBERT HOVENKAMP, ECONOMICS AND FEDERAL ANTITRUST LAW 314 (1985).

¹⁶ See, e.g., Troy Paredes, Note, *Turning the Failing Firm Defense Into A Success: A Proposal To Revise the Horizontal Merger Guidelines*, 13 YALE J. REG. 347, 361 n.50 (1996).

¹⁷ 394 U.S. 131 (1969).

¹⁸ *Id.* at 137-38 (citations omitted).

¹⁹ *Id.* at 138-39.

impending financial collapse²⁰ and the impossibility of reorganization,²¹ as well as a thorough canvass of the industry to ferret out alternative merger partners.²²

The defense rarely has been successful in the lower courts.²³ The FTC has rejected the defense in each of the thirteen contested proceedings in which it was raised and an opinion

²⁰ See, e.g., *United States v. The Black & Decker Mfg. Co.*, 430 F. Supp. 729, 781 (D. Md. 1976); *United States v. M.P.M., Inc.*, 397 F. Supp. 78, 101 (D. Colo. 1975).

²¹ See, e.g., *United States Steel Corp. v. FTC*, 426 F.2d 592, 609 (6th Cir. 1970); *United States v. Culbro Corp.*, 504 F. Supp. 661, 668-69 (S.D.N.Y. 1981).

²² See, e.g., *Golden Grain Macaroni Co. v. FTC*, 472 F.2d 882 (9th Cir. 1972), *cert. denied*, 412 U.S. 918 (1973), *modified*, 82 F.T.C. 1824 (1973); *FTC v. Harbour Group Investments, L.P.*, 1990-2 Trade Cas. (CCH) ¶ 69,247 (D.D.C. 1990).

²³ Some of the few cases where the court accepted the defense include: *Union Leader Corp. v. Newspapers of New England Inc.*, 284 F.2d 582 (1st Cir. 1960), *cert. denied*, 365 U.S. 833 (1961); *FTC v. Great Lakes Chem. Corp.*, 528 F. Supp. 84 (N.D. Ill. 1981); *Granader v. Public Bank*, 281 F. Supp. 120 (E.D. Mich. 1967), *aff'd*, 417 F.2d 75 (6th Cir. 1969), *cert. denied*, 397 U.S. 1065 (1970); *United States v. Maryland & Va. Milk Producers Ass'n*, 167 F. Supp. 799 (D.D.C. 1958), *aff'd in part, rev'd & remanded in part*, 362 U.S. 458 (1960).

Some cases where the court rejected the defense include: *United States v. Greater Buffalo Press, Inc.*, 402 U.S. 549 (1971); *Citizen Publishing Co. v. United States*, 394 U.S. 131 (1969); *United States v. Third Nat'l Bank in Nashville*, 390 U.S. 171 (1968); *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966); *United States v. El Paso Natural Gas Co.*, 376 U.S. 651 (1964); *United States v. Philadelphia Nat'l Bank*, 374 U.S. 321 (1963); *United States v. Diebold, Inc.*, 369 U.S. 654 (1962) (per curiam); *FTC v. Harbour Group Investments, L.P.*, 1990-2 Trade Cas. (CCH) ¶ 69,247 (D.D.C. 1990); *FTC v. Bass Bros. Enters.*, 1984-1 Trade Cas. (CCH) ¶ 66,041 (N.D. Ohio 1984).

issued.²⁴ Moreover, the Supreme Court has not upheld its application in a case since *International Shoe*.²⁵

Firms that are struggling, but not in imminent danger of failing, cannot avail themselves of the failing firm defense when merging. Their condition, however, may affect their future competitive significance in the marketplace and be relevant to Section 7 merger analysis. One of the leading Supreme Court merger cases involving changing market conditions is *United States*

²⁴ The Pillsbury Co., 93 F.T.C. 966 (1979); Reichhold Chem., Inc., 91 F.T.C. 246 (1978), *aff'd*, 598 F.2d 616 (4th Cir. 1979); RSR Corp., 88 F.T.C. 800 (1976), *modified*, 98 F.T.C. 872 (1981), *modified*, 102 F.T.C. 1136 (1983); United Fruit Co., 82 F.T.C. 53 (1973); The Papercraft Corp., 78 F.T.C. 1352 (1971), *aff'd*, 472 F.2d 927 (9th Cir.), *cert. denied*, 412 U.S. 918 (1973); Golden Grain Macaroni, 78 F.T.C. 63 (1971), *aff'd in part*, 472 F.2d 882 (9th Cir. 1972), *cert. denied*, 412 U.S. 918 (1973); National Tea Co., 77 F.T.C. 1631 (1971); United States Steel Corp., 74 F.T.C. 1270 (1968), *remanded*, 426 F.2d 592 (6th Cir. 1970); Dean Foods Co., 70 F.T.C. 1146, 1272-88 (1966), *modified*, 71 F.T.C. 731 (1967), *aff'd*, 1967 Trade Cas. (CCH) ¶ 72,086 (7th Cir. 1967); Pillsbury Mills, Inc., 57 F.T.C. 1274 (1960), *vacated and remanded sub nom.* The Pillsbury Co. v. FTC, 354 F.2d 952 (5th Cir. 1966); Erie Sand & Gravel Co., 56 F.T.C. 437 (1959), *aff'd*, 291 F.2d 279 (3d Cir. 1961); Crown Zellerbach Corp., 54 F.T.C. 769 (1957), *aff'd*, 296 F.2d 800 (9th Cir. 1961), *cert. denied*, 370 U.S. 937 (1962); Farm Journal, Inc., 53 F.T.C. 26 (1956).

See also Dr. Pepper/Seven-Up Cos. v. FTC, 991 F.2d 859 (D.C. Cir. 1993) (The D.C. Circuit reversed as “arbitrary and capricious” the FTC’s decision rejecting the failing firm defense and withholding FTC approval of the merger of the two competing bottling companies. On remand, the FTC found that the “only available purchaser” requirement was not satisfied. Harold Honickman, Dkt. 9233, 5 Trade Reg. Rep. (CCH) ¶ 23,459, at 23,139 (FTC Sept. 16, 1993)). *But see* Adventist Health System/West, Dkt. 9234, 5 Trade Reg. Rep. (CCH) ¶ 23,591, at 23,265 n.17 (FTC Apr. 1, 1994) (concurring opinion of Commissioners Deborah K. Owen and Dennis A. Yao, recognizing the “availability of the failing firm defense”); National Portland Cement Co., 71 F.T.C. 395 (1967) (vacating as moot the hearing examiner’s initial decision approving application of failing company defense).

²⁵ The Supreme Court remanded one case for factual determinations. *United States v. Diebold, Inc.*, 369 U.S. 654 (1962) (per curiam). The Court affirmed per curiam two lower court decisions rejecting the defense. *Continental Oil Co. v. United States*, 393 U.S. 79 (1968) (per curiam); *Schlitz Brewing Co. v. United States*, 385 U.S. 37 (1966) (per curiam). The Court rejected the defense in three cases because the companies had not demonstrated imminent business failure or the necessary effort to find alternative purchasers. *United States v. Greater Buffalo Press, Inc.*, 402 U.S. 549 (1971); *Citizen Publishing Co. v. United States*, 394 U.S. 131 (1969); *United States v. Third Nat’l Bank in Nashville*, 390 U.S. 171 (1968).

*v. General Dynamics Corp.*²⁶ Finding that uncommitted coal reserves were a better measure of firms' future competitive significance than current or historical market share, the Court held that the acquired company's "weakness as a competitor . . . fully substantiated [the] . . . conclusion that its acquisition . . . would not 'substantially . . . lessen competition'"²⁷ The Court noted that because the weaker coal company's reserves "were either depleted or already committed by long-term contracts . . . , [its] power to affect the price of coal was . . . severely limited and steadily diminishing."²⁸

Since *General Dynamics*, some courts have concluded that a firm's financial weakness renders its historic market share an inaccurate predictor of its future competitive significance. For example, in *United States v. International Harvester Co.*,²⁹ the court affirmed a district court holding that permitted a merger because the acquired company's weak financial condition meant it could not compete successfully. Other courts, however, have often found that claimed financial weakness is "insufficient to demonstrate that the firms' past performance is an unreliable indicator of their future ability to compete."³⁰ In *FTC v. University Health, Inc.*,³¹ the court, while noting that a firm's financial weakness is one of many possible factors bearing on the predictive value of a firm's market share, stated that it is " 'probably the weakest ground of all for justifying a merger.' "³² In addition, in *FTC v. Warner Communications Inc.*,³³ the court

²⁶ 415 U.S. 486 (1974).

²⁷ *Id.* at 503-04.

²⁸ *Id.* at 493.

²⁹ 564 F.2d 769 (7th Cir. 1977).

³⁰ *United States v. Ivaco, Inc.*, 704 F. Supp. 1409, 1425 (W.D. Mich. 1989).

³¹ 938 F.2d 1206 (11th Cir. 1991).

³² *Id.* at 1220 (citing *Kaiser Aluminum & Chem. Corp. v. FTC*, 652 F.2d 1324, 1339 (7th Cir. 1981)).

³³ 742 F.2d 1156 (9th Cir. 1984) (per curiam).

noted that “a ‘weak company’ defense would expand the failing company doctrine, a defense which has strict limits.”³⁴

B. Case Law Involving Distressed Industries

Some merging parties have argued for exemption from Section 7 because of the distressed nature of the industry in which they compete.³⁵ In the non-merger context, the Supreme Court first accepted a distressed industry argument in *Appalachian Coals, Inc. v. United States*.³⁶ In that case, decided during the Depression, the Court permitted bituminous coal producers to form a marketing cartel, noting that the “industry was in distress.”³⁷ By 1940, however, the Court had a different perspective. In *United States v. Socony-Vacuum Oil Co.*,³⁸ several oil companies had raised gasoline prices after coordinating the purchase of distressed supplies at fixed prices. The Court rejected the failing industry argument, noting that “[t]hose

³⁴ *Id.* at 1164. *See also* *Kaiser Aluminum & Chem. Corp. v. FTC*, 652 F.2d 1324, 1338-39 (7th Cir. 1981). Areeda and Turner would likewise carefully limit the relevance accorded a company’s financial condition. They maintain: “[F]inancial difficulties should be disregarded unless it is reasonably clear that (1) if unresolved, they would cause the firm’s market share to decline to a level that would make the merger permissible, and (2) there is no competitively preferable alternative for resolving them.” As they observe, because poor sales typically cause financial decline, weakened financial condition usually already is reflected in market share. *See* 4 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* ¶ 935c at 141 (1980).

³⁵ U.S. policy toward distressed industries often has taken the form of protectionist legislation. In one instance, however, Congress created a limited exemption from antitrust scrutiny. In 1970, Congress passed the Newspaper Preservation Act (NPA) in response to the failing of many “second” newspapers in major metropolitan areas. *See* 15 U.S.C.A. § 1801 (1982). The NPA grants a partial antitrust exemption to newspapers that enter into a joint operating agreement where one of the papers is “ ‘in probable danger of financial failure.’ ” *See* 15 U.S.C.A. § 1802 (1982).

³⁶ 288 U.S. 344 (1933).

³⁷ *Id.* at 372.

³⁸ 310 U.S. 150 (1940).

who fixed reasonable prices today would perpetuate unreasonable prices tomorrow, since those prices would not be subject to continuous . . . readjustment in the light of changed conditions.”³⁹

Although neither lower courts nor the FTC have recognized a distressed industry argument, the agencies have investigated transactions in recent years where distressed industry conditions were a factor. For example, in 1984 the third and fourth largest U.S. steel companies, LTV and Republic Steel, proposed to merge. The Department of Justice (DOJ) challenged the transaction in *United States v. LTV Corp.*,⁴⁰ alleging that the transaction would increase concentration and lessen competition. DOJ eventually accepted a consent decree.⁴¹ Part of DOJ’s consideration in accepting the consent was the weakened state of the companies and unquantifiable efficiencies that would result from the transaction.⁴²

C. Merger Guidelines

The *1992 Horizontal Merger Guidelines* expressly recognize the failing firm defense.⁴³ Essentially paralleling the *Citizen Publishing* requirements prescribed by the Supreme Court, Section 5.1 of the *Guidelines* provides that the failing firm defense will be accepted where:

1. the allegedly failing firm would be unable to meet its financial obligations in the near future;

³⁹ *Id.* at 221.

⁴⁰ 1984-2 Trade Cas. (CCH) ¶ 66,133 (D.D.C.), *appeal dismissed*, 746 F.2d 51 (D.C. Cir. 1984).

⁴¹ *Id.* at 66,335.

⁴² *Id.* at 66,343. *But see* *FTC v. Alliant Techsystems Inc.*, 808 F. Supp. 9 (D.D.C. 1992) (preventing merger that firms proposed because of “shrinking military budgets and a projected decline in the post-Cold War era demand” where firms were the only two suppliers of 120mm tank ammunition).

⁴³ The *1968*, *1982*, and *1984 Merger Guidelines* issued by the Department of Justice also recognized the failing firm defense. These previous *Guidelines* included (in comparable form) the first three elements of the *1992 Guidelines*. The fourth element was introduced in 1992.

2. it would not be able to reorganize successfully under Chapter 11 of the Bankruptcy Act;
3. it has made unsuccessful good-faith efforts to elicit reasonable alternative offers of acquisition of the assets of the failing firm that would both keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed merger; and
4. absent the acquisition, the assets of the failing firm would exit the relevant market.⁴⁴

Under the *1992 Guidelines*, the financial woes of a company also can be considered in determining whether a merger raises competitive concerns. In contrast to the *1984 Guidelines*,⁴⁵ which specifically noted financial condition as a factor relevant to the significance of market share, however, the *1992 Guidelines* only generally reference “reasonably predictable effects of

⁴⁴ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* § 5.1 (1992), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,104 at 20,574 (1992 *Guidelines*). The fourth requirement under the *1992 Guidelines* serves to reinforce the underlying purpose of the failing firm doctrine -- to preserve valuable assets that otherwise would exit the market. While courts have extensively discussed the first three requirements (which largely track those in *Citizen Publishing*), courts generally have not discussed the last requirement separate from the other three.

⁴⁵ See U.S. Department of Justice, *Merger Guidelines* § 3.22 (1984), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,103 at 20,561. The *FTC Statement* similarly recognized financial condition as relevant to future competitive significance:

[T]he Commission does believe that evidence of individual firm performance can be of use in evaluating the probable effects of a merger, primarily if it indicates that a firm’s market share overstates its competitive significance. For example, poor financial performance may accompany new entry or technological change, which itself may be evidence of the firm’s declining competitive significance and its lack of prospects for future success or it may be indicative of other changes taking place in the market.

Federal Trade Commission, *FTC Statement Concerning Horizontal Mergers* § III (2) (1982), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,200 at 20,903.

recent or ongoing changes in market conditions” as something the agency will consider in interpreting market share data.⁴⁶

The *1992 Guidelines* do not expressly recognize a distressed industry defense. However, like the financial condition of struggling (but not failing) firms, distressed industry conditions also may be considered under Section 1.521 of the *Guidelines* in assessing the degree to which a merger creates or enhances market power.

II. SUMMARY OF WITNESS TESTIMONY

There was general consensus among hearing participants that the failing firm defense in the *1992 Guidelines* does not need significant adjustment.⁴⁷ Nonetheless, most agreed that failing firm and distressed industry issues ideally should be considered in assessing the competitive effect of the transaction (with consumer welfare the ultimate touchstone), rather than as a systematic defense.⁴⁸

A. The Failing Firm Defense Is Rarely Applicable; Failing Firm Issues Are Better Evaluated within a Competitive Effects Analysis

Most commentators thought that, although acceptable, the failing firm defense was largely impractical because of its strict requirements, or unnecessary because the real issue is the transaction’s competitive effect.⁴⁹ Some observed that the defense perhaps was a better approach for dealing with failing firm issues than other imaginable alternatives such as bankruptcy, antitrust exemptions (as happened with newspapers) or relegation of the issue to the political arena.⁵⁰

⁴⁶ *1992 Guidelines* § 1.521, 4 Trade Reg. Rep. (CCH) at 20,573-6.

⁴⁷ Leeds 2050; Proger 2092-94; Baker 2155; Boast 2179-80; Newborn 2194, 2197-98; *cf.* Arquit 4031.

⁴⁸ Leeds 2047-50; Hausman 2077-87; Proger 2092-94, 2097; Boast 2179; Newborn 2193-98; Correia 2211; *see* McDavid 3945-46; *cf.* Arquit 4031.

⁴⁹ *Id.*

⁵⁰ *See, e.g.,* Baker 2155, 2162.

The vast majority of witnesses agreed that failing firm issues are best addressed within the context of competitive effects analysis.⁵¹ Some noted that the current defense, which inquires into the financial condition of the failing firm rather than the impact of the transaction on competition, focuses on the wrong issue.⁵² Many believed that the *Guidelines*' competitive effects analysis is sufficiently flexible to enable the agency to consider the parties' arguments about financial condition in assessing the transaction's competitive impact.⁵³ Indeed, some observed that the agencies already use this approach.⁵⁴

B. Special Standards for Distressed Industries Are Unwise; Competitive Effects Analysis Is the Correct Approach

The vast majority of witnesses also agreed that distressed industry issues are best addressed within the context of competitive effects analysis.⁵⁵ Some argued that *General Dynamics* provides an important source of flexibility in merger analysis where there is a systemic reason that current conditions are not indicative of future competitive effects.⁵⁶ Others suggested that enforcers already consider industry conditions within competitive effects analysis.⁵⁷

A large portion of the testimony supported the conclusion that it would be difficult and unprofitable to create special standards for mergers in distressed industries.⁵⁸ Several argued that

⁵¹ Leeds 2047-50; Proger 2092-94; Boast 2179; Newborn 2193-98; Correia 2211; *see* McDavid 3945-46; *cf.* Arquit 4031.

⁵² Proger 2092-94; Newborn 2183-84.

⁵³ Proger 2092-94; Boast 2179; Correia 2211.

⁵⁴ Leeds 2048-50; Newborn 2193-98.

⁵⁵ Hausman 2077-86; Proger 2096-97; Newborn 2193-94.

⁵⁶ Baker 2162; McDavid 3945-47.

⁵⁷ Kattan 1958 (enforcers already have adjusted competitive effects standards to prevent the loss or erosion of scale economies in distressed industries); Newborn 2193.

⁵⁸ *See, e.g.,* Proger 2097-99; Newborn 2193.

it would be a Herculean task to frame standards that would provide a reasonable basis for creating different rules for different industries.⁵⁹

C. The Alternative Purchaser Requirement Should Be Adjusted

Under the *1992 Guidelines*, the failing firm defense requires that “good-faith efforts” be made “to elicit reasonable alternative offers” that would both keep the assets in the relevant market and pose a less severe danger to competition than the proposed merger.⁶⁰ In general, this requirement favors a purchaser outside the relevant market, since such a purchaser generally will pose fewer competitive concerns than a competitor already in the market. Some witnesses, however, argued that this requirement should be revised to accord greater weight to competitor-purchasers, which, as participants in the relevant market, may be best able to capture potential efficiencies.⁶¹ According to this view, the competitor-purchaser’s willingness to pay more than the outsider more likely reflects an efficiency premium than a market power premium.⁶² If the alternative purchaser requirement were adjusted to give efficiencies greater weight, such witnesses asserted, likely efficiencies would not be lost because of a reflexive preference for a purchaser unrelated to the market.⁶³

Others argued that the requirement should focus on whether the alternative purchaser would be able to operate the business in a competitive and effective manner.⁶⁴ Such an inquiry would consider whether the purchaser intended to keep the assets in the market,⁶⁵ and whether

⁵⁹ Sims 2024; Correia 2146-47.

⁶⁰ *1992 Guidelines* § 5.1, 4 Trade Reg. Rep. (CCH) at 20,574.

⁶¹ Correia 2055-56, 2058; Proger 2097-98.

⁶² Correia 2055-56.

⁶³ Correia 2055-56; Proger 2097-98.

⁶⁴ Baker 2166; McDavid 3943-45.

⁶⁵ Baker 2166.

necessary capital and R&D expenditures would be invested.⁶⁶ This approach might resemble FTC divestiture analysis, questioning whether an outside purchaser would necessarily be less anticompetitive if it failed to run the business effectively.⁶⁷

D. Social Costs Should Not Be an Express Factor in Failing Firm Analysis, but Could Be Considered Implicitly by Loosening Some Requirements

When a company fails, employees, shareholders and the local community suffer. Virtually every witness agreed that, while extremely unfortunate, these social costs should not be an express factor on a case-by-case basis in the failing firm defense.⁶⁸ Some argued that Congress did not have social costs in mind when enacting Section 7.⁶⁹ Others noted that jobs are as likely lost through a merger as through no merger,⁷⁰ or suggested that social costs were too complicated and too politically charged to consider in individual instances.⁷¹

Some, however, thought that social costs could be considered as a policy matter, since neither the legislative history to the Cellar-Kefauver amendment to Section 7 in 1950 nor Supreme Court precedent expressly precluded doing so.⁷² One way of implicitly taking social costs into account would be to ease the requirement that the failing firm's exit from the market be a near certainty.⁷³ Another option would be to apply the alternative purchaser requirement

⁶⁶ McDavid 3943-45, 4030.

⁶⁷ McDavid 3943-45.

⁶⁸ Correia 2057, 2153; Proger 2117-18; Hausman 2120; Newborn 2182-83; Waller 2061.

⁶⁹ Proger 2117-18.

⁷⁰ Hausman 2120; Newborn 2182.

⁷¹ Waller 2073-75; Correia 2056-57, 2153; *cf.* Baker 2155, 2161-62.

⁷² Correia 2056-57, 2153; *cf.* Baker 2157-58.

⁷³ Correia 2058, 2148-49, 2222-23 (agency could consider an 80 percent rather than 100 percent probability of exit from the market); Baker 2165, 2223-24 (suggesting that the defense's likelihood of failure requirement could be less strict when the chance of

(continued...)

more leniently when a competitor's offer was better than that of an outside purchaser. This could be done simply by crediting the parties' asserted efficiency premium scenario more, and the enforcer's market power premium scenario less, as the driving force for the merger.⁷⁴

III. STAFF ANALYSIS AND RECOMMENDATIONS

A. The Failing Firm Defense Should Be Retained but Not Expanded

The failing firm defense is one of the oldest traditions in U.S. merger law. *International Shoe*, decided in 1930, reflects Depression era concerns in acknowledging that goals other than competition -- such as the interests of shareholders and the community where the plants are located -- may inform antitrust analysis. When revisited in an age of global competition and unrelenting innovation, in which firms and whole industries are pursuing efficient ways to adjust to changing conditions and to meet foreign and domestic competitors, the failing firm defense is something of an anomaly. First, the industry-wide adjustments that are occurring in many markets,⁷⁵ as rapid technological change, deregulatory forces and foreign competition cause firms to alter old ways of doing business, range far beyond the defense's concern with acquisitions of a single firm on the brink of bankruptcy. Second, the defense does not reflect the current competition-oriented consensus in antitrust law and economics. Rather than asking about the competitive effects of a merger, the defense focuses on the financial precariousness of, and unsuccessful efforts to sell, the "failing" firm. Indeed, the failing firm defense is the only absolute defense currently allowed in U.S. merger law -- when its stringent conditions are met, the merger in issue is permitted, regardless of its effects on competition.

Because the defense may immunize an anticompetitive merger, its narrow scope is appropriate. A failing firm's assets, such as patents, customer lists, or productive capacity, can be of immense competitive significance, particularly if exploited by a more healthy firm. Conceivably, a transaction that, consistent with the failing firm defense, allows a leading

⁷³(...continued)
anticompetitive effects is less serious).

⁷⁴ Correia 2058, 2148-51.

⁷⁵ *See supra* Chapter 1.

competitor to acquire a failing firm's assets may enable the acquirer to extract profits that are above competitive levels.⁷⁶ As a practical matter, however, the failing firm defense rarely, if ever, results in such an anticompetitive scenario.⁷⁷ The failing firm criteria are so stringent that extremely few mergers qualify for the defense.⁷⁸ In those limited cases, an acquisition of a failing firm will often be procompetitive and maintain productive use of assets in an industry that otherwise might suffer an output loss. Indeed, we are aware of no case in which the defense sheltered an anticompetitive outcome.⁷⁹

It is noteworthy that even the *International Shoe* Court found that the merger under review did “not substantially lessen competition.”⁸⁰ The Court did not broadly hold that antitrust's consumer welfare and competition goals should be subordinated to other concerns. We believe that Congress' recognition of the failing firm defense during the process of amending Section 7 in 1950⁸¹ should be interpreted in light of this Supreme Court precedent, which

⁷⁶ In such a situation, exit of the failing firm from the market may be preferable from a competition perspective. The remaining firms may compete more aggressively, and on a somewhat more level playing field, to replace the troubled firm's capacity or to gain its customers. *See* Paredes, *supra* note 16, at 364-71. *See also* Goldman & Addy 4283-85.

⁷⁷ Nor do we suggest that such an argument could be invoked to challenge a merger that actually met the uncompromising criteria of the failing firm defense.

⁷⁸ *See supra* note 23. Even fewer failing firm cases are likely to get to court. Should an agency challenge a merger on the grounds that the parties have not met the failing firm defense, a financially strapped company may not be able and a potential acquirer may not be willing to bear the costs and delays of litigation. Indeed, the financially weak firm may not know whether it will outlast the litigation process. *See* Baker 2160.

⁷⁹ Nor could any witness point to any significant adverse competitive effects from the acquisition of a firm that in fact met the four failing firm criteria in the Guidelines. *See* Proger 2093-94; Goldman & Addy 4283-85; *cf.* Leeds 2047-48.

⁸⁰ *International Shoe Co. v. FTC*, 280 U.S. 291, 302-03 (1930).

⁸¹ *See* S. REP. NO. 1775, 81st Cong., 2d Sess. 7 (1950); H.R. REP. NO. 1191, 81st Cong., 1st Sess. 6 (1949).

counsels for retaining the defense, subject to its strict limitations, but not expanding the scope of its protection.

Accordingly, even if the defense is not perfectly tailored to permit mergers with “failing” firms only when they do not harm competition and to block mergers with “failing” firms whenever they are likely to create or enhance market power, merger enforcement is not seriously hampered by its retention, largely because of its extremely limited applicability. Put otherwise, although the defense is said to focus on the wrong issue, i.e., the condition of the “failing” firm, not the acquisition’s effect on competition, it largely gets the right result.

The testimony tends to reinforce this conclusion. While many questioned the failing firm defense’s value or relevance in today’s business environment, no one advocated major changes in the defense.⁸² Nor did anyone advocate expanding the failing firm defense to consider factors such as social costs on a case-by-case basis.⁸³ And some even thought that the defense’s stringent criteria were useful from a counseling perspective in that they effectively communicated to potentially merging parties that the defense was available only in exceptionally limited circumstances.⁸⁴

Retention of the defense as currently formulated also may perform a useful, albeit limited, function. In those rare hardship cases where the defense is applicable and a failing firm’s assets are retained in the market, the alternatives of (1) bankruptcy, which focuses more on obtaining a return for creditors than on preserving competition, (2) protectionist solutions, which insulate firms from the goad of competition, and (3) legislative exemptions from the antitrust laws are generally less preferable.⁸⁵ Although globalization of competition may require adjustment of antitrust in some areas, antitrust’s efforts to reconcile competition goals with the realities of

⁸² Proger 2092-94; Boast 2179-80; Newborn 2194, 2197-98; *cf.* Leeds 2048, 2050.

⁸³ Correia 2057, 2153; Proger 2117-18; Hausman 2120; Newborn 2182.

⁸⁴ Boast 2170, 2179; Newborn 2197-98.

⁸⁵ *See, e.g.*, S. 2161, 99th Cong., 2d Sess., 132 Cong. Rec. S2283 (Mar. 7, 1986) (Promoting Competition in Distressed Industries Act). The bill would have effectively exempted from antitrust scrutiny mergers in industries that were found to be suffering injury from imports. The bill was abandoned in the face of widespread criticism. *See* First, *supra* note 8, at 1074 n.81.

failing firms that are trapped in an older and passing economic order remain as good as or better than other policy options.

B. Flailing Firm and Distressed Industry Mergers Are Most Appropriately Viewed through the Lens of Competitive Effects

More important, we believe that the correct analysis of mergers in near-failing firm, failing division and distressed industry situations is to have the agency and the parties focus carefully on the likely competitive effects of the transaction, rather than in attempting to adjust the criteria of the failing firm defense. (Indeed, the current *Merger Guidelines* attempt to place even the failing firm defense in a competitive effects framework by assuming that a merger is not likely to create or enhance market power if one of the merging parties meets the criteria of imminent failure set forth in the defense.)⁸⁶ For firms that do not meet the defense's narrow criteria but are in a financially precarious position -- although other firms in the industry are relatively healthy -- a competitive effects approach enables the parties to argue that ongoing changes in the market indicate that the current market share of the troubled firm overstates its future competitive significance and also overstates the merger's potential competitive concerns.⁸⁷ (Of course the opposite also may be true -- if a healthy acquiring firm is able to exploit the distressed firm's assets more effectively, the pre-merger share attributable to those assets likely underestimates their significance post-merger.) Focusing on the competitive effect of the transaction also would accommodate arguments that the merged firm likely will achieve efficiencies that will make it a more effective competitor or will alter the firm's cost position or

⁸⁶ See *1992 Guidelines* § 5.0, 4 Trade Reg. Rep. (CCH) at 20,574 (“a merger is not likely to create or enhance market power or to facilitate its exercise, if imminent failure, as defined below, of one of the merging firms would cause the assets of that firm to exit the relevant market”); *1992 Guidelines* § 5.1, *id.*

⁸⁷ See *1992 Guidelines* §§ 1.52-1.521, 4 Trade Reg. Rep. (CCH) at 20,573-6. See also Leeds 2050 (“As a practical matter, enforcement agencies do take into account the health of the merging firms and do exercise their prosecutorial discretion accordingly. Indeed, the rigorous competitive effects analysis undertaken by enforcement agencies every day is sufficient to ensure the valid claims of failure and changing market conditions are carefully considered and evaluated.”); Boast 2179; McDavid 3945-47.

technical sophistication in a way that deters any likelihood of lessened competition.⁸⁸ As with the procompetitive efficiencies analysis set forth in Chapter 2 *supra*, such an approach would ensure that adequate competition remained, thereby driving likely cost savings from consolidation, scale, scope or other efficiencies to be passed on to consumers (or other buyers) over time in the form of lower prices, increased output or improved quality.⁸⁹

Not only is assessing whether a merger with a near-failing firm substantially lessens competition best addressed and answered in a competitive effects framework, but agency staff effectively have adopted this approach in practice.⁹⁰ Of course, were a proposed merger involving a near-failing firm to be challenged in court, the merging parties would have the burden of producing evidence that changing market conditions or probable efficiencies likely render the merger pro- rather than anticompetitive.⁹¹

With respect to mergers in markets characterized by declining demand or overcapacity, a competitive effects analysis is likewise the correct vehicle for focusing on the relevant issues. In today's world of fast-paced innovation, many industries follow a predictable life cycle of initial growth, maturity and subsequent decline as technology changes and consumers shift to

⁸⁸ See *supra* Chapter 2.

⁸⁹ See *supra* Chapter 2 note 123.

⁹⁰ See Newborn 2193-98; *cf.* Kattan 1958. See also Leeds 2048-50.

⁹¹ See, e.g., *United States v. Citizens & S. Nat'l Bank*, 422 U.S. 86, 121 (1975) (after government established prima facie case, “[i]t was . . . incumbent upon [the defendant] to show that the market-share statistics gave an inaccurate account of the acquisitions’ probable effect on competition”); *United States v. Marine Bancorporation*, 418 U.S. 602, 631 (1974) (after government established prima facie case, “the burden was then upon appellees to show that the concentration ratios, which can be unreliable indicators of actual market behavior, did not accurately depict the economic characteristics of the [relevant] market.” (citations omitted)); *United States v. General Dynamics Corp.*, 415 U.S. 486, 508 (1974) (“[T]he finding of inadequate reserves went to the heart of the Government’s statistical prima facie case . . . and substantiated the District Court’s conclusion that Union Electric . . . did not have sufficient reserves to compete effectively for long-term contracts.”).

different products.⁹² Others rise and fall because of surges of imports. Some of these declining markets or industries tend to be relatively concentrated ones in which firms have incurred substantial sunk or fixed costs, thus making capacity reduction difficult and costly.⁹³ These problems may be exacerbated by regulatory policies, such as those described as causing significant overcapacity in the hospital industry,⁹⁴ or by drastic declines in demand, such as the severe cutbacks in government spending in the post-Cold War defense industry.⁹⁵ In some of these industries, a possible enforcement focus will even be on the merged firm's ability alone to raise price or reduce output.⁹⁶ But regardless of whether the concern is collusive or unilateral firm behavior that may harm consumers, the analysis should focus on what is the competitive effect of the transaction.⁹⁷ Using this analysis, the agency can consider reasonably predictable effects of changes in market conditions and likely cost reductions, product improvements, increased R&D, and other efficiencies to be gained from the merger -- along with any potential adverse effects from increased market power -- in reaching a judgment about the transaction's likely overall competitive effects.⁹⁸ Were these issues to be tried in court, the parties would have

⁹² See Hausman (Stmt) 1.

⁹³ Hausman (Stmt) 1. See also First, *supra* note 8, at 1055 n.2.

⁹⁴ See Gilbert (Stmt) 1, 5; Sims 2024-25 (the failing firm defense does not address the problem in the hospital industry, where firms have significant sunk costs, high fixed costs and can stretch out their failure for a long time if forced to do so).

⁹⁵ See Report of the Defense Science Board Task Force, *Antitrust Aspects of Defense Industry Consolidation* 8-9 (Apr. 12, 1994), summary reprinted in 7 Trade Reg. Rep. (CCH) ¶ 50,138.

⁹⁶ See, e.g., *FTC v. Alliant Techsystems Inc.*, 808 F. Supp. 9 (D.D.C. 1992) (preventing merger to monopoly).

⁹⁷ Proger 2094-96 (a failing firm defense does not work and should not be the focus of enforcement policy in declining demand and consolidating industry situations; you need to look at competitive effects).

⁹⁸ See *supra* Chapter 2. See also Hausman 2077-86 (declining industry mergers are best analyzed in terms of their overall competitive effects on consumers; a Section 2 argument (continued...))

the burden of producing evidence that the claimed efficiencies or industry changes likely would result in a post-merger market in which competition was no less robust than before.

C. Efficiencies Should Be Given Due Weight in Both the Distressed Industry and Alternative Purchaser Context

Absent a legitimate competition concern, antitrust should not obstruct efforts by failing or near failing firms, or strapped firms within distressed industries, to reorganize, become more efficient, and compete more effectively globally. One way of observing this maxim is to give proper weight to efficiency claims, which often may be interrelated with failing firm and distressed industry arguments in proposed mergers.⁹⁹ Indeed, a beneficial consequence of recognizing a “procompetitive” efficiencies justification as described in Chapter 2, is that it reduces any perceived need to expand the stringent failing firm defense in order to provide some flexibility in analyzing mergers involving flailing firms or distressed industries.

In the distressed or declining demand industry situation, there is a surprising consensus among scholars that mergers in such industries are likely to be strong candidates for achieving efficiencies. For example, Michael Porter, a proponent of the view that vigorous domestic rivalry leads to competitive advantage, maintains that the best case for “suspending competition,” such as through merger, “is to encourage the flow of resources out of structurally declining

⁹⁸(...continued)
could show that in a merger R&D will go up, there will be higher quality goods, consumer demand will go up, and even if prices go up, quality-adjusted price will go down); *cf.* Gilbert (Stmt) 2-3 (not proposing to rewrite the *Merger Guidelines* for hospitals, since the *Guidelines* are flexible enough to allow mergers in concentrated markets to proceed when they pose no substantial threat to competition, but the FTC should learn more about the competitive effects of hospital mergers).

⁹⁹ See *supra* Section III.A. For example, an acquiring company will often assert that it can “turn around” a failing firm by integrating facilities, reducing costs, improving product lines and taking other steps to improve profitability; these are generally efficiency claims. In a shrinking industry, where capacity will be squeezed from the market in some fashion, arguments that consolidation through merger is desirable are more often efficiency justifications than legitimate failing firm claims. See Correia (Stmt) 8-10. And if not all markets behave perfectly, with inefficient firms exiting and only efficient firms remaining, then efficiencies may well be obtained through merger. See Pankaj Ghemawat & Barry Nalebuff, *Exit*, 16 RAND J. ECON. 184 (1985).

industries.”¹⁰⁰ Given that efficiencies may be obtained through mergers in declining demand and distressed industries, we believe that when parties make demonstrable claims of efficiencies in this context, these efficiencies should be accorded appropriate weight.¹⁰¹ The analysis of efficiencies would be similar to that described in the efficiencies chapter, and would be premised on whether the claimed efficiencies likely would affect the merged firm’s abilities and incentives so as to deter any possible lessening of competition or even to improve competition (and lead over time to lower prices, increased output, or improved quality).¹⁰² According weight to credible claims of efficiencies is certainly preferable to creating special exceptions or rules for industries such as defense, hospitals, financial services, or retailing, where some consolidation to eliminate overcapacity may be desirable.¹⁰³

There also may be grounds for believing that a broader range of efficiencies can more often be credibly claimed and proved in the distressed industry context. Without doubt, improved capacity utilization leading to lower unit costs (which may be a goal in many mergers) is exactly the kind of efficiency that can address the problems of distressed industries. Other types of efficiencies, such as those in distribution or financial savings, which often may not be credible or primarily obtainable in mergers in healthy industries, might be persuasive in distressed industry situations.¹⁰⁴

¹⁰⁰ PORTER, *supra* note 9, at 663. *See also* SCHERER & ROSS, *supra* note 9 (in declining industries, mergers enable least efficient units of production to be shut down); Malcolm Coate & Andrew Kleit, *Antitrust Policy for Declining Industries*, 147 J. INSTITUTIONAL & THEORETICAL ECON. 477, 488 (1991).

¹⁰¹ *See* Busey 4278; *cf.* Kovacic 4280-83.

¹⁰² *See supra* Chapter 2 note 123. *Cf.* Hausman (Stmt) (discussing declining industry mergers leading to improved quality and increased demand).

¹⁰³ *See* Sims 2024; Report of the Defense Science Board Antitrust Task Force, *Antitrust Aspects of Defense Industry Consolidation* (Apr. 12, 1994), *summary reprinted in* 7 Trade Reg. Rep. (CCH) ¶ 50,138.

¹⁰⁴ *See* First, *supra* note 8, at 1069.

Within the limited confines of the failing firm defense, efficiency arguments can play a role in assessing whether any alternative offers elicited by the failing firm “pose a less severe danger to competition than does the proposed merger.”¹⁰⁵ Efficiencies that influence post-merger competitive dynamics may affect such comparisons. The *Guidelines*’ language is sufficiently flexible to allow the merging parties to argue that because of the efficiencies that they likely will obtain, the merger poses a less severe danger to competition and is more likely to keep assets in the market than does an alternative, facially less anticompetitive, offer from a firm not currently in the market. When a firm is near bankruptcy, there may well be instances in which a purchaser in an unrelated business would not have sufficient experience to keep the failing firm’s assets in the market.¹⁰⁶ At times, an outsider may be unable to capture certain efficiencies that a competitor could achieve through merger.¹⁰⁷ Thus, the superficially preferable alternative offer may, upon closer scrutiny, result in less rather than more competition in the relevant market. We recommend that the FTC consider, when appropriate, claims by acquiring competitors that they will operate the failing firm more efficiently or will be a more effective competitor than an outside firm.¹⁰⁸ Because the *Guidelines*’ language provides ample room for such arguments, no amendment to the alternative purchaser requirement is necessary.

¹⁰⁵ 1992 *Guidelines* § 5.1, 4 Trade Reg. Rep. (CCH) at 20,574. This text is qualified by a footnote that defines what constitutes a reasonable alternative offer: “Any offer to purchase the assets of the failing firm for a price above the liquidation value of those assets -- the highest valued use outside the relevant market or equivalent offer to purchase the stock of the failing firm -- will be regarded as a reasonable alternative offer.” *Id.* at n.36.

¹⁰⁶ McDavid 3944-45. *See* Hausman 2080-81.

¹⁰⁷ Proger 2098.

¹⁰⁸ Nevertheless, an increase in efficiency through merger will not always counteract the potential adverse competitive effects of combining two competitors in a market. *See* Chapter 2 for a discussion of the analysis of efficiencies.

CHAPTER 4

THE DEFINITION OF GEOGRAPHIC MARKETS

I. INTRODUCTION

One of the most important issues in antitrust proceedings is the definition of the relevant market, because so much else depends on it. Antitrust defines relevant markets along two dimensions: the product market (the goods or services at issue) and the geographic market in which the product is produced or sold. The hearings focused on one aspect of this critical starting point -- how to assess the role of foreign suppliers when defining and analyzing the geographic market. That role is increasingly important as the cross-border flow of goods and services continues to expand.

As discussed in Chapter 1, international trade has consistently grown faster than output during the postwar period, with world imports and exports increasing by more than 80 percent between 1980 and 1993 alone.¹ Lowering trade barriers and improved technology, which reduce transportation and communication costs, have contributed to increasingly seamless markets and a new era of global competition.² United States exports accounted for over 12 percent of the U.S. gross domestic product (GDP) in 1994,³ while imports accounted for over 14 percent of GDP that year, up two-fold from 1970.⁴ Antitrust enforcement today cannot ignore that relevant markets may be shaped by foreign competitors.

This chapter sets out the current approach to analyzing foreign firms in geographic market definition under the 1992 Horizontal Merger Guidelines (*1992 Guidelines*). It briefly discusses recent Commission and court cases addressing the issue. The chapter then summarizes the hearings testimony on geographic market definition, foreign competitors, and the availability of

¹ See *supra* Chapter 1.

² *Id.* See also *Conference: Bringing Standards Together: An International Framework*, sponsored by the U.S. Consumer Product Safety Commission (July 18, 1995) (Stmt) (discussing the harmonization of product standards in increasingly global marketplace).

³ See *supra* Chapter 1.

⁴ *Id.*

evidence on these issues, followed by staff analysis and recommendations based on the testimony, enforcement experience and available literature. We conclude that the analytical framework provided in the current *1992 Guidelines* can keep pace with increasingly integrated global markets.

A. Merger Guidelines

The *1992 Horizontal Merger Guidelines* recognize that foreign firms can affect geographic market definition significantly. As a general matter, foreign producers are treated similarly to their domestic counterparts both in defining the relevant geographic market and in assessing each firm's competitive significance within it.⁵ At the same time, qualifications in the *Guidelines* recognize that foreign based firms can differ from their domestic rivals in their competitive impact, often for uniquely international reasons.⁶

Once the geographic market is determined,⁷ all current producers or sellers in the market,⁸ including potential "uncommitted" entrants,⁹ are identified and assigned market shares.¹⁰ The

⁵ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* §§ 1.2-1.43 (1992), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,104 at 20,573 to 20,573-5.

⁶ The *Guidelines* do not specifically address what constitutes a foreign firm nor do the hearings provide an adequate record to do so. For present purposes, it is any producer or seller located outside of the United States who ships, transmits, or provides goods or services to the U.S. The foreign firm may be physically in the relevant geographic market, *e.g.*, if it is worldwide, and therefore not technically importing "into" it, or the foreign firm may be physically outside the relevant geographic market, *e.g.*, if it is limited to the United States, and importing into it.

⁷ *1992 Guidelines* § 1.21, 4 Trade Reg. Rep. (CCH) at 20,573 to 20,573-3.

⁸ *1992 Guidelines* § 1.31, 4 Trade Reg. Rep. (CCH) at 20,573-3.

⁹ *Id.*

¹⁰ *1992 Guidelines* §§ 1.41, 1.43, 4 Trade Reg. Rep. (CCH) at 20,573-4 to 20,573-5 ("Market shares will be assigned to foreign competitors in the same way in which they are assigned to domestic firms.").

Guidelines place three qualifications on foreign producers when assigning market share.¹¹ First, where exchange rates fluctuate significantly, longer time periods than one year may be used to calculate market shares. Second, an import quota will be treated as a ceiling in calculating market shares of firms subject to the quota. And third, where a group of foreign firms act in coordination, their market shares may be aggregated into a single figure. Thus, while broadly recognizing the significance that foreign competition may have, the *Guidelines* counsel the need for case-by-case, fact-intensive evaluation of the impact of foreign competitors in relevant markets.

B. Case Law Involving Foreign Competition

Commission and court decisions reflect comparable case-by-case, fact-intensive assessment of foreign competitors in market definition analysis. Three relatively recent cases are illustrative. In *Olin Corp.*,¹² a merger case, the FTC found foreign competitors to be in the U.S. market for swimming pool sanitizers, because imports comprised a significant amount of domestic consumption. However, the FTC concluded that foreign firms' market shares should be discounted significantly for several reasons. First, foreign producers could not be counted on to divert excess capacity to the U.S. market in case of a domestic price increase.¹³ Second, exchange rate fluctuations were likely to raise the cost of foreign sanitizers. Finally, antidumping orders obtained previously by the domestic producers limited the likelihood of increased imports in response to a price increase.¹⁴

In another merger case, *FTC v. Occidental Petroleum Corp.*,¹⁵ the FTC contended that the geographic market for polyvinyl chloride resin (PVC) was the United States, while the merging parties claimed that the market was worldwide, since foreign producers already supplying the

¹¹ 1992 *Guidelines* § 1.43, 4 Trade Reg. Rep. (CCH) at 20,573-5.

¹² Dkt. 9496, 5 Trade Reg. Rep. (CCH) ¶ 22,857 (FTC 1990), *aff'd*, 986 F.2d 1295 (9th Cir. 1993).

¹³ *Id.* at 22,552-22,553.

¹⁴ *Id.*

¹⁵ 1986-1 Trade Cas. (CCH) ¶ 67,071 (D.D.C. 1986).

U.S. market could divert more capacity there. Without specifically defining the geographic market, the district court concluded at the preliminary injunction phase of the case that the market “at a minimum must include a significant amount of foreign capacity.”¹⁶ The court observed that the market share for imports had risen dramatically over the past five years (approximately 1981-1985) with a noticeable downward effect on the price of PVC in the U.S.¹⁷ The court also noted that there appeared to be a “huge amount of excess capacity” abroad that could be diverted to the U.S. market in response to a price increase.¹⁸

In its final order mandating divestiture several years later, the Commission’s assessment of the relevant geographic market differed from that of the district court.¹⁹ The Commission found that PVC imports had been only a minor part of domestic supply and would not serve as a reliable check on domestic prices.²⁰ This finding was based on price movements, tariffs, transportation costs, and customer needs regarding quality, delivery and technical support, all of which handicapped foreign suppliers.²¹ The Commission also noted that despite a strong PVC price increase between 1984 and 1988, imports had sharply declined to nearly their 1980 levels.²²

¹⁶ *Id.* at 62,518.

¹⁷ *Id.* at 62,513.

¹⁸ *Id.* at 62,518.

¹⁹ Occidental Petroleum Corp., 5 Trade Reg. Rep. (CCH) ¶23,370 at 23,047 (FTC Dec. 22, 1992).

²⁰ *Id.* at 23,053-23,057.

²¹ *Id.*

²² *Id.*

In light of this evidence, some gleaned since the court's decision, the Commission concluded that the geographic market for PVC was the United States.

A similar fact specific analysis of foreign competition was performed in *Mustad International Group NV*.²³ In that case, which ended in a consent decree, a manufacturer of horseshoe nails was alleged to have unlawfully monopolized the U.S. market for horseshoe nails through a series of acquisitions. The FTC argued that, although horseshoe nails are produced and consumed worldwide, U.S. consumption was exclusively of a high-quality nail and predominantly of one particular style that largely was produced in the U.S. Moreover, a recent U.S. price increase of nearly 75 percent for the preferred quality and style did not alter consumption patterns appreciably.²⁴

However, because a prior foreign producer and supplier²⁵ of the U.S.-preferred nail had successfully established a U.S. distribution system and caused a significant reduction in U.S. prices, the FTC calculated market shares by including all foreign and domestic suppliers of the style and quality nail preferred in the U.S. Market share was evaluated both on the basis of current share of U.S. sales and on the basis of capacity for the higher quality, U.S.-style product.

II. SUMMARY OF WITNESS TESTIMONY

A. 1992 Guidelines and Agency Practice Generally Provide the Proper Analytical Framework for Geographic Markets

The majority of witnesses agreed that the *1992 Guidelines* framework for determining geographic market definition is essentially correct.²⁶ This was largely confirmed in an informal poll conducted by one of the hearings participants who surveyed attorneys practicing before the FTC. Survey respondents agreed with the FTC staff's geographic market analysis in 85 percent

²³ C-3624, 5 Trade Reg. Rep. (CCH) ¶ 23,875 (FTC Oct. 30, 1995).

²⁴ *Id.* A similar preference for U.S. suppliers based on reputations for higher quality was found to be sufficient to discount foreign suppliers' share of the U.S. market in Del Monte Foods Co., C-3569, 5 Trade Reg. Rep. (CCH) ¶ 23,747 (FTC Apr. 11, 1995).

²⁵ Mustad subsequently acquired the firm.

²⁶ *See, e.g.*, Atwood 371, 447; Briggs 415-16; Weiner 415; Leddy 604-05 (any potential difficulties are informational, not analytical).

of their cases that involved foreign firms.²⁷ Some hearings participants, however, suggested that in light of the increasing globalization of trade, there should be more of a bias favoring international markets.²⁸

B. Geographic Market Analysis Should Not Rely on Absolute Rules; It Is a Very Fact Specific Inquiry

Hearings testimony overwhelmingly supported the position that geographic market analysis and the role of foreign goods or services is a highly fact specific inquiry.²⁹ Absolute rules prescribing the extent to which foreign sales or capacity should be presumed divertable were rejected.³⁰ For example, it was suggested that while the presence of imports should not lead the agency automatically to include all foreign capacity,³¹ the absence of imports should not lead the agency necessarily to exclude all foreign capacity.³² In the latter instance, foreign products might enter the United States in response to a substantial price rise, thus acting as a constraint on domestic pricing. Others noted that the same factor may have a differing impact on the market significance of foreign producers in different situations. Import responses to exchange rate fluctuations, for example, may not always provide reliable evidence of how foreign suppliers

²⁷ See Nelson 546. See also Constantine 572 (FTC practice and decisions with respect to imports and geographic markets are very good).

²⁸ See Leddy 602-04; Bell 618; Rill 4090-91 (The 1992 Guidelines are unduly cautious with respect to global markets and do not take account of their inherent dynamics; the one- and two-year time frames for overseas supply response are too narrow).

²⁹ See, e.g., Atwood 371, 447; Winterscheid 393-95; Nelson 547-51; Baker 594-95; Leddy 607-09; Jorde 4106-07.

³⁰ E.g., Winterscheid 395.

³¹ E.g., Nelson 547, 549-51.

³² *Id.*

would react to a merged firm's price increase.³³ Similarly, product differentiation may make foreign entry more or less likely.³⁴

Some thought that it would be helpful to articulate factors that are likely to be relevant in assessing foreign firm conduct.³⁵ One proposal was for a policy statement that would set forth issues unique to foreign competition, such as access to foreign evidence, how such evidence would be evaluated, and the factors that the agency would take into account in deciding whether and to what extent to include foreign competition in the relevant geographic market.³⁶ Although participants were largely satisfied with the current *Guidelines*, there was some agreement that such a proposal, if possible to formulate, would be worthwhile.³⁷ Concern was expressed, though, that more *Guidelines*-type statements would not add significantly to current analysis.³⁸

C. The Real Issue Is the Impact of the Transaction on U.S. Consumers; Accordingly, Much -- Although Not All -- of the Information Is Likely to Be in the United States

Several reiterated that the critical question in merger analysis is the impact of the transaction on U.S. consumers.³⁹ Consequently, even when foreign supply response is in issue,

³³ See Bell 619. Compare Nelson 614-15 (It is difficult to generalize about import responses in all product markets resulting from exchange rate fluctuation.) with Leddy 606-07 (In specific product markets, exchange rate fluctuation has been a good proxy for a hypothetical price increase.).

³⁴ See Bell 564, 619-20 (the question is how good a substitute the foreign good is for the U.S. good, and while the analysis is more difficult for a differentiated product, it potentially could be an even stronger substitute than a homogeneous product because of supply elasticity); Leddy 607-08 (with highly differentiated, heavily branded products, more questions have to be asked about the cost of incremental distribution in the U.S.).

³⁵ See Winterscheid 400, 446; Briggs 448.

³⁶ Winterscheid 400, 446.

³⁷ Winterscheid 400, 446; Briggs 448.

³⁸ Jorde 4108.

³⁹ See Atwood 369; Briggs 376; Winterscheid 392-93.

much of the information for assessing that response is available in the U.S.⁴⁰ For example, demand side information -- preferences and reactions of U.S. customers -- obviously is obtainable domestically.⁴¹ But many believed that much supply side information, or at least reasonable proxies therefor, also may be found within the U.S.⁴²

Some, however, cautioned that certain information, particularly concerning foreign firms' intentions, costs, and the foreign demand elasticities they face, likely will lie abroad.⁴³ One participant proposed a series of presumptions for situations where market information involving foreign competitors is imperfect.⁴⁴ Some saw merit in the proposal,⁴⁵ noting that it provided only rules of thumb and did not alter the ultimate burden of persuasion in merger analysis.⁴⁶ There was general consensus that the FTC should bear the burden of proving geographic market definition, even when the merging parties contended it was larger than the U.S., since the

⁴⁰ Atwood 370-72; Briggs 381-83; Winterscheid 397-98.

⁴¹ See Atwood 369-72; Briggs 381-82; Winterscheid 397-98.

⁴² See Briggs 381-82 ("U.S. producers can probably serve as a reasonable proxy for like situated foreign producers at least where U.S. costs are the main issues."); Atwood 371-72; Winterscheid 397-98.

⁴³ See Briggs 383; Winterscheid 397-98; Weiner 405-07.

⁴⁴ See Briggs 385-89, (Stmt) 6-9 (suggesting the following presumptions: (1) where a foreign firm is already selling a homogeneous product into the U.S., its estimated post-merger market share should be presumed somewhat larger than its existing share, with the burden on the FTC to disprove it; (2) where a foreign firm is already selling a heterogeneous product into the U.S., its estimated post-merger market share should be presumed to be its actual current U.S. sales, with the burden on the parties to disprove it; (3) for an uncommitted entrant with a homogeneous product, a nontrivial amount of its capacity should be presumed to enter the market, unless the FTC proves otherwise; (4) for an uncommitted entrant with a heterogeneous product, it should be presumed that entry within one year is unlikely and that it would have to enter as a committed entrant, unless the parties prove otherwise; and (5) for a committed entrant, the burden should be on the parties to show the likelihood, sufficiency and timeliness of entry).

⁴⁵ See Weiner 431-32; Winterscheid 432-33.

⁴⁶ Weiner 431-32.

government must prove every element of its cases.⁴⁷ In this connection, some noted that the government is generally in a better position to obtain foreign based information than are the parties,⁴⁸ especially since third party foreign entities may be reluctant to provide information to counsel for their competitors.⁴⁹

D. Remedial Flexibility May Be Appropriate When Information Is Imperfect

When information about foreign competitors is imperfect despite the government's and the parties' best efforts, and competitive concerns may diminish with later, improved information, some suggested fashioning more flexible remedial solutions. Suggestions included allowing for phased divestiture if anticipated capacity from foreign entrants turned out not to be available, or licensing for segmented intervals or first on a nonexclusive and then on an exclusive basis if that ultimately was required to provide a foreign purchaser sufficient incentive to commercialize the relevant product on a broad scale.⁵⁰ Caution was raised that such decrees might create an unduly regulatory environment or skew business behavior.⁵¹

III. STAFF ANALYSIS AND RECOMMENDATIONS

A. The 1992 Guidelines' Fact Specific Approach to Foreign Supply Response Provides the Correct Framework

We agree with the virtually unanimous view expressed by hearings participants that the *1992 Guidelines*, although phrased at a level of considerable generality, properly frame the analysis of foreign supply response in geographic markets.⁵² We also believe that antitrust market analysis should not exhibit a bias against global markets, foreign competitors or potential

⁴⁷ Atwood 373. *See also* Winterscheid 399.

⁴⁸ Atwood 373-74; Winterscheid 399.

⁴⁹ Atwood 435.

⁵⁰ Weiner 410-12; Atwood 422-23.

⁵¹ Winterscheid 419; Atwood 423.

⁵² *See, e.g.*, Atwood 371, 447; Briggs 415-16; Weiner 415; Leddy 604-05; *but cf.* Rill 4090-91.

foreign competitors based on unexamined assumptions that foreign trade is fragile, easily disrupted, and unpredictable; a careful investigation of the facts of each case is what is needed. Because participants uniformly found the FTC's analysis of geographic markets to be essentially correct,⁵³ and at most sought greater clarity,⁵⁴ the following amplifies on geographic market definition issues.

Once the relevant geographic market is defined,⁵⁵ the FTC will identify all firms, whether foreign or domestic, that either (1) currently sell or produce in that relevant market,⁵⁶ or (2) would likely enter the market within one year -- without having to incur significant unrecoverable costs of entry or exit -- in response to a post-merger price increase.⁵⁷ However, even if a firm *could* enter the market in this fashion, if it *would* be unlikely to do so because of difficulties in achieving product acceptance or distribution, the FTC will not include it as a market participant. Such exclusion is theoretically possible with respect to either domestic or foreign firms.⁵⁸ Moreover, the current absence of imports is not determinative of whether foreign firms would respond to a post-merger price increase within one year. The absence of shipments

⁵³ See Atwood 447; Briggs 447-48; Nelson 546; Constantine 572; Leddy 604.

⁵⁴ See, e.g., Winterscheid 400-01, 446; Briggs 448.

⁵⁵ Under Section 1.21 of the *Guidelines*, the relevant geographic market is defined as the smallest area within which a hypothetical monopolist in the relevant product market could profitably impose a "small but significant and nontransitory" price increase. This is commonly referred to as the "5 percent test" for geographic market definition. *1992 Guidelines* § 1.21, 4 Trade Reg. Rep. (CCH) at 20,573 to 20,573-3.

⁵⁶ *1992 Guidelines* § 1.31, 4 Trade Reg. Rep. (CCH) at 20,573-3. These firms could be vertically integrated ones, if they are competitively significant, or firms that produce or sell reconditioned or recycled goods, if those goods are sufficiently attractive to buyers. *Id.*

⁵⁷ *1992 Guidelines* § 1.32, 4 Trade Reg. Rep. (CCH) at 20,573-3 to 20,573-4. The competitive significance of firms that require more than a year to enter the relevant market or that must incur significant sunk costs of entry and exit are considered in entry analysis. *1992 Guidelines* § 3, 4 Trade Reg. Rep. (CCH) at 20,573-9 et seq.

⁵⁸ E.g., Del Monte Foods Co., C-3569, 5 Trade Reg. Rep. (CCH) ¶ 23,747 (FTC Apr. 11, 1995) (preference for U.S. goods).

may simply indicate that local prices are currently competitive, whereas, if prices rose, foreign (or non-local) shipments of the relevant product would enter the market.⁵⁹ Likewise, the types of unrecoverable costs that preclude a timely (within one year) and likely (*e.g.*, profitable) supply response may at times impact foreign firms more than domestic firms; at other times they may affect domestic firms more.⁶⁰ Successful foreign firms may have advantages over domestic firms that are not currently selling or producing the relevant product in the relevant area -- patents, know-how, an established reputation, or a well-known trademark.⁶¹ Alternatively, regulatory approvals and testing, or inexperience with marketing in the United States, may disproportionately burden some foreign firms. Again, each case requires a fact-specific inquiry.

Having identified market participants, the FTC will calculate market shares for each firm “based on the total sales or capacity currently devoted to the relevant market together with that which likely would be devoted” in response to a price increase.⁶² This calculation is of course subject to the qualification that historical pricing and trading data, and consequent market share and concentration data, may understate or overstate the likely future competitive significance of firms in the market.⁶³ In calculating the likely sales or capacity that would be devoted to the relevant market in response to a post-merger price increase, the FTC examines whether a firm’s

⁵⁹ Nelson 549-50; *cf.* Donald Baker & David Balto, *Foreign Competition and the Market Power Inquiry*, 60 ANTITRUST L. J. 945, 967-71 (1992).

⁶⁰ Significant unrecoverable costs (*e.g.*, those that cannot be recouped within a year of initial sales or production) include, *inter alia*, “market-specific investments in production facilities, technologies, marketing (including product acceptance), research and development, regulatory approvals and testing.” *1992 Guidelines* § 1.32, 4 Trade Reg. Rep. (CCH) at 20,573-4.

⁶¹ Baker & Balto, *supra* note 59, at 958. *Cf.* *Yamaha Motor Co. v. FTC*, 657 F.2d 971 (8th Cir. 1981) (Yamaha likely to enter U.S. market given its technology, production capacity, and marketing know-how), *cert. denied*, 456 U.S. 915 (1992).

⁶² *1992 Guidelines* § 1.41, 4 Trade Reg. Rep. (CCH) at 20,573-4 et seq.

⁶³ *1992 Guidelines* § 1.52, 4 Trade Reg. Rep. (CCH) at 20,573-6. The *Guidelines*’ concern with the potential for over-estimating the size of markets when current prices already involve the exercise of substantial market power pertains to trade data as well as domestic shipment data. *1992 Guidelines* § 1.11, 4 Trade Reg. Rep. (CCH) at 20,572-20,573.

capacity is committed or so profitably employed outside the relevant market that it would not be available to foil a post-merger price increase.⁶⁴ This too is a fact-specific inquiry that does not display any particular bias with respect to domestic or foreign firms.⁶⁵ It does, however, indicate a rejection of absolute rules or presumptions, such as the Landes/Posner proposal that if import penetration has reached the five percent level, then all foreign capacity should be taken into account in calculating market shares.⁶⁶ In fact, no hearings participant advocated such absolute rules, which tend to be underinclusive or overinclusive in any actual case.

For the most part, any non-local producer (domestic or foreign) would face the same strategic questions about how much production it should divert to the relevant market. Any nonlocal firm must recognize that diverting sales from other areas may cause prices in those areas to rise, thereby reducing incentives to divert as the amount of diversion increases. Moreover, some diversions may involve substantial sunk costs which effectively make the diversion a form of “committed” entry, dealt with under entry analysis, rather than “uncommitted” entry, dealt with through geographic market analysis. For example, both foreign and domestic firms may have costly-to-develop and long-standing relationships with distributors and consumers outside of the relevant market. A large shift in sales could be detrimental to those relationships and any lost relationships would involve sunk costs. In addition, expanding sales dramatically may require costly expansion of distribution or development of reputation with consumers, which again may involve sunk expenditures. This could lead either foreign or non-local domestic firms to expand their market presence slowly or not at all.⁶⁷

Foreign firms, however, may face particular strategic dilemmas. If a foreign firm were to

⁶⁴ 1992 *Guidelines* § 1.41, 4 Trade Reg. Rep. (CCH) at 20,573-4 et seq.

⁶⁵ One relevant difference is that the inquiry may raise evidentiary difficulties with respect to foreign firms. See Briggs 383; Winterscheid 397-98; Weiner 405-07.

⁶⁶ William Landes & Richard Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 964 (1981).

⁶⁷ See generally Baker & Balto, *supra* note 59, at 953-54; Robert Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90 COLUM. L. REV. 1805, 1858-59 (1990).

begin diverting a substantially increased portion of its production to a single export destination, the importing country might take measures (whether through tariffs, quotas, import bans or other punitive actions) to ensure that its local producers were not overwhelmed.⁶⁸ In addition, if the foreign firm's products were subsidized, the foreign government might be unwilling to continue or extend such subsidies if that future support were to flow not to constituents or citizens but to foreign consumers. Finally, a foreign producer's marginal cost of supplying additional units in the relevant geographic area may be greater than non-local domestic producers if the foreign firm must rely on third party distributors.⁶⁹

In sum, careful case-by-case application of the *1992 Guidelines* should produce the correct geographic market definition, which at times may include foreign supply responses and at times, for various factual reasons, may not. Given the integrated global economy, U.S. consumers are increasingly turning to both domestic and foreign firms as economical and lasting sources of supply.

B. Foreign Competitors May Nonetheless Be Subject to Unique Forces

Notwithstanding the similarity of analysis applied to foreign and domestic supply responses in defining geographic markets, there are times when a snapshot assessment of the economic effects of a merger involving markets with foreign participants is less reliable than one involving only domestic firms. This may be due to political factors, economic factors or informational difficulties.

1. Political Factors

Witnesses indicated, and we tend to agree, that in many circumstances political factors tend to be more significant than economic ones in distinguishing foreign firms' ability to respond

⁶⁸ Cf. *Olin Corp.*, Dkt. 9496, 5 Trade Reg. Rep. (CCH) ¶ 22,857 at 22,540, 22,552-22,553 (FTC 1990), *aff'd*, 986 F.2d 1295 (9th Cir. 1993). Foreign suppliers also can increase competition by entering a market through direct investment in the importing country. Assessment of entry, another aspect of merger analysis under the *Guidelines*, is not addressed here.

⁶⁹ See generally *Baker & Balto*, *supra* note 59, at 953-54; 2A PHILLIP E. AREEDA ET AL., *ANTITRUST LAW* ¶¶ 555a & 555b at 245-46 (1995).

to a price increase in the relevant market.⁷⁰ A wide variety of political factors may affect uniquely the supply responses of foreign competitors in relevant U.S. or transnational markets. Quotas, tariffs, duties, antidumping, or countervailing duty actions by U.S. firms, “buy America” policies, entry control (whether in the form of product certification, prior approval of, *e.g.*, airline routes, or health, safety, or environmental approvals), tax relief, national security concerns, and domestic ownership restrictions all may play a role in circumscribing a foreign firm’s potential effectiveness or ability to counteract a post-merger price increase in a timely manner.

The *1992 Guidelines*, however, expressly identify only quotas as a special political factor affecting foreign firms,⁷¹ because quotas may constrain foreigners’ abilities to counteract any likely post-merger price increase. Where the limit permitted by a quota has already been met before a proposed merger, foreign firms are unlikely to be an effective discipline on any potential adverse competitive effects from a merger.⁷² This is even more the case if the quota is a percentage quota, since a domestic price increase that reduced domestic consumption also would result in a reduction of imports allowed under the quota into the United States.⁷³

The *Guidelines* are silent as to whether they cover only formal import quotas imposed by the U.S. Government or whether they are also intended to embrace more informal voluntary export quotas that foreign countries may apply to goods being exported from their territory to the United States. At times the U.S. Government may request, or a foreign country at its own initiative voluntarily may impose, limits on exports in order to dissuade the U.S. from resorting

⁷⁰ See Baker 587, 590; Winterscheid 396.

⁷¹ *1992 Guidelines* § 1.43, 4 Trade Reg. Rep. (CCH) at 20,573-5 (“If shipments from a particular country to the United States are subject to a quota, the market shares assigned to firms in that country will not exceed the amount of shipments by such firms allowed under the quota.”).

⁷² See *Canadian Merger Guidelines* § 4.3.

⁷³ *1992 Guidelines* § 1.43, 4 Trade Reg. Rep. (CCH) at 20,573-5. It also may be appropriate to assign a single market share to a country (or group of countries) if firms therein act in coordination, for example, by functioning as an export consortium or because the government of a country that is subject to a quota allocates production among those firms. See *id.*; *Canadian Merger Guidelines* § 4.3 & n.31.

to more permanent and formal import quotas.⁷⁴ While voluntary export quotas are more subject to change and evasion than binding import quotas, and while certain situations may reveal unique facts, in general, informal, voluntary export quotas should be evaluated in the same manner as formal import quotas for purposes of calculating market shares.⁷⁵

While the *1992 Guidelines* do not address other political factors, the *Canadian Merger Guidelines* contain a useful analysis of the effect of scheduled tariff reductions on merger review. They point out that tariff reductions pursuant to the Canada-U.S. Free Trade Agreement (now expanded to the North American Free Trade Agreement (NAFTA)) and the General Agreement on Tariff and Trade (GATT) are likely to increase the constraining influence of foreign competition. Those reductions will affect different industries differently, however, because the timing of the tariff decreases under trade agreements often varies by industry and country.⁷⁶ The way in which these tariff reductions intersect with prevailing prices in relevant markets may in turn affect whether foreign firms can discipline a price increase in the relevant market. When pre-merger prices are just below the ceiling of protection furnished by a tariff, foreign firms may be able to make any post-merger price increase unprofitable.⁷⁷

Political factors also may take on heightened importance as global trade increasingly involves trade in services. Services such as banking, insurance, communications, the practice of law and transportation traditionally have been subject to a greater degree of government regulation than has the production of goods. Further, multilateral agreements governing trade in

⁷⁴ Fruehan 461 (steel voluntary restraint agreements).

⁷⁵ See 2A PHILLIP E. AREEDA ET AL., *ANTITRUST LAW* ¶ 555a at 244-45 (1995). In the GM-Toyota joint venture, FTC staff placed limits on Japanese imports in calculating market power because of the Voluntary Restraint Agreement limiting those imports. See John Kwoka, *International Joint Venture: General Motors and Toyota*, in *THE ANTITRUST REVOLUTION* 46, 54 (John Kwoka & Lawrence White eds. 1989).

⁷⁶ For example, under the NAFTA, tariff reductions may proceed in equal annual increments for ten or fifteen years in some industries, in lumpier stages in other industries, and may not become significant for others until the end of the ten or fifteen year tariff reduction period.

⁷⁷ Cf. *Canadian Merger Guidelines* § 4.3.

services are both more recent and less disciplined in guarding against differential treatment than are trade agreements with respect to goods.⁷⁸

From an antitrust enforcement perspective, however, it often may be too speculative to try to predict the political strength of various domestic industries and whether tariffs, quotas, government regulations, or other barriers to imports or voluntary limits on exports will be increased or withdrawn in the near term. Thus, any attempt to assess how changing political factors may affect foreign supply response in any particular merger situation will be virtually impossible. Consequently, it is appropriate to analyze the market as it currently exists with due regard both to actual barriers to the expansion of imports and to the increasing trend toward the globalization of trade and services.⁷⁹

2. Economic Factors

A variety of economic factors -- transportation costs, customer convenience and preference, difficulties in obtaining service and spare parts, capacity utilization, committed capacity and production, product differentiation, switching costs, and exchange rates -- may affect the supply response of any firm. With the possible exception of exchange rates, none of these factors is unique to foreign as opposed to domestic firms -- they may affect the firm in Illinois or in Italy when selling to New York. The role that these factors play in the process of market definition will vary depending on the circumstances. With respect to transportation costs, for example, it has been noted that for a wide range of manufactured commodities, average transportation costs account for less than five percent of price.⁸⁰ And current trends towards

⁷⁸ The first trade agreement to address services was NAFTA. *See* North American Free Trade Agreement Implementation Act, Pub. L. No. 103-182, 107 Stat. 2057 (1993) (Chapters 11-16). The Uruguay Round and the World Trade Organization (WTO) then incorporated services in the Agreement on Trade Related Investment Measures (TRIMS). *See generally* Stewart (Stmt).

⁷⁹ *Cf.* 2A PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶¶ 555b & 555c at 246-47 (1995).

⁸⁰ SCHERER ET AL., THE ECONOMICS OF MULTI-PLANT OPERATIONS 429-33, Appendix Table 5.1 (1975).

falling transportation costs⁸¹ and the expansion of trade in services will only minimize this factor further as a general matter.⁸² Other factors, such as customer preference, may at times favor and at times hinder imports. There may be a reluctance of domestic intermediate or final purchasers to buy from foreign countries or there may be a special consumer preference for foreign products, or foreign goods may have been placed on approved sourcing lists.⁸³ Thus, clear or general rules with respect to economic factors cannot govern the evaluation of foreign supply response in market definition. Detailed, case-specific facts are needed to make the proper evaluation.

Exchange rates and their fluctuations, similarly, may at times impede or facilitate the supply response of foreign firms. The *1992 Guidelines* identify exchange rates as a special factor affecting foreign firms to the extent that significant exchange rate fluctuations may make annual market shares based on dollars unrepresentative. In that situation, the FTC may measure market shares over a period longer than one year.⁸⁴ The *Canadian Merger Guidelines* attempt to describe more fully how exchange rates may hinder (or facilitate) the entry of foreign products into Canada. They note that exchange rates may have both a direct and indirect effect on foreign producers. In a direct sense, if the currency in the relevant domestic market depreciates relative to that of the country in which a supplier is located, imports into the relevant market become less attractive (and a merged firm could more likely raise price without inviting more imports).⁸⁵ In

⁸¹ See *supra* Chapter 1.

⁸² *But cf.* *FTC v. Owens-Illinois, Inc.*, 681 F. Supp. 27, 51 (D.D.C.), *vacated as moot*, 850 F.2d 694 (D.C. Cir. 1988) (high freight costs a factor in rendering foreign suppliers unlikely substitute source of glass containers).

⁸³ *Cf. Canadian Merger Guidelines* § 4.3. *Compare* *FTC v. Owens-Illinois, Inc.*, 681 F. Supp. 27, 51 (D.D.C.) (foreign suppliers not viable alternative because, inter alia, quality concerns, breakage and unreliability of supply), *vacated as moot*, 850 F.2d 694 (D.C. Cir. 1988) *with* *United States v. Eastman Kodak Co.*, 63 F.3d 95 (2d Cir. 1995) (very little difference in quality among brands of film; Kodak and Fuji are excellent, Konica and Agfa also are very good, while 3M is of slightly lower quality).

⁸⁴ *1992 Guidelines* § 1.43, 4 Trade Reg. Rep. (CCH) at 20,573-5.

⁸⁵ *Canadian Merger Guidelines* § 4.3; 2A PHILLIP E. AREEDA ET AL., ANTITRUST
(continued...)

an indirect sense, foreign suppliers and domestic purchasers may view the difficulties and uncertainties associated with exchange rate fluctuations as a disincentive to cross-border transactions. Here too, however, domestic purchasers may facilitate foreign competition by buying forward in currency markets, speculating that they can anticipate future shifts in currency values.⁸⁶ But such currency hedging is not costless, and thus efforts to avoid exchange rate risk may ultimately make foreign suppliers' goods more expensive.

Some have noted that because currency fluctuations operate in the same way as a relative price increase, historical exchange rate fluctuations should provide an ideal laboratory for helping to predict likely foreign supply responses to a post-merger price increase.⁸⁷ While historical evidence does not always show imports rising in response to increases in the value of the dollar,⁸⁸ there have been particular products where an increase did occur.⁸⁹ Moreover, because U.S. producers may incorporate inputs from overseas into their goods, just as foreign firms' goods may well contain U.S. inputs, exchange rate fluctuations may have more ambiguous value for predicting likely foreign supply responses in such industries.⁹⁰ This is likely to be increasingly the case as companies expand their worldwide sourcing strategies.⁹¹ This counsels for a careful examination of the facts of each case, and a need to assess the extent to which conditions in the market at the time of the exchange rate rise are comparable to conditions prevailing at the time of the merger.

⁸⁵(...continued)

LAW ¶ 555a at 245 (1995). Of course, if the home market currency were to appreciate relative to that of the country in which the exporting firm is located, this scenario would be reversed.

⁸⁶ *Canadian Merger Guidelines* § 4.3 & n.34.

⁸⁷ See George Hay et al., *Geographic Market Definition in an International Context*, 64 CHI.-KENT L. REV. 711 (1988).

⁸⁸ *Id.*

⁸⁹ Leddy 606-07.

⁹⁰ See Rill 136.

⁹¹ See Roos 278-79; Rogers 296.

3. Informational Difficulties

We agree with the hearings participants that in evaluating mergers, the critical focus should be on the impact of the transaction on U.S. consumers. Consequently, much relevant information about foreign firms' likely supply responses may often be available in the United States. Sometimes, however, information concerning foreign firms' intentions, costs, available capacities, supply commitments or other factors will be unavailable. Although presumptions have been proposed for situations where information about foreign suppliers is lacking,⁹² here, as elsewhere, broad presumptions would be inappropriate because of the case-specific, fact-intensive nature of the analysis. We do believe, however, that increased cooperation among antitrust enforcers worldwide and improved agreements that enhance enforcers' abilities to obtain relevant information could alleviate some of the current information difficulties.⁹³

C. One Caveat: The Possibility of Localized Geographic Markets

Twentieth century trends, such as decreasing transportation costs, reduced trade barriers, and improved communications have generally functioned to increase the scope of geographic markets. However, some recent trends in manufacturing techniques and retailing strategies may be increasing the importance of timely and reliable deliveries or of frequent personal interaction with customers at the production facility, thereby increasing the value of geographic proximity. One scholar has observed that production in certain industries has persistently clustered in one or a few locations and noted that, even when competition is worldwide or cross-border, it may nonetheless be geographically localized to the extent that product and process innovations, pricing initiatives, and other elements of market behavior and performance are centered on neighboring firms.⁹⁴ The synergies and spillover effects that the spur of local rivalry provides,

⁹² See *supra* note 44.

⁹³ See, e.g., International Antitrust Enforcement Assistance Act of 1994 (IAEAA), Pub. L. No. 103-438, 108 Stat. 4597 (1994) (facilitating international information sharing)

⁹⁴ See MICHAEL PORTER, *COMPETITIVE ADVANTAGE OF NATIONS* 132-75 (1990). Earlier, Porter helped to develop the parallel concept of localized product market competition, coining the term "mobility barriers." See also Richard Caves & Michael Porter, *From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New*

(continued...)

and which may foster specialized suppliers, local educational and research institutions, labor pools, or pools of investors with less uncertainty about the industry, may explain the development of such local competitive advantage in some industries.⁹⁵

While suppliers or producers have often been the driving force behind a tendency to localize, demand side factors have attracted attention recently, largely because “just in time” or “lean” production techniques (*see supra* Chapter 1) put a premium on timely and reliable delivery.⁹⁶ Increased recycling and increased customer/supplier interactions for quality and process development work also have heightened the importance of being geographically close to customers.⁹⁷ If such localized advantages exist, structural or behavioral changes within these localized areas may have disproportionately large effects on overall market performance and thus warrant additional antitrust attention.

Because this hypothesized effect is novel and relatively untested, caution is merited in using this approach to merger analysis. Still, some possible implications, which might reasonably be explored in merger investigations, are consistent with the concept reflected in the 1992 Guidelines that sources of competition are not uniformly distributed among incumbent firms. “Maverick” firms are viewed as being especially valuable in disrupting coordinated interaction among rivals and the “closest competitor” is seen as a particularly salient constraint on the exercise of unilateral market power.⁹⁸ Although this issue of localized advantage has

⁹⁴(...continued)

Competition, 91 Q. J. ECON. 241 (1977); Weil (Stmt) 4-5; *Single market, single-minded*, THE ECONOMIST, May 4, 1996, at 63.

⁹⁵ PORTER, *supra* note 94, at 132-75.

⁹⁶ See Charles Abernathy et al., *The Information-Integrated Channel: A Study of the U.S. Apparel Industry in Transition*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 175-246 (1995). See also Weil (Stmt).

⁹⁷ See Fruehan et al., *The Future Steelmaking Industry and Its Technologies* 51-56, 61 (Sloan Foundation/Carnegie-Mellon Univ. Study) (1995). See also Fruehan 475, 478-79.

⁹⁸ 1992 Guidelines §§ 2.12 & 2.21, 4 Trade Reg. Rep. (CCH) at 20,573-7 to 20,573-9.

received relatively little antitrust attention to date, enforcers could pursue a number of inquiries related to buyers' and producers' locations and knowledge, and consider how that information bears on the analysis of the competitive significance of rivals or the exercise of buyer power, if a localized area of comparative advantage within a larger geographic market were found to exist.

CHAPTER 5

SMALL BUSINESSES AND COMPETITION ISSUES

In today's increasingly global marketplace, size does not necessarily determine economic significance. As one witness observed:

U.S. economic competitiveness is influenced by the viability of many fragmented industries that supply large manufacturing firms. . . . The economic vitality of the U.S. relies on small business growth. We should note that the percentage of American jobs provided by the Fortune 500 has decreased from 20.1% in 1971 to 10.9% in 1991.¹

In many industries, small businesses are the source of significant innovative capability and competitiveness. In others, small businesses are striving to enter foreign markets through collaborative ventures. This chapter will review the testimony that addressed competition issues confronting small businesses in this global and fast-changing competitive environment.

I. SMALL BUSINESSES: SOME COMPETITIVE ADVANTAGES OF BEING SMALL

Small businesses possess certain attributes that may give them a greater capability to innovate.² Their size makes them more flexible.³ A representative of the U.S. Chamber of Commerce noted that "[t]he ability to adapt quickly to changing market conditions allows the small business to remain competitive, and ahead of adversaries," and that "most small businesses survive, even in new competitive situations, [] because of innovation and flexibility."⁴

Several participants pointed to specific industries where small firms are playing an important role in innovating and thereby enhancing competitiveness in the United States. In the

¹ Apelian (Stmt) 4-5. Professor Apelian supervised a Sloan Foundation study of the aluminum-casting, powder-metallurgy, and semi-solid industries, all of which he described as fragmented. Apelian 1084. These industries supply components for automotive, aerospace, and other industries. Apelian 1094-95; Apelian (Stmt) 5.

² Berends 1763-65.

³ Berends 1765.

⁴ Berends 1764.

software industry, smaller firms are frequently the source of "great innovation."⁵ Similarly, in the U.S. steel industry, smaller producers, known as "minimills," have been crucial to the industry's rejuvenation. A steel study conducted at Carnegie-Mellon Institute found that significant competitive pressure from domestic minimills that use lower-cost materials, technology, and labor has forced large integrated steel producers to differentiate themselves by developing higher-quality products and improving performance.⁶ In the pharmaceutical industry, small companies are playing an increasing role in drug discovery, mostly as a consequence of new discovery techniques.⁷ One witness estimated that innovative biotechnological and biomedical research can occur efficiently and effectively in laboratories of only ten people.⁸

II. SMALL BUSINESSES AND JOINT VENTURES

Despite the competitive advantages associated with small size, small firms may need to collaborate with their competitors to achieve certain economies of scale in research and development efforts or to gain access to foreign markets. Such collaboration, however, also has many practical drawbacks, such as the difficulty of protecting one's trade secrets and intellectual property,⁹ as well as, conversely, being bound by the confidentiality restrictions of others.¹⁰ Moreover, the expenses or resources required to run research and development projects, even those conducted in joint ventures, often pose significant hardships for small firms.¹¹ Finally,

⁵ Software Publishers Association (Stmt) 7.

⁶ Fruehan 460, 474-75. Minimills have employed "low-cost technology, relatively inexpensive scrap [steel] and more flexible non-union labor" to achieve a competitive edge in the marketplace. Fruehan 460. The study was funded by the Sloan Foundation.

⁷ Cooney 655.

⁸ Green 683-84.

⁹ Kasouf 1857, 1868-69; Kasouf (Stmt) 11 (smaller firms concerned that collaboration will require them to give up proprietary technology).

¹⁰ Heckman 1826-27. *See also infra* Chapter 10.

¹¹ Heckman 1826-27. He added that, in his experience, very few of these consortia or joint ventures have had much success. *Id.*

firms sometimes have difficulty in agreeing on research agendas due to conflicting interests.¹² This problem is exacerbated if it seems that the research and development work is in the long-term interests of all the small firms, but not in any of their interests in the short-term. In such cases, firms will have strong incentives to free ride on the efforts of others, and collaborative efforts may lack sufficient commonality of objectives.¹³

Some researchers suggested collaboration between universities and businesses as a means to ensure that small firms keep up with R&D and remain competitive in increasingly global markets.¹⁴ University-business collaborations can structure research efforts in ways that avoid raising confidentiality concerns¹⁵ and can provide small firms with some industry-relevant research capabilities that the small firms may lack.¹⁶ For small powder-metal firms, university-business joint ventures are facilitating their access to foreign markets, by enabling them to transfer their technology overseas and continue to supply their auto-manufacturer customers, which are now developing a foreign presence.¹⁷

The representative for the U.S. Chamber of Commerce testified nonetheless that some small businesses may be reluctant to enter into joint ventures or strategic alliances for fear of

¹² Kasouf (Stmt) 10. *See also infra* Chapter 10.

¹³ *See* Fruehan 466-69, 474-78.

¹⁴ Apelian (Stmt) 9-10. In this context, he discussed his Sloan Foundation research into industry/university collaborations.

¹⁵ Apelian 1106-07.

¹⁶ Apelian 1088-1102.

¹⁷ Kasouf 1865-66. He also observed, "Smaller firms may sense their limits and the new demands of the competitive environment and welcome the potential for alliances to develop skills . . . to compete effectively." Kasouf (Stmt) 12.

antitrust liability.¹⁸ He stressed that there was insufficient awareness¹⁹ in the small business community of the National Cooperative Research Act of 1984 (NCRA)²⁰ and the National Cooperative Research and Production Act of 1993 (NCRPA),²¹ which provide certain antitrust protections for joint ventures registered with the federal government, and he recommended that the agencies provide guidance to inform small businesses and chambers of commerce about joint activities among competitors that are permissible under the antitrust laws.²²

III. SMALL BUSINESSES AND DISTRIBUTION SYSTEMS

Some small businesses have experienced difficulty in getting their products into distribution. One issue of particular concern to small manufacturers involves "slotting allowances," which are payments made by manufacturers to retailers for space on the retailers' store shelves. Although slotting allowances may raise a large variety of legal issues, antitrust enforcers have jurisdiction only to consider their effects on competition and consumer welfare, not their possible effects on individual competitors.

The hearings testimony did not provide any allegations of harm to consumers as a result of slotting allowances. A University of Michigan economist identified several economic theories under which slotting allowances could be either procompetitive or anticompetitive, depending on the facts of a particular situation.²³ A representative of the Independent Bakers Association articulated the industry's concerns about slotting allowances, and he provided examples of how

¹⁸ Berends 1771-73. Berends stated that this reluctance especially applied to participation in joint ventures and strategic alliances in foreign countries. Berends 1770-72.

¹⁹ Berends 1775.

²⁰ National Cooperative Research Act of 1984, Pub. L. No. 98-462, 98 Stat. 1815 (1984) (amended by the National Cooperative Research and Production Act of 1993, Pub. L. No. 103-42, 107 Stat. 117 (1993)) (current version at 15 U.S.C.A. §§ 4301-4306 (West Supp. 1983-1995)).

²¹ National Cooperative Research and Production Act of 1993, Pub. L. No. 103-42, 108 Stat. 117 (1993) (current version at 15 U.S.C.A. §§ 4301-4306 (West Supp. 1983-1995)).

²² Berends 1775-79.

²³ Shaffer 1883-95.

independent bakers are disadvantaged by the slotting fees that supermarkets charge for access to bakery shelf space.²⁴ Finally, one attorney related his experiences with manufacturing clients who sought his advice about the legality of slotting fees that they were being forced to pay for access to retail shelves.²⁵ Although none of his clients was willing to provide the FTC with specific factual allegations (due to concerns about retailer backlash),²⁶ the attorney recommended that the FTC conduct a focused study of slotting allowances in a particular retail segment in a certain geographic area.²⁷

IV. RECOMMENDATIONS

In general, the FTC should focus on maintaining competitive U.S. markets for consumers and for all businesses, including small firms. Innovation and joint venture issues, which are important for small businesses but affect firms of all sizes, will be analyzed elsewhere in this report.²⁸ *See infra* Chapters 6-10.

As to the expressed concern about a lack of information on antitrust matters, the FTC should take additional steps to communicate directly with small businesses on issues such as the NCRA, NCRPA, information sharing among competitors, and other types of joint conduct with

²⁴ Nicholas Pyle, vice-president of the Independent Bakers Association (IBA), was not able to provide names and locations with his examples. He stated that the IBA would be holding its annual convention in February 1996, at which time he would solicit more specific information from IBA members. Pyle 1925-30. FTC staff followed up by letter and encouraged him to supply any information that he received from IBA members. Letter from Susan DeSanti and Debra Valentine to Nicholas Pyle, dated January 3, 1996. To date, the IBA has not responded.

²⁵ Skitol 1897-1910.

²⁶ Skitol 1898-99; Skitol (Stmt) 2. According to Skitol, his clients were concerned about possible retailer backlash from any investigation they might instigate. *Id.*

²⁷ Skitol 1908.

²⁸ For example, a representative of independent pharmacies testified about how antitrust should assess the collaborations of independent pharmacists wishing to compete more effectively with chain pharmacies. Knowlton 1783-1804. The issue of collaborations among smaller competitors to compete more effectively with larger competitors is also present for other joint ventures -- not just those with small-firm members -- and therefore is discussed in Chapter 10 rather than in this chapter.

competitors. Indeed, the legislative history of the recent amendments to the NCRA recognized that

misapprehension about antitrust exposure does appear to be inhibiting possible collaboration. . . . Perhaps the most likely to be overdeterred are smaller firms, who are likely to be less knowledgeable about the contours of present antitrust treatment, and thus more vulnerable to litigation fears and threats.²⁹

The agencies should make relevant information available on the FTC Home Page, through cooperative programs with the Small Business Administration and the U.S. Chamber of Commerce, and through more speeches to small-business organizations.

Finally, although the FTC heard general complaints about slotting allowances, no small manufacturer to date has provided evidence that suggests the possibility of harm to consumers, although this agency remains open to receiving such evidence.

²⁹ H.R. RPT. NO. 103-94, 103rd Cong., 1st Sess. 12 (1993), *reprinted in* 1993 U.S.C.C.A.N. 176, 185.

CHAPTER 6

INNOVATION, INTELLECTUAL PROPERTY, AND COMPETITION

I. INTRODUCTION

There is no dispute about the enormous importance of innovation to the increased productivity and global competitiveness of U.S. companies and to economic growth in this country.¹ The recognized importance of innovation has led competition policy makers and enforcers in recent decades consistently to avoid inadvertently subverting any innovation efforts by reducing a firm's incentives to succeed. As one court of appeals explained:

It is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our competitive economy rests. If a firm that has engaged in the risks and expenses of research and development were required in all circumstances to share with its rivals the benefits of those endeavors, this incentive would very likely be vitiated.²

This philosophy is reflected in various lines of antitrust cases involving single-firm conduct³ and in legislation designed to ensure reasonable antitrust scrutiny of joint ventures for research and

¹ Many have found that innovation accounts for a large -- perhaps even the primary share -- of economic growth in the United States. *See supra* Chapter 1. *E.g.*, Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247 (1994); Janusz A. Ordover, *A Patent System for Both Diffusion and Exclusion*, 5 J. ECON. PERSP. 43 (1991); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991); Suzanne Scotchmer & Jerry Green, *Novelty and disclosure in patent law*, 21 RAND J. ECON. 131 (1990); Richard J. Gilbert & Carl Shapiro, *Optimal patent length and breadth*, 21 RAND J. ECON. 106 (1990).

² *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980).

³ In particular, courts are reluctant to find that a firm misused its monopoly power through the introduction of any innovation that lowers cost, improves quality or performance, or is otherwise desirable to consumers, even if the innovation creates incompatibilities or raises costs to rivals. *E.g.*, *Berkey Photo*, *supra* note 2; *Northeastern Tel. Co. v. AT&T Co.*, 651 F.2d 76, 93 (2d Cir. 1981), *cert. denied*, 455 U.S. 943 (1982); *California Computer Prods., Inc. v. IBM*, 613 F.2d 727, 744 (9th Cir. 1979).

development.⁴ It has led competition agencies to proceed cautiously in assessing the competitive effects of conduct involving intellectual property⁵ and to avoid the pursuit of new types of cases that might have unintended deterrent effects on innovation.⁶ It is crucial to innovation and economic progress that competition authorities continue to approach “new” innovation issues with the same degree of care that this precedent reflects. We are mindful of this as we move into the chapters that address current innovation-related issues.

Recently, there have been renewed debates about what kinds of incentives are necessary to encourage innovation. Such debates usually revolve around one or two issues. The first is whether greater proprietary rewards to the innovator (i.e., appropriability) or increased competition work better to spur innovation efforts to the level that is “best” for society.⁷ The second is whether society benefits most if it rewards initial innovation through broad intellectual

⁴ National Cooperative Research and Production Act of 1993, Pub. L. No. 103-42, 107 Stat. 117 (West Supp. 1983-1995) (amending National Cooperative Research Act of 1984, Pub. L. No. 98-462, 98 Stat. 1815).

⁵ U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* (1995), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132 (*IP Guidelines*). See *IP Guidelines* § 2.0, 4 Trade Reg. Rep. (CCH) at 20,734 (“[T]he Agencies recognize that intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive.”).

⁶ For example, although the possibility of non-price predation through the development and marketing of new products is well-established in the economics literature, this is an area in which the federal antitrust agencies have been leery of antitrust challenges. *E.g.*, Janusz A. Ordover & Garth Saloner, *Predation, Monopolization, and Antitrust*, in HANDBOOK OF INDUSTRIAL ORGANIZATION 537, 563 (Richard Schmalensee & Robert D. Willig eds., 1989); Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Pre-Announcements and Predation*, 76 AM. ECON. REV. 940 (1986); Janusz A. Ordover & Robert D. Willig, *An Economic Definition of Predatory Product Innovation*, 91 YALE L.J. 8, 22-52 (1981). See generally Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals’ Costs To Achieve Power over Price*, 96 YALE L.J. 209 (1986).

⁷ Of course, appropriability and competition are not necessarily mutually exclusive. For example, where patent protection does not convey market power, strong patent protection could enhance competition. *Cf. Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977) (intra-brand vertical restraints could enhance inter-brand competition).

property protection, or if it fosters successive innovations (incremental or “leap-frog”⁸) by requiring access to the intellectual property of the initial innovator.⁹

Some of these debates have arisen in the context of antitrust enforcement to prevent anticompetitive combinations of R&D efforts. There, analysts have questioned whether antitrust enforcers can make sound judgments without more information about how much competition is necessary to maintain innovation.¹⁰ Future customers, by contrast, have stressed the importance of maintaining at least a few innovation efforts to ensure timely, high quality, and competitively priced new products.¹¹ *See infra* Chapter 7.

Other debates have involved new kinds of intellectual output such as software and biotechnology. There, intellectual property advocates have asserted that broad protection and strong enforcement of intellectual property rights are necessary to protect innovation.¹² Although others agree that strong enforcement is appropriate where a patent or copyright has the proper scope, they claim that innovators in biotechnology and software often receive very broad

⁸ See sources cited in Thomas M. Jorde & David J. Teece, *Innovation, Cooperation, and Antitrust*, in ANTITRUST, INNOVATION, AND COMPETITIVENESS 47 et seq. (Thomas M. Jorde & David J. Teece eds., 1992); MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* 45 et seq. (1990).

⁹ Carmen Matutes et al., *Optimal Patent Design and the Diffusion of Innovations*, 27 RAND J. ECON. 60 (1996); Howard F. Chang, *Patent Scope, Antitrust Policy, and Cumulative Innovation*, 26 RAND J. ECON. 34 (1995); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

¹⁰ E.g., Richard T. Rapp, *The Misapplication of the Innovation Market Approach to Merger Analysis*, 64 ANTITRUST L.J. 19 (1995) [hereinafter Rapp] (submitted for the hearings record); George A. Hay, *Innovations in Antitrust Enforcement*, 64 ANTITRUST L.J. 7 (1995).

¹¹ The point has been made manifest in interviews conducted in enforcement contexts by Commission staff.

¹² E.g., Schafer 718-19; Green 720-21; Simon 3565-68, 3596-97.

intellectual property rights, which, when combined with strong enforcement, allow intellectual property rights to become the tools for anticompetitive conduct.¹³ *See infra* Chapter 8.

Finally, some of the debates have arisen in the context of networks and the standards that networks require for interoperability. There, some argue that the initial innovation that built a network or standard to which access is desired would be deterred if access were required.¹⁴ Others counter that successive innovation will be deterred if access is not required.¹⁵ *See infra* Chapter 9.

In addressing these issues, intellectual property and competition policies inevitably aim to achieve a proper balance between appropriability and competition, and between initial and successive innovation.¹⁶ This chapter examines what we learned at the hearings about how and to what degree intellectual property and competition actually do provide incentives for innovation. This discussion provides the background necessary for the policy issues raised in Chapters 7 through 9 on innovation and competitive issues, intellectual property, and networks and standards.

¹³ *E.g.*, Dyson 3331-32; Kohn 3337-47; Barton 3409-20; Black 3580-88.

¹⁴ *E.g.*, Baxter 3504-07, 3547-49; Simon 3565-68; MacDonald 3694; Creative Incentive Coalition (Stmt) 2-3.

¹⁵ *E.g.*, Poppa 90-91, 95-96; Kohn 3349-50; Scherer 3354-55; Cutler 3637-38; Salop 3862-63.

¹⁶ *See, e.g.*, Robert P. Merges & Richard R. Nelson, *Market Structure and Technical Advance: The Role of Patent Scope Decisions*, in ANTITRUST, INNOVATION, AND COMPETITIVENESS 185 (Jorde & Teece eds., 1992); *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990) (citation omitted) (noting that antitrust and patent laws are both aimed "at encouraging innovation, industry and competition").

II. INTELLECTUAL PROPERTY PROTECTION AS AN INCENTIVE FOR INNOVATION

The intellectual property laws are intended to spur innovation by ensuring compensation for an inventor's investment,¹⁷ while allowing the diffusion of ideas that facilitates further innovation.¹⁸ This principle is embodied in Article I of our Constitution:

Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.¹⁹

This framework balances appropriability for the innovator with availability to the public “[t]o promote the Progress of Science and useful Arts.”²⁰ Patents, for example, grant an inventor an exclusive property right in the subject matter (the idea) of his or her invention²¹ for twenty years. In exchange, the inventor must publicly disclose the subject matter of the patented invention, so that it is available for further innovations. A copyright, by contrast, protects only the creator's original expression of an idea, not the idea itself, for the life of the creator plus fifty years.²² By limiting its protection to simply “the expression” of an idea, a copyright keeps the idea underlying the original expression available to other creators as a basis for their own expressions.

¹⁷ Without intellectual property protection, anyone could easily appropriate the benefits of an invention or creation without compensating the innovator, since it is so easy to steal “ideas.” *See* Kohn 3338-39.

¹⁸ As Michael Morris of Sun Microsystems, Inc., observed: "Since 1790, Congress and the Courts, through statute and case law, have worked to maintain this balance between promoting innovation and protecting the rights of authors and inventors. That is why there are limitations on monopolies granted by both patents and copyrights." Morris (Stmt) 9.

¹⁹ U.S. CONST. art. I, § 8.

²⁰ U.S. CONST. art. I, § 8.

²¹ An invention must be considered patentable subject matter, and it must meet the statutory requirements of utility, novelty, and non-obviousness.

²² 17 U.S.C.A. §§ 101, 102, 302 (1996). For anonymous, pseudonymous, and works made for hire, the term is generally 75 years from the year of first publication or 100 years from the year of creation, whichever is shorter. 17 U.S.C.A. § 302 (1996).

Thus, independent invention of patented subject matter constitutes infringement,²³ whereas independent creation of a copyrighted expression does not.²⁴

The tensions in this balancing exercise were addressed by Joseph Stiglitz, chairman of the Council of Economic Advisors, in his opening speech at the hearings:

We often talk about how important patents are to promote innovation, because without patents, people don't appropriate the returns to their innovation activity, and I certainly very strongly subscribe to that. . . . On the other hand, some people jump from that to the conclusion that the broader the patent rights are, the better it is for innovation, and that isn't always correct, because we have an innovation system in which one innovation builds on another. If you get monopoly rights down at the bottom, you may stifle competition that uses those patents later on, and so . . . the breadth and utilization of patent rights can be used not only to stifle competition, but also have adverse effects in the long run on innovation. We have to strike a balance.²⁵

A. Empirical Evidence on the Extent to Which Businesses Value Patent Protection

The empirical economic evidence available so far suggests that, in many industries, patents may not actually provide the strongest incentive for innovation. One witness discussed a number of economic studies, which generally found that a majority of industries do not consider patents to be very important assets.²⁶ One study, published by Richard Levin and others in 1987, obtained information from publicly traded firms in 130 lines of business, ranging from industries producing drugs and chemical products through those involving food processing and fabricated metal production. Product patents were regarded as “highly effective” means of appropriating returns in only five industries (including drugs, organic chemicals, and pesticides) and as “moderately effective” in about twenty other industries (primarily those producing chemical

²³ 35 U.S.C. § 271 (1988).

²⁴ Granite Music Corp. v. United Artists Corp., 532 F.2d 718 (9th Cir. 1976); Arnstein v. Edward B. Marks Music Corp., 82 F.2d 275 (2d Cir. 1936).

²⁵ Stiglitz 24-25.

²⁶ Scherer 3301-11.

products or relatively simple mechanical equipment).²⁷ Survey participants generally placed a much higher value on business strategies like sales or service efforts, being first with an innovation, the ability to move quickly down the learning curve, and -- for process innovations -- secrecy, than they did on patents.²⁸ A study by Edwin Mansfield, surveying 100 firms from 12 broadly defined industries (including pharmaceuticals, chemicals, petroleum, machinery, electrical equipment, instruments, metal products, and primary metals) found that 86 percent of innovations overall (in a period from 1981-83) would have been developed even without patent protection.²⁹ Mansfield found that patent protection was not essential for the introduction of any innovations in four industries (office equipment, motor vehicles, rubber products, and textiles).

The Levin study's finding that participants in the pharmaceutical and chemical industries were among the few who perceived patents as very valuable to their innovation efforts is consistent with the findings of the Mansfield study, which concluded that 60 percent of pharmaceutical inventions and 38 percent of chemical inventions would not have been developed absent patent protection.³⁰ At the hearings, representatives of the pharmaceutical and

²⁷ Richard C. Levin et al., *Appropriating the returns from industrial R&D*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY 783, 795-96 (1987). See Scherer 3305-06; Wesley M. Cohen & Richard C. Levin, *Empirical Studies of Innovation and Market Structure in HANDBOOK OF INDUSTRIAL ORGANIZATION* 1059, 1092 (Richard Schmalensee & Robert D. Willig eds., 1989) [hereinafter Cohen & Levin]; Richard C. Levin, *A New Look at the Patent System*, 76 AM. ECON. REV. 199 (1986). Process patents were regarded as even moderately effective in only three industries. Cohen & Levin, *supra*.

²⁸ Cohen & Levin, *supra* note 27, at 1092-93. For example, participants from 80 percent of the industries surveyed viewed investments in complementary sales and service efforts as a highly effective strategy for capturing a competitive edge from their R&D activities. *Id.* at 1092.

²⁹ Scherer 3304. Edwin Mansfield, *Patents and innovation: An empirical study*, 32 MANAGEMENT SCIENCE 173 (1986) [hereinafter Mansfield]. Mansfield's study was based on a random sample of U.S. firms from the 12 industries but excluded "very small firms" with annual sales below about \$25 million. *Id.* at 174.

³⁰ Mansfield, *supra* note 29, at 175.

biotechnological industries also stated that patents are critical for protecting the large, upfront investments necessary to research and develop new drugs.³¹

Based on all of the research in this area (including his own), Professor F.M. Scherer concluded that for many companies, the basic incentive to engage in R&D is not patent protection, but competition: “If you don’t keep running on the treadmill, you’re going to be thrown off.”³² He offered the caveat, however, that “the spectacular successes that sometimes come from patented products may provide a sort of demonstration effect and lure to other smaller firms that would like to make it big.”³³ This means that the distribution effect of rewards to technical innovations will be highly skewed, according to Scherer, because “relatively few winners offset the losses of large numbers of losing R&D investments.”³⁴ Still, the importance of patents likely will vary with the way patent rights are implemented and enforced. A system of broader patent claims and stronger enforcement may increase the importance of patents.

Interestingly, the 1987 Levin study of 130 lines of business is now being replicated by Wesley Cohen of Carnegie-Mellon University.³⁵ The new study will include companies from countries other than the U.S., including Japan, Germany, Switzerland, and the United Kingdom, and will use more recent information. Whether it confirms or differs from the results of earlier studies will be of intense interest, especially in light of perceptions of stronger patent enforcement in the U.S. in recent years. *See infra* Chapter 8.

B. Business Testimony on the Value of Intellectual Property Rights

Nonetheless, many industry representatives described intellectual property as an important way to stimulate innovation and protect R&D investment. For example, 3M Corporation has built a strong patent portfolio because it believes that patents are necessary to

³¹ Schafer 718-19; Bloom 719-20; Green 720-21; Cooney 722-23. *See* Scherer 3301-10, 3314-15. *See also* Stack 732.

³² Scherer 3308.

³³ *Id.*

³⁴ Scherer 3309.

³⁵ Scherer 3315.

protect its innovation efforts.³⁶ A Borland International representative asserted the company's need for strong enforcement of existing intellectual property rights to protect its investments.³⁷ Respondents to a survey by the Licensing Executives Society (LES), a group of U.S. and Canadian professionals involved in technology transfer and intellectual property licensing, agreed with the assessment that intellectual property is a valuable asset that helps U.S. companies to compete.³⁸ A representative of the American Intellectual Property Law Association (AIPLA) stated:

[O]ur clients have learned that business competition spurs innovation, and they seek to preserve that competition. But they do not want to stifle innovation by making it harder or less rewarding to innovate or to compete in the United States. We believe that intellectual property protection is essential to promoting innovation and investment in new technologies.³⁹

Several participants, however, also addressed the need to achieve the proper balance between intellectual property rights and competition so as not to impede innovative efforts in today's dynamic markets. One venture capitalist suggested that overbroad copyright protection for software will stifle competition, progress, and development, "because software . . . is a series of inventions piled on top of each other."⁴⁰ A representative of a computer company emphasized the "importance of an appropriate balance between encouraging creation of intellectual property

³⁶ Coyne 205, 213.

³⁷ Kohn 3336. As a representative of a computer-related trade association explained: "[Intellectual property] creates the incentive for people to devote themselves to developing new and better software technology. [And] it provide[s] a modicum of protection against those who would steal it." Simon 3565.

³⁸ Nunnenkamp 3375. *See* Parker 3370-71. LES is comprised of over 3900 professionals in the U.S. and Canada who are engaged in the transfer and licensing of technology and industrial and intellectual property. Parker 3369.

³⁹ Frankel 3385. *See* Black (Stmt) 4-5; Creative Incentive Coalition (Stmt) 3.

⁴⁰ Dyson 3332.

by protecting it, and encouraging competition by necessitating continued development of new and better products, that is, running fast,”⁴¹ a theme that was echoed by many others.⁴²

III. THEORETICAL AND EMPIRICAL ECONOMIC WORK ON COMPETITION AS A SPUR TO INNOVATION

The hearings testimony on this issue focused on two questions. First, what do we know about the “socially optimal” amount of R&D -- that is, what level of R&D is “best” for society? Second, what do we know about whether changes in levels of concentration in any given industry are likely to increase or decrease innovation activity?

One economist asserted that the amount of R&D that is “best” is not known, so one can never be certain whether a cutback in R&D helps or harms welfare.⁴³ He pointed out that in patent races, each rival invests to maximize its chance of success, whereas society only cares that someone succeed; in his view, this suggests that competitive levels of R&D may be socially “excessive.”⁴⁴ In contrast, other economists noted empirical evidence suggesting that, for much R&D, the benefit to the public surpasses the private rate of return to the innovator, which would suggest that competitive levels of R&D may be socially “insufficient.”⁴⁵ There was no consensus as to how economics should develop a theoretical model of the “socially optimal” level of innovation.

On the possible existence of a causal link between concentration and innovation, all agreed that there is no clear economic theory or empiricism to support a general proposition that

⁴¹ Wayman (Stmt) 5.

⁴² E.g., Stiglitz 29; Scherer 3310, 3354-55; Kohn 3335-47; Barton 3409-20; Black 3574-75.

⁴³ Rapp 918.

⁴⁴ Rapp, *supra* note 10, at 34-35.

⁴⁵ Carlton (Stmt) 6-7; Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 573-74, 593-94 n.60 (1995) [hereinafter Gilbert & Sunshine] (submitted for the hearings record); Thomas M. Jorde & David J. Teece, *Rule of Reason Analysis of Horizontal Arrangements: Agreements Designed to Advance Innovation and Commercial Technology*, 61 ANTITRUST L.J. 579, 583-88 (1993) (submitted for the hearings record).

increased market concentration leads to reduced innovation activity.⁴⁶ Nevertheless, some witnesses stressed that a specific merger between R&D competitors might remove powerful incentives for R&D rivalry,⁴⁷ pointing to Kenneth Arrow's finding that a monopolist, which already extracts a monopoly profit, has less to gain from an innovation that would cannibalize its existing earnings than a firm in a competitive industry, which begins with zero economic profit.⁴⁸ Moreover, several participants noted that particularized industry studies do suggest causal linkages between market structure and innovation,⁴⁹ and one economist stated that "a study of an individual industry over time could well find a stable empirical relationship between concentration and R&D activity, all else equal."⁵⁰ Although early empirical findings that innovation generally tended to decline as concentration reached high levels have not held up as particularized, industry-by-industry adjustments were made,⁵¹ this lack of general findings may be due to weaknesses in cross-section statistical techniques and to the greater significance of industry-specific factors as determinants of the level of innovation activity, rather than the absence of a causal relationship.⁵²

⁴⁶ Teece 874; Rapp 918; Carlton 930; Carlton (Stmt) 8-9; Sohn 993; Rill (Stmt) 14-15; McDavid (Stmt: *Mergers 1995*) 9.

⁴⁷ Gilbert 914-15; Gilbert & Sunshine, *supra* note 45, at 593; Yao (Stmt) 5.

⁴⁸ See Gilbert & Sunshine, *supra* note 45, at 575-76.

⁴⁹ Gilbert 914; Yao 955, 1067-68; Gilbert & Sunshine, *supra* note 45, at 579-81.

⁵⁰ Carlton (Stmt) 10.

⁵¹ Gilbert 1065-66; Carlton 1066, (Stmt) 8-9.

⁵² Teece 834; Gilbert 914, 1065-66; Yao 955; Carlton 975-76, (Stmt) 9-10; Richard J. Gilbert & Steven C. Sunshine, *The Use of Innovation Markets: A Reply to Hay, Rapp, and Hoerner*, 64 ANTITRUST L.J. 75, 77-78 (1995) (submitted for the hearings record). See Rapp, *supra* note 10, at 28-29 n.34.

Others, however, pointed to Schumpeter's findings that large firm size and market share may better support R&D efforts.⁵³ They noted that small changes in various economic models reverse Arrow's results.⁵⁴ Several witnesses asserted that any losses from decreased rivalry could be easily offset, for example, through synergies from combining R&D programs that would encourage even greater R&D efforts or by reduction of the extent to which the innovators' rivals share in the gains from innovation.⁵⁵ Some testimony contended that the uncertainty inherent in R&D strategies and the high risk associated with being late to market typically prevent a firm's net incentive from favoring reduced R&D effort.⁵⁶ They conceded, however, that this was less certain in a transaction that would combine a firm with a current product and a firm innovating to create a next-generation product that would compete with the incumbent's current product.⁵⁷

In sum, the participants were in agreement only on the general proposition that economic empiricism and analysis have not conclusively demonstrated -- *one way or the other* -- whether there is a causal link between increased concentration and decreased innovation.⁵⁸

IV. BUSINESS TESTIMONY ABOUT COMPETITION AS AN INCENTIVE FOR INNOVATION

Business participants who addressed this issue were emphatic that competition is a primary incentive for innovation, and that continuous innovation is critical for success in

⁵³ Carlton 930, (Stmt) 7.

⁵⁴ Carlton 930-31 (observing that a monopolist has greater incentives to innovate than a competitive firm if the monopolist fears loss of its monopoly profit), (Stmt) 7-8; Sohn (Stmt) 4 (noting that Arrow's model "depends on the assumption that the subject of the innovation relate to existing products or processes").

⁵⁵ Gilbert 913; Carlton 930, (Stmt) 8; Sohn 995; Yao 1017-18, 1021; Rill (Stmt) 15.

⁵⁶ Addanki 944-46; Sohn 995.

⁵⁷ Addanki 944-48; Sohn (Stmt) 5-6; Pfizer (Stmt) 9-10. *Cf.* Whalley 1057 ("in most circumstances, not all, but most circumstances" the incentive of a merged company will favor continuing separate research paths).

⁵⁸ *E.g.*, Gilbert 912-15; Rapp 918; Carlton 930-31; Addanki 939; Yao 954-55.

increasingly global markets. One witness summarized it well, stating that, absent intellectual property protection,

the only significant protection would be to continue to move so rapidly to introduce new, faster and less expensive products that no competitor could keep up. . . . Clearly, the customer is best served by encouraging a regime within which the best defense of any company is to attempt to run faster than any of its competitors. The result of such a corporate paradigm is newer, faster, better, cheaper products on a regular basis.⁵⁹

A. Competition as a Driver of Continuous Innovation

A 3M representative reported that “innovation can give you a market position, but it's fleeting, and unless you continue to innovate, you cannot maintain your market position in any market.”⁶⁰ In discussing how companies in high-tech industries compete, a representative of IBM Corporation stated, “[I]nnovation is the preeminent factor. . . . R&D generates incredible increases in performance.”⁶¹ Representatives of computer-related trade associations concurred.⁶² An AT&T Corporation representative described the 1982 Department of Justice antitrust consent decree requiring AT&T to restructure and divest certain of its businesses as “one of the most successful remedies in antitrust history,” in part because “innovation has burgeoned” as a result of the decree.⁶³

Competition has driven companies to invest greater amounts in more diverse research approaches. An Eastman Kodak Company representative reported that competition from digital imaging technology has led Kodak to spend \$3 billion over the past fifteen years on R&D directed toward electronic imaging.⁶⁴ A leader of a pharmaceutical study conducted at the

⁵⁹ Wayman (Stmt) 3.

⁶⁰ Coyne 205.

⁶¹ Phelps (Stmt) 3.

⁶² Simon (Stmt) 1; Frankel (Stmt) 2.

⁶³ Rosenblum (Stmt) 11, 14.

⁶⁴ Faulkner 510.

Massachusetts Institute of Technology explained how pharmaceutical biomedical research today requires more diverse approaches:

[T]o develop very targeted drugs in the most efficient competitive way, you need to invest a fair amount of money into understanding the molecular basis of disease. . . . This requires some diversity in research. . . . As a consequence multiple therapies have evolved. . . . When the opportunity is big and it's an important target, that diversity, I think, is important to competitiveness.⁶⁵

The conviction that competition stimulates innovation is not confined to high-tech or research-intensive industries. In the United States, manufacturing-intensive industries like steel and auto have re-emerged largely due to innovations developed in response to the pressure from increased competition.⁶⁶ The idea that competition drives innovation was also articulated by participants in consumer-goods industries.⁶⁷

B. The Need to Be First to Market

Part of the competition to innovate includes winning the race to bring a new product to market. Being the fastest means being the first to market; therefore, businesses focus on rapid product development:

Every company in the world is trying to increase speed to market. If you miss the market window, no matter how good that product is, you have lost in that marketplace. You have to be the first to market in most innovations, and so we do

⁶⁵ Cooney 701-02.

⁶⁶ Roos 266-69, 275, 291; Fruehan 457-70. A Sloan Foundation study of the U.S. steel industry concluded that, in a manner similar to the auto industry, aggressive foreign and national competition ultimately led to product and process innovations by U.S. steel manufacturers. Fruehan (Stmt). *See supra* Chapter 5.

⁶⁷ A representative of VISA International opined that innovation has been spurred at VISA by the need to keep up with the business, the need to lower costs, and the desire to increase market share. Katz 1120. *See also* MacDonald 3698-99; Baxter 3702-03. A representative of the Grocery Manufacturers of America (GMA) stated, "There can be little question that . . . the increasingly global scale of competition raises the importance of innovation to unprecedented levels." MacLeod (Stmt) 1, 2, 4-5.

a lot in our company to make sure that we have the systems in place to bring products to the market as fast as possible.⁶⁸

A leader of a computer study observed that the computer marketplace is characterized by “a competition process in the short run whereby firms race, [and] time to market is extremely important.”⁶⁹ Similarly, in the semiconductor industry:

[R]apid introduction of a new process and the ability to expand the volume of product moving through . . . [are] extremely important to profitable competition . . . simply because your window of opportunity is relatively brief, and therefore, it is important to move quickly and . . . with relatively high quality.⁷⁰

C. Shortened Product Life Cycles

Competition to be first on the market has resulted in shortening product life cycles, at least in high-tech industries. Hewlett-Packard Company’s chief executive officer observed that the typical product life cycle today is 6-to-12 months, whereas 5 years ago the average product life cycle was 3-to-5 years.⁷¹ He emphasized that, to be successful, Hewlett-Packard “must continually invest in newer, cutting-edge technology.”⁷²

3M measures its innovation through its annual sales of new products. Several years ago, the company targeted 25 percent of annual sales to come from 3M products on the market less than 5 years.⁷³ 3M raised that goal, however, because “we have found out that that rate of innovation was not fast enough for today’s markets, and we have raised it to 30 percent and [4]

⁶⁸ Coyne 209.

⁶⁹ Bresnahan 3514.

⁷⁰ Mowery 754-55. Richard Donaldson of Texas Instruments concurred that “there is a premium placed with being in the market on time.” Donaldson 786. If a company in such an industry makes a mistake, it could miss an entire product generation due to the rapid rate of innovation. Donaldson 787.

⁷¹ Platt 35.

⁷² *Id.* IBM also noted that product development cycles are significantly shorter today. Phelps 3534.

⁷³ Coyne 206.

years, and . . . that isn't even enough."⁷⁴ 3M's view today is that 10 percent of its annual sales should come solely from the new products introduced in the past year.⁷⁵

D. Customer Relationships

From high-tech industries to consumer-goods industries, customer demands also affect competition to innovate. An IBM executive testified that "today unrelenting consumer demands for additional computing capability and techniques . . . [a]re fueling the impetus for even further innovation by the [information technology] industry. Consequently, innovation and commercialization of new technologies are proceeding at a breakneck pace."⁷⁶ A 3M representative observed, "Determining the customer's unarticulated needs is not an easy thing to do, but that's where innovation comes from."⁷⁷

V. CONCLUSION

These sources suggest that both competition and intellectual property protection have important roles to play in driving innovation. Intellectual property protection appears to spur innovation -- especially in particular industries -- but also may inhibit successive innovation in some circumstances. The business testimony overwhelmingly reaffirms the critical importance of competitive pressures as drivers of initial and continuous innovation, regardless of the absence of consensus in the economics literature on whether market concentration helps or hinders innovation.

In sum, the information currently available supports antitrust enforcement that is assertive in maintaining competition as a spur to innovation, yet cautious to avoid unwarranted interference with intellectual property incentives for innovation. The next three chapters address how to implement such an enforcement policy in different contexts. Chapter 7 examines how

⁷⁴ *Id.*

⁷⁵ Coyne 207.

⁷⁶ Phelps (Stmt) 2.

⁷⁷ Coyne 208. The Sloan Foundation steel study found that customer demands are driving much innovation in the U.S. steel industry. Fruehan 465, 478. Attention to customer demands is also critical in consumer-goods industries, where firms must "innovate or die," according to a representative of GMA. MacLeod (Stmt) 5.

antitrust enforcers should assess whether a proposed merger or acquisition is likely substantially to lessen competition on innovation in any relevant market. Chapter 8 reviews the issues raised by hearings participants concerning business conduct with and the scope of intellectual property protection for new kinds of intellectual output -- computer software and biotechnology. Chapter 9 addresses the competitive issues that converge when network industries and the need for standards are present.

CHAPTER 7

INNOVATION AND THE ASSESSMENT OF COMPETITIVE EFFECTS

I. INTRODUCTION

For markets in which goods or services¹ are currently bought and sold, antitrust typically centers its analysis of likely or actual anticompetitive effects around measures such as higher price or lower output. For most cases, this economic framework has proven reliable and sound.

Testimony at the hearings, however, addressed competition issues not readily susceptible to analysis with this paradigm, such as the likely impact of business conduct on levels of innovation, as opposed to price or output. Although innovation toward the discovery of new materials, processes, and cures is, of course, universally recognized as desirable, there is disagreement about whether and when antitrust enforcers should find that a reduction in competition is likely to cause harmful reductions in innovation.

The pros and cons of this debate revolve most directly around whether antitrust should use the analytical tool of an “innovation market” to define and evaluate where innovation competition may be anticompetitively lessened. The *Antitrust Guidelines for the Licensing of Intellectual Property (IP Guidelines)*² define an innovation market as “the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development.”³ Some commentators dispute that antitrust should ever attempt to assess research and development competition, and some urge that any antitrust analysis in this area rely on the existing “potential competition” doctrine, rather than an “innovation market” analysis.

The law is clear that antitrust enforcers should examine possible instances of anticompetitive reductions in innovation competition. Despite the absence of a generally

¹ Hereinafter, the term “goods” also includes “services.”

² U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* (1995), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132 (*IP Guidelines*).

³ *IP Guidelines* § 3.2.3, 4 Trade Reg. Rep. (CCH) at 20,738.

accepted economic theory that identifies the optimal level of innovation activity,⁴ Congress, the courts, and the antitrust agencies have consistently applied antitrust law to maintain a "competitive level" of innovation. When Congress gave limited relief from the antitrust laws to registered joint ventures by enacting the National Cooperative Research Act of 1984 (NCRA) and subsequent amendments (NCRPA),⁵ it directed that registered ventures be reviewed for their "effects on competition in properly defined, relevant *research, development*, product, process, and service markets."⁶ The legislative history of the NCRA expressly recognized competition as

a key stimulant of innovation:

Competition is as important in R&D as it is in any other commercial endeavor. Indeed, in many industries, particularly those that are based on rapidly evolving

⁴ See *supra* Chapter 6. Business testimony at the hearings consistently confirmed that competition spurs innovation and thus encourages the technological advances that benefit U.S. consumers and the competitiveness of U.S. industry.

⁵ National Cooperative Research and Production Act of 1993 (NCRPA), Pub. L. No. 103-42, 107 Stat. 117 (1993) (amending National Cooperative Research Act of 1984 (NCRA), Pub. L. No. 98-462, 98 Stat. 1815 (1984)) (current version at 15 U.S.C.A. §§ 4301-4306 (West Supp. 1983-1995)).

⁶ 15 U.S.C.A. § 4302 (West Supp. 1983-1995) (emphasis added). Although *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982), has been cited for the proposition that there can be no relevant market for antitrust purposes without a commercial transaction, the case in fact holds only that where a relevant current product market is alleged, there must be some current production. The court was not presented with an alleged market for research and development. See *SCM*, 645 F.2d at 1199 n.1, 1201, 1208, 1211. See also Thomas N. Dahdough & James F. Mongoven, *The Shape of Things to Come: Innovation Market Analysis in Merger Cases*, 64 ANTITRUST L.J. 405, 412-15 (1996); Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 597-601 (1995) [hereinafter Gilbert & Sunshine] (submitted for the hearing record); Richard J. Gilbert & Steven C. Sunshine, *The Use of Innovation Markets: A Reply to Hay, Rapp, and Hoerner*, 64 ANTITRUST L.J. 75, 78-80 (1995) [hereinafter Gilbert & Sunshine Reply] (submitted for the hearing record). *But cf.* Robert J. Hoerner, *Innovation Markets: New Wine in Old Bottles*, 64 ANTITRUST L.J. 49, 53-55 (1995) (citing *SCM* for the proposition that "there is no 'market' for antitrust purposes unless and until there are commercial transactions").

technology, remaining competitive in R&D may be crucial to success. Motivated by the benefits of getting ahead of one's competitors as well as the threat of falling behind, firms in such industries have strong incentives to be the first to develop new processes and products. . . .

. . . In general, reducing the number of separate R&D efforts may increase the costs to society of mistakes in R&D strategy because there will be fewer other businesses pursuing different and potentially successful R&D paths.⁷

So, too, when writing for the court in *Federal Trade Commission v. PPG Industries, Inc.*,⁸ which involved a proposed merger between two participants in a high-technology market for aircraft window transparencies, Judge Bork recognized that direct competition between the merging parties existed "at the stage of research and development as transparency [window] manufacturers try to influence airframe customers about types of transparencies for future generations of aircraft."⁹ The court relied in part on a likelihood of a substantial lessening of competition in this high-technology market¹⁰ to grant the Federal Trade Commission's (FTC or Commission) request for a preliminary injunction.¹¹ And as far back as 1969, the Department of

⁷ National Cooperative Research Act of 1984, JOINT EXPLANATORY STATEMENT OF THE COMM. OF CONF., 98th Cong., 2d Sess. 9 (1984), *reprinted in* 1984 U.S.C.C.A.N. 3131, 3133-34.

⁸ *FTC v. PPG Indus., Inc.*, 798 F.2d 1500 (D.C. Cir. 1986).

⁹ *PPG*, 798 F.2d at 1505.

¹⁰ The district court had employed similar reasoning. *See* *FTC v. PPG Indus., Inc.*, 628 F. Supp. 881, 885 (D.D.C.), *aff'd*, 798 F.2d 1500 (D.C. Cir. 1986) (finding a likely decline in vigorous intermaterial research and development and noting that "[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").

¹¹ Because of the difficulties in calculating concentration levels for a market involving R&D, "major portions of [which] lie in the immediate future," the circuit court, like the district court, relied on various proxies to assess market concentration in the high-technology market. The court concluded that such proxies, along with market concentration evidence from other markets, supported an "overwhelming" showing by the Commission that the proposed merger likely would violate Section 7 of the Clayton Act. *PPG*, 798 F.2d at 1504-06.

Justice (DOJ) had already brought *United States v. Automobile Manufacturers Association*,¹² challenging an agreement among four auto manufacturers and their trade association that allegedly would delay the development, as well as the manufacture and installation, of pollution control devices in motor vehicles.

Antitrust guidance on how to assess possible anticompetitive reductions of innovation competition is still incomplete, however. So far, the FTC and the Department of Justice have provided specific guidance regarding the assessment of innovation issues only with regard to licensing agreements and their treatment under the FTC and Sherman Acts.¹³ The 1992 *Horizontal Merger Guidelines*¹⁴ provide an analytical roadmap for assessing whether a proposed merger is likely to create, enhance, or facilitate the exercise of market power, but no one has fully specified how those *Guidelines* could be used in assessing the likelihood that a merger or acquisition will reduce innovation below “competitive levels” and thereby violate Section 7 of the Clayton Act. Since most of the FTC’s recent activity in the area of innovation has involved mergers or acquisitions, this gap deserves our serious attention.

This chapter reviews recent agency actions, sets out hearings testimony, and develops some considerations for assessing whether a merger is likely to create, enhance, or facilitate market power so as to lead to consumer harm through reduced innovation competition. Overall, we conclude that an “innovation market” analysis is a useful tool with which to evaluate possible

¹² *United States v. Automobile Mfrs. Ass’n*, 307 F. Supp. 617 (C.D. Cal. 1969), *final judgment published* in 1969 Trade Cas. ¶ 72,907 (CCH) (C.D. Cal. 1969), *modified sub nom.* *United States v. Motor Vehicle Mfrs. Ass’n*, 1982-83 Trade Cas. ¶ 65,088 (CCH) (C.D. Cal. 1982). Even further back, Judge Learned Hand explained:

[P]ossession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; that immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress; that the spur of constant stress is necessary to counteract an inevitable disposition to let well enough alone.

United States v. Aluminum Co. of Am., 148 F.2d 416, 427 (2d Cir. 1945).

¹³ *See IP Guidelines*, 4 Trade Reg. Rep. (CCH) ¶ 13,132.

¹⁴ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* (1992), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,104 (*1992 Guidelines*).

anticompetitive reductions in current innovation competition. Nevertheless, we agree that any application of this approach should proceed very carefully. The limitations on “innovation market” analysis set forth in the *IP Guidelines*, including the use of safe harbors, should also be employed in the context of merger assessment. A judicious, careful use of “innovation market” analysis, sometimes combined with use of the “potential competition” doctrine, appears sufficient to protect against mergers or acquisitions that would likely substantially lessen competition in innovation.

II. PRECEDENT RELEVANT TO INNOVATION ISSUES

Antitrust enforcers have been circumspect not to interfere unduly with incentives to innovate. The hearings identified only a single challenge of coordinated R&D efforts by a federal antitrust agency in over a century of federal antitrust enforcement.¹⁵ Indeed, it has been decades since either antitrust agency has challenged non-merger business conduct whose justification relied exclusively or primarily on increasing the incentive or ability to innovate.¹⁶ The Commission’s careful approach to the GM/Toyota joint venture case, both in crafting the consent order in 1984 and in rescinding it in 1993, exemplifies the restraint the agency has exercised in the area of innovation.¹⁷ In part because of this restraint, relevant precedent in this

¹⁵ See Sohn 990-91; Rill 4157-58; Whalley (Stmt) 9 n.13. See also Kadzik (Stmt).

¹⁶ See *supra* Chapter 6.

¹⁷ The Commission in 1984 issued a consent order resolving its challenge to a proposed joint venture between General Motors Corporation and Toyota Motor Corporation for manufacturing automobiles in Fremont, California. General Motors Corp., 103 F.T.C. 374 (1984) (Comm’rs Pertschuk & Bailey dissenting). The consent order permitted the joint venture to go forward, but placed limits on its output and duration and on the ability of the venturers to exchange non-public business information. An accompanying statement from Chairman James C. Miller III described the joint venture as a potential source of improved manufacturing and management techniques. *Id.* at 387-88. Nine years later, at the request of the joint venturers, the Commission vacated the consent order on grounds of changed conditions of fact. General Motors Corp., C-3132, 5 Trade Reg. Rep. (CCH) ¶ 23,491 (FTC Oct. 29, 1993) (Comm’rs Azcuenaga & Owen concurring). The Commission cited, among other factors, declining market concentration, significant new entry and expansion, and General Motors’ independent development of the Saturn line of automobiles as bases for concluding that initial competitive concerns had been eliminated.

area is relatively sparse,¹⁸ and the most recent antitrust approach to these issues in the merger context is found in agency consent orders.

A. Agency Consent Orders

The FTC has found several circumstances in which it had reason to believe that a proposed merger or acquisition was likely substantially to reduce innovation competition in a relevant market. Each of those transactions would have combined one innovation effort with either a competing innovation effort or a competing good. Each innovation effort was directed toward development of a specific product. All but one of the transactions involved biotechnology, pharmaceutical, or other products subject to a stringent approval process by the Food & Drug Administration (FDA). The requirement that a product under development pass through the FDA approval process turns out to be significant for antitrust purposes because it typically eliminates the probability of entry by substitutable R&D. In general, any new innovation effort would have to start at the beginning of the FDA process and thus would usually be required to conduct several years of testing before it could catch up with any current R&D efforts. Moreover, because the FDA is willing to cooperate with the antitrust agencies, FTC staff had a wealth of information on the status, approach, and likely effect of each innovation effort relevant to these investigations that may have been difficult to obtain otherwise.

In *The Upjohn Company and Pharmacia Aktiebolag*,¹⁹ for example, the merging parties were two of only a very small number of companies in the advanced stages of developing a particular drug for colorectal cancer, and no competing product was currently on the market. Upjohn's product was allegedly the closest to FDA approval and was expected to be the first such drug marketed in the United States. Pharmacia's product was allegedly a few years behind Upjohn's in the FDA process.²⁰ The basic competitive concern was that, after the merger, Upjohn would have reduced incentives to develop and commercialize Pharmacia's product as quickly as

¹⁸ See *supra* Section I.

¹⁹ *The Upjohn Co. and Pharmacia Aktiebolag*, C-3638, 5 Trade Reg. Rep. (CCH) ¶ 23,914 (FTC Feb. 8, 1996) [hereinafter *Upjohn*].

²⁰ *Upjohn*, Complaint ¶ 8.

possible.²¹ The FTC's complaint defined the relevant market as "the research, development, manufacture and sale of topoisomerase I inhibitors for the treatment of colorectal cancer."²² The complaint alleged that the merger might eliminate "actual, direct and substantial competition in research and development," might "potentially decreas[e] the number of [R&D] tracks for the [drug]," and, even if both Upjohn's and Pharmacia's drugs were eventually approved, might eliminate potential future price competition between the Upjohn and Pharmacia drugs.²³ The allegations were resolved by consent order, as has been the case in similar matters.²⁴ *See also infra* Chapter 8 (discussing remedies in such consent orders).

Other investigations have involved proposed acquisitions where one party was already selling a drug with FDA approval, while the other was still conducting R&D on a drug that was projected to compete with the first party's product once approved by the FDA. In such situations, in addition to alleging harm to innovation competition, the FTC has alleged that the proposed acquisition would eliminate potential competition for the first party's drug by removing a potential competitor from the FDA pipeline.²⁵

²¹ *See* Dahdouh & Mongoven, *supra* note 6, at 425.

²² *Upjohn*, Complaint ¶ 5.

²³ *Upjohn*, Complaint ¶ 10.

²⁴ *See, e.g., Upjohn*, C-3638 (FTC Feb. 8, 1996) (R&D of topoisomerase I inhibitors for colorectal cancer treatment); *Glaxo plc*, C-3586, 5 Trade Reg. Rep. (CCH) ¶ 23,784 (FTC June 14, 1995) (R&D of non-injectable drugs for the treatment of migraine); *American Home Prods. Corp.*, C-3557, 5 Trade Reg. Rep. (CCH) ¶ 23,712 (FTC Feb. 14, 1994) (Comm'r Azcuenaga concurring) (R&D of a rotavirus vaccine).

²⁵ *See, e.g., Hoechst AG*, C- 3629, 5 Trade Reg. Rep. (CCH) ¶ 23,895 (FTC Dec. 5, 1995) (allegation that merger would eliminate (1) potential competition in three categories of drugs, and (2) future price competition after those drugs received FDA approval); *Boston Scientific Corp.*, C-3573, 5 Trade Reg. Rep. (CCH) ¶ 23,774 (FTC Apr. 28, 1995) (Comm'r Azcuenaga concurring in part & dissenting in part) (allegation that acquisition of SCIMED would eliminate the only potential competitor); *Wright Medical Technology, Inc.*, C-3564, 5 Trade Reg. Rep. (CCH) ¶ 23,726 (FTC Mar. 23, 1995) (allegation that merger would eliminate potential competition in the market for the sale of orthopaedic implants used in human hands).

The FTC's case involving non-FDA regulated products concerned electronic article surveillance (EAS) systems.²⁶ Currently, retailers attach EAS tags to products as they are shelved. Recent research, however, is directed toward developing labels that manufacturers could attach during the production process. The proposed acquisition involved firms already competing with EAS systems that were incompatible with each other and developing future EAS labels that could be attached by manufacturers. For the next-generation product, buyers would likely require greater compatibility with existing receivers or migrate to a *de facto* standard, because any one manufacturer's product containing an EAS label would be sold to multiple retailers. A competitive concern was that the merger would increase incentives to shelve one of the innovation efforts in order to avoid creating two new, incompatible systems of EAS labels that would compete to become the *de facto* standard.

The Department of Justice has also acted to block acquisitions that presented innovation concerns. In *United States v. General Motors Corp.*,²⁷ DOJ's Antitrust Division alleged that General Motors and ZF Friedrichshafen AG (ZF) competed in sales of automatic transmissions for medium and heavy trucks, buses, and other commercial and military vehicles, as well as in designing and developing such transmissions. In the United States they competed for sales of those automatic transmissions used in heavy refuse trucks and transit buses. However, General Motors (in the United States) and ZF (in Europe) both engaged in research and development pertaining to a much broader range of medium and heavy automatic transmissions for commercial and military vehicles. DOJ defined a worldwide product market consisting of "technological innovation in the design, development and production" of such transmissions. The complaint alleged that specialized assets were needed in order to compete in that market -- in particular, a full-scale automatic transmission production facility capable of generating production experience and allowing development of product and process ideas. It alleged that

²⁶ Sensormatic Elec. Corp., C-3572, 5 Trade Reg. Rep. (CCH) ¶ 23,742 (FTC Apr. 18, 1995) (Comm'r Azcuenaga concurring in part & dissenting in part). *See also* Dahdouh & Mongoven, *supra* note 6, at 424-25.

²⁷ Civ. Action No. 93-530 (D. Del. filed Nov. 16, 1993).

the merger would have combined two of the market's three competitors, with no likelihood of timely entry, and with the result that competition might be substantially lessened.²⁸

B. Potential Competition Doctrine

Some commentators have suggested that the "potential competition" doctrine could be adapted to handle innovation competition issues. That doctrine, like "innovation market" analysis, has been used to address innovation issues in some agency consent orders.²⁹ The prior discussion of the doctrine in the case law, however, has involved existing products and existing product markets, not "research and development directed to particular new or improved goods or processes."³⁰

Under the existing approach, the potential competition doctrine assesses whether a merger between a potential entrant into and an incumbent in a relevant product market could have either of two possible anticompetitive effects. First, if the potential entrant was planning to enter a concentrated market, the acquisition may eliminate the possibility of actual deconcentrating entry and thereby reduce "actual potential competition." Second, if the presence of the potential entrant has already kept current market participants competitive, then the acquisition might reduce current competition by eliminating one source of "perceived potential competition." The Supreme Court has adopted the perceived potential competition theory,³¹ but has reserved judgment as to actual potential competition.³² The federal circuit courts have not uniformly addressed the "actual potential competition" issue, with some accepting the doctrine

²⁸ The litigation ended when the proposed combination was abandoned.

²⁹ See, e.g., *Wright Medical Technology, Inc.*, C-3564, 5 Trade Reg. Rep. (CCH) ¶ 23,726 (FTC Mar. 23, 1995).

³⁰ See *IP Guidelines* § 3.2.3, 4 Trade Reg. Rep. (CCH) at 20,738 (part of definition of innovation market).

³¹ *United States v. Falstaff Brewing Corp.*, 410 U.S. 526 (1973). See *United States v. Marine Bancorporation*, 418 U.S. 602, 624-25 (1974).

³² *Marine Bancorporation*, 418 U.S. at 625, 635-36; *Falstaff Brewing*, 410 U.S. at 537-38.

and some reserving the question.³³ The FTC has accepted both theories.³⁴ Most recently, in *B.A.T Industries, Ltd.*,³⁵ the FTC considered whether B.A.T's acquisition of Appleton Papers, Inc., the leading U.S. producer of chemical carbonless paper (CCP), violated Section 7 of the Clayton Act. A B.A.T subsidiary was the world's second largest CCP producer, but it did not produce or sell CCP in the United States. In this case, the Commission determined that the acquisition would not eliminate actual potential competition between Appleton Papers and B.A.T in the U.S. CCP market, because the evidence did not establish that, but for the acquisition, the B.A.T subsidiary would have entered the market independently (either *de novo* or through a small "toehold" acquisition) within the near future.³⁶

III. INNOVATION MARKETS, MARKET POWER, AND CONSUMER HARM

³³ The Eighth and Ninth Circuits, like the FTC, have accepted the "actual potential competition" doctrine. *Yamaha Motor Co. v. FTC*, 657 F.2d 971, 977 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982); *United States v. Phillips Petroleum Co.*, 367 F. Supp. 1226, 1232 (C.D. Cal. 1973), *aff'd mem.*, 418 U.S. 906 (1974). The Second and Fourth Circuits continue to reserve the question. *Tenneco, Inc. v. FTC*, 689 F.2d 346, 355 (2d Cir. 1982); *BOC Int'l v. FTC*, 557 F.2d 24, 25 (2d Cir. 1977); *FTC v. Atlantic Richfield Co.*, 549 F.2d 289, 293-94 (4th Cir. 1977). *See also Raybestos-Manhattan, Inc. v. Hi-Shear Indus. Inc.*, 503 F. Supp. 1122, 1135 (E.D.N.Y. 1980), *aff'd without opinion*, 652 F.2d 54 (2d Cir. 1981).

³⁴ *See, e.g., B.A.T Indus., Ltd.*, 104 F.T.C. 852 (1984) (finding inadequate factual support for a violation based on the actual potential competition doctrine); *The Grand Union Co.*, 102 F.T.C. 812 (1983) (finding inadequate factual support for a violation based on the actual potential competition doctrine); *Tenneco, Inc.*, 98 F.T.C. 464 (1981) (finding violations premised on both actual potential competition and perceived potential competition doctrines), *rev'd on evidentiary grounds*, 689 F.2d 346 (2d Cir. 1982); *Heublein, Inc.*, 96 F.T.C. 385 (1980) (finding inadequate factual support for a violation premised on the actual potential competition doctrine but expressing confidence that the doctrine will eventually receive Supreme Court approval); *Brunswick Corp.*, 94 F.T.C. 1174 (1979) (finding a violation premised on actual potential competition doctrine), *modified on other grounds and aff'd sub nom.* *Yamaha Motor Co. v. FTC*, 657 F.2d 971 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982).

³⁵ *B.A.T. Indus., Ltd.*, 104 F.T.C. 852 (1984).

³⁶ *B.A.T.*, 104 F.T.C. at 922-25. The Commission stated that the likelihood of independent entry must be demonstrated through "proof of concrete internal plans for independent entry that have been at least tacitly approved at the governing levels of corporate management." *B.A.T.*, 104 F.T.C. at 930.

This section begins by defining an “innovation market” as was done in the *IP Guidelines*. It then discusses how incentives for competition in the market for innovation can be affected by a merger between rival innovation efforts and/or competing goods, and how this may ultimately harm consumers. We will discuss the hearings testimony on these issues as we proceed.

A. The Concept of an “Innovation Market”

The *IP Guidelines* set forth the agencies’ approach to the definition of innovation markets in the context of licensing agreements. The methodology, which was shaped initially by the experience of both agencies in assessing merger-related innovation issues, would work equally well for merger analysis. The *IP Guidelines* state:

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. The close substitutes are research and development efforts, technologies, and goods³⁷ that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development. The Agencies 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.³⁸

This methodology establishes certain constraints on the agencies’ analyses. The R&D at issue must be “directed to particular new or improved goods or processes.” Moreover, the agencies will not use an innovation market definition unless “the capabilities to engage in the relevant [R&D] can be associated with specialized assets or characteristics of specific firms.” These restrictions should also apply in the context of merger analysis. They are useful screens to keep the focus only on innovation efforts that require some degree of specialization and for which no substitutable R&D efforts may exist, and to avoid unnecessary antitrust investigations

³⁷ The *IP Guidelines* note that: “For example, the licensor of research and development may be constrained in its conduct not only by competing research and development efforts but also by other existing goods that would compete with the goods under development.” *IP Guidelines* § 3.2.3 n.25, 4 Trade Reg. Rep. (CCH) at 20,738.

³⁸ *IP Guidelines* § 3.2.3, 4 Trade Reg. Rep. (CCH) at 20,738.

in the area of basic R&D, where it is more likely that substitutable R&D is readily available or could be fairly easily assembled.³⁹

Moreover, the *IP Guidelines* specify that "the Agencies will delineate and analyze only goods markets" when a transaction's likely competitive effects "can be adequately assessed within the relevant markets for the goods affected by the arrangements."⁴⁰ Similarly, if a merger's likely competitive effects can be adequately assessed within the relevant markets for the existing goods likely affected by the proposed merger, then the analysis of that merger would not require use of the "innovation market" tool.

B. Mergers of Rival Innovation Efforts and Competing Goods: Lessened Competition and Consumer Harm

A merger could reduce the incentive or ability of the merged firm to maintain innovation competition, as was the theory in *Wright Medical Technology, Inc.*⁴¹ The acquirer, Wright, was a monopolist, with 95 percent of the current market for orthopaedic finger-implants. Although the acquired firm, Orthomet, had no current finger-implant products, it did have a well-developed research effort to produce a possible next-generation finger-implant, and Orthomet's innovation effort made it a potential entrant into the current product market. There was some evidence that

³⁹ One witness observed that innovation market analysis might be needed to address situations where R&D is very basic and cannot be identified with any particular new product. Yao (Stmt) 1. Others objected that such situations entail too much speculation for application of either an innovation market or potential competition analysis. See White 880; Rapp 921; Sohn 991-92; McDavid (Stmt: *Mergers 1995*) 9-10. Given the likelihood of substitutability in the area of basic R&D, we agree that, other than in exceptional circumstances, antitrust analysis should probably not venture into this area. See also *infra* Section IV.B (testimony that it is usually difficult to monopolize innovation). Nonetheless, issues such as how to distinguish among innovation efforts directed toward a specific product, toward "core" products, or toward "core competencies" may require additional scrutiny as notions of "nontraditional" competition gain currency. See, e.g., GARY HAMEL & C.K. PRAHALAD, *COMPETING FOR THE FUTURE* 224 (1994) ("Whether one uses the term *competence* or *capability*, the starting premise is that competition between firms is as much a race for competence mastery as it is for market position and market power." (Italics in original)).

⁴⁰ *IP Guidelines* § 3.2, 4 Trade Reg. Rep. (CCH) at 20,737.

⁴¹ *Wright Medical Technology, Inc.*, C-3564, 5 Trade Reg. Rep. (CCH) ¶ 23,726 (FTC Mar. 23, 1995).

the next-generation product eventually would destroy the market for the current products, thus eventually creating a “future goods market.”⁴²

Economic theory indicates that the proposed merger likely would have created an incentive for the merged firm to eliminate, slow the pace, or reduce the quality or diversity of R&D for the next-generation, finger-implant product in order to avoid losing sales of its own product in the future -- i.e., to avoid “cannibalization” of sales of its own current product through competition with its own new product.⁴³ Such conduct would also delay or eliminate potential price competition in the current product market, now monopolized by Wright.

Another potential anticompetitive effect, in theory, might eventually occur in the “future goods market” for the next-generation product. If, prior to the merger, Wright also had been innovating toward its own “next-generation” product, the proposed merger could delay or eliminate any potential price competition between Wright and Orthomet in the future “next-generation” product market.⁴⁴

As a result of such merger-induced changes in incentives or abilities, consumers could be harmed significantly through various anticompetitive effects. First, the next-generation product might not reach consumers as quickly or with the same quality or diversity as would be the case

⁴² Dahdouh & Mongoven, *supra* note 6, at 429-30.

⁴³ The merged firm’s incentives would resemble those of Kenneth Arrow’s hypothetical monopolist, whose incentives to innovate are muted when the invention would merely substitute for an existing product on which monopoly profits already are earned. *See supra* Chapter 6.

⁴⁴ All of these possibilities depend, of course, on whether it appeared likely that a second or third firm would soon start R&D toward an additional “next-generation” product. For now, however, we will leave such issues aside and focus simply on possible anticompetitive effects without considering how they might be mitigated by the presence of additional competition.

absent the merger.⁴⁵ Second, consumers might be deprived of the potential price competition between Wright and Orthomet in the market for current goods or in a future goods market.⁴⁶

It is important to note that a loss of innovation competition poses a somewhat unusual disjuncture between the timing and source of anticompetitive conduct and anticompetitive effects. Most typically, in the merger context at least, anticompetitive conduct and anticompetitive effects occur at essentially the same time and inhere in effectively the same conduct: post-merger price increases. By contrast, the anticompetitive conduct of the merged firm -- elimination, delay, or reduction of Orthomet's next-generation innovation efforts -- would take place in the current market in which innovation competition is occurring, but the anticompetitive effects would only become manifest in the future, and then only as "non-events," rather than "events." For example, the anticompetitive conduct of slowing an innovation effort would only manifest its anticompetitive effect as a "non-event" in the future -- that is, a product would not appear as soon as it would have absent the merger. Similarly, an anticompetitive limitation of the scope of innovation efforts would only manifest its anticompetitive effect as a later, "non-event" -- that is, products would not come into existence offering the qualities that otherwise might have been achievable. That new products were delayed or lacked desirable qualities that they would have had absent the merger would constitute consumer harm. Yet it could be extraordinarily difficult to assess the competitive significance of such future "non-events."⁴⁷

⁴⁵ See Gilbert 910-11, 970, 1046-47; Addanki 939, 946-47.

⁴⁶ See Carlton 1042-43; Sohn 1043-44; Whalley 1044; Yao 1049.

⁴⁷ In theory, the price that consumers would experience in these circumstances could be viewed as reflecting the anticompetitive effect of substantially lessened innovation competition. As the *1992 Guidelines* point out, "Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation." *1992 Guidelines* § 0.1 n.6, 4 Trade Reg. Rep. (CCH) at 20,571. Since consumers generally make price/quality tradeoffs, see Whalley 851-53, one might argue that continued higher "quality-adjusted prices" will reflect any losses from decreased innovation competition. See *infra* notes 106, 150, and accompanying text.

(continued...)

This analysis counsels that antitrust should focus on the likelihood of anticompetitive conduct, not just the likelihood of anticompetitive effects, when assessing possible consumer harm from a reduction in innovation competition. An assessment of a firm's likely post-merger conduct is necessary to provide a sound grounding for antitrust analysis in these settings. We now turn to assess the extent to which "innovation market" analysis and actual potential competition doctrine meet this and other criteria for proper antitrust analysis.

IV. THE VALIDITY OF INNOVATION MARKET ANALYSIS

There were two basic categories of objections to the use of "innovation market" analysis to assess the likelihood of a delay in, or elimination or reduction in quality or diversity of, innovation as a result of lessened innovation competition. The first challenges the existence of any systematic relation between concentration and innovation, while the second questions the ability of any firm to monopolize innovation. We shall address each contention in turn.

⁴⁷(...continued)

Although such an approach is theoretically possible, it would be difficult to implement practically -- how could, and at what point should, one assess whether "quality-adjusted prices" are higher than they would have been, absent the merger's elimination of an innovation effort? We prefer an analysis that focuses more directly on the conduct that could produce such an anticompetitive effect and that is likely to emerge first (that is, whether the merged firm likely will abandon an existing innovation effort or innovate more slowly or less diversely or at a lower quality than would the two firms if they remained independent).

A. The Link between Concentration and Innovation

1. Hearings Testimony

The absence of economic work to demonstrate an unambiguous theoretical or empirical link between increased concentration and decreased innovation was cited as a reason not to attempt antitrust analysis in this area.⁴⁸ *See supra* Chapter 6. Although there was agreement that, in theory, one could analyze potential increases in market power over innovation and potential anticompetitive effects from reduced innovation efforts,⁴⁹ significant concern was expressed that “in practice, the ability of the antitrust authorities to reliably identify such instances is likely to be very low.”⁵⁰

This argument does not deny that mergers may hamper innovation.⁵¹ Rather, this argument maintains that, because economic theory and empirical investigations have not established a general causal relationship between innovation and competition, antitrust cannot predict with any confidence specific individual circumstances in which increased concentration would be likely to lead to anticompetitive effects on innovation.⁵² One witness summarized this position as follows: “A decrease in the number of firms engaged in related or overlapping R&D projects does not reliably signal whether total R&D activity or innovative output in the market

⁴⁸ Rapp 918; Carlton 930; Sohn 993; Rill (Stmt) 14-15; McDavid (Stmt: *Mergers 1995*) 9.

⁴⁹ Carlton 926 (“As a matter of logic, antitrust policy could be used to prevent mergers that would harm consumers by concentrating an innovation market.”).

⁵⁰ Carlton 926.

⁵¹ No witness maintained that a merger of the only two firms developing a totally new product could *never* have any anticompetitive effects on innovation. *See* Transcript 1062-65 (no witness suggests that there could not be adverse competitive effects from a merger of the only R&D rivals for a totally new product); Addanki 939 (acknowledging that such a merger could raise competitive concerns “in principle”).

⁵² Rapp 918-19; Carlton 930; Sohn 992-997.

will either increase or decrease as a result.”⁵³ Since any mistake could inhibit or deter innovation rather than further it, the argument continues, antitrust should refrain from acting in order to avoid costly mistakes.⁵⁴

A closely related argument, put forth by several witnesses, carefully distinguishes between research and development expenditures (an input to accomplish innovation) and innovation (the output), and points out that if R&D expenditures are used more efficiently, they may be reduced without slowing or reducing innovation.⁵⁵ Another witness articulated a similar idea concerning the loss of a different research path, questioning whether an enforcement agency could judge whether a company’s decision to shut down one of two research tracks, to focus its resources on just one track, would likely be procompetitive or anticompetitive.⁵⁶ Such testimony suggested that it is too difficult for antitrust enforcers to distinguish between efficient, rationalizing reductions of R&D expenditures and anticompetitive cutbacks to justify any antitrust intervention.⁵⁷

Some testimony countered that in the factual context of particular mergers, antitrust enforcers would be able to distinguish anticompetitive from efficient reductions of innovation.⁵⁸ Such testimony expressed concern that reductions of so-called “duplicative” R&D may actually represent the elimination of diverse research paths that could lead to different results and further cautioned that, even if research paths were identical, different R&D researchers in different

⁵³ Rapp 918.

⁵⁴ Rapp 917-19, 922. *See* Carlton 926, 930; Sohn 995-96.

⁵⁵ Rapp 917-19; Carlton 929; U.S. Chamber of Commerce (Stmt) 3-4.

⁵⁶ Sohn 995-96.

⁵⁷ Rapp 917-19, 922; Carlton 929.

⁵⁸ Gilbert 909, 915; Yao 955-56; Rosch 3838-39 (in biotechnology transactions it is “pretty easy” to assess claims of complementarities and “fairly easy to determine whether or not redundancies exist whose elimination can yield efficiencies”).

companies might draw different inferences from them, and hence achieve different results from the same discovery.⁵⁹

Finally, one concern expressed by some hearings participants was that innovation markets are not “markets” in the sense of having buyers and sellers of innovation; thus, there are no price or output effects that may reasonably and reliably be predicted.⁶⁰ For example, if a merger combines two out of three innovation efforts, one cannot reliably predict whether any “price” for purchasing innovation efforts would be likely to rise or fall, this testimony contended. Others noted that, in fact, in some industries there are “innovation markets” in which innovation efforts may be bought or sold.⁶¹ One example involves biotechnology, where most of the R&D is performed by very small firms that market their output to larger companies with the capabilities to commercialize it.⁶² According to this testimony, R&D efforts may be thought of as an “input” that is either purchased or produced internally by a firm. That R&D efforts in some industries might always be produced internally should not preclude an analysis that recognizes R&D efforts as an input that could be bought or sold and that ultimately is incorporated into a product sold to consumers.⁶³

2. Analysis

We agree that it may be difficult to distinguish between procompetitive and anticompetitive combinations of innovation efforts. Nonetheless, as several witnesses noted,⁶⁴ it

⁵⁹ Noll 1230-33; Yao (Stmt) 5; Gilbert & Sunshine, *supra* note 6, at 579.

⁶⁰ White 844-45; Teece 869; U.S. Chamber of Commerce (Stmt) 5.

⁶¹ Gilbert & Sunshine, *supra* note 6, at 599.

⁶² Cooney 655; Green 695-98.

⁶³ Gilbert & Sunshine Reply, *supra* note 6, at 78-80; Gilbert & Sunshine, *supra* note 6, at 599-601. *See also* Dahdouh & Mongoven, *supra* note 6, at 413-15.

⁶⁴ Gilbert 914-15; Yao 955-56, 958-59, 1017; Whalley (Stmt) 5; Carlton (Stmt) 10 (“a study of an individual industry over time could well find a stable empirical relationship between concentration and R&D activity, all else equal”); Gilbert & Sunshine Reply, *supra* note 6, at 77-78.

is not impossible, and there are ways in which the analysis can be focused so as to increase significantly the likelihood of a correct result. As one witness pointed out, there are a number of theoretical models that suggest when a monopolist may have a disincentive to invest in research and development.⁶⁵ Antitrust enforcers can examine whether the facts of a specific matter are generally consistent with a particular theoretical description.⁶⁶ Indeed, the facts of some of the FTC's challenges appear consistent with the insights of Arrow's theoretical model of a monopolist who would have the incentive to eliminate, delay, or reduce an innovation effort if it would otherwise lead to a product that could cannibalize sales of the monopolist's current product.⁶⁷ Several witnesses acknowledged that the monopolist's incentives to eliminate, delay, or reduce innovation in such situations would be quite clear.⁶⁸

We agree with the testimony noting that antitrust enforcers should not equate R&D expenditures -- or any other single measure -- with a fail-safe measure of either the significance of current competition in innovation or likely post-merger effects on innovation. Indeed, the FTC and its staff have already shown an understanding of that point. Although the *IP Guidelines* mention R&D expenditures as one of a few possible ways to measure competitive significance, such data are used only if they "accurately reflect the competitive significance of market participants."⁶⁹ FTC staff in fact casts a wide net in assessing current innovation competition, also seeking evidence on "buyers' and market participants' assessments of the competitive

⁶⁵ Gilbert 914.

⁶⁶ *Id.*

⁶⁷ See, e.g., *Upjohn* and *Wright Medical Technology*, discussed *supra* in Sections II and III.B.

⁶⁸ Addanki 946-47 (but he would analyze it under potential competition doctrine); Sohn 993 (but he emphasized that the incentives depend on innovation occurring "with respect to and in close proximity to a good that's being monopolized"); Gilbert (Stmt: *Should Antitrust Enforcers Rely on Potential Competition Analysis or the Concept of Innovation Markets*) 2.

⁶⁹ *IP Guidelines* § 3.2.3, 4 Trade Reg. Rep. (CCH) at 20,738.

significance of innovation market participants.”⁷⁰ In addition, it is well understood that a post-merger reduction in R&D expenditures may reduce duplicative, unnecessary costs, or it may eliminate promising alternative research. A careful, intense factual investigation is necessary to distinguish which applies to any given fact situation.

Finally, there are significant reasons why antitrust should assess at the time of a Hart-Scott-Rodino filing whether a proposed transaction may substantially lessen innovation competition. If antitrust enforcers were to adopt a “wait-and-see” attitude and allow the transaction to proceed, the innovation-related issues would not become any easier. For example, it may be difficult to predict how quickly a new product would have been introduced absent the merger; it may be difficult to predict what technological advances might have been achieved but for the merger. As noted earlier, the conduct that reduces innovation competition takes place well before consumers experience any of the anticompetitive effects that are manifested as “non-events.”⁷¹ Moreover, once the firms have merged and innovation efforts are in the control of the merged firm, antitrust enforcers could hardly recreate innovation competition even if they were certain that some had been lost. Thus, the best chance that antitrust has to evaluate and prevent significant consumer harm from a loss of innovation competition in the merger context comes when the merger is presented for agency review.⁷² This opportunity should not be ignored.

B. The Difficulty of Monopolizing Innovation

1. Hearings Testimony

A second basic objection was that, since it is extremely difficult to monopolize innovation, and thus competitive problems are rare, the use of innovation market analysis to assess a merger’s competitive effects is unnecessary. Some testimony emphasized that there are likely many other technologies from which alternatives to current innovation efforts could

⁷⁰ *Id.*

⁷¹ *See supra* Section III.B.

⁷² *See Dahdouh & Mongoven, supra* note 6, at 411-12.

develop.⁷³ Even if a line of R&D were briefly monopolized, it was argued, its components likely could be reassembled elsewhere.⁷⁴ Other testimony stressed the view that little real-world evidence exists to suggest that research is being anticompetitively suppressed, thus confirming the small likelihood that competitive harm will occur.⁷⁵

2. Analysis

To be sure, in many situations, it is unlikely that innovation could be monopolized. Testimony at the hearings confirmed that even experienced innovators may not know about all the sources of alternative, equivalent R&D. For instance, the 3M witness testified that 3M invests in venture capital companies so that 3M can find out about competing innovation efforts.⁷⁶ In these types of situations, it may truly be unlikely that innovation could be monopolized.⁷⁷

We can easily find other examples, however, where it is clear that innovation could be monopolized for significant periods of time. The most obvious involves a situation in which two firms have a substantial head start in a regulatory approval process. For example, suppose a proposed merger would combine two innovation efforts competing toward the development of drugs for the same indication, and each innovation effort was within two years of FDA approval, with a third effort about seven years away from FDA approval. In such circumstances, the merged firm could slow innovation efforts for as much as five years before any other firm could catch up. Because the FDA approval process requires a series of clinical trial periods, data collection and analysis from those clinical trials, and expenditures of significant resources over a

⁷³ Addanki 943-44. *See* Rapp 921-22.

⁷⁴ Addanki (Stmt) 5-6; U.S. Chamber of Commerce (Stmt) 4; Richard T. Rapp, *The Misapplication of the Innovation Market Approach to Merger Analysis*, 64 ANTITRUST L.J. 19, 36 (1995) (submitted for the hearing record).

⁷⁵ Sohn 990-91. *See* Rill 4157-58.

⁷⁶ Coyne 218-19.

⁷⁷ *See also supra* Section III.A (recommending that antitrust enforcers generally avoid investigations involving basic R&D).

period of many years, in general no entrant could “leap-frog” into either the drug product market or a position ahead of the third innovation effort.⁷⁸

Another example involves a situation where R&D efforts require very specialized assets (possibly intellectual property assets) that could be monopolized. A third involves the situation where, although other firms might have specialized assets that theoretically could be used to conduct competing research, they have no incentive to do so. This situation might occur where the specialized assets and competencies already were committed to an area of research believed by the other firms to be more promising than the R&D likely to be lost through the merger. In some investigations, FTC staff has conducted interviews to find out whether there are other firms whose “core competencies”⁷⁹ would permit them to replace any R&D that would likely be lost through the merger. Even where firms had core competencies and specialized assets that would give them the ability to undertake comparable R&D, many were unlikely to do so, because they considered participation in the ultimate product market undesirable for their firm.

In sum, notwithstanding general propositions about the difficulty of monopolizing innovation, antitrust enforcers should not close their eyes when confronted with very different specific fact situations that suggest the likelihood of consumer harm. Although the cautions raised are important and appropriate, they should not deter a continuation of the agency’s careful approach to these issues.

⁷⁸ *E.g.*, *The Upjohn Co. and Pharmacia Aktiebolag*, C-3638, 5 Trade Reg. Rep. (CCH) ¶ 23,914 (FTC Feb. 8, 1996), Complaint ¶ 9 (“No company may reach advanced stages of development in the relevant market [for an FDA-approved drug] without engaging in scientific research that requires well over at least two years to complete.”).

⁷⁹ Yao 956 (“[C]ore competence is a business strategy concept that is intended to force managers to understand what unique set of skills and technologies their company or organization possesses that will allow them to compete successfully in current and more importantly in future markets.”). *Cf.* Coyne 209 (3M views its core competencies as “technologies and technology platforms from which [it] can build new businesses.”).

V. **ALTERNATIVES TO INNOVATION MARKET ANALYSIS: THE POTENTIAL COMPETITION DOCTRINE**

Many at the hearings favored a focus on only those innovation-related anticompetitive effects that appear as “price” effects in goods markets. They urged that antitrust analysis use “potential competition” doctrine as the means to achieve this focus and forego any attempt at innovation market analysis.⁸⁰ Accordingly, this section takes up the application of “potential competition” analysis either to a current or to a future goods market to identify possible anticompetitive reductions in innovation competition due to a merger.

A. **Testimony on Potential Competition versus Innovation Markets Analysis**

As noted earlier, there are two strands of the potential competition doctrine. One strand, “actual potential competition,” asks whether a potential merger might prevent the deconcentration of an already concentrated market by eliminating the likelihood of actual entry by a potential entrant. The second, “perceived potential competition,” focuses on whether a potential merger might eliminate a “perceived potential entrant” whose presence already has a procompetitive effect on the market. The discussion at the hearings was directed at use of the actual potential competition doctrine, and that is the focus of our discussion as well.⁸¹

Much of the testimony appeared to suggest that actual potential competition doctrine be used to view an innovation effort as a “potential entrant” into a current or future goods market, and to ask whether a proposed merger might anticompetitively reduce potential competition from the ultimate product of the current innovation effort. This approach would center on whether, as a result of the proposed merger, consumers would lose the price competition that would have occurred if the product of the innovation had entered either a current or a future goods market. In essence, this testimony argued that antitrust should focus only on the potential consumer harms associated with lessened price competition in current or future goods markets, and should not

⁸⁰ See, e.g., Rapp 920; Carlton 934; Addanki 946-47; Pfizer (Stmt) 9-10, 14; U.S. Chamber of Commerce (Stmt) 6-7.

⁸¹ In theory, one could use “perceived potential competition” analysis to ask whether a proposed merger would likely eliminate a current innovation effort whose existence was already stimulating competition among competing innovation efforts and/or goods. We do not address that issue, however.

attempt to deduce whether a proposed merger might eliminate, slow, or reduce the quality or diversity of current innovation efforts.⁸²

Advocates of this approach cited several reasons why it would be superior to an innovation market approach.⁸³ First, these witnesses pointed out that the potential competition doctrine focuses on possible anticompetitive effects on price or output, not on innovation.⁸⁴ Because predicted price and output effects stand on firmer theoretical economic ground than predicted innovation effects, these witnesses emphasized that any predictions of anticompetitive effects on price or output are more likely reliable.⁸⁵ One witness further emphasized that traditional actual potential competition doctrine likely applies where the product of the innovation might ultimately cannibalize sales of an incumbent's current product; thus, he stressed, potential competition theory could address the settings where, according to Arrow's economic work, the merged firm would be most likely to have incentives to reduce or delay innovation.⁸⁶ For innovation efforts directed toward new products, some witnesses would also define a "future goods market," and they would treat the merging parties as "actual potential entrants" into those future markets.⁸⁷ They saw no theoretical impediment to the reformulation of existing actual potential competition doctrine to capture this usage, as long as future products could be reliably projected.⁸⁸

⁸² See White 844; Rapp 917-18, 971-72.

⁸³ Addanki 939, 964-65; Rapp 971-72; Pfizer (Stmt) 9-10.

⁸⁴ Carlton 934.

⁸⁵ Carlton 934, 937-38, 972-73; Addanki 939, 947-49; U.S. Chamber of Commerce (Stmt) 3-8. See Rill (Stmt) 15.

⁸⁶ Addanki 939, 946-47. See *supra* Section III.B (discussion of *Wright Medical Technology, Inc.*, and its consistency with Arrow's insights).

⁸⁷ White 868-69; Carlton 934, 1043; Sohn 1043-44; Whalley 1044; Gellhorn 4131.

⁸⁸ Carlton 934, 937-38; Addanki 947-48; Sohn 1043-44 (noting a need to factor in the possibility that the current R&D effort(s) might not succeed).

Others cautioned that existing potential competition doctrines were not created with innovation in mind.⁸⁹ One questioned, for example, whether courts would be likely to extend potential competition analysis to encompass non-price effects within future goods markets.⁹⁰ And experienced litigators stated that it would be easier to convince a court that a transaction would likely reduce current innovation competition than to convince a court that the transaction would likely reduce potential competition in a future goods market.⁹¹

B. Analysis of How the Potential Competition Doctrine Might Apply

1. Market Definition

Current “actual potential competition” doctrine in theory could be expanded to ask whether a merger might eliminate the “actual potential competition” of an existing innovation effort directed toward producing a product to compete in a current or future goods market. If one asked that question, the appropriate market definition would depend on the product toward which the current innovation effort was directed. At one end of the continuum, innovation may produce a product that competes in a current goods market. At the other end, innovation may yield an entirely new product that creates its own new market -- that is, a future goods market. Between these two ends lie situations in which innovation creates a product that, over time or relatively rapidly, displaces existing products. One example is compact disks, which have now largely replaced records, but initially competed directly with records.⁹²

A careful fact investigation would be required in each case to assess possible current and future goods market definitions. In some cases, a choice of one over the other might be appropriate; in others, it may be that both should be alleged.

⁸⁹ Yao 953-54, (Stmt) 2.

⁹⁰ Whalley 1044-45.

⁹¹ Sohn 1055; Whalley 1056.

⁹² There are many points along this continuum. For example, stereo phonographs long competed with, and only ultimately displaced, monaural systems. Penicillin could in some sense be viewed as having competed with leeches, but it is more accurately regarded as an entirely new product. The analysis of the relevant market definitions will depend on whatever facts are available at the time.

2. Competitive Effects Analysis

The actual potential competition doctrine was developed to assess the likely competitive effects of losing deconcentrating entry from the product offerings of an actual potential entrant into that market. The doctrine was not intended to examine possible competitive effects from a loss of the innovation efforts of a potential entrant. Thus, the elements now required to trigger application of the actual potential competition doctrine do not focus on all of the right questions to assess whether a proposed merger might eliminate potential competition from an innovation effort.

The most recent federal agency articulations of actual potential competition requirements are found in Section 4.1 of DOJ's *1984 Guidelines* and in the Commission's decision in *B.A.T Industries, Ltd.*⁹³ The *1984 Guidelines* require that (1) the market is highly concentrated (i.e., an HHI above 1800), (2) entry is generally difficult, (3) the entry advantage of the merging potential entrant is matched by at most two other firms, and (4) the incumbent's market share exceeds five percent.⁹⁴ Excluding DOJ's last requirement of a greater than five percent market share for the incumbent, the requirements most recently articulated by the Commission are virtually the same, except that the Commission's *B.A.T* opinion adds the requirements that (1) independent entry by the potential entrant would result in a substantial likelihood of deconcentration or other significant procompetitive effects, and (2) the potential entrant, but for the merger, would have entered the market independently (either *de novo* or through a small "toehold" acquisition) within the near future.⁹⁵

⁹³ 104 F.T.C. 852, 916 (1984). Where a potential entrant would enter the market "within one year and without the expenditure of significant sunk costs of entry and exit, in response to a 'small but significant and nontransitory' price increase," however, the potential entrant would be considered an uncommitted market participant under § 1.32 of the *1992 Guidelines*, 4 Trade Reg. Rep. (CCH) at 20,573-3 to -4.

⁹⁴ U.S. Department of Justice, *Merger Guidelines* § 4.1 (1984), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,103 at 20,564-20,565 (*1984 Guidelines*). This section of the *1984 Guidelines* was not superseded by the *1992 Guidelines*.

⁹⁵ *B.A.T*, 104 F.T.C. at 922-25.

For purposes of assessing whether these are the right questions, imagine a hypothetical transaction that would combine a current producer of a relevant product -- widgets -- with an innovation effort directed toward introduction of a competing, somewhat improved widget into the current widget market. Even if all the questions listed in the 1984 *Guidelines* were answered affirmatively as to this transaction -- that is, the widget market is highly concentrated and difficult to enter, the incumbent widget producer's market share exceeds five percent, and the entry advantage (i.e., the innovation effort) of the merging potential entrant is matched by at most two other firms -- one could not discern whether the proposed transaction was likely to reduce actual potential competition from the innovation effort. One reason is that the answers to these questions do not reveal whether the merged firm would have increased abilities or incentives to eliminate the existing widget innovation effort. It might or it might not, depending on facts such as the size of its market share in the current widget market (which would indicate the extent to which it was already earning monopoly profits) and the likely competitive significance of the improvement targeted by the widget innovation effort.

Imagine that both of the additional *B.A.T* questions also were answered affirmatively -- that is, independent entry by the potential entrant (i.e., the widget ultimately produced by the innovation effort) would result in a substantial likelihood of deconcentration or other procompetitive effects, and the potential entrant's widget, but for the merger, would have entered the market within the near future. If that were the case, then it would appear that the proposed transaction would likely substantially lessen actual potential competition on widget prices. But this only leads further into the analysis: what are the right questions to ask to assess whether the two *B.A.T* tests have been met? For example, how could we know that the potential entrant would have entered "but for" the merger -- that is, how could we assess whether a proposed merger would likely prevent entry that would have occurred absent the merger?⁹⁶

⁹⁶ We leave aside any requirement that the innovation effort would have produced a product that would have entered the market independently "in the near future." This portion of the existing FTC requirements for actual potential competition cases arises from issues relating to how speculative future events may be. *See B.A.T*, 104 F.T.C. at 925-26. If actual potential competition doctrine were applied to assess innovation competition issues, the speculativeness of
(continued...)

To answer that question, one must ask (among other things): “How could the proposed merger increase the incentives or abilities of the merged firm to eliminate, delay, or reduce current innovation efforts?” But this is precisely the question that many witnesses wished to avoid by using potential competition doctrine to focus on likely price effects.

One way to avoid this question would be simply to assume that independent entry would always occur "but for" the merger.⁹⁷ If one simply assumed that the potential entrant's innovation effort would ultimately produce a competing product,⁹⁸ one could then ask whether the merger's (assumed) elimination of that product caused market prices not to fall as they would have absent the merger.⁹⁹ That answer would depend on the answer to the other *B.A.T* question -- that is, whether independent entry by the potential entrant would result in a substantial likelihood of deconcentration or other significant procompetitive effects.¹⁰⁰ If an evaluation,

⁹⁶(...continued)

future events should be evaluated on a case-by-case basis, rather than through application of a standard “in the near future” requirement that could eliminate any assessment of potential consumer harm simply because the innovation effort might not reach fruition quickly.

⁹⁷ Another way would be simply to assume the converse -- that is, a merger would never affect the likelihood of entry by the ultimate product of an innovation effort. This approach would "assume away" the possibility of anticompetitive conduct or effects in such circumstances. For the reasons stated earlier, we reject such an approach. *See supra* Section III.

⁹⁸ However, not only would this "assume away" the issue of the merged firm's likely post-merger conduct, it would also "assume away" any questions about the likelihood of an innovation effort's success. Such questions are often necessary in order to assess the future that is likely without the merger (for comparison with the future that is likely with the merger). *See, e.g.,* Sohn 1044. *See also* Chapter 2.

⁹⁹ This question would "compare[] the level of competition that would exist now and in the future, if the merger or restraint were permitted, with the level that would exist if it were disallowed." *See* 5 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* ¶ 1118, at 75 (1980). *See also supra* Chapter 2 (Section 7 requires a comparison of the likely future with and without the proposed transaction).

¹⁰⁰ *B.A.T*, 104 F.T.C. at 924.

including the answers to the questions identified in the *1984 Guidelines*,¹⁰¹ established a likelihood of substantially lessened price competition, then that would constitute a sufficient basis on which to challenge a proposed merger.

This analysis hardly seems satisfactory, however. The crux of the issue is the merged firm's likely post-merger conduct. There is no basis on which simply to assume that the merged firm would eliminate the current innovation effort and to ask only whether, if it did, there could be any anticompetitive effects on price competition.¹⁰² Moreover, to the extent that potential competition advocates were arguing that potential competition doctrine could also handle non-price issues -- such as whether the potential innovative product would likely be delayed or its quality reduced¹⁰³ -- then it is similarly unclear how potential competition analysis could avoid any of the necessary factual inquiry into the merged firm's likely post-merger conduct. To assess whether the timing or quality of the potential product might be adversely affected, one would need to ask whether, post-merger, the merged firm would have any increased incentive or ability to eliminate, delay, or reduce the diversity or quality of the innovation effort.

One final point is that the use of potential competition analysis could leave some circumstances of consumer harm unexamined, if it focused solely on price effects. One witness argued that a merger of R&D rivals might generate anticompetitive consequences in markets where the merging parties are not actual competitors and have no plans for goods market competition.¹⁰⁴ One hypothetical revealed another example of how potential competition

¹⁰¹ See *supra* discussion at page 31 et seq.

¹⁰² Nonetheless, it might be possible to focus first on questions relating to the likelihood of anticompetitive effects on price competition to screen out those cases with no likely anticompetitive effects and thus lower the number of cases in which the merged firm's likely post-merger conduct would have to be assessed. Innovation market analysis effectively applies such a technique by first assessing market definition and market participants.

¹⁰³ E.g., White 844-45; Addanki 964-65; Carlton 966-67, 1044-45, 1050-51.

¹⁰⁴ As an example, this witness cited a hypothetical in which the firms sell goods in different continents, transportation costs are significant, and neither firm is a potential competitor in the other's geographic market, but both engage in R&D as to the same products. Gilbert
(continued...)

analysis could fail to identify possible consumer harm from reduced innovation competition. In that hypothetical, the only three companies in the world that make jet engines for wide-bodied aircraft would combine their R&D efforts to develop the next-generation jet engine. They would produce and market the new engine independently, but the R&D would be joint.¹⁰⁵

Since the three companies would market the new engine independently, price competition among them would still continue. Thus, it could appear that the joint venture would be unlikely to cause any reduced price competition. Such an analysis, however, would ignore the possibility that competitive rivalry over R&D might produce a superior next-generation jet engine more quickly than collaboration would.¹⁰⁶ A failure to examine how the joint venture could affect the companies' abilities or incentives with respect to innovation competition itself would mean that potential consumer harm from a delay in new product introduction could not be identified.

¹⁰⁴(...continued)

(Stmt: *Should Antitrust Enforcers Rely on Potential Competition Analysis or the Concept of Innovation Markets*) 1; *see also* Gilbert 1046.

¹⁰⁵ Pitofsky 959-61.

¹⁰⁶ Some witnesses who generally advocated use of potential competition doctrine did acknowledge that these competitive issues might be ignored by a potential competition analysis focused solely on likely price effects in goods markets. *See* Rapp 963; Carlton 966-67. Some testimony suggested that potential competition theory might be formulated broadly enough to encompass reduced innovation quality or delay. For example, Sumanth Addanki suggested that antitrust might analyze the R&D competition by approaching it as horizontal non-price competition. Addanki 964-65. *See also* Carlton 1045. But antitrust typically looks only at the "horizontal non-price competition" that would occur at the same time as price competition in the goods market, not at innovation-based, non-price competition that would occur before any products were sold. Moreover, as we noted earlier, *see supra* note 47, we find it preferable to focus directly on the possibility of a merged firm's increased incentives or abilities to reduce innovation competition, rather than to focus indirectly on anticompetitive effects that are manifested only as "non-events."

3. Case Law Concerns

As noted earlier, although the FTC and some federal circuit courts have accepted the “actual potential competition” doctrine, the Supreme Court and other federal circuit courts remain undecided on its acceptability.¹⁰⁷ Some commentators have questioned whether Section 7 prohibits a merger’s elimination of “actual potential competition,” since “[w]here the outside firm is relevant only because it might otherwise enter in the future and thereby increase competition at that time, the merger does not reduce competition but only eliminates a future opportunity to increase it.”¹⁰⁸ Significant commentators have rejected such questions, emphasizing that merger analysis requires comparing the future likely with the merger to the future likely without the merger.¹⁰⁹ If competition would be substantially lessened in the future with the merger as compared to the future without the merger -- as could happen from an elimination of a potential entrant -- then Section 7’s statutory language is broad enough to include the actual potential competition doctrine.¹¹⁰

Nonetheless, this still leaves open the question of whether Section 7 applies to an elimination of actual potential competition in a *future* product market. Similar reasoning appears applicable to extend Section 7’s coverage to such circumstances; however, no court has yet opined on whether Section 7 would prohibit a merger that was likely substantially to lessen

¹⁰⁷ See *supra* Section II.B.

¹⁰⁸ PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 1118’, at 784-85 (Supp. 1995) (describing criticisms of actual potential competition doctrine). See also William Alper, *Commentary: Potential Competition: An Idea Whose Time Has Passed*, 50 *BROOK. L. REV.* 407, 431 (1984) (further noting difficulties of proving that a firm would have entered the market but for the merger “with the degree of certainty courts must require”).

¹⁰⁹ 5 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* ¶ 1118, at 75-76 (1980) (“The statutory language of § 7, looking to prospective effects, is clearly comprehensive enough to warrant such constraints.”). See also Joseph Brodley, *Potential Competition Under the Merger Guidelines*, 71 *CAL. L. REV.* 376 (1983).

¹¹⁰ E.g., *B.A.T.*, 104 F.T.C. at 922-23; *The Grand Union Co.*, 102 F.T.C. 812, 1050-51 (1983).

competition in a future product market, by eliminating an innovation effort that otherwise would have produced a competing product in that future product market.

D. Summary

To a large extent, it appears that the desire for reliance on potential competition doctrine reflects a desire to return to the relatively well-understood price-based competition analysis. Although understandable, this is simply not possible without also abandoning reasonable efforts to examine innovation-related competitive effects. The facts that are challenging to assess -- such as whether the likely product will compete against existing goods or create a new product market; whether two, or three, or four innovation efforts generate sufficient competitive pressure to maintain the current level of innovation efforts; whether the merged firm would have increased incentives or abilities to reduce innovation competition -- remain challenging whether put in the framework of potential competition doctrine or innovation markets. No one at the hearings suggested new questions to replace the difficult current questions regarding reductions of innovation competition.¹¹¹

Overall, we find it most sensible for antitrust enforcers to examine innovation-related issues in terms of the questions actually raised. When elimination of potential price competition from an innovation effort is a competitive concern, then potential competition analysis may be useful. If a loss of “actual current” innovation competition is a concern, then an innovation market analysis may be appropriate.¹¹² As indicated by FTC complaints, both theories may apply.¹¹³ In any case in which anticompetitive effects related to innovation competition appear possible, the analysis, however framed, should ask about the likelihood that the merged firm will

¹¹¹ The hearings did provide an unusual outpouring of support for the use of potential competition doctrine, which has had its own share of critics over the years. Indeed, Commissioner Steiger noted that she was interested to hear the doctrine “somewhat restored to great respectability at this point.” Steiger 968.

¹¹² We would favor this approach even if the proposed transaction were also likely to have anticompetitive effects on price or output in a future goods market, since the innovation market approach keeps a focus on a possible lessening of “current competition” rather than “future competition.”

¹¹³ *See supra* Section II.

have increased abilities or incentives to reduce innovation competition -- i.e., the likelihood of post-merger anticompetitive conduct.

VI. THE APPLICATION OF INNOVATION MARKET ANALYSIS

This section examines possible approaches to competitive issues in the context of innovation market analysis. Keeping in mind the sensitivity and importance of innovation, *see supra* Chapter 6, we advocate a conservative approach to the use of innovation market analysis.

A. The Assessment of Competitive Effects on Innovation

1. Threshold Considerations: Market Participants and the Degree of Current Competition

It does seem appropriate to limit the situations that the agencies examine to ones that involve very small numbers of innovation competitors. For situations in which market shares are unavailable or do not accurately reflect competitive significance, the *IP Guidelines* provide a safe harbor if the market contains four or more independent and closely substitutable innovation efforts in addition to the one that will exist post-licensing arrangement. The Commission may wish to adopt a similar "safety zone" in the context of mergers, because five independent¹¹⁴ and closely substitutable¹¹⁵ innovation efforts, in general, should be sufficient competitive pressure and because competing innovation efforts may continue to emerge over time. Of course, the usual caveats should apply -- that is, extraordinary circumstances might warrant a challenge even in "safe harbor" circumstances, and the secrecy of R&D might preclude an application of the safe harbor criteria.

¹¹⁴ The *IP Guidelines* specify that the "independently controlled entities" must "possess the required specialized assets or characteristics and the incentive to engage in research and development that is a close substitute of the research and development activities of the parties to the licensing agreement." *IP Guidelines* § 4.3, 4 Trade Reg. Rep. (CCH) at 20,743-2 (footnote omitted).

¹¹⁵ The *IP Guidelines* define "close substitutes" as "research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and the incentive of a hypothetical monopolist to retard the pace of research and development." *IP Guidelines* § 3.2.3, 4 Trade Reg. Rep. (CCH) at 20,738 (footnote omitted).

In terms of how to define the scope of an “innovation market,” the *IP Guidelines*’ approach of focusing on “research and development directed to particular new or improved goods or processes” seems most useful.¹¹⁶ One witness suggested that access to specialized assets could also be the basis for identifying substitutable innovation efforts and for assessing the relative competitive significance of market participants.¹¹⁷ Such an approach has received some attention.¹¹⁸ This approach might well be sufficient to cabin the agency’s analysis, yet the issue ultimately would lead back to the potential existence of a good. That is, in asking whether a firm possessed “specialized assets,” one would need to ask: “specialized assets necessary to produce what types of goods?” At the moment, it seems inevitable that an innovation market will be defined with respect to an ultimate goods market, such as “R&D directed at [a class of products].”¹¹⁹

Several witnesses urged that, absent trade or regulatory barriers that would limit the dissemination of R&D, innovation markets are worldwide in scope.¹²⁰ In many circumstances, substitutable innovation efforts anywhere in the world are likely to prove capable of constraining anticompetitive conduct by the merged firm. Nonetheless, the geographic scope of an innovation market will require case-by-case, fact-based examination. *See supra* Chapter 4.

¹¹⁶ *See supra* Section III.A.

¹¹⁷ Whalley 1008.

¹¹⁸ *See* United States v. General Motors Corp., Civ. Action No. 93-530 (D. Del. filed Nov. 16, 1993). *See also* William Baxter, *The Definition and Measurement of Market Power in Industries Characterized by Rapidly Developing and Changing Technologies*, 53 ANTITRUST L.J. 717 (1984).

¹¹⁹ *But see supra* note 39 (issues of “nontraditional” competition may require reexamination of such assumptions over time).

¹²⁰ *See, e.g.*, Teece 881; Addanki 942; Whalley (Stmt) 7-8; Gilbert & Sunshine, *supra* note 6, at 594-95.

2. Threats to Competition from Unilateral and Coordinated Activities

Once an agency has determined that the current degree of competition does not place a merger beyond concern, it must then decide whether, given that context, the proposed combination of innovation efforts is likely to be procompetitive or anticompetitive. The hearings testimony clearly stressed that unilateral anticompetitive effects, rather than coordinated interaction, are much more likely to be the problem in the context of innovation combinations.¹²¹ Coordinated interaction among innovation efforts is likely to be difficult for a variety of reasons. Monitoring an agreement often may be impractical, given the secrecy of much R&D activity.¹²² Cheating on an agreement may be attractive and difficult to deter, because of the magnitude and duration of potential gains and the likely absence of timely and effective punishment mechanisms.¹²³

Nevertheless, coordinated interaction regarding innovation is clearly not impossible. For example, effective punishment may be available if the parties are in repeat relationships or if there is an ability to punish in a goods market.¹²⁴ Therefore, although the agencies may find that anticompetitive effects are primarily unilateral, the possibility of coordinated interaction should not be ruled out until there has been a factual analysis of the particular situation.

B. Evaluation of the Ease of Entry

The *1992 Guidelines* state that “[a] merger is not likely to create or enhance market power or to facilitate its exercise, if entry into the market is so easy that market participants, after the merger, either collectively or unilaterally could not profitably maintain a price increase above premerger levels.”¹²⁵ To assess whether entry is “so easy,” the *Guidelines* require an inquiry into whether “entry would be timely, likely, and sufficient in its magnitude, character and scope to

¹²¹ See, e.g., Addanki 940; Gilbert 985; Whalley 1004, 1007, 4123; Yao 1014-17, 1022.

¹²² Rapp 919; Carlton 932; Addanki 940; Gilbert 984; Sohn 996; Whalley (Stmt) 10.

¹²³ Carlton 932; Addanki 940; Sohn 996; Rapp, *supra* note 74, at 30 n.37.

¹²⁴ Gilbert 984-85.

¹²⁵ *1992 Guidelines* § 3.0, 4 Trade Reg. Rep. (CCH) at 20,573-9 to -11.

deter or counteract the competitive effects of concern.”¹²⁶ The entry analysis of the *1992 Guidelines* is premised on the notion that entry sufficient to counteract the adverse effects of the merger (i.e., sufficient to return pricing to premerger levels or below) is likely to be induced if a firm outside the market sees a profitable sales opportunity. A reduction in output due to a merger, for example, may make entry profitable even after accounting for the costs of the entrant’s sunk investments and the effect of its entry on prices.¹²⁷

In applying the entry analysis of the *1992 Guidelines* to the innovation-market setting, the fundamental question would be whether entry into a substitutable innovation effort would occur to deter or counteract any anticompetitive conduct.

1. Hearings Testimony

Some witnesses at the hearings questioned whether entry analysis could be transferred to innovation market analysis, either theoretically or practically. As a matter of theory, it is unclear whether and when a firm that observed reduced innovation competition would likely enter to replace that lost competition. It would be helpful for antitrust enforcers to know more about what signals a firm to enter into R&D before attempting articulation of a general standard for the “likelihood” of entry into innovation competition.¹²⁸

Even assuming that firms might enter R&D if they knew of post-merger reductions in innovation efforts, in practice there is a question of how firms might know of such reductions. The secrecy of R&D in some markets might make any reduction unobservable, so that no entry would be induced.¹²⁹ Moreover, the same observability problem may also flow in the reverse direction: if a new rival’s entry into competing R&D is not observable, the incumbent will not

¹²⁶ *Id.*

¹²⁷ *1992 Guidelines* § 3.3, 4 Trade Reg. Rep. (CCH) at 20,573-11. .

¹²⁸ *See* Sohn 998-99, (Stmt) 10-11.

¹²⁹ Whalley 1011-12; Yao 1021. Dennis A. Yao & Susan S. DeSanti, *Innovation Issues Under the 1992 Merger Guidelines*, 61 ANTITRUST L.J. 505, 519-20 (1993).

alter its behavior in response -- that is, any anticompetitive conduct of the incumbent would not be deterred or counteracted by entry.¹³⁰

Some testimony addressed the possibility of “drastic” entry, which would effectively capture the market rather than merely provide incremental innovation, such as when a breakthrough technology supplants incumbents who fail to keep pace.¹³¹ An incumbent might be constrained from reducing innovation efforts if doing so might induce “drastic” entry.¹³² On the other hand, “drastic” entry might occur without regard to the incumbent’s conduct, so in some circumstances its possibility might not be any kind of constraint.¹³³

Various observations were made about how to assess the “timeliness” of entry into innovation markets,¹³⁴ assuming that an entry analysis were feasible. The *1992 Guidelines* consider entry only when timely, that is, “only those committed entry alternatives that can be achieved within two years from initial planning to significant market impact.”¹³⁵ One witness urged that committed R&D entry within two years of an incumbent’s reduction of innovation effort should be deemed timely.¹³⁶ Another proposed that timeliness be evaluated using the date that the merged parties bring their product to market, rather than the date of the merger.¹³⁷ Others

¹³⁰ Yao (Stmt) 6. *See supra* note 129.

¹³¹ Gilbert 1029.

¹³² Sohn 998; Gilbert 1029.

¹³³ Gilbert 1032-33. As a major producer of pharmaceutical drugs stated, “[I]ncumbent firms do not constrain their behavior to avoid the entry of new drug therapies, whose introduction they often view as unpredictable in timing (due to FDA review) but otherwise inevitable.” Pfizer (Stmt) 5.

¹³⁴ Some questioned automatic application of the *1992 Guidelines*’ one- and two-year periods for assessing uncommitted and committed entry. McDavid (Stmt: *Mergers 1995*) 10; Rill (Stmt) 14.

¹³⁵ *1992 Guidelines* § 3.2, 4 Trade Reg. Rep. (CCH) at 20,573-10.

¹³⁶ Sohn (Stmt) 10.

¹³⁷ Whalley 1011-12.

concluded that a flexible application of the *1992 Guidelines* standards for entry could accommodate all of the considerations about entry into innovation markets.¹³⁸

2. Analysis

In almost all of the settings where the Commission has applied an innovation market analysis, it has been clear that entry would not constrain anticompetitive conduct. As noted *supra* in Section II, these cases typically involved circumstances where regulatory processes permitted identification of the potential entrants and relatively secure conclusions that they would be unable to constrain anticompetitive conduct. The difficult issues pertaining to entry that were raised by the hearings record have not yet required resolution. Before general standards specifically tailored to entry into innovation markets are framed, additional research into the mechanisms that induce firms to enter into new innovation efforts would be desirable. Nonetheless, a flexible application of the *1992 Guidelines* -- informed by the considerations identified in the hearings -- should permit a reasonable entry analysis. First, there may be cases where the R&D in the relevant market is typically secret and unobservable by other firms. Where rival firms have no knowledge that the R&D is occurring or where they would make no presumption about the likelihood of post-merger reductions in innovation efforts, there is little reason to assume either that entry would occur in response to any post-merger reduced innovation efforts, or that such entry, even if possible, would be observed by the incumbent. In such a situation, the analysis would likely conclude that entry would not deter or counteract any anticompetitive conduct.

On the other hand, if the level and type of R&D efforts in the relevant market are typically known and observable,¹³⁹ then an entry analysis should assess the likelihood of entry as

¹³⁸ Sohn 997; Yao (Stmt) 6-7.

¹³⁹ Some witnesses reported that R&D in certain industries is relatively well-known through patent applications, scientific journals, and other sources. Green 684, 697-98 (biotechnology); Bloom 724-27 (biotechnology). One witness indicated that clinical testing resulted in reduced levels of secrecy for medical devices and pharmaceuticals but argued that secrecy may endure long enough to undermine collusion. Sohn (Stmt) 9. Another witness noted that, in places like the Silicon Valley where employees from different companies interact

(continued...)

the extent to which there are firms that have (1) “core competencies” (and the ability to acquire specialized assets) that give them the ability to enter into competing R&D efforts, and (2) the incentive to enter into competing R&D in response to post-merger reductions in innovation efforts. For any such firms, antitrust enforcers should use a “timeliness” standard that, in the circumstances of the case, identifies entry that occurs in time to deter or counteract any anticompetitive conduct. Of course, as the “timeliness” of entry becomes more speculative -- perhaps as it moves further into the future or for other reasons -- greater skepticism of “timely entry” claims would be warranted. The “sufficiency” of likely and timely entry should similarly be evaluated in a pragmatic way. Whether the entering innovator’s effort would be “sufficient” to deter or counteract a merger-induced loss of innovation competition might depend on factors such as whether the potential entry would involve the same or a different research track from that of the merged firm, and whether the potential entry would involve resource commitments sufficient to make the innovation effort likely to succeed.

We are aware that our proposal offers neither precision nor complete guidance. That must await additional research and the accumulation of experience with innovation markets over a spectrum of factual settings. However, we are convinced -- along with some of the witnesses -- that the *1992 Guidelines*’ entry standards are sufficiently flexible to permit a reasonable assessment of the ease of entry.

C. Efficiencies

The hearings did not specifically focus on the evaluation of efficiencies in the context of innovation markets. Nonetheless, the record suggests that mergers that raise competitive concerns by combining innovation efforts may also generate efficiencies. For example, there could be important synergies from combining complementary assets or research skills.¹⁴⁰ At the same time, the testimony suggested a need for caution in distinguishing some claimed

¹³⁹(...continued)
regularly, employees may share information about the R&D paths or tracks that they are pursuing. Yao 1013-15.

¹⁴⁰ See, e.g., Yao (Stmt) 5; U.S. Chamber of Commerce (Stmt) 4; Gilbert & Sunshine, *supra* note 6, at 594.

efficiencies from reductions in valuable research and development efforts.¹⁴¹ As discussed in Chapter 2 *supra*, we advocate a focus on credible efficiencies likely to be created by a merger and the extent to which such efficiencies may change the merged firm's incentives and abilities so as not to substantially lessen competition.

VII. A FINAL NOTE ON THE CONVENTIONAL EVALUATION OF MERGERS IN TECHNOLOGICALLY DYNAMIC MARKETS FOR CURRENT GOODS

Some testimony asserted that the *1992 Guidelines* require certain modifications in order to ensure their proper application in the context of current goods markets that are technologically dynamic. As discussed briefly below, we disagree with that suggestion.

Some argued that antitrust analysis too often views markets as static snapshots rather than dynamic progressions,¹⁴² which could lead enforcers to block efficient mergers where any post-merger market power actually would be quickly eroded or where rapid change could entirely prevent anticompetitive effects.¹⁴³ Others found that a sufficiently dynamic view of the evolution of products could be incorporated into conventional analysis by making a forward-looking assessment of the roles of market participants and the significance of market shares, as the Supreme Court did in *General Dynamics*.¹⁴⁴ In addition, some stressed that coordinated

¹⁴¹ See *supra* Section IV.A.

¹⁴² Teece 814, 831; Jorde 1199-1200; Thomas M. Jorde & David J. Teece, *Rule of Reason Analysis of Horizontal Arrangements: Agreements Designed to Advance Innovation and Commercialize Technology*, 61 ANTITRUST L.J. 579, 600 (1993) [hereinafter Jorde & Teece] (submitted for the hearings record).

¹⁴³ Teece 826-27, 830-31.

¹⁴⁴ *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974) (coal producer's competitive significance better measured by its reserves available for long-term contracts than by past production). Whalley 852-56; Sohn (Stmt) 2-3. The possibility that current market shares may need adjustment to reflect accurately a firm's likely future competitive significance is noted in the *1992 Guidelines* § 1.521, 4 Trade Reg. Rep. (CCH) at 20,573-6. Whalley suggested that a focus on the specialized assets of market participants might better facilitate a projection of what the market will look like in the future. Whalley 854, 1008-09.

interaction is particularly difficult in a dynamic market,¹⁴⁵ and that even unilateral anticompetitive effects might be less likely in an extremely dynamic industry.¹⁴⁶

Some argued for movement away from the price-based approach to market definition, which basically asks the extent to which customers could substitute other products if presented with a price increase of five percent lasting for the foreseeable future.¹⁴⁷ Arguing that competition in some industries tends to center more on product attributes than on price, two witnesses advocated instead examining consumer substitution patterns in response to a hypothetical change of product attributes, rather than price.¹⁴⁸ For example, in analyzing a merger between producers of one of the various diagnostic imaging mechanisms -- x-ray, magnetic resonance, nuclear imaging, etc. -- investigators might ask if a twenty percent degradation of picture clarity, tissue specificity, or body invasiveness would cause sufficient substitution to other imaging mechanisms to prevent the attribute degradation; if so, the alternative products would be included in the market.¹⁴⁹ Others responded that price-based tests are more easily applied, and that, because consumers make price/quality tradeoffs, price-based definitions already capture the essence of attribute competition.¹⁵⁰

¹⁴⁵ Whalley 850, 856; Yao (Stmt) 4.

¹⁴⁶ Whalley 850, 856.

¹⁴⁷ *1992 Guidelines* § 1.11, 4 Trade Reg. Rep. (CCH) at 20,572-20,573.

¹⁴⁸ Teece 824-29; Jorde 1199-1200, 4139-40; Jorde & Teece, *supra* note 142, at 609-16. Others expressed more generally a desire for greater emphasis on non-price competition. White 841; Leary 4133.

¹⁴⁹ Teece 825, 828. Alternatively, if, using existing technology, one imaging mechanism could be improved by some given percentage so as to draw sales away from another mechanism and stimulate its improvement, then both mechanisms would be included in the same market. *See* Teece (Stmt) 24.

¹⁵⁰ Whalley 849-50. *See* White 841, 843-45, 894 (product and quality behaviors can be accounted for in the market definition process without sacrificing price-based concerns). Teece acknowledged that everything could arguably spill over into a price measure, but asserted that it remains more effective to analyze competition where it primarily exists. Teece 859.

A suggestion was made to lengthen the “timeliness” standard for entry in technologically dynamic markets. One participant urged that any entry likely to be forthcoming at the start of each product life cycle should be regarded as “timely,” arguing that in a rapidly evolving industry each new product generation creates new windows for entry and thus ensures competition from a long-run perspective.¹⁵¹ Although one witness correctly noted that product life cycle may adequately define “timely” entry if competition tends to occur only at the start of each product generation,¹⁵² most responded that such a product life-cycle analysis would avoid the critical question of whether entry would be timely enough to deter or counteract the exercise of market power and thus could expose consumers to supracompetitive pricing over substantial periods of time.¹⁵³

All of the concerns raised by the testimony may be relevant in particular situations, but these considerations can be adequately accounted for through flexible application of the *1992 Guidelines*. Those guidelines already point out that “recent or ongoing changes in the market may indicate that the current market share of a particular firm either understates or overstates the firm’s future competitive significance,” and thus permit consideration of these changes in assessing a firm’s market share.¹⁵⁴ If a technologically dynamic market is undergoing changes that make coordinated interaction, or even unilateral effects, less likely, then such changes may be included in the overall assessment of a transaction’s potential adverse competitive effects under Section 2 of the *Guidelines*.

¹⁵¹ Teece 829, 866.

¹⁵² Carlton 1035. Some procurements may exemplify such competition. *See, e.g.*, *FTC v. Alliant Techsystems Inc.*, 808 F. Supp. 9, 15 (D.D.C. 1992) (describing Army’s intention to hold a single winner-take-all bid for determining the sole systems contractor for development, production, and sale of all 120mm tank ammunition for the life of the program); Report of the Defense Science Board Antitrust Task Force, *Antitrust Aspects of Defense Industry Consolidation* (Apr. 12, 1994), *summary reprinted in* 7 Trade Reg. Rep. (CCH) ¶ 50,138.

¹⁵³ Whalley 864; White 864; Gilbert 988-89.

¹⁵⁴ *1992 Guidelines* § 1.521, 4 Trade Reg. Rep. (CCH) at 20,573-6.

An attribute-based product market definition test seems unnecessary (since price generally subsumes the price/quality tradeoff made by consumers) and impractical (since its application would likely be both complex and subjective). In addition, an attribute-based test could fail to identify instances where price could be raised through the exercise of market power.¹⁵⁵ Moreover, in some settings, the quality improvements assumed in an attribute-based question might not be feasible.¹⁵⁶ Additionally, absent great care, an attribute-based test might tend to include in product market definition products that could be introduced, without any determination that their introduction would be economically rational.¹⁵⁷

Finally, the alternative test for entry would virtually eliminate the *1992 Guidelines*' standards for evaluating whether entry would deter or counteract a post-merger exercise of market power. The alternative test would make sense only if one assumed that antitrust should tolerate some increases in market power, where rapid market evolution meant that the market power was not likely to last more than a few years. We do not espouse such an assumption.

In sum, we find no reasons to modify the *1992 Guidelines* as applied to current goods markets in order to avoid hindering innovation. Rather, the record supports a flexible application of the *Guidelines* that recognizes that market shares, competitive effects analysis, and the "timeliness" of entry standard all may vary depending on the technological turbulence present.

¹⁵⁵ Teece even acknowledged this. Teece 891-92. Much the same point disposes of testimony that called for broad product market definitions because of the uncertainties inherent in applying either price- or attribute-based tests when products are still evolving. *See* Pfizer (Stmt) 8-9, 13. Such an approach would obscure potential problems from the start, instead of identifying them and then assessing whether they are sufficiently certain to warrant antitrust review.

¹⁵⁶ Teece (Stmt) 27 ("While it is always feasible to raise prices, it is not always feasible to increase performance.").

¹⁵⁷ *See* Teece 897-99. In essence, many of the considerations now analyzed under likelihood of entry might have to be integrated instead into the market definition process.

CHAPTER 8

INTELLECTUAL PROPERTY AND ANTITRUST POLICY FOR NEW TECHNOLOGIES

I. INTRODUCTION

When does business conduct move from a legitimate assertion of intellectual property rights to a use that may constitute an antitrust violation? For at least the last twenty years, antitrust has approached this issue with great caution, challenging business conduct involving intellectual property only rarely. *See supra* Chapter 6. This approach reflects the long held view that intellectual property protection is essential to protect against others' appropriation of the inventor's ideas and thus to encourage innovation.¹ No one at the hearings questioned the continued applicability of this approach in traditional contexts.

The development of new technologies, especially biotechnology and software, however, did elicit testimony raising new questions both about the proper scope of intellectual property protection and about whether antitrust's wary approach is still appropriate in that context. Some contend that overbroad intellectual property protection for new technologies could cause an imbalance in innovation incentives and capabilities between initial and follow-on inventors. Such an imbalance potentially could produce more of the types of business conduct involving intellectual property that pose difficult issues for antitrust analysis and enforcement. Accordingly, this chapter addresses whether, in the context of these new technologies, antitrust enforcers need to adopt a new approach to certain conduct involving intellectual property.

To put these issues in context, this chapter first reviews historical antitrust enforcement involving the acquisition and use of intellectual property. Second, the chapter summarizes hearings testimony on business conduct involving intellectual property and on how the type and scope of intellectual property protection might affect innovation and competition in biotechnology and computer software. Analysis of the testimony, along with recommendations for action, is integrated throughout. Although we do not recommend any specific actions at the

¹ *E.g.*, *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974); *Mazer v. Stein*, 347 U.S. 201, 219 (1954). *See also* S. REP. NO. 1979, 82nd Cong., 2d Sess., *reprinted in* U.S.C.C.A.N. at 2394-97 (1952).

moment, we conclude that the issues addressed in this chapter warrant further scrutiny by the Federal Trade Commission and its staff.

II. HISTORICAL BACKGROUND

A. Prior Case Law

Much of the case law relevant to these issues originates in the 1940s and 1950s. At that time, antitrust enforcers acted primarily to remedy competitors' pooling of intellectual property assets to gain an unfair advantage or to remedy unilateral conduct where a firm unfairly exploited its intellectual property to monopolize an industry.

For example, in *United States v. General Electric Co.*,² competitors in the manufacture and sale of electric lamps and lamp parts extensively cross-licensed and pooled their relevant patents. The court found that defendants had monopolized the electric lamp industry through "an arsenal of a huge body of patents that can easily overwhelm and defeat competition by small firms desiring to stay in or gain a foothold in the industry."³ The court concluded that royalty-free licensing of the relevant patents was required to remedy violations of Sections 1 and 2 of the Sherman Act.⁴

² 115 F. Supp. 835 (D.N.J. 1953).

³ 115 F. Supp. at 844.

⁴ *See also* *United States v. Imperial Chem. Indus., Ltd.*, 105 F. Supp. 215 (S.D.N.Y. 1952) (extensive exchange and exclusive licensing of patents to allocate territories within which each firm would sell certain chemicals and explosives found to violate Section 1; court imposed remedy of compulsory licensing of existing but not future patents and technology with royalties at reasonable rates); *American Cyanamid Co.*, 72 F.T.C. 623 (1967), *aff'd sub nom. Charles Pfizer & Co. v. FTC*, 401 F.2d 574 (6th Cir. 1968), *cert. denied*, 394 U.S. 920 (1969) (Pfizer's submission of false and misleading information to the U.S. Patent & Trademark Office (PTO) and six antibiotic manufacturers' and distributors' agreement (with knowledge of false submission) to cross-license various tetracycline patents to exclude competitors and attempt to monopolize the market constituted unfair method of competition under Section 5 of the FTC Act; FTC required Pfizer and American Cyanamid to grant non-exclusive licenses under the relevant patents at a specified royalty to any qualified domestic applicant). The FTC investigated the tetracycline industry beginning in the late 1950s, and the Department of Justice investigated it beginning in the late 1960s. *United States v. Pfizer Inc.*, 676 F.2d 51 (3d Cir. 1982), *aff'g* 498 F. Supp. 28 (E.D. Pa. 1980).

With respect to unilateral business conduct involving intellectual property, the FTC charged Xerox Corporation with extending its monopoly in plain paper copying by amassing more than a thousand improvement patents during the period of exclusivity derived from its original photocopying patents.⁵ The FTC asserted that Xerox had engaged in unfair practices relating to patents and required Xerox to provide non-exclusive licenses on relevant patents, in exchange for a royalty, to any applicant planning to make, use, or sell plain-paper office copiers.

Historically, compulsory licensing of the relevant patents was the remedy for anticompetitive business conduct involving intellectual property assets. At the hearings, one participant discussed research results indicating that compulsory licensing, as an antitrust remedy, had effectively restored robust competition in the chemicals, electric lamps, tetracycline, and photocopying industries.⁶ In most other markets, however, the witness concluded that compulsory licensing had had little or no impact on market structure.⁷ In those markets, companies apparently have relied more on secrecy than on patents to protect their inventions.⁸

B. Current Agency Practice

The antitrust agencies continue to protect U.S. consumers from anticompetitive conduct involving intellectual property, both through guidelines and through enforcement actions.

⁵ Xerox Corp., 86 F.T.C. 364, 367 (1975).

⁶ Scherer 3312-15. Scherer added that certain biomedical advancements also affected the competitive dynamics in the tetracycline industry. Scherer 3314-15.

⁷ Scherer 3312-13.

⁸ Scherer 3302. This finding comported with two later studies by Mansfield and Levin, which found that most industries place little value on patent protection as a means for securing a competitive advantage. Scherer 3304-06. *See supra* Chapter 6.

1. *Intellectual Property Guidelines*

The FTC and the Department of Justice recently issued the *Antitrust Guidelines for the Licensing of Intellectual Property (IP Guidelines)*,⁹ which explain the agencies' approach to licensing and other arrangements involving intellectual property. The *IP Guidelines* note that the intellectual property and antitrust laws "share the common purpose of promoting innovation and enhancing consumer welfare"¹⁰ and enumerate three principles relevant to an antitrust analysis involving intellectual property. First, intellectual property is comparable to any other form of property.¹¹ Second, intellectual property does not create a presumption of market power in the antitrust context.¹² Third, "intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive."¹³ Finally, the *IP Guidelines* make clear that the enforcement agencies will "apply the same general antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form of tangible or intangible property."¹⁴ The *IP Guidelines* continue the antitrust approach of the last several years, which recognizes the many procompetitive justifications for intellectual property licensing and is careful to avoid any interference with such procompetitive activities.

⁹ U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* (1995), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132 (*IP Guidelines*).

¹⁰ *IP Guidelines* § 1.0, 4 Trade Reg. Rep. (CCH) at 20,734.

¹¹ See 35 U.S.C. § 261 (1988), which states that under patent law, "patents shall have the attributes of personal property."

¹² *IP Guidelines* § 2.0, 4 Trade Reg. Rep. (CCH) at 20,734. Similarly, recent lower court cases generally have stated that whether a patent confers market power in the antitrust sense depends on an assessment of the patent's exclusionary power in the relevant market. *E.g.*, *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 877 (Fed. Cir. 1985).

¹³ *IP Guidelines* § 2.0, 4 Trade Reg. Rep. (CCH) at 20,734.

¹⁴ *Id.*

2. Intellectual Property-Related Consent Orders

FTC consent orders involving intellectual property assets have primarily, but not exclusively, involved pharmaceutical mergers. *See supra* Chapter 7. In various consent orders, the FTC has required the acquiring or merged firm to (1) divest certain intellectual property assets; (2) help a new competitor to enter the relevant market by providing critical intellectual property assets, technology assistance, and know-how; (3) license its intellectual property assets on an exclusive or nonexclusive basis; or (4) waive the right to enforce its intellectual property rights.¹⁵ These consents have resolved concerns regarding combinations of intellectual property assets that might delay or reduce diversity in innovation or reduce potential price competition.

In *Dell Computer Corp.*,¹⁶ the FTC alleged that Dell had restricted competition related to VL-bus design standards for computing systems by threatening to exercise certain patent rights, despite the fact that a standard-setting organization had selected Dell components as an industry standard on the basis of Dell's certification that it had no such proprietary rights. The proposed consent required Dell to refrain from enforcing its patent in any claims of infringement based on the use of the VL-bus standard.

¹⁵ Dell Computer Corp., File No. 931-0097 (consent agreement accepted for public comment (FTC Nov. 2, 1995)) (Comm'r Azcuenaga dissenting); The Upjohn Company and Pharmacia Aktiebolag, C-3638, 5 Trade Reg. Rep. (CCH) ¶ 23,914 (FTC Feb. 8, 1996); Hoechst AG, C-3629, 5 Trade Reg. Rep. (CCH) ¶ 23,895 (FTC Dec. 5, 1995); Silicon Graphics, Inc., C-3626, 5 Trade Reg. Rep. (CCH) ¶ 23,838 (FTC Nov. 14, 1995) (Comm'rs Azcuenaga & Starek dissenting); Glaxo plc, C-3586, 5 Trade Reg. Rep. (CCH) ¶ 23,784 (FTC June 14, 1995); Boston Scientific Corp., C-3573, 5 Trade Reg. Rep. (CCH) ¶ 23,774 (FTC May 5, 1995) (Comm'r Azcuenaga concurring in part & dissenting in part); Sensormatic Elec. Corp., C-3572, 5 Trade Reg. Rep. (CCH) ¶ 23,742 (FTC Apr. 18, 1995) (Comm'r Azcuenaga concurring in part & dissenting in part); Wright Medical Technology, Inc., C-3564, 5 Trade Reg. Rep. (CCH) ¶ 23,726 (FTC Mar. 23, 1995); American Home Prods. Corp., C-3557, 5 Trade Reg. Rep. (CCH) ¶ 23,712 (FTC Feb. 14, 1995) (Comm'r Azcuenaga concurring); Roche Holding Ltd., 113 F.T.C. 1086 (1990) (Comm'r Owen dissenting).

¹⁶ Dell Computer Corp., File No. 931-0097 (consent agreement accepted for public comment (FTC Nov. 2, 1995)) (Comm'r Azcuenaga dissenting).

In *United States v. Pilkington plc*,¹⁷ the Department of Justice charged that Pilkington, a firm that had developed a revolutionary float-glass process, had monopolized the world market for float glass through patent and know-how licensing arrangements limiting the territories in which licensees could compete. The licensing arrangements remained in effect long after Pilkington's float-glass patents had expired.¹⁸ To remedy these Section 1 and 2 violations, the Department of Justice obtained a consent order, which, among other things, eliminated all territorial and use restrictions imposed on licensees and prohibited Pilkington from enforcing related licensing provisions.

III. TESTIMONY, ANALYSIS, AND SUGGESTIONS FOR ACTION

The purpose of intellectual property law is to "promote the Progress of Science and useful Arts."¹⁹ The legislative history of the 1909 Copyright Act reflects this goal:

The Constitution does not establish copyrights, but provides that Congress shall have the power to grant such rights if it thinks best. Not primarily for the benefit of the author, but primarily for the benefit of the public, such rights are given. Not that any particular class of citizens, however worthy, may benefit, but because the policy is believed to be for the benefit of the great body of people in that it will stimulate writing and invention to give some bonus to authors and inventors.²⁰

Intellectual property law must strike a balance between the benefits of providing incentives to creators and the social costs associated with even limited monopolies.²¹ Intellectual property law and antitrust law share the common goal of "encouraging innovation, industry and competition."²² If inappropriate antitrust enforcement interferes with an intellectual property

¹⁷ *United States v. Pilkington plc*, Civ. No. 94-345 WDB (D. Ariz. Oct. 19, 1994).

¹⁸ The complaint also alleged that Pilkington had unreasonably restrained interstate and foreign trade in the construction and operation of float-glass plants and in related technology.

¹⁹ U.S. CONST. art. I, § 8.

²⁰ H.R. REP. NO. 2222, 60th Cong., 2d Sess. (Report on the Copyright Act of 1909).

²¹ Stiglitz 24-25. *See supra* Chapter 6.

²² *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990)

(continued...)

owner's ability to reap the fruits of his or her invention, that would undermine not only the laws that Congress has established for the protection of intellectual property, but also the very goal of the antitrust laws themselves. By the same token, if inappropriate grants of intellectual property interfere with the competition that often drives innovation,²³ such grants would conflict not only with the purposes of the antitrust laws, but also with the purposes of the intellectual property laws themselves. To avoid such conflicts, it is appropriate for antitrust enforcers to contribute to the development of sound policy with respect to intellectual property rights.

A. Unilateral and Joint Business Conduct Involving Intellectual Property Assets Associated with New Technologies

The owner of intellectual property can use it exclusively, assign ownership, license it, or not use it at all. Under most circumstances,²⁴ the owner can enforce these property rights if another person misappropriates or otherwise infringes the protected intellectual property.²⁵ But intellectual property rights are not absolute, and certain business conduct may exceed the legally permissible use of rights and raise antitrust concerns. Hearings participants cited joint conduct, such as cross-licensing and patent pools, and unilateral conduct, such as sham litigation, tying arrangements, and monopoly leveraging, as areas where antitrust issues most often arise.

1. Cross-licensing and Patent Pools

²²(...continued)

("[T]he 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.").

²³ MICHAEL PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* (1990). *See supra* Chapters 6 & 7.

²⁴ Copyright law's "fair use" doctrine and patent law's "patent misuse" doctrine excuse infringing conduct under certain circumstances.

²⁵ Direct patent infringement occurs when someone makes, uses, sells, or offers to sell any patented invention without permission of the patent holder; it is not necessary for the infringing party to know that it is infringing a patent. 35 U.S.C. § 271 (1988). Copyright infringement occurs when someone copies the expression covered by a copyright without authorization of the copyright owner. 17 U.S.C.A. § 501 (West Supp. 1978-1994). Therefore, independent creation of an identical work does *not* constitute copyright infringement.

According to one witness, overbroad patent protection, especially in the area of biotechnology, may increase the need for cross-licensing arrangements and thereby increase the competitive dangers associated with patent pooling.²⁶ Under this view, where incremental research is important, but the patents are broad and basic, cross-licensing is potentially anticompetitive and may choke future innovation.²⁷ One economist noted that cross-licensing of patents served as the primary method of cartelization in the 1920s and 1930s.²⁸

Antitrust policy recognizes the procompetitive benefits obtainable through cross-licensing arrangements, such as “integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly infringement litigation.”²⁹ Absent attempts at *per se* violations such as naked price fixing or market division, antitrust enforcers will apply a rule of reason analysis that seeks to balance procompetitive and anticompetitive effects “to determine the probable net effect on competition in each relevant market.”³⁰ The delicacy of this balancing exercise, however, cautions against any assumption that it is easy or simple to apply.

²⁶ Barton 3409-12. For example, it may increase the number of instances where two successful patented inventions are necessary to commercialize a product. *Id.* See also *infra* Section III.B.

²⁷ Barton 3418-20. *But see infra* note 51 (some assert that broad patents may be necessary to provide enough incentive to generate initial innovations).

²⁸ Scherer 3435-36. Barton pointed out that extensive cross-licensing among a closed group in an industry, where group members share large amounts of information and, at times, even future improvements, may decrease research incentives and raise substantial entry barriers, because new entrants must invest more heavily to develop technology that can compete with the sum of the cross-licensed technology. Barton 3418-20. See also *IP Guidelines* § 5.5, 4 Trade Reg. Rep. (CCH) at 20,743-4 (“[a]nother possible anticompetitive effect of pooling arrangements may occur if the arrangement deters or discourages participants from engaging in research and development, thus retarding innovation”).

²⁹ *IP Guidelines* § 5.5, 4 Trade Reg. Rep. (CCH) at 20,743-4 (“[b]y promoting the dissemination of technology, cross-licensing and pooling arrangements are often procompetitive”). See also *IP Guidelines* §§ 2.0, 2.3, 4 Trade Reg. Rep. (CCH) at 20,734-20,736.

³⁰ *IP Guidelines* § 4.2, 4 Trade Reg. Rep. (CCH) at 20,743.

A preferable remedy would be to avoid the creation of circumstances that arguably could justify heightened antitrust scrutiny in this area.

Anticompetitive cross-licensing and patent pool arrangements could be minimized by preventing the issuance of overbroad biotechnology and other patents in the first place. Accordingly, to address concerns that overbroad patents may raise, the FTC should assess how best to articulate relevant competition issues to the U.S. Patent and Trademark Office (PTO) and other intellectual property policy makers, as appropriate. Consistent with the *IP Guidelines*, the FTC also should continue efforts to prevent cross-licensing agreements that lack adequate efficiency justifications.

2. Sham Litigation

According to several participants, patent holders are asserting infringement claims much more aggressively than in the past.³¹ While conceding that such litigation might not meet the Supreme Court's stringent test for "sham" litigation in *Professional Real Estate Investors v. Columbia Pictures Industries, Inc.*,³² several participants contended that a deliberate intention to slow down competitive entry into a particular industry motivated much of the litigation.³³

Under the Supreme Court's two-part test, a "lawsuit must be objectively baseless in the sense that no reasonable litigant could realistically expect success on the merits."³⁴ If it is objectively baseless, then a court may "examine the litigant's subjective motivation,"³⁵ asking "whether the baseless suit conceals 'an attempt to interfere directly with the business relationships of a competitor,'³⁶ through the 'use [of] the governmental process -- as opposed to

³¹ Heckman 1817-26; Scherer 3323-24. *See* Frankel 3400-01.

³² 508 U.S. 49 (1993).

³³ Heckman 1817-26; Scherer 3323-24. *See* Frankel 3400-01; Rosenthal 3490-91; Black 3588.

³⁴ *Professional Real Estate Investors*, 508 U.S. at 60.

³⁵ *Professional Real Estate Investors*, 508 U.S. at 60-61.

³⁶ *Professional Real Estate Investors*, 508 U.S. at 61 (quoting *Eastern R.R. Presidents*

(continued...)

the outcome of the process -- as an anticompetitive weapon.' "³⁷ Given such a restrictive test, it may be difficult to challenge successfully a lawsuit as a sham.

Certain participants believed that the FTC should take a closer look at the problem of sham litigation.³⁸ One emphasized that sham intellectual property enforcement could become "a very powerful tool for monopolization that . . . can have [a] profound anticompetitive impact."³⁹ We agree that the FTC should study sham litigation and associated issues further. The misuse of the courts and government agencies can be an especially effective way to delay or stifle competition.⁴⁰ And as one software developer noted, "A 'patent litigation tax' is one impediment to our health that our industry can ill afford."⁴¹

³⁶(...continued)

Conference v. Noerr Motor Freight, Inc., 365 U.S. 127, 144 (1961)).

³⁷ *Id.* (quoting *Columbia v. Omni Outdoor Advertising, Inc.*, 499 U.S. 365, 380 (1991)).

³⁸ Nunnenkamp 3376-78; Frankel 3400-01; Black 3588. *Accord* Dyson 3324.

³⁹ Rosenthal 3490-91.

⁴⁰ ROBERT H. BORK, *THE ANTITRUST PARADOX* 134-60 (1993). *See, e.g.*, Scherer 3323-24, 3436-42 (citing infringement suits where he found conflict between patent and antitrust policy).

⁴¹ Douglas Brotz, Adobe Systems Inc., *Before Public Hearings on Patent Protection for Software-Related Inventions*, at 17 (Jan. 26-27, 1994).

3. Tying Arrangements and Monopolization Claims Involving Intellectual Property

Several participants discussed four recent cases,⁴² where courts upheld alleged tying arrangements⁴³ between computer hardware and associated software programs and denied monopolization claims based on refusals to license, on the grounds that the products at issue were protected by copyright. For example, in *Data General Corp. v. Grumman Systems Support Corp.*,⁴⁴ the First Circuit considered a computer manufacturer's alleged monopolization of a service market for its own product through its alleged refusal to license its diagnostic software to third-party maintainers. The court acknowledged that competition issues were relevant to the analysis, but it held that "an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers."⁴⁵

⁴² *Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330 (9th Cir. 1995), *cert. denied*, 116 S. Ct. 1015 (1996); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994); *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994); *Advanced Computer Servs. of Michigan, Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356 (E.D. Va. 1994).

⁴³ A tying arrangement is "an agreement by a party to sell one product [the tying product] but only on the condition that the buyer also purchase a different (or tied) product, or at least agree that he will not purchase that product from any other supplier." *Northern Pac. Ry. v. United States*, 356 U.S. 1, 5-6 (1958). *See also IP Guidelines* § 5.3, 4 Trade Reg. Rep. (CCH) at 20,743-3.

⁴⁴ *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994).

⁴⁵ 36 F.3d at 1187. In a footnote, the court added: "Wary of undermining the Sherman Act, however, we do not hold that an antitrust plaintiff can never rebut the presumption, for there may be rare cases in which imposing antitrust liability is unlikely to frustrate the objectives of the Copyright Act." 36 F.3d at 1187 n.64. In that statement, the court seemed to suggest that intellectual property should receive greater deference than antitrust when the two come into conflict. Some of the witnesses expressed concern that courts might find that competition values could never outweigh intellectual property values. Blecher 3366-68, 3484-85; Rosenthal 3427-31.

Some participants, citing a principle articulated by the Supreme Court in *Eastman Kodak Co. v. Image Technical Services, Inc.*,⁴⁶ maintained that intellectual property should protect only conduct related to the covered product or service in its original market and not in other markets.⁴⁷ On the other hand, one antitrust professor found an antitrust problem only when "an independent base of market power is being established in an adjacent market that will be able to collect monopoly rents from people who have no demand in the first market."⁴⁸ Although several participants recognized compulsory licensing as a potential remedy for any attempted monopolization through use of intellectual property assets, they cautioned that it should be applied sparingly.⁴⁹

These issues also warrant further attention and scrutiny by the FTC and its staff.

B. Intellectual Property Protection: Matters of Scope

The scope of protection afforded by intellectual property law influences firms' capabilities and incentives to innovate. While it is important to maintain adequate incentives for initial innovation, overbroad intellectual property protection may constrain follow-on innovation. In certain new technologies, particularly in biotechnology and software, the type and scope of available protection may affect the incentives for follow-on innovation and the ability to

⁴⁶ 504 U.S. 451, 480 n.29 (1992) (citations omitted) ("The Court has held many times that power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to [antitrust] liability if 'a seller exploits his dominant position in one market to expand his empire into the next.' ").

⁴⁷ Kohn 3360-61; Blecher 3366-68, 3485.

⁴⁸ Baxter 3549-50.

⁴⁹ *E.g.*, Scherer 3468 (there must be a really strong public interest in breaking the bottleneck); Nunnenkamp 3471-74 (there may be occasions where compulsory licensing is necessary but disagrees with how it has been approached; the defense of misuse might be a way to approach the monopoly leveraging issue). *See* Bresnahan 3550-51 (antitrust should be particularly cautious with respect to compulsory licensing remedies, because this year's technological complement could be next year's competitor). *See also* Rosenthal 3470 (further study by the FTC and Department of Justice is necessary). *But see* Blecher 3465-66 (compulsory licensing is a recognized antitrust remedy).

innovate. These issues can also affect the types of business conduct that antitrust enforcers must assess.

1. Issuance of Broad Patents

According to hearings testimony, the scope⁵⁰ of patents issued has become increasingly broad, with some patent claims apparently designed to cover an entire area of research or even basic research, particularly in the biotechnology industry.⁵¹ One professor cited two patents that cover enormous areas of technology -- one for all transgenic mice and one for *ex vivo* gene therapy -- and noted that they are not atypical of patents being issued today.⁵² Another prominent example is a patent issued to Agracetus, a biotechnology company, for genetically engineered cotton.⁵³ The patent scope, which essentially covered an entire plant species, caused a public outcry. In discussing this patent, news articles stated that academic and U.S. Department of Agriculture researchers, among others, were concerned that "broad [biotechnology] patents

⁵⁰ The term "scope" refers to the boundaries or limits of the subject matter protected by a particular grant of intellectual property.

⁵¹ Barton 3409-10. Other academics have also argued that overbroad initial patents are a disincentive for rivals to pursue follow-on innovation, thereby making new entry more difficult and stifling competition. *See, e.g.,* Robert P. Merges & Richard R. Nelson, *The Role of Patent Scope Decisions*, in ANTITRUST, INNOVATION, AND COMPETITIVENESS 165-232 (Thomas M. Jorde & David J. Teece eds., 1992); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990). *See* Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991) (discussing the difficulty of deciding whether the initial or follow-on innovator should get a greater portion of the return on the second innovation). On the other hand, some academics have argued that broad patents may be necessary to provide enough incentive to generate the initial, stepping-stone innovations, which are prerequisites for follow-on innovations. *See, e.g.,* Carmen Matutes et al., *Optimal Patent Design and the Diffusion of Innovations*, 27 RAND. J. ECON. 60 (1996); Howard F. Chang, *Patent Scope, Antitrust Policy, and Cumulative Innovation*, 26 RAND. J. ECON. 34 (1995).

⁵² Barton 3409.

⁵³ Ann Thayer, *Scope of agricultural biotechnology patents sparks debate*, CHEMICAL & ENGINEERING NEWS, Aug. 21, 1995, at 12-13; *Patent Medicine*, 98 TECHNOLOGY REV., Nov./Dec. 1995, at 28, 31.

could hinder the development and commercialization of technology and hurt competition by requiring licenses and the payment of licensing fees or royalties."⁵⁴

The hearings testimony stressed that the issuance of broad patents covering basic research in biotechnology may intensify two problems related to incremental and follow-on research. First, inventors face increasing liability for infringement, which in turn reduces incentives for, and the feasibility of, incremental and follow-on research. To avoid such liability, inventors must negotiate license and royalty agreements with the holders of the relevant patents, which can be difficult.⁵⁵ Second, anticompetitive patent pooling may occur. *See supra* Section III.A.1.

Participants noted that either patent, compulsory licensing, or other antitrust remedies could be used to increase incentives for follow-on and incremental research and to deter anticompetitive cross-licensing schemes.⁵⁶ They preferred an increased use of the experimental use exemption for non-patent holders,⁵⁷ and the utility⁵⁸ and enablement⁵⁹ doctrines for patent applicants. These witnesses also urged the PTO to focus more vigorously on fundamental patentability questions related to novelty and nonobviousness, and to take greater care to limit

⁵⁴ Ann Thayer, *Scope of agricultural biotechnology patents sparks debate*, CHEMICAL & ENGINEERING NEWS, Aug. 21, 1995, at 12.

⁵⁵ Barton 3411-16.

⁵⁶ Barton 3414-15; Scherer 3480-81.

⁵⁷ Barton 3414-15. The experimental use exemption allows a non-patent holder to avoid liability for patent infringement for her research efforts, so long as she does not commercialize the results. EARL W. KINTNER & JACK L. LAHR, AN INTELLECTUAL PROPERTY LAW PRIMER 87-88 (1982).

⁵⁸ Barton 3414-15; Scherer 3480-81. To be patentable, an invention must, among other things, have some beneficial use, i.e., utility. 35 U.S.C. §§ 112, 113, 114 (1988). *See, e.g.*, E.I. duPont de Nemours v. Berkley & Co., 620 F.2d 1247 (8th Cir. 1980). What constitutes "beneficial use" is often a matter of debate.

⁵⁹ Barton 3414-15; Scherer 3480-81. According to the enablement doctrine, a patent application must describe the claims sufficiently to enable others with reasonable skill in the art to replicate the invention. 35 U.S.C. § 112 (1988).

patent grants to claims actually proved.⁶⁰ Other recommendations were to give follow-on inventors the right to obtain a compulsory license under an established set of conditions⁶¹ or to use antitrust law to preserve incentives for follow-on innovation.⁶²

A number of witnesses encouraged the Commission to become more involved in the intellectual property debate, particularly with respect to patent scope. One industry representative stated that antitrust principles should have an important role in defining the scope of intellectual property rights, and "[t]he FTC should raise a strong voice in these decisions."⁶³ Citing recent FTC staff comments to the PTO regarding Proposed Examination Guidelines for Computer-Implemented Inventions⁶⁴ as an important contribution to the debate, some also suggested that the Commission continue to inform other agencies such as the PTO and the Registrar of Copyrights about the effects that their decisions have on competition.⁶⁵ In contrast, other testimony stated that "the intellectual property area is particularly amenable to control of anticompetitive abuses through private litigation" and found "no changes in the competitive

⁶⁰ Scherer 3480-81; Wayman 3525-26. One economist noted that it is necessary to focus on the key question of patentability: "[W]hat is the quality of the inventive act that needs to be achieved in order to gain a patent?" To answer this question, one must recognize that two types of follow-on innovation are possible: first, where innovation occurs along a natural technological trajectory (such as Moore's law for semiconductors), and second, where there is not a natural progression but a second inventor could take the fundamental invention in a totally new direction. Scherer 3480-81.

⁶¹ Barton 3415-17. For example, the inventor would have to provide evidence that the second invention was an extremely important invention. One participant cited the French dependency licensing concept, where a follow-on inventor could obtain a compulsory license and the initial inventor also could receive a license from the follow-on inventor to practice any improvements that the follow-on inventor developed. Barton 3415-16.

⁶² Barton 3416.

⁶³ Black (Stmt) 6.

⁶⁴ Comment of the Staff of the Federal Trade Commission, Dkt. No. 9505 31 44-5144-01. *See* PTO Request for Comments on Proposed Examination Guidelines for Computer-Implemented Inventions, 60 Fed. Reg. 28,778 (June 2, 1995).

⁶⁵ Heckman 1831-32; Black 3576-87.

environment that would warrant changing the federal antitrust agencies' enforcement role for intellectual property licensing."⁶⁶

We agree that the FTC should continue to articulate to intellectual property policy makers the potential competitive consequences of overbroad patent rights and their aggressive enforcement.⁶⁷ Such a preventive approach is likely to reduce the number of instances in which antitrust enforcers are confronted with the complex task of parsing procompetitive and anticompetitive effects of business conduct involving intellectual property.

2. Adjudication of Patent Scope

The United States Court of Appeals for the Federal Circuit was cited as the major force behind stronger, broader patent rights.⁶⁸ According to some, the Federal Circuit increasingly has tended to uphold broad patents and make them less vulnerable to attack, thereby increasing a patent's value.⁶⁹ One academic suggested that the Federal Circuit had, in fact, "invigorated a nearly moribund patent law."⁷⁰ A patent attorney wrote that, as of three years ago, "two thirds or more of patents which are litigated now are found to be valid and infringed" in contrast to ten

⁶⁶ Frankel (Stmt) 4.

⁶⁷ The Commission could focus on newer technologies where follow-on competition is particularly important. Of course, industry-specific comments would require attention to relevant factual issues.

⁶⁸ The Federal Circuit has exclusive jurisdiction of appeals from the PTO with respect to patent applications and interferences and of appeals from judgments in civil actions for patent infringement. 28 U.S.C.A. §§ 1292, 1295 (1993 & West Supp. 1996).

⁶⁹ Scherer 3316; Frankel 3399; Quillen (Stmt) (citing Jon F. Merz & Nicholas M. Pace, *Trends in Patent Litigation: The Apparent Influence of Strengthened Patents Attributable to the Court of Appeals for the Federal Circuit*, J. PAT. & TRADEMARK OFF. SOC'Y (Aug. 1994)). See Stanley Besen & Leo J. Raskind, *The Law and Economics of Intellectual Property*, 5 J. ECON. PERSP. 3, 8 (1991).

⁷⁰ Barton (Stmt) 1.

years before when “something like two thirds . . . were found invalid.”⁷¹ As a result, firms developing new products may find themselves in a mine field of “unexploded patents.”⁷²

C. Software Copyrights, Patents, and Matters of Scope

Different aspects of software can be protected simultaneously by patent, copyright, and trade secret, which one computer software representative characterized as the peculiar “triple threat” of software.⁷³ The type of protection accorded to software can affect the incentives for subsequent innovation and the pace at which such innovation occurs, and the scope may have significant implications for the antitrust analysis of business conduct related to that software.

1. Copyright

Until the late 1970s, practitioners and developers alike considered intellectual property law largely inapplicable to software. In 1978, the National Commission on New Technological Uses of Copyrighted Works (CONTU) concluded that computer programs should be protected by copyright, and its recommendation was implemented by Congress in the 1980 Copyright Act Amendments.

Some hearings participants were troubled by copyright protection for software. One explained that

the copyright laws really are not appropriate in their fundamental characteristics to do the job we expect them to do in the intellectual property area. [E]ssentially we want protection of functionality. And the copyright laws were not designed to

⁷¹ Quillen (Stmt) (citing Jon F. Merz & Nicholas M. Pace, *Trends in Patent Litigation: The Apparent Influence of Strengthened Patents Attributable to the Court of Appeals for the Federal Circuit*, J. PAT. & TRADEMARK OFF. SOC’Y (Aug. 1994) and citing Jerome G. Lee, *The Most Significant Patent Cases Relating to the Question of Obviousness Under 35 U.S.C. Sec. 103*, at 2 (read at the Annual Meeting of the American Bar Association, Aug. 12, 1986)).

⁷² Scherer 3316 (Firms are using their patents in the courtroom “to try to keep people off their turf and [to] collect royalties from them.”).

⁷³ Wayman (Stmt) 4. Some have advocated *sui generis* protection for software. See, e.g., Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308 (1994).

provide protection of functionality. So they've sort of been forced and bent out of shape in order to do the job they were never intended to do.⁷⁴

According to another witness, copyright protection for software is problematic because it is extremely easy to get,⁷⁵ it is long-lived (50 to 75 years), and because, unlike the Patent Act, the Copyright Act does not require public disclosure of the subject matter of the copyright.⁷⁶

Some participants expressed concern that overbroad copyright scope might either create disincentives for, or erect roadblocks against, follow-on innovation. One computer industry representative found overbroad copyright scope "harmful to progress because software, more than anything, is a series of inventions piled on top of each other."⁷⁷ Another emphasized that broad copyright scope can create a risk of "overcompensation" in the sense that "[a]n author or inventor with too broad a monopoly over a work can seek compensation from authors or inventors of [interoperable] works, driving up the cost of such works, [and ultimately] resulting in fewer works being produced."⁷⁸ Others suggested that broad scope could thwart efforts to enhance interoperability, which would in turn impair the growth of computer networks, the anticipated source of substantial innovation in the near term.⁷⁹ Some suggested that the owner of a software copyright should be prevented from enforcing its copyright as to the interface,

⁷⁴ Baxter 3618-19.

⁷⁵ Copyright need not be applied for, rather it attaches at creation. 17 U.S.C.A. § 101 (1996). Moreover, the copyrighted work need only be original. 17 U.S.C.A. § 102(a) (1996). It need not be novel and non-obvious, as required for patent protection.

⁷⁶ Gellhorn 1177-79.

⁷⁷ Dyson 3331-32.

⁷⁸ Kohn 3339-40.

⁷⁹ Morris (Stmt) 9. Several participants warned that overbroad copyright protection for interfaces could seriously harm innovative efforts and diminish consumer welfare. Kohn 3346-47; Scherer 3354-55; Black 3583-84. An interface provides a link between computer programs. For example, in an operating system, an interface contains information that must also appear in any application program to allow it to run properly on that system.

especially once that interface has become a standard,⁸⁰ or they advocated compulsory licensing of interface standards that dominate the market.⁸¹ *See also infra* Chapter 9.

Certain of the key issues related to copyright protection for software are highlighted in the recent *Lotus v. Borland* case,⁸² where the question was whether a computer menu command hierarchy is copyrightable subject matter. Borland had copied the Lotus 1-2-3 menu command hierarchy to enable prior Lotus users to switch to Borland's spreadsheet software "without having to learn new commands or rewrite their Lotus macros."⁸³ The First Circuit concluded that the Lotus 1-2-3 menu command hierarchy was an unprotectible method of operation.⁸⁴ The Supreme Court affirmed this case through a 4-4 vote, with no opinion, further underscoring the difficulties in distinguishing protected expression from unprotected ideas under copyright law.

Lotus v. Borland also raised a number of difficult and important issues regarding compatibility and customer "switching-costs" in the context of interpreting the scope of intellectual property protection for software. The ultimate resolution of these issues is likely to have major implications for competition policy in the information age. In *Kodak*,⁸⁵ for example, the Supreme Court recognized customer "switching-cost" issues in the context of replacement parts and service contracts for copier and micrographic equipment manufactured by Kodak. The Court stated: "If the cost of switching is high, consumers who already have purchased the equipment, and are thus 'locked-in,' will tolerate some level of . . . price increases before

⁸⁰ Kohn 3350; Black 3587, 3589.

⁸¹ Kohn 3350, 3357 (advocating royalty-free, "use" license); Scherer 3354 (make "bottleneck" interfaces public domain, subject at most to a modest royalty).

⁸² *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995), *aff'd per curiam*, 116 S. Ct. 804 (1996).

⁸³ 49 F.3d at 810.

⁸⁴ 49 F.3d at 815.

⁸⁵ *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451 (1992).

changing equipment brands."⁸⁶ Switching costs can become significantly higher in the increasingly networked environment of electronic communication supported by software. *See infra* Chapter 9.

2. Patents

A patent, which lasts for 20 years, is extremely powerful because it protects novel and nonobvious ideas and not just the expression of those ideas.⁸⁷ In exchange for this powerful protection, an inventor must publicly disclose the subject matter of the patented invention. The PTO has issued patents for computer-implemented inventions since 1981, when the Supreme Court held that claims for a process for molding rubber which employed a well-known mathematical equation constituted patentable subject matter.⁸⁸ Increasingly, software developers seek patent protection in addition to copyright protection. In 1993 alone, the PTO issued 2008 patents covering software.⁸⁹

Some hearings participants favored patent protection for software, on the theory that a patent offers stronger protection to true breakthroughs, thus providing greater innovation

⁸⁶ *Kodak*, 504 U.S. at 476.

⁸⁷ The Patent Act characterizes patentable subject matter, i.e., ideas, as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101 (1988). The Supreme Court has held that laws of nature, physical phenomena, scientific principles, and abstract ideas are not patentable subject matter. *E.g.*, *Parker v. Flook*, 437 U.S. 584 (1978); *Gottschalk v. Benson*, 409 U.S. 63 (1972).

⁸⁸ *Diamond v. Diehr*, 450 U.S. 175 (1981). Significantly, the patent did not preclude use of the algorithm itself by the general public. After *Diamond v. Diehr*, the PTO began issuing patents employing algorithms where the use was limited to a specific special-purpose implementing apparatus or the claims described a series of steps for manipulating specific electronic signals. *See Stern*, 22 AIPLA Q.J. 167 (Spring 1994). In 1994, however, the Federal Circuit concluded that software turns a general purpose computer into a special purpose computer, thereby eliminating the need to claim a specific apparatus to get patent protection. *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994).

⁸⁹ Electronic data submission from Richard Nearing, EDS Shadow Patent Office, to Daniel Halberstam, Federal Trade Commission (May 2, 1996) (on file in FTC Policy Planning Office).

incentives.⁹⁰ Others criticized patent protection for software, citing the lack of a prior art database for software, the absence of a patent classification system for computer software, and the resulting roadblocks for patent examiners attempting to develop adequate expertise, all of which make it extremely difficult for the PTO to assess whether software patent claims are novel and nonobvious.⁹¹ According to one participant, what "most deeply chills software developers is not just the breadth of software patents but [the] frustration in not being able to know in advance whether they are violating someone else's patent."⁹²

Commentators fear that overbroad protection could inhibit competition in software by making it much more difficult to invent around existing patents and by increasing the costs of subsequent innovation.⁹³ The scope of Compton's NewMedia software patent, which covered the idea of multimedia presentations, exemplifies this concern.⁹⁴ Many criticized the patent's broad scope and argued that the patent improperly covered ideas in the public domain. As a result, the Commissioner of the PTO decided to re-examine the patent.

⁹⁰ Gellhorn 1177-79; Kohn 3347 (citing interface and command structures).

⁹¹ See Wayman 3525-26. See also Bruce A. Lehman, Assistant Secretary of Commerce and Commissioner of the PTO, *Before Public Hearings on Patent Protection for Software-Related Inventions* (Jan. 26-27, 1994); Notice of Public Hearings and Request for Comments on Patent Protection for Software-Related Inventions, 58 Fed. Reg. 66,347 (Dec. 20, 1993).

⁹² Heckman 1824.

⁹³ Effy Oz, *Software Intellectual Property . . . Protection Alternatives*, J. SYS. MGMT., July/Aug. 1995, at 50-56; Richard Morin, *Freedom to Program*, UNIX REV., May 1995, at 79-80; Jerry Fiddler, *Just Say No*, INC., July 1994, at 25-26; Richard A. Bowers, *What Does the Compton's NewMedia Patent Mean?*, CD-ROM PROFESSIONAL, Mar. 1994, at 41; Catherine Yang, *Is the Patent Office Smothering Software Innovation?*, BUS. WK., Mar. 7, 1994, at 66. For a discussion of these patent issues in other industries, see, e.g., *A dose of patent medicine*, THE ECONOMIST, Feb. 10, 1996, at 71 (whether financial services patents stimulate or hinder innovation); *First, do no harm. Then, get a patent*, BUS. WK., July 24, 1995, at 86 (pros and cons of surgical-methods patents). *Accord* Rosenthal 3423-24 (whether allowing surgical-methods patents is the most efficient way to encourage innovation).

⁹⁴ Catherine Yang, *Is the Patent Office Smothering Software Innovation?*, BUS. WK., Mar. 7, 1994, at 66; Richard A. Bowers, *What Does the Compton's NewMedia Patent Mean?*, CD-ROM PROFESSIONAL, Mar. 1994, at 41.

D. Conclusion

Antitrust should pay close attention to unilateral and joint business conduct involving intellectual property rights associated with new technologies. Shrinking product lifecycles and the increasingly global character of high-tech competition, in combination with expanded intellectual property protection, create a situation that warrants close examination to ensure that companies do not wield their intellectual property rights to stunt competition. As the Supreme Court has recognized many times, there is a need to balance intellectual property and competition values.⁹⁵

However, antitrust should also continue to recognize, as did the *IP Guidelines*, the many procompetitive aspects of business conduct involving intellectual property. If the scope of intellectual property rights is not overbroad, then there is generally less need for antitrust enforcers to apply heightened scrutiny to such arrangements. Accordingly, in light of testimony and literature on this topic, we believe that the FTC should act to ensure that intellectual property policy and decision makers, including the courts, the PTO, the Registrar of Copyrights, and the legislature, are aware of the potential competitive consequences of intellectual property policy for new technologies such as biotechnology and computer software.

⁹⁵ *E.g.*, *Fogarty v. Fantasy, Inc.*, 114 S. Ct. 1023, 1029 (1994); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

CHAPTER 9

NETWORKS AND STANDARDS

I. INTRODUCTION

Networks and standards, though strictly speaking separate concepts, raise a set of closely related issues for antitrust analysis. A network, most commonly understood as a system of links, such as telephone lines, essentially provides the pathways for interaction among different users or terminals. Standards, on the other hand, establish a common mode of interaction, such as use of the English language, which enables users to understand each other's communication.¹

Networks and standards are intertwined in the sense that every network is based on certain standards that permit linking different users or terminals in the first place.² Both share the distinctive characteristic that their value tends to rise as more users subscribe. Just as a telephone system becomes more valuable as new customers join because more parties can be reached through it, so, too, the English language becomes more important to learn as it becomes more prevalent throughout the world. Thus, in addition to the cost savings that suppliers frequently derive from conventional economies of scale, standards and networks exhibit economies of scale on the demand side as well. Perhaps because the nature of this phenomenon is most intuitively understood in the context of a network, it bears the eponym "network externalities," notwithstanding that the feature inheres in both networks and standards.³

With the rise of communications and computer industries, to name two obvious examples, the importance of standards and networks to our modern economy generally, and to certain industries in particular, has increased dramatically. The hearings sought views on

¹ Stiglitz 25-26.

² Standards also can arise outside the context of providing an interface between users or terminals. For example, common levels of quality or safety are also referred to as standards, but not the kind addressed in this chapter.

³ For a thorough explanation of demand-side scale economies and other aspects of the economics of networks, see Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93 (1994).

whether the presence of networks or standards raises new issues or special concerns for antitrust and, if so, how enforcement might be affected.

Some witnesses opined that networks involve nothing fundamentally different from other industries, but merely combine several of the most troublesome economic issues already encountered elsewhere.⁴ Such issues include economies of scale (*e.g.*, when computer software can be developed and produced *en masse* for virtually the same cost as for a single copy); economies of scope (*e.g.*, when multiple telecommunications services can be provided using a single wire); coordination problems (*e.g.*, when multiple issuing banks must agree on unified protocols for a credit card network); interconnection problems (*e.g.*, when long distance providers seek access to local telephone facilities); sunk costs (*e.g.*, many substantial R&D expenditures); network externalities (*e.g.*, when telephone service or facsimile machines become more valuable as the number of connected users rises or when a computer's increasing popularity allows it to support a broader array of software); and switching costs and corresponding lock-in effects (*e.g.*, when consumers who switch to another network must sacrifice their own investments in complementary products or specialized training usable only with the first network).

Other witnesses stressed that while these elements may not be unique to networks and standards, they offer worrisome opportunities for anticompetitive conduct. Excluding competing service providers from use of the standard or network forces alternative providers to reach consumers through rival networks or alternative standards, thereby possibly raising barriers to competition.

We conclude that regardless of whether networks raise "new" issues, they bear characteristics that should command an antitrust enforcer's special attention. In particular, standards and networks frequently exhibit substantial demand-side scale economies and impose costs on the consumer who switches to alternative providers. The hearings identified potential implications of these factors and proposed certain lines of analysis, but provided no ultimate answers. They suggested that to the extent substantial demand-side scale economies render

⁴ Schmalensee 3730, 3738; Willig 3872-74.

competition outside a network joint venture less viable, heightened scrutiny of membership denials may be warranted. They indicated that the combination of demand-side scale economies and consumer switching costs may render dominance of a firm in control of an interface standard unusually enduring and give reason for careful attention to anticompetitive practices. They highlighted the potential for creating market power in complementary markets through control of key interfaces and the need to address situations where this might damage competition. They also gave warning of difficult remedial issues. This chapter addresses each of these topics in turn.

II. ACCESS TO NETWORK JOINT VENTURE MEMBERSHIP

Network issues are prevalent in industries in which competitors have joined together to provide certain services, as in the case of credit card and ATM networks. A key issue affecting these network joint ventures often is access to membership, and actions by successful joint ventures denying membership to certain competitors or categories of competitors have resulted in hard-fought lawsuits.⁵ Membership, or the denial thereof, implicates competition between different networks ("intersystem competition"), as well as among service or product providers within any given network ("intrasystem competition").

A. Promoting “Intersystem” and “Intrasystem” Competition

Allowing a network to deny membership to competitors might serve to maximize “intersystem” competition between distinct joint venture networks by encouraging non-members to set up competing joint venture networks. Some witnesses argued for this position, noting that the exclusion of competitors from a joint venture could be procompetitive because the competitors that are shut out are thereby made available to provide intersystem competition.⁶

⁵ Cf. Katz (Stmt) 6-7 (describing litigation brought by Worthen Bank & Trust Company, which induced the Visa joint venture to extend membership to banks which issued the predecessor of MasterCard); SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958 (10th Cir. 1994), *cert. denied*, 115 S. Ct. 2600 (1995) (bank owned by offeror of the Discover Card denied membership in Visa USA).

⁶ Katz 1126 (exclusion of Dean Witter from Visa USA maximized intersystem competition); Schmalensee 3736-37, 3791. Cf. Opper 3674-78 (citing, as benefits of intersystem competition) (continued...)

Intersystem competition may be viable, it was observed, because the benefits derived by networks from increases in scale may become exhausted at some level.⁷

Indeed, mandating access struck some as equivalent to requiring a merger of horizontal competitors with the result of dampening basic incentives for intersystem competition.⁸ An ability to limit membership, on this view, maximizes incentives for developing innovative networks by letting the initial venturers keep their gains rather than forcing them to share their bounty with free riders.⁹ Finally, mandating access may have the drawback of interfering with

⁶(...continued)
competition, the distinctive pricing and marketing strategies adopted after a Visa/MasterCard joint venture for point-of-sale debit cards was barred).

⁷ Schmalensee 3732, 3736.

⁸ MacDonald 3708. The analogy is not perfect. A firm may be a member of a network joint venture while simultaneously offering a competing product outside the venture. Some witnesses expressed concern that, by threatening to exclude members so engaged, a network joint venture might be able to restrict outside competition. Edwards 3770-71; Hovenkamp (Stmt); American Express Travel Related Services (Stmt).

⁹ MacDonald 3692, 3694; Schmalensee 3737-38. *But cf.* Salop 3865-66 (voicing skepticism of claims that exclusion is needed to maintain investment incentives in settings where a joint venture had previously admitted others).

The Supreme Court gave weight to considerations of free riding in *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977). *GTE Sylvania* involved agreements prohibiting retailers from selling franchised products other than from specified locations. The Court rejected application of a *per se* rule, noting that vertical restrictions may promote interbrand competition, such as by inducing retailers to provide promotional services which might otherwise be undermined by discounters able to “free ride” on the full-service dealers’ efforts. *GTE Sylvania*, 433 U.S. at 54-55. Similarly, in rejecting a claim for mandatory access, the court in *SCFC* took account of Visa USA’s contention that an exclusionary membership rule was necessary to avoid free riding by intersystem rivals who had not helped in building its successful credit card network. *SCFC ILC, Inc. v. Visa USA, Inc.*, 36 F.3d 958, 969-72 (10th Cir. 1994), *cert. denied*, 115 S. Ct. 2600 (1995).

the smooth functioning of a network joint venture by introducing coordination problems among unfriendly rivals.¹⁰

Intrasystem competition, on the other hand, might be enhanced through the introduction of new providers of goods or services that use the existing system.¹¹ Witnesses emphasized that denying access may keep out more efficient intrasystem rivals who otherwise would cause the price of the network's product to fall.¹² Exclusion may also slow innovation within a dominant system, as was alleged in *SCFC*, where the plaintiff maintained that it had intended to introduce a new Visa credit card featuring a two-tiered interest schedule based on the duration of loans but was precluded from doing so by being excluded from the network itself.¹³

It thus appears that the difficulty in deciding whether intersystem or intrasystem competition holds more promise for the consumer in any given situation depends crucially on whether the relevant market can support more than one network and how ultimately to weigh the

¹⁰ See David Balto, *Access Demands to Payment Systems Joint Ventures*, 18 HARV. J.L. & PUB. POL'Y 623, 664-66 (1995) [hereinafter Balto]; Donald I. Baker, *Compulsory Access to Network Joint Ventures Under the Sherman Act: Rules or Roulette?*, 1993 UTAH L. REV. 999, 1077 (1993). See generally MacDonald 3688, 3694 (noting the fragility of many joint ventures and the utility of membership restrictions in promoting stability).

¹¹ Besen 3719; Salop 3862, (Stmt) 11.

¹² Salop 3862-63, (Stmt) 13, 17. Under this view, the higher costs imposed on the would-be entrant by virtue of exclusion from the joint venture might offset its efficiency advantage, so that its presence as an intersystem competitor would not compensate for its absence as an intrasystem competitor.

¹³ *SCFC ILC, Inc. v. Visa USA, Inc.*, 36 F.3d 958, 961 (10th Cir. 1994), cert. denied, 115 S. Ct. 2600 (1995).

value of intersystem versus intrasystem competition in the particular factual scenario at hand.¹⁴ Testimony crystallized around three principal approaches to tackle these issues.

B. Possible Analytical Approaches

The first proposal for balancing the competing goals of promoting intersystem and intrasystem competition was one that would force access only when doing so is “essential for effective competition in some market.”¹⁵ The sole fact that membership may be essential for a particular competitor, on this view, would not suffice to compel admission. Access will be mandated only when effective competition without access to the network is not feasible.¹⁶

A second approach would look to the reasons for exclusion by asking whether the conduct of the excluding firm or association is best explained as reflecting the desire to maintain an efficient network or the intention to exclude an equally or more efficient competitor.¹⁷ One participant proposed a framework of analysis that would first identify settings in which market power is likely to be maintained over time, and then isolate those instances in which the

¹⁴ The hearings did not deal with the details of such balancing. Some witnesses suggested, in general terms, that concern with intrasystem competition is diminished when there is adequate intersystem competition. Cutler 3704; Ordover 3820-22; Rosch 3840-41; Salop 3869-70. More detailed assessments may prove highly fact-specific. For example, the analysis may be significantly affected by the degree of independence of individual joint venturers in setting their prices and varying their product offerings and by the extent to which an entrant’s efficiency advantages are dissipated by exclusion from the joint venture. *See supra* note 12.

¹⁵ This "essential facilities" doctrine finds its early roots in joint venture contexts. *See Associated Press v. United States*, 326 U.S. 1 (1944); *United States v. Terminal R.R. Ass’n of St. Louis*, 224 U.S. 383 (1912).

¹⁶ Schmalensee 3738-39, 3743. *Cf. Balto, supra* note 10, at 651-55 (proposing that analysis determine whether “membership in the venture is essential for the excluded firm to compete effectively in the relevant market”).

¹⁷ This might be viewed as an effort to give economic content to the line of monopolist’s refusal-to-deal cases most recently represented by *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985). The Court in *Aspen Skiing* stated, “If a firm has been ‘attempting to exclude rivals on some basis other than efficiency,’ it is fair to characterize its behavior as predatory.” *Id.* at 605-06 (quoting ROBERT H. BORK, *THE ANTITRUST PARADOX* 138).

incumbent's conduct is made profitable only because an efficient competitor is being excluded.¹⁸ In order to prevent a skewed evaluation due to the fact that any admission of new members means sharing the network's customer base with additional parties, the profitability of excluding the competitor should be evaluated against the background assumption that access would be granted only on terms that compensate incumbent venturers for sales lost to the entrant.¹⁹

The third approach advanced at the hearings would balance anticompetitive effects and efficiencies of exclusion, on the theory that antitrust should not be overly concerned with whether admission is in some sense essential to the plaintiff or whether exclusion is essential to the defendant, but should instead focus on the net effect on competition.²⁰ An illustrative example might involve an innovative entrant who would have driven price down if admitted to the joint venture, but, once excluded, remains able to compete at current prices even outside the joint venture.²¹ The third approach recognizes that even though membership in the joint venture would not be essential for such an entrant, exclusion may nonetheless raise the excluded firm's costs and adversely affect competition.²²

C. Comparison of Analytical Approaches

All three approaches seek to determine whether a given exclusion is harmful to competition. They follow different paths, but depending on how they are applied, they need not reach different results.²³ The first depends on the ultimate conclusion of whether membership is

¹⁸ Ordover 3822-25.

¹⁹ *See* Ordover 3906.

²⁰ Salop 3866-67.

²¹ Salop 3861-62.

²² Salop (Stmt) 4, 15, 17-18.

²³ Exclusion of a competitor from a facility essential for effective competition would render an otherwise equally efficient competitor non-viable and may constitute an anticompetitive effect not offset by efficiencies. Salop's concerns with raising rivals' costs might be addressed by a broad definition of "effective" competition, encompassing, for example, the effects of intrasystem rivalry that would have driven price down.

essential to competition, whereas the latter two structure the elements that might underlie such a conclusion and provide more obvious avenues for incorporating efficiencies into the analysis. Each technique, however, may have some utility for particular fact patterns. The essential facilities analysis, for example, may facilitate rapid screening of situations unlikely to pose competitive concerns. The second approach, which centers on the reasons for exclusion and the compensation to incumbents for admission of rivals, may help focus the inquiry when effective denial of membership is achieved by charging a high price for access rather than outright rejection of the applicant. The final, balancing analysis may be of help in allowing consideration of a variety of factors potentially relevant to the balancing of intersystem and intrasystem competition. It seems unlikely that any one of these approaches provides the analytical key for all fact patterns. One or more may provide useful insights in a particular case.

The overriding implication for our present purposes is that the substantial demand-side scale economies that characterize many network industries pose an increased likelihood of competitive problems under all of the analytical frameworks advanced at the hearings. Network externalities, particularly substantial ones, magnify any disadvantages of exclusion and tend to burden intersystem competition.²⁴ They make access to a network joint venture more likely to be essential for effective competition than access to joint ventures bearing no network effects; they make a denial of access more likely to undermine the viability of an otherwise-efficient competitor; and they make it more likely that anticompetitive effects exceed any given efficiencies. In sum, demand-side scale economies associated with networks warrant a heightened degree of scrutiny in assessing denials of access to joint venture membership, but the competitive significance of demand-side scale economies is lessened to the extent that intersystem competition remains likely.

²⁴ Salop 3917; Willig 3918-19; Hovenkamp (Stmt) 5. *Cf.* Schmalensee 3732 (demand-side economies of scale “point in the direction of, although it may not carry the system all the way toward, natural monopoly or essential facilities status”).

III. ACCESS TO STANDARDS

Standards tend to play a large role in situations where a primary product, such as a computer or its operating system, is linked to complementary assets, such as peripheral attachments or a user's applications files. Customers often invest heavily in complementary assets in the course of using the primary product. A critical standard may be controlled by a single, dominant firm or by a group of competitors. Because standards-access issues typically have arisen in the context of standards controlled by a single, dominant firm and because unilateral conduct raises issues not discussed in Section II's treatment of joint ventures, this section addresses control of a critical standard by a single, dominant incumbent.

Debate over access to standards tends to arise in two competitive scenarios. In the first, a rival in the market for the primary product seeks to compete with the dominant primary product provider by offering an alternative primary product. The rival wants access to the dominant firm's standard, so that its alternative primary product is compatible with the customer's current complementary assets, and customers who switch to the rival's product need not invest in a new set of complementary assets.

In the second setting, a rival in the market for complements seeks access to the dominant standard in order to offer a complementary product without developing, and without requiring customers to invest in, a replacement for the primary product as well. Although the two settings have similarities, the second setting raises an additional issue when the standard linking the primary and secondary markets is controlled by a primary market leader who is also a competitor in the market for complementary products. In that case, the market leader in the primary market may attempt to extend its market power to the market for complementary products by controlling access to its standard. Each setting is discussed in turn.

A. Competition in the Primary Product Market

Network issues play a part in industries in which an incumbent firm controls access to a critical standard and thereby has the power to make entry difficult or prevent competitors from entering the current market altogether. For example, once consumers purchase a primary good such as PC hardware or an operating system (collectively, "framework system"), they often invest heavily in complementary products, such as peripherals or applications software. They

also may develop expertise and a stockpile of files usable in conjunction with the assembled system. The current users of such products are referred to as a framework system producer's "installed customer base," which is akin to a captive audience. Unless competing framework systems are compatible with the installed base's peripherals (such as external disk drives and printers) as well as applications software, expertise, or files, the installed customer base may be locked in to the incumbent framework system because switching to a competing framework entails the cost of replacing the complementary assets as well.²⁵

An incumbent framework system supplier may be able to limit the substitutability of other framework systems, and thereby the effectiveness of their competition, by restricting the ability of competing framework suppliers to offer the incumbent's interface for complementary assets such as peripherals, applications, and end users' files and expertise. Decisions to deny access to an interface have sparked significant litigation. For example, in *Lotus Development Corp. v. Borland International, Inc.*,²⁶ discussed in Chapter 8 *supra*, Borland sought to duplicate the menu command hierarchy of the dominant Lotus software product in order to enable Lotus users to switch to Borland's competing product without sacrificing their investments or their expertise in working with that type of software. The court held that Borland did not infringe a Lotus copyright by using the latter's menu structure because the command hierarchy at issue was not copyrightable subject matter. *See supra* Chapter 8.

1. "Intersystem" versus "Intrasystem" Competition

To a large extent issues regarding access to standards are similar to those raised by network membership. Again the focus is on direct, horizontal competition between an incumbent and possible entrants. Again, there may be both intersystem and intrasystem effects. Witnesses who emphasized the intersystem effects, i.e., competition among firms who rely on different standards, argued that the need to invent around others' proprietary standards spurs innovation, so that mandating access to those standards may reduce the development of

²⁵ For an overview of the effects of switching costs on competition in markets for framework systems, *see* Joseph Kattan, *Market Power in the Presence of an Installed Base*, 62 ANTITRUST L.J. 1, 6-9, 12-13 (1993) [hereinafter Kattan].

²⁶ 49 F.3d 807 (1st Cir. 1995), *aff'd per curiam*, 116 S. Ct. 804 (1996).

alternative technologies and goods.²⁷ Others highlighted the importance of proprietary control to preserve the incentives for expending resources to build the incumbent system in the first place and to provide sponsorship once the system is developed.²⁸ This may be particularly important in settings where marginal costs are close to zero, but substantial fixed costs incurred in initial development must somehow be recovered.²⁹ Because competition tends to drive price down to marginal cost, admitting new rivals after the initial investment has been borne by the incumbent may not permit recovery of the front-end costs incurred in establishing the network.³⁰ Moreover, it may be difficult to compensate the incumbent for the risk initially assumed alone.³¹

In view of the potential difficulties of intersystem competition due to switching costs and the incumbent's potentially significant advantages from demand-side economies of scale, some witnesses stressed the significance of preserving and inducing competition within systems, that is to say, competition among firms able to utilize the incumbent standard.³² If competition is to be ensured, these witnesses argued, it must come from entrants with access to the interface standards necessary to make their product readily substitutable for that of the incumbent. According to these witnesses, such compatibility reduces consumers' costs of switching to rival primary products and thus facilitates entry and competition in the primary market by promoting intrasystem competition.³³

²⁷ Frankel 3390-91; Nunnenkamp 3450-52. One witness observed that even though access to an incumbent's design may reduce innovation incentives to some extent, large rewards for developing the next generation of products may still be controlling. Schmalensee 3804-05.

²⁸ Ordoover 1267-68.

²⁹ Baxter 3502-04.

³⁰ *Id.*

³¹ Baxter 3504. *See infra* Section IV.A.

³² Kohn 3343-45, 3347-48; Morris 3561-64; Black 3576-77, 3579. *See* Besen 3706-07, 3719.

³³ Miller 1152, 1154; Kohn 3345, 3347; Black 3587. The problem was alternatively formulated in terms of access to an input rather than access to an interface standard. Under this
(continued...)

2. Consumers' Costs and the Implications of Unilateral Action

The discussion of network joint ventures in Section II focused substantially on the tendency of networks to rise in value with the number of users. As already noted, the competitive effects of standards, while exhibiting similar “network externalities” as well, are further characterized by consumers’ substantial investments in complements, such as the peripherals and applications discussed in the context of computers.

Several witnesses indicated that substantial investments in complements may significantly increase the durability of market power. The difficulty in supplanting a dominant firm is enhanced when consumers must forgo their investments in complements and purchase them anew when switching from the incumbent supplier to a rival.³⁴ Substantial network externalities may add to the difficulty of supplanting a dominant incumbent, since a smaller rival will often be less attractive due to size alone.³⁵ Although some witnesses suggested that the arrival of each new product generation would have the effect of leveling the playing field,³⁶

³³(...continued)

formulation, denying access to an input can raise rivals’ costs and thereby create market power in the market served by firms who utilize the input. Salop 3859-64.

³⁴ Kohn 3345, 3347; Baxter 3504-06 (characterizing competition in network industries as “for a future technology” as opposed to “in the present technology”); Morris 3557-61, 3564; Black 3579.

³⁵ Kohn 3344-45, 3347-48; Black 3576; Ordover 3818-19 (testifying that when network effects are particularly strong, “the time it takes to cause the tipping [to a new standard] may be much longer than we would find desirable or socially desirable”). Witnesses, however, also stressed that once a network starts to tip to a new technology, the incumbent’s dominance may unravel quickly. Schmalensee 3735. *See* Ordover 3819. Schmalensee’s position is elaborated in Evans & Schmalensee, *A Guide to the Antitrust Economics of Networks*, 10 ANTITRUST 36, 38-39 (1996).

³⁶ Baxter 3504-06 (describing “leapfrog” competition, where dominant firms are displaced by competitors offering major technological improvements); Phelps 3534. *Cf.* Schmalensee 3799 (indicating that leading entities tend to have shorter lifetimes in industries where innovation is important).

others responded that those dominant in one generation can find, and have found, ways to extend their dominance to future generations of products.³⁷

While the effects of anticompetitive activity may thus be enhanced, determining when unilateral activity is anticompetitive is not made any easier.³⁸ To the contrary, apart from intellectual property rights that may legally enable the dominant firm to guard its standard closely,³⁹ even the simple presumption of a firm's entitlement to proprietary control over its own product will often make it difficult to demonstrate willful acquisition or maintenance of monopoly power in the market for that product. In this setting, the problem of teasing out whether a firm's market dominance is due to anticompetitive activity may be quite complex.

In the standards context, then, as a result of the network externalities and switching costs that render market power unusually enduring (at least, pending major technological advance) and the potential difficulty of identifying the element of deliberateness or willfulness required for monopolization under Section 2 of the Sherman Act, enforcement agencies may have to focus

³⁷ Morris 3557-62; Ordover 3818-19. *See supra* Kattan, note 25, at 12-13 (explaining how investments in complements and demand-side scale economies may impose switching costs capable of sustaining a lock-in effect through multiple generations of the framework system).

The panelists expressed little concern about a separate potential problem in network industries -- the possibility that demand-side scale economies might permit an early technology to dominate, when a shift to a later technology would be more desirable from users' viewpoints. Although nobody denied that instances of such "excess inertia" might be possible, the witnesses questioned whether it was likely (Schmalensee 3734-35; Ordover 3825-26), and emphasized the dangers of attempting to pick technological winners and losers. Schmalensee 3803-04; Ordover 3819-20.

³⁸ A further distinction from the joint venture context, based on the nature of the potential remedy -- interface access, rather than joint venture membership -- is discussed in Section IV.

³⁹ *See supra* Chapter 8.

more closely on the dominant firm's specific business practices in order to detect anticompetitive activity.⁴⁰

B. Competition in the Complementary Product Market

A firm that controls a dominant industry standard may well capitalize on that market power in order to assert its presence in a secondary market of complementary products that present viable options for consumers only when they are compatible with the dominant standard.⁴¹ A firm could do this by changing, or withholding the key to the creation of, a successful interface between the primary product (whose market the firm controls) and complementary products in which it faces potentially more threatening competition. This type of issue arose in *Eastman Kodak Co. v. Image Technical Services, Inc.*,⁴² where independent servicers of photocopying equipment alleged that Kodak had monopolized the market for repair of its machines by withholding the replacement parts necessary for repairing Kodak machines. In essence, the replacement parts served a role analogous to a standard: the independent servicers were denied access to the interface (parts) that would make their complementary product (repair services) compatible with Kodak copiers. The Court affirmed a ruling denying summary judgment to Kodak. It found that Kodak may have had the power to control prices or exclude competition in the service market based in part on the switching costs that its installed customer base would incur if they used an independent service organization after purchasing a Kodak copier.⁴³

⁴⁰ See, e.g., *United States v. Microsoft Corp.*, 1995-2 Trade Cas. (CCH) ¶ 71,096 (D.D.C. 1995) (consent decree barring certain licensing and non-disclosure agreements); *United States v. FTD Corp.*, Civ. Action No. 56-15748 (E.D. Mich. Dec. 14, 1995) (consent decree barring financial incentive program based on exclusive use of FTD's floral wire service network).

⁴¹ Such leveraging might enhance the dominant firm's ability to exert market power by facilitating price discrimination, avoiding whatever constraints are offered by more costly substitutes in the firm's primary market, or requiring two-market entry.

⁴² 504 U.S. 451 (1992).

⁴³ *Id.* at 476-77.

The testimony in the hearings record concerning competition in complementary product markets was mixed.

1. Testimony on the Problem

Many witnesses who expressed concern over leveraging carefully distinguished between the primary product market, in which the leveraging firm's initial dominance is often lawful, and the market for products complementary to those of the primary market. In their view, although it might be argued that monopoly profits earned in a primary market reward the dominant firm for its innovation and legitimate business success, there is no basis for allowing it to reap monopoly profits in complementary markets as well.⁴⁴ Restricting access to interface standards, they urged, reduces competition, product variety, and innovation in complementary markets.⁴⁵ They feared that complementary markets (*e.g.*, for peripherals and applications) are susceptible to single-firm dominance because of the need to interface with the dominant firm's installed customer base in the primary market (*e.g.*, the installed hardware and operating systems) and because of the dominant firm's first-mover advantages derived from better and earlier access to the relevant interface.⁴⁶ These witnesses viewed complementary markets as the locus of the next generation of innovation and stressed that without an ability freely to build upon the dominant primary-

⁴⁴ Kohn 3348; Blecher 3485, (Stmt) 2, 4; Wayman 3527-28; America Online (Stmt) 2-3. *See* Novell (Stmt) 7-8.

⁴⁵ Poppa 88-91; Miller 1152, 1154-55; America Online (Stmt) 3-4; Novell (Stmt) 4. *See* Platt 37-39; Cutler 3637; Rosenblum (Stmt) 16-17 ("firms possessing monopoly control of essential facilities have the ability to foreclose or distort competition in adjacent markets that depend on the facility").

⁴⁶ Kohn 3349; Novell (Stmt) 7-9, 12 (Novell exiting desktop applications business because of "difficulty of competing on a field defined by our competitor's continually changing interfaces") (emphasis omitted); Software Publishers Association (Stmt) 3-4 (80 percent of membership survey respondents expressed concern that "the owner of a dominant desktop operating platform, network operating system, or other computer platform would use its dominance to gain a competitive advantage in other segments of the software market, such as desktop applications").

market standard, important innovation rivalry might be lost.⁴⁷ Some suggested that there was a special need for government vigilance in the leveraging context because private firms' dependence on dominant incumbents may discourage private litigation to preserve competition.⁴⁸

Witnesses who found the possibility of leveraging less objectionable or unobjectionable, in contrast, attached less weight to the distinction between primary and complementary markets. William Baxter, for example, argued that the profits obtainable in complementary markets are as much a part of the primary market incumbent's legitimate rewards as any other profit opportunities.⁴⁹ Some noted that profits from complementary markets contribute to recovery of the R&D costs incurred in developing a successful primary market product and amplify the incentives for primary market innovation.⁵⁰ They suggested that extending control to complementary markets might lower price to consumers by avoiding double monopoly mark-ups (i.e., the excess in price charged when two independent monopolists control vertically related markets compared to the profit-maximizing price charged by a single monopolist who controls both markets), while generating efficiencies from the joint production of related products.⁵¹ One witness also questioned the soundness of the distinction between primary and complementary markets in dynamic settings where today's complement may evolve into tomorrow's direct competition.⁵²

⁴⁷ Poppa 90-91; Miller 1154-55; Kohn 3349-50; Scherer 3354-55; Cutler 3637-38; Novell (Stmt) 8.

⁴⁸ Kohn 3401-02; Software Publishers Association (Stmt) 7.

⁴⁹ Baxter 3548-49. *Cf.* Baxter 3549-50 (leveraging a possible concern only when monopoly rents may be extracted in complementary market from consumers with no demand in primary market).

⁵⁰ Baxter 3506-07. *See* Simon 3565-66, 3568; Creative Incentive Coalition (Stmt) 2-3.

⁵¹ Bresnahan 3550-52; Baxter 3552. *But see* Noll 1286 (notion that market extension a means to capture efficiencies usually "extraordinarily weak").

⁵² Bresnahan 3551.

Setting this disagreement to one side, the hearings generally highlighted several ways in which leveraging concerns are exacerbated by the properties peculiar to industries in which standards figure prominently. First, the buttress to market power in the primary market, derived from the combination of demand-side scale economies and consumer switching costs discussed earlier, may dampen efforts of competitors to supplant the dominant firm.⁵³ Second, efforts to leverage power across markets may not be easily defeated. Some early hardware/peripheral cases suggested that leveraging effects might be circumvented by "reverse engineering" -- that is, analyzing the dominant firm's framework system in order to arrive at a viable interface for complementary products.⁵⁴ The interfaces needed for many of today's complementary products, such as applications software, however, are often complex and not readily duplicated.⁵⁵ Especially where software product life cycles are short and first-mover advantages critical, reverse engineering may not provide competitors with a practical alternative.⁵⁶ Nor is it an undebatably lawful alternative. Many of the interfaces at issue today may be covered by intellectual property rights, and the legality of accessing them for purposes of reverse engineering has been a matter of dispute.⁵⁷ For example, there are legal issues as to whether using an

⁵³ Efforts to extract monopoly profits, whether by dominating one market or two, may create incentives to supplant the dominant firm. *See* Poppa 95, 98; Ordover 1279-80. However, the consumer switching costs and demand-side scale economies which contributed to generating dominance may make its overthrow difficult. *Cf.* Poppa 98 (if a product is sufficiently unique, consumers will buy it even if interface access is closed).

⁵⁴ *See* California Computer Prods., Inc. v. IBM Corp., 613 F.2d 727, 731, 743 (9th Cir. 1979); *In re* IBM Peripheral EDP Devices Antitrust Litigation, 481 F. Supp. 965, 1005 (N.D. Cal. 1979), *aff'd sub nom.* Transamerica Computer Co. v. IBM Corp., 698 F.2d 1377 (9th Cir.), *cert. denied*, 464 U.S. 955 (1983); ILC Peripherals Leasing Corp. v. IBM Corp., 458 F. Supp. 423, 439, 443-44 (N.D. Cal. 1978), *aff'd sub nom.* Memorex Corp. v. IBM Corp., 636 F.2d 1188 (9th Cir. 1980), *cert. denied*, 452 U.S. 1972 (1981).

⁵⁵ Pieper 3750; Novell (Stmt) 11-12; America Online (Stmt) 3.

⁵⁶ *See* Novell (Stmt) 12; Software Publishers Association (Stmt) 8.

⁵⁷ Poppa 92-94; Wayman 3528-29; Black 3584-86.

interface for reverse engineering is a “fair use” of copyrighted material.⁵⁸ Finally, in industries like applications software and computer peripherals where innovation competition is crucial, a loss of competition through denial of interface access may deprive consumers not only of lower prices but also of significant innovative products that would advance the state of technology in the industry as a whole.⁵⁹

In sum, competition may be impaired when a firm that controls a primary market’s dominant standard denies access to a critical interface between that market and a market for complementary products. At the same time, however, denial of access may be important for realizing efficiencies and to preserve incentives for competition. The hearing record suggests no theoretical basis for ascribing more weight, as a general matter, to either set of considerations. Case-by-case analysis will be required.

2. Possible Analytical Frameworks

Several frameworks of legal analysis might be applied to distinguish objectionable from unobjectionable control of a standard. Several witnesses would condemn the use of monopoly power in one market to gain power in another.⁶⁰ However, the existence of “monopoly leveraging” as a distinct species of Section 2 violation is a matter of some debate. Some courts

⁵⁸ See *Sega Enters., Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992) (finding disassembly of a copyrighted computer program in order to gain an understanding of the unprotected functional elements of the program a fair use of the copyrighted work). Cf. *Atari Games Corp. v. Nintendo of Am., Inc.*, 30 U.S.P.Q.2d (BNA) 1401 (N.D. Cal. 1993) (finding that Atari had infringed a copyright by copying more elements of an interface than necessary to achieve compatibility with the version of Nintendo’s product then on the market). For a critique of *Sega*’s fair use analysis, see Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New since CONTU?*, 106 HARV. L. REV. 978, 1014-32 (1993). See also *supra* Chapter 8.

⁵⁹ See, e.g., Poppa 90-91; Kohn 3349-50; Scherer 3354-55.

⁶⁰ See, e.g., Kohn 3360-61; Blecher 3366-67, 3433, (Stmt) 2; America Online (Stmt) 4. The cited individuals made reference to a passage in *Kodak* stating, “The Court has held many times that power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to liability if ‘a seller exploits his dominant position in one market to expand his empire into the next.’ ” *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 480 n.29 (1992) (citations omitted).

have found unlawful leveraging only when a firm uses monopoly power in one market to monopolize or attempt to monopolize a second market.⁶¹ On this restrictive view, the analysis would essentially reduce to the conventional inquiry into whether the primary market incumbent's use of its proprietary interface constitutes attempted monopolization of the complementary market. In contrast, other courts have concluded that Section 2 is violated when monopoly power in one market is used merely to gain a competitive advantage in another, without necessarily threatening to monopolize that latter market.⁶² In so doing the courts have sometimes taken pains to stress that competitive advantage must flow from the "use of" monopoly power, not merely from advantages of large scale or integration.⁶³ Under both approaches, business justifications for the monopolist's actions are relevant.

Alternatively, an essential facilities analysis could be used.⁶⁴ As applied to unilateral conduct in recent years, the essential facilities doctrine typically has involved some aspect of leveraging into complementary markets.⁶⁵ The Supreme Court, however, has never in so many

⁶¹ *Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171 (3d Cir. 1992), *cert. denied*, 507 U.S. 921 (1993); *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536 (9th Cir. 1991), *cert. denied*, 503 U.S. 977 (1992).

⁶² *Kerasotes Mich. Theatres, Inc. v. National Amusements, Inc.*, 854 F.2d 135 (6th Cir. 1988), *cert. dismissed*, 490 U.S. 1087 (1989); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980).

⁶³ *See Berkey Photo*, 603 F.2d at 291. The court in *Berkey Photo* defined a "use of" monopoly power as "an action that a firm would have found substantially less effective, or even counterproductive, if it lacked market control," and cited refusing to deal in goods or services needed by a competitor in a second market as "the classic example of such a use." *Id.* *See generally* *The Telex Corp. v. IBM Corp.*, 510 F.2d 894, 925-28 (10th Cir.), *cert. dismissed*, 423 U.S. 802 (1975) (requiring demonstration of "use of monopoly power" in assessing alleged monopolization of peripherals market).

⁶⁴ *Rosenblum* (Stmt) 16-18; *Novell* (Stmt) 11-13; *America Online* (Stmt) 4. *See* Black 3589-90 (recommending consideration of the applicability of the essential facilities doctrine). For testimony opposing application of the essential facilities doctrine, *see* *Baxter* 3622.

⁶⁵ *See MCI Communications Corp. v. AT&T Co.*, 708 F.2d 1081 (7th Cir.), *cert.*
(continued...)

words approved an essential facilities doctrine, and its contours and limitations remain subject to debate.⁶⁶ To the extent that the test requires harm to competition rather than to competitors, as discussed in Section II *supra*, the doctrine would appear to yield similar results as the restrictive interpretation of leveraging. Specifically, when denial of access to a standard prevents effective competition, it confers an ability to control prices, and thus monopoly power.

A third possibility is to analyze competition in complementary product markets under conventional attempted monopolization criteria. An attempt to monopolize traditionally requires “(1) predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power.”⁶⁷ Since the intent to monopolize might be inferred from the underlying predatory or anticompetitive conduct,⁶⁸ the inquiry as to the first two

⁶⁵(...continued)

denied, 464 U.S. 891 (1983) (access to monopolized local telephone distribution facilities deemed an essential facility for firm seeking to compete in long-distance market). MCI drew upon the Supreme Court’s opinion in *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973) (finding a violation of Section 2 of the Sherman Act -- without expressly applying the essential facilities doctrine -- when an integrated electric power supplier with monopoly control over relevant transmission facilities refused to sell or transfer power to municipalities seeking to provide retail power distribution).

⁶⁶ As frequently articulated by recent judicial opinions, the doctrine requires:

(1) Control of the essential facility by the monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.

MCI, 708 F.2d at 1132-33. This mantra fails to explain how to determine that a facility is essential.

⁶⁷ *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

⁶⁸ *See, e.g., Volvo N. Am. Corp. v. Men’s Int’l Professional Tennis Council*, 857 F.2d 55, 74 (2d Cir. 1988) (“Proof of the first element of an attempted monopolization claim, anticompetitive or exclusionary conduct, may be used to infer the second element, specific intent to monopolize”); *The Great Escape, Inc. v. Union City Body Co.*, 791 F.2d 532, 541 (7th Cir. 1986) (specific intent may be inferred from conduct that is “in itself an independent violation of the antitrust laws or that has no legitimate business justification other than to destroy or damage competition”); *General Foods Corp.*, 103 F.T.C. 204, 342 (1984) (“while essential to a finding of
(continued...)”)

elements often may focus on the denial of interface access, including any legitimate business justifications. Particularly in settings where a complementary market is just coming into being, finding that an attempt to monopolize has a dangerous probability of success should not require proof of a large complementary market share. In light of the speed with which a denial of interface access can extend dominance to complementary markets and the potentially enduring nature of that dominance once established, waiting for demonstrable, large market shares may mean that any remedy comes too late. What must be shown is a probability of success,⁶⁹ and when that conclusion can be drawn from the market power that is demonstrated to flow from control of an interface, the necessary showing is made. So interpreted, the attempted monopoly doctrine could address many of the competitive concerns raised with respect to leveraging through the control of interfaces.⁷⁰

Some testimony suggested that liability broader than that under the Sherman Act might attach under Section 5 of the FTC Act, which reaches “unfair methods of competition.”⁷¹ While

⁶⁸(...continued)

attempted monopolization, the element of intent inevitably entails the element of conduct”); 3 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* ¶ 822b (1978) (“The critical issue is the nature of the conduct and power involved. The ‘objective intent’ manifested by the use of prohibited means should be sufficient to satisfy the intent component of attempt to monopolize.”).

⁶⁹ The Commission recognized the same general principle in *General Foods*, where it rejected a “narrow market share approach” to assessing probability of success in favor of a test depending on “all the relevant characteristics of a market.” *General Foods*, 103 F.T.C. at 345-46.

⁷⁰ Some testimony also suggested denial of access to an interface might be analyzed under the rubric of a monopolist’s refusal to deal. *Novell* (Stmt) 10; *America Online* (Stmt) 4-5 (citing *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985)). This testimony gave no suggestion that casting the analysis in these terms would achieve a result different than conventional monopolization or attempted monopolization doctrines.

⁷¹ *Novell* (Stmt) 10. *See* Black 3589 (reliance on Section 5 raised in the form of a query); *America Online* (Stmt) 5 (“However characterized,” the use of power to control access to an interface to gain unfair competitive advantages in other markets “should be addressable as an unfair practice under Section 5 of the FTC Act.”).

we agree that Section 5 is broader than the Sherman Act itself, its scope in the context at issue is unresolved.⁷²

3. Intellectual Property Rights

Finally, as alluded to earlier, the issue of access to standards and interfaces in many of the industries in question here (*e.g.*, software) is often complicated by the intellectual property rights that surround the creation of new products and ideas. A firm's refusal to license its patented or copyrighted interface standard is arguably an exercise of the very right intentionally conferred by the intellectual property laws.⁷³ As was repeatedly pointed out at the hearings,⁷⁴ recent case law defining the intersection of antitrust and intellectual property laws typically has not afforded great room for antitrust review.⁷⁵ It has been suggested that the debate has been framed solely in intellectual property terms.⁷⁶ Yet the scope and consequences of intellectual property rights may greatly affect competition and innovation in markets complementary to an invention. As discussed in more detail in Chapter 8, we recommend that the federal antitrust enforcement

⁷² Cf. *E.I. du Pont de Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984); *General Foods Corp.*, 103 F.T.C. 204, 364-66 (1984); *Ethyl Corp.*, 101 F.T.C. 425 (1983), *order vacated*, *E.I. du Pont de Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984).

⁷³ See *Simon* 3565-66, 3568; *Creative Incentive Coalition (Stmt)* 3.

⁷⁴ *Blecher* 3366-68, 3433-34, 3483-87; *Barton* 3416; *Rosenthal* 3428-29.

⁷⁵ See, *e.g.*, *Data Gen. Corp. v. Grumman Sys. Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994) (“while exclusionary conduct can include a monopolist’s unilateral refusal to license a copyright, an author’s desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers”); *Miller Insituform, Inc. v. Insituform of N. Am., Inc.*, 830 F.2d 606, 609 (6th Cir. 1987), *cert. denied*, 484 U.S. 1064 (1988) (“the holder of a patent retains the power to exclude others from manufacturing, using, and selling his inventions without running afoul of the antitrust laws”); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1209 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982) (finding a refusal to license lawfully acquired patent rights permissible under the patent laws and therefore no basis for liability under Section 2 of the Sherman Act). *SCM’s* holding appears to have been intentionally limited to the issue of antitrust damages, suggesting room for a broader antitrust role in settings -- such as FTC Act cases -- where only injunctive relief is at issue. *Miller Insituform* barred a private party’s requested injunctive antitrust relief as well.

⁷⁶ *Rosenthal* 3427; *Black* 3580-86.

agencies pay close attention to the continuing evolution of the relationship between antitrust and intellectual property law and that the agencies express their views where substantial competition issues arise in the context of intellectual property law and policy.

IV. METHODS FOR RESOLVING ACCESS ISSUES

A. Mandated Access

As reported in this chapter so far, the hearings record suggests that access restrictions may have desirable incentive and efficiency consequences, but also that they may have potentially substantial anticompetitive effects. The record does not resolve the debate between those who caution against,⁷⁷ and those who argue for,⁷⁸ mandating access to network joint ventures and interface standards. For situations where mandatory access might be considered, however, the record is instructive on the issues that would arise in implementing such a remedy.

Mandating access to joint venture membership might appear, at first blush, to be relatively simple. The joint venture is already a combination of competitors, so opening the venture to an additional firm may not fundamentally change its structure. Some testimony suggested that established relationships among the venturers might provide a model for the terms of mandated access. The access price, it was suggested, could be the same as that charged present venturers, with an adjustment to reflect the reduced risk from entering after the venture has proved its desirability.⁷⁹ Other witnesses, however, responded that unless access is predicated on full compensation, not only for direct costs but also for the incumbent venturers' lost profits or opportunity costs from conferring membership on the new player, mandated access would detract from the successful venturers' rewards and decrease incentives for future network

⁷⁷ See, e.g., Nunnenkamp 3378; Baxter 3547-50; Bresnahan 3550-52; Simon 3565-73, 3606-07; MacDonald 3694; Schmalensee 3737-39; Creative Incentive Coalition (Stmt) 2-3. See Frankel 3389-95 (cautioning against increased federal antitrust enforcement efforts with respect to standards subject to intellectual property rights).

⁷⁸ See, e.g., Poppa 91-92; Kohn 3345, 3350; Scherer 3354-55, 3468; Blecher 3465; Morris 3562-64; Rosenblum (Stmt) 17-18; America Online (Stmt) 4-5; Novell (Stmt) 10-14. See Miller 1161; Barton 3415-17, 3475-76; Black 3587, 3589-90; Software Publishers Association (Stmt) 11.

⁷⁹ Salop 3867-69, 3907-08, 3917-18.

joint ventures, as well as encourage inefficient competitors to enter the market.⁸⁰ Further problems might be expected in creating some sort of assurance that positive cooperation is sustained after the forced addition of new members.⁸¹

Mandating access to interface standards, at least on the surface, would not appear to require that firms become as deeply intertwined. At issue is the conveyance of information about an interface, not a cooperative business venture. Access to interface standards, nonetheless, raises difficult issues.

The price for access to an interface standard, for example, is clearly a problem and in many instances turns out to be the crux of the access dispute.⁸² Unlike the joint venture context, there often is no pre-established basis for sharing an interface controlled by a single firm.⁸³ The record revealed considerable divergence of views on how to price access to standards. Some viewed as beneficial the ability of a firm to discriminate in the pricing schedule for its product (i.e., to charge more to customers who place high value on that product) and to extract additional profits from complementary markets.⁸⁴ These comments tended to stress the importance of innovation incentives and the need to compensate and reward innovators in the primary product market. Others with similar concerns emphasized that pricing should be fully compensatory to the incumbent, covering both direct costs and the lost profits or opportunity costs resulting from conferring access (as in the case of mandating access to network joint ventures). They argued that compensatory prices are needed in order to cover the incumbent's fixed-cost investments in

⁸⁰ Willig 3880-82; Ordover 3906.

⁸¹ *See supra* note 10 and accompanying text.

⁸² Simon 3566-67; Baxter 3615; Besen 3650, 3660; Ordover 3805-06, 3904-06.

⁸³ In some instances the monopolist previously has sold access to some customers. Salop 3908.

⁸⁴ Baxter 3506-07, 3548-49. Selling in complementary markets might provide the dominant firm an indirect mechanism to price discriminate by allowing it to extract monopoly profits on complements used or used in greater quantity by persons who place high value on the primary product. Noll 1285-86; Bresnahan 3551.

developing its product or network in the primary market and to encourage innovative effort.⁸⁵ Some countered, however, that to price access at the level that would be charged by a monopolist yields an unreasonable solution if the goal is to break up or prevent a monopoly in a complementary market.⁸⁶ The alternatives offered were a royalty based on cost plus a fair profit,⁸⁷ a “reasonable”⁸⁸ or “at most . . . a modest”⁸⁹ royalty, and free access to critical interface standards.⁹⁰ Finally, it was emphasized that these pricing issues are the topic of considerable ongoing economic research.⁹¹

Further problems include the selection of the precise place for requiring access. The place of attachment to a computer network or operating system affects functionality, which means that the position of the interface offered may have important operational implications.⁹² The choice of position may also affect the extent of technical work and dislocation imposed on the incumbent.⁹³ Moreover, by bundling multiple operations under a single interface, the incumbent may effectively re-define its primary product to subsume what others had intended to sell as a complement. For example, operating systems might begin to encompass certain applications, a possibility viewed with concern by some in the applications industry.⁹⁴ Timing may also be

⁸⁵ Willig 3878-81, 3919-21. *See* Ordover 3905, 3909-10.

⁸⁶ Scherer 3358-59, 3468; Salop 3910, 3921-22.

⁸⁷ Blecher 3466.

⁸⁸ Poppa 91.

⁸⁹ Scherer 3355, 3358.

⁹⁰ Kohn 3357.

⁹¹ Willig 3897, 3930-31; Ordover 3903, 3906.

⁹² Wayman 3604.

⁹³ Cutler 3641-42.

⁹⁴ America Online (Stmt) 3-4; Software Publishers Association (Stmt) 6. One witness described a related issue involving local telephone carriers who offered connection only
(continued...)

critical. A requirement mandating access to an interface standard after an incumbent has already achieved a first-mover advantage may come too late to remedy adverse competitive effects. Consequently, some testimony urged that outside rivals receive information about interface standards at the same time as it is provided to the incumbent's in-house developers.⁹⁵ Finally, in the case of computers, testimony emphasized the sheer number of interfaces and specifications, their continually evolving nature, and their susceptibility to change during any significant period of administrative review.⁹⁶

Together these considerations suggest that it often will be difficult to develop useful access remedies. Although substantial competitive problems may be present, especially if monopoly power is leveraged between complementary markets, we recognize the need to be wary of situations where workable remedies might be unattainable.

B. Joint Standard-Setting Solutions

Another possible solution to the problem of ensuring access to a standard would be to rely on a standard developed by a group of firms working together. The antitrust analysis of such horizontal standard-setting efforts breaks down into the familiar considerations of intersystem and intrasystem competition. Consumers in some industries may be better served by competition among distinct technologies, so that competitors' agreement on a standard could be an undesirable elimination of product variety. In other industries, especially those characterized by the demand-side scale economies associated with network externalities, consumers may benefit from the presence of a single compatible technology. In the extreme case, the product may not

⁹⁴(...continued)
to blocks of services larger than desired by rivals seeking interconnection. By denying the rivals an ability to interconnect with just the specific services needed, the testimony continued, this practice arguably reduces the areas in which those rivals can compete. Besen 3657-59.

⁹⁵ Kohn 3350 (urging simultaneous disclosure of interface standard's source code to all producers of complementary assets in order to avoid first-mover advantages); Novell (Stmt) 12-13. *See* Software Publishers Association (Stmt) 5-6, 8, 11 (supporting a requirement of simultaneity in situations where "the owner of a dominant system or platform decides to license the intellectual property in its interface specifications to third parties").

⁹⁶ *E.g.*, Phelps 3595, 3616-17.

be marketable until standardization is achieved, making standardization tremendously desirable, of course.⁹⁷ There was a diversity of views, however, as to whether standardization could be best achieved through the winnowing process of competitive rivalry or through cooperative agreements.⁹⁸

Considerable testimony focused on whether interoperability and access concerns can be dealt with adequately through private standard-setting mechanisms without major antitrust involvement. A few witnesses suggested that this might be accomplished,⁹⁹ but the preponderance of testimony suggested that voluntary standard setting tends to occur too slowly, too sporadically, and, in settings where proprietary control truly matters, too infrequently to offer anything approximating a complete solution.¹⁰⁰

⁹⁷ Miller 1157, 1261-62; Cutler 3639; Teece 3807-08.

⁹⁸ For example, Carey Heckman urged that the competitive process is likely ultimately to select the best standard, and he warned that premature standard setting can lock the market into the wrong choice. Heckman 1849-50. Bennett Katz argued that progress is fastest when individual firms set their own specifications and the market selects among competing offerings; compatibility issues can be worked out later. Katz 1184-85, 1187-88. Ernest Gellhorn suggested that, at least in some settings, acting unilaterally might slow the process (Gellhorn 1185-86), and David Teece stressed the contribution of cooperation to effective standard setting (Teece 3807-08). Samuel Miller found value in competition for the best standard but observed that this requires consumers to await convergence. Miller 1156, 1180. Miller added a nuance to the intersystem/intrasystem competition debate: he observed that small firms may need to cooperate in setting a standard to compete with the “de facto standard” achieved through the dominance of a large competitor. Miller 1153, 1261-62.

⁹⁹ Phelps 3539-40. *See* Marasco 3780. Another witness argued in general terms that consumer demand has induced the computer/software industry to resolve its compatibility problems without government intervention. Simon 3569.

¹⁰⁰ As one witness explained, “When [standards] get set successfully . . . they get set at a point in time when nobody cares about them. When everybody starts to care about them, it becomes impossible to set them.” Morris 3600. *See* Poppa 91 (voluntary standards can be and frequently are withdrawn “when it’s to the benefit of a given competitor”); Miller 1153 (formal standard-setting processes too slow for rapidly evolving industries); Nunnenkamp 3452 (standard-setting organizations no “panacea” and have “a lot of inefficiencies”); Black 3578 (formal standard setting plays only a “limited role” in the computer industry); Wayman 3603 (voluntary standards sometimes “too late” and “too political”); Besen 3720 (voluntary standard-
(continued...))

Although private standard-setting efforts may not always work effectively, in some markets they can be of great benefit. The record suggests a need for continued vigilance to help ensure that standard-setting processes remain fair and open¹⁰¹ without unduly interfering with the collaborative activity necessary for achieving their competitive benefits.¹⁰²

V. CONCLUSION

The hearings have identified aspects of competition that, while not unique to networks and standards, nonetheless shape competition in many significant industries. Chief among these factors are demand-side scale economies, which characterize many network industries, and consumer switching costs, which are often associated with standards.

The analysis identifies opposing intersystem and intrasystem competitive concerns. Thus we find that a denial of membership in a network joint venture or of access to a standard may enhance the incentives to establish a competing venture or to develop a new standard, while maximizing the reward to incumbents for creating and developing the existing venture or standard. On the other hand, we find that mandating access to membership or to a standard may

¹⁰⁰(...continued)
setting mechanisms “extraordinarily imperfect mechanisms”).

¹⁰¹ See, e.g., Gellhorn 1169-72; Nunnenkamp 3452-54; Phelps 3544; Wayman 3603; Marasco 3802. Most witnesses tended to support the Commission’s proposed enforcement action in Dell Computer Corp., File No. 931-0097 (consent agreement accepted for public comment (FTC Nov. 2, 1995)) (Comm’r Azcuenaga dissenting), at least insofar as it dealt with knowing, intentional abuse of the standard-setting process. Rosenthal 3489-90; Black 3586-87; Wayman 3603; Marasco 3784. *But see* Teece (Stmt Appendix) 3-4 (urging abandonment of any FTC role in policing the standards-setting process). However, there was debate over the specific remedies proposed. See Marasco 3784-88; Teece 3810-13, 3816-17; Ordover 3814-16; American Intellectual Property Law Association (Stmt (Dec. 27, 1995)) 2-3.

¹⁰² One witness cited a 25-year-old letter, printed at 78 F.T.C. 1628 (1971), in which the Commission declined to issue an advisory opinion regarding a standard certification program. Miller 1159-61. He argued that some of the views articulated -- such as the letter’s statement that “[c]onstruction or specification standards should not be used except in exceptional circumstances and never when performance standards can be developed” -- were outdated. Indeed, the letter does not appear to have been crafted with the compatibility concerns addressed in this chapter in mind, and, at least in some portions, may not reflect current legal or economic analysis. Research revealed no case in which the letter has been cited.

increase competition within the joint venture or among firms who make use of the established standard. If effective intersystem competition is likely, access concerns are lessened. However, in many network and standard settings, demand-side scale economies and switching costs render intersystem competition more difficult.

The hearings provided no generalized answers but focused the lines of analysis and highlighted the areas of concern. We believe that when demand-side scale economies render effective intersystem competition outside a network joint venture less viable, heightened scrutiny of membership denials is warranted. We are also concerned that combinations of demand-side scale economies and consumer switching costs may render dominance of a firm in control of a critical interface standard unusually enduring, and we urge careful attention to anticompetitive practices in such settings. We are concerned with the market power that may flow from control of key interfaces and find cause to address situations where competition in complementary markets may be damaged. We note, in this latter context, that any antitrust enforcement activity must take cognizance of difficult remedial issues and of the evolving relationship between antitrust and intellectual property laws.

These tasks are not simple, but they may be of paramount importance. Networks and standards play increasingly important roles in many of our most significant and rapidly growing industries. Frequently, innovation competition is at issue, so any adverse competitive effects likely would extend beyond pricing and compromise development of the new products, processes, and services on which the American economy will depend in the next century. Our goal is to achieve a record of judicious antitrust enforcement that safeguards competition in these contexts.

CHAPTER 10

JOINT VENTURES

I. INTRODUCTION

Global and innovation-based competition is driving firms toward ever more complex collaborative agreements. Collaborations among rivals¹ raise many new and complex competitive issues: When R&D efforts depend on rapid feedback from production and marketing, how should antitrust evaluate collaborations among rivals that involve joint R&D, production, and marketing activities? In industries where consumers demand standardization to ensure interoperability, or where standards may promote vigorous competition, how should antitrust evaluate collaboration designed to facilitate standard setting?

Even if the overall purpose and likely effect of a particular collaboration is unquestionably efficient and procompetitive, the terms of the often intricate set of agreements designed to achieve that purpose may require additional antitrust inquiry. For example, are all of the terms reasonably necessary to achieve the agreement's overall purpose, or might some have "spillover" effects leading to anticompetitive joint activity in another market? The goals of and business justifications for collaborations among rivals vary greatly from venture to venture, thereby making it difficult for antitrust enforcers to provide concise, widely applicable guidance to would-be collaborators.²

Witnesses at the hearings agreed that antitrust treatment of collaborations among rivals is an important issue in need of clarification. Although there was no consensus about how applicable antitrust policies should be clarified, this appears to be an area that requires additional

¹ This chapter does not address collaboration between buyers and sellers.

² For example, numerous types of collaborations among rivals are possible. In research joint ventures, rivals may establish new or combine existing research facilities. Production joint ventures reflect collaborating firms' agreement to combine their existing production facilities or jointly invest in the formation of new facilities. Sales joint ventures may be formed by firms to sell and/or distribute collectively the firms' products. Buying joint ventures may be formed by firms to buy collectively (and possibly warehouse) production inputs. Each of these forms of collaboration may offer different procompetitive benefits and may raise different antitrust concerns.

consideration. The goals of this chapter are modest. First, this chapter will summarize hearings testimony regarding the increasing importance of business collaborations and the potential procompetitive benefits and anticompetitive effects of collaborations. Next, the chapter will review testimony criticizing the current antitrust analysis of collaborations. This chapter concludes by calling for additional work to clarify and provide simpler antitrust guidance for collaborations among rivals.

II. COMPETITION ISSUES ASSOCIATED WITH COLLABORATIONS AMONG RIVALS

A. Benefits of Collaboration

Collaborations among rivals can generate significant efficiency gains. By bringing the abilities and resources of several companies together, collaborating firms may attain economies of scale and scope; increase capacity and market access; minimize risk; avoid duplication; transfer, commercialize, or distribute technology efficiently; combine complementary or co-specialized capabilities; or better appropriate the returns of innovation.³ Such benefits, or efficiencies, can speed the development of new products, lead to better products, reduce the costs of product development, and enhance interoperability in a particular industry.⁴

Several witnesses noted that collaborations among competitors can help firms develop and/or commercialize new products, particularly by bringing together firms with complementary assets. For example, several business representatives noted that collaborations can be used to share the costs as well as the risks of developing new products and commercializing new technologies.⁵ Biotechnological and biomedical research relies on collaborative activity and

³ *E.g.*, Katz 1120-22; Jorde 1195-98; Ordovery 1209-11.

⁴ Donaldson 791-95; Jorde 1223-29; Augustine (Stmt) 21-23.

⁵ Donaldson 791-95 (manufacturing joint ventures can help lower cost of capital by providing a partner with the necessary finances; noting that alliances may be useful for sharing risk by providing access to complementary or alternative designs, which may help protect one from missing out on an entire product generation); Faulkner (Stmt) 2 (increasingly expensive R&D was one reason that the forthcoming Advanced Photographic System was jointly developed by five companies). *See* Augustine (Stmt) 21-23 (while Lockheed Martin has not utilized joint ventures for fear of losing proprietary information, collaborative efforts in defense are needed

(continued...)

cooperation among private firms and public entities to translate innovations into commercialized products.⁶ Other witnesses noted that in some settings, collaboration limited to R&D is insufficient due to the need for the joint venture to commercialize the product⁷ or the need for information feedback from production to create the next generations of the product.⁸

Several commentators noted the importance of collaboration to enable companies to enter new markets. For example, a General Electric representative stated that joint ventures in international markets have allowed GE to increase greatly its penetration of global lighting markets.⁹ A professor noted that powder-metal companies have successfully joint ventured their production capability to transfer technology overseas and to supply U.S. auto manufacturers developing a foreign presence.¹⁰

Collaborations can make firms better competitors by lowering their costs or by bestowing the benefits of effective standards. In the health care industry, numerous new types of joint ventures are being used to control costs.¹¹ The representative for General Motors' health care plan, noting that GM paid \$1200 per auto for health-care benefits in 1994, testified that

⁵(...continued)

due to high risk, long lead times, and high investment costs; joint ventures in the defense industry result in enhanced technological development at reduced cost by combining capabilities and reducing duplicative efforts); Heineman 193-95; Coyne 214-15.

⁶ Cooney 654-57; Green 678.

⁷ Fruehan 468-73 (commercialization important in potential R&D joint venture for an integrated steel plant).

⁸ Jorde 1196-97 (research joint ventures among firms specialized in production can aid the return flow of information from production and marketing activities, which can improve the development of future generations of the product; as innovation becomes simultaneous with production, a link between the activities becomes imperative).

⁹ Heineman (Stmt) 5-6.

¹⁰ Kasouf 1852-64. Professor Kasouf conducted a Sloan Foundation study of the powder-metal industry.

¹¹ Weller (Stmt) 1-6.

collaboration among providers, payors, and consumers can reduce health care costs.¹² An antitrust attorney suggested that collaborative standard setting by small computer companies has ensured interoperability and enabled the companies to compete vigorously against entrenched competitors.¹³

B. Potential Anticompetitive Effects of Collaboration

Collaborations among competitors also have certain competitive risks. Collaborating firms may use joint ventures to diminish competition, increase price, reduce product quality, or reduce innovation incentives.¹⁴

Collaborations involving production facilities may result in fewer independent producers, thereby increasing the producers' ability to coordinate or unilaterally impose increases in price or reductions in quantity or quality.¹⁵ Competitive risks may also arise where one or both firms otherwise would independently enter the market, because the collaboration reduces the number of competing producers in the relevant market.¹⁶

A buying joint venture among dominant competitors may result in monopsony power, and thus the ability to reduce purchase prices below the competitive level, which generally

¹² Cubbin (Stmt) 1, 5-6.

¹³ Miller 1152-55. *See* Faulkner (Stmt) 2 (the need to have a worldwide standard was one reason that the Advanced Photographic System was jointly developed by five companies).

¹⁴ Noll 1233-38.

¹⁵ Noll 1220-22, 1233-38 (noting that "R&D intensive firms are almost never separated from production"). *See* Brodley (Stmt) 10-16.

¹⁶ *Yamaha Motor Co. v. FTC*, 657 F.2d 971 (8th Cir. 1981), *cert. denied*, 456 U.S. 915 (1982).

reduces output and social welfare.¹⁷ Certain buying arrangements might facilitate output pricing coordination as rivals have access to input costs.¹⁸

Sales joint ventures can be a sham cover for price fixing. In some cases, such ventures merely reduce the number of independent sellers and enable sellers to coordinate or unilaterally impose price increases or reductions in quantity or quality without any compensating efficiencies.¹⁹

Collaborative standard setting can also be used by firms to gain competitive advantages over superior products of other firms.²⁰ Some participants cautioned that collaborative standard setting can be a cover for price fixing, cartelization, and exclusionary practices.²¹

C. Practical Hurdles Faced by Collaborating Rivals

Several participants suggested that inter-rival collaboration is inherently difficult, often unstable, and prone to failure.²² SEMATECH, an inter-rival research collaboration of U.S. semiconductor producers, illustrates the difficulties often faced by collaborating competitors. According to one professor, SEMATECH faced three basic challenges.²³ First, the diversity of participating firms' interests made it difficult for them to agree on a joint research agenda.

¹⁷ *E.g.*, *Mandeville Island Farms, Inc. v. American Crystal Sugar Co.*, 334 U.S. 219 (1948).

¹⁸ *E.g.*, *In re Beef Indus. Antitrust Litig.*, 600 F.2d 1148 (5th Cir. 1979), *cert. denied*, 449 U.S. 905 (1980).

¹⁹ *See Physicians Group, Inc.*, C-3610, 5 Trade Reg. Rep. (CCH) ¶ 23,807 (FTC Aug. 11, 1995).

²⁰ Katz 1181-82; Heckman 1846-51.

²¹ Gellhorn 1164-65; Nunnenkamp 3452-54. *See Dell Computer Corp.*, File No. 931-0097 (Nov. 2, 1995) (Comm'r Azcuenaga dissenting) (consent remedying FTC allegation that Dell restricted competition by threatening to enforce patent rights associated with a computer standard, after certifying that the standard did not infringe any of its intellectual property).

²² Skitol 1293; Jorde 1294; Heckman 1827; Kasouf (Stmt) 6-12.

²³ Mowery 763-69. Professor Mowery led a Sloan Foundation study of SEMATECH. The joint venture, which was formed in the 1980s, is partially government-funded.

Second, the small member-companies lacked the technical, financial, and managerial expertise needed to absorb SEMATECH's technological developments, which made intragroup technology transfer more difficult. Finally, the need for consensus among members slowed SEMATECH's ability to react nimbly to changes in the marketplace.²⁴ SEMATECH overcame these difficulties, partly by adjusting its focus from horizontal collaboration involving rivals to vertical collaboration with customers, the equipment manufacturers.²⁵

Other inter-rival collaborations face similar problems.²⁶ Several witnesses noted that industry-university collaborations are particularly important for coordinating the research of fragmented industries, yet with such collaboration comes the need to satisfy university interests.²⁷ In addition, collaboration may be difficult when firms hesitate to share their proprietary information.²⁸ One business representative observed that joint ventures constrain each participant's ability to make unilateral decisions, thereby making them less effective than mergers for cutting costs and gaining productivity.²⁹

²⁴ Mowery 764, 766-67 (citing shifts in the predominant technologies, fluctuations in economic conditions, and new entry).

²⁵ Mowery 763-69. *But see* Noll 1226-29 (U.S. semiconductor industry was not large enough for member firms to survive by selling only to SEMATECH members, as originally specified in the joint venture rules; members also wanted to sell to non-member, foreign producers, but once that was permitted, it substantially reduced the incentive of firms to participate in SEMATECH).

²⁶ Heckman 1827; Kasouf (Stmt) 6-12.

²⁷ Apelian 1104-16; Kasouf 1863-64, 1869.

²⁸ Apelian 1106 et seq.; Kasouf 1868-70.

²⁹ Heineman 194. *See also* Skitol 1293 (each member has separate agenda).

III. CONCERNS ABOUT ANTITRUST TREATMENT OF COLLABORATION

No one pointed to a specific procompetitive collaboration among competitors that the antitrust agencies had wrongly challenged. In fact, some participants stated that antitrust does not pose any inappropriate or significant barriers to procompetitive collaborations among rivals.³⁰

Other participants, however, focused primarily on two concerns. First, some testimony suggested a chilling effect on inter-rival collaborations from continued business uncertainty about the antitrust analysis of joint ventures, despite the agencies' efforts to provide more clarity in various areas. Second, several witnesses found the National Cooperative Research Act of 1984 (NCRA)³¹ and the National Cooperative Research and Production Act of 1993 (NCRPA)³² inadequate to facilitate collaborative innovation.

A. Concerns About Antitrust Review

One commentator argued that certain procompetitive joint venture activity is inappropriately subjected to “tremendous” antitrust risk,³³ simply because it cannot meet the “characterization standards” of cases such as *Topco*³⁴ and *Sealy*,³⁵ or the “integration, risk[-] sharing” standards of *Maricopa*.³⁶ He posited that collaboration by small firms may be procompetitive even when they do not meet the standards of these cases.³⁷ He advocated moving

³⁰ Roos 280-292; Rogers 308-17; Schafer 716-18.

³¹ National Cooperative Research Act of 1984, Pub. L. No. 98-462, 98 Stat. 1815 (1984) (amended by National Cooperative Research and Production Act of 1993, Pub. L. No. 103-42, 107 Stat. 117 (1993)).

³² National Cooperative Research and Production Act of 1993, Pub. L. No. 103-42, 107 Stat. 117 (1993) (current version at 15 U.S.C.A. §§ 4301-4306 (West Supp. 1983-1995)).

³³ Gellhorn 1169.

³⁴ *United States v. Topco Assocs., Inc.*, 405 U.S. 596 (1972).

³⁵ *United States v. Sealy, Inc.*, 388 U.S. 350 (1967).

³⁶ *Arizona v. Maricopa County Medical Soc’y*, 457 U.S. 332 (1982).

³⁷ Gellhorn 1167-69 (describing two small firms that wanted to act jointly to
(continued...))

away from “characterization” and “integration” to look instead at competitive effects, efficiency justifications, and whether the joint venture is likely “to restrict output or increase output, lower prices or increase prices.”³⁸ Another witness expressed similar concerns that the antitrust agencies should be careful about using a *per se* standard when reviewing joint ventures, especially those that facilitate entry into international markets.³⁹

Other witnesses asserted that the federal antitrust agencies have an unnecessarily narrow view of the types of efficiencies that might justify certain joint ventures or joint venture activity, particularly in the health care area. One participant claimed that a mechanical application of *Maricopa* risk-sharing standards would endanger efficient new health care ventures already in existence and could deter other types of procompetitive joint venture responses to evolving health care markets.⁴⁰ He recommended that antitrust analysis focus on entry barriers, the availability of substitute services, and exclusivity provisions, rather than risk sharing, in evaluating new types of health care joint ventures.⁴¹

The enforcement agencies have already provided some guidance for antitrust analyses of collaborations among rivals involving intellectual property licensing and health care. The

³⁷(...continued)

compete against entrenched firms with over 99 percent market share, by coordinating price and service areas; since the two small firms did not want to integrate, venture was very risky under antitrust law, even if the firms built a file showing their procompetitive intent, set a time limit on the venture, and provided an opt-out clause that would be triggered when a market-share threshold was reached). *See also* Miller 1260-63 (collaboration among small firms to develop standards can be procompetitive).

³⁸ Gellhorn 1174-75.

³⁹ Dam 100-10. One business participant urged the agencies to clarify the concept of a “single economic unit” for the purpose of analyzing international, partially owned joint ventures. Heineman 193-95.

⁴⁰ Weller (Stmt) 22.

⁴¹ Weller (Stmt) 23-29. *See also* Cubbin (Stmt) 10-11.

*Antitrust Guidelines for the Licensing of Intellectual Property*⁴² and the *Statements of Enforcement Policy and Analytical Principles Relating to Health Care and Antitrust*⁴³ provide for rule-of-reason analysis in most situations not involving naked restraints subject to *per se* analysis. The *IP Guidelines* reflect some of the concerns that led Congress to enact the NCRA and NCRPA.⁴⁴ Those guidelines assume that intellectual property licensing most typically has procompetitive effects, such as lowering costs, increasing the rate of diffusion of innovation, and promoting the introduction of new products, all of which benefit consumers.⁴⁵ Both the *IP Guidelines* and the *Health Care Statements* describe safety zones within which collaborations among rivals likely will avoid antitrust scrutiny.⁴⁶

Nonetheless, several commentators asserted continuing concerns that joint ventures are treated inconsistently and unclearly under antitrust law.⁴⁷ Others felt that confusion about joint-venture analysis chilled collaborative activity and produced unexpected results.⁴⁸ Some

⁴² U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* (1995), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,132 (*IP Guidelines*).

⁴³ U.S. Department of Justice and Federal Trade Commission, *Statements of Enforcement Policy and Analytical Principles Relating to Health Care and Antitrust* (1994), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,152 (*Health Care Statements*).

⁴⁴ *IP Guidelines* § 4.3 n.31, 4 Trade Reg. Rep. (CCH) at 20,743-2.

⁴⁵ See *IP Guidelines* §§ 2.3 & 3.1, 4 Trade Reg. Rep. (CCH) at 20,735-20,736.

⁴⁶ *IP Guidelines* § 4.3, 4 Trade Reg. Rep. (CCH) at 20,743-2 (safety zone for licensing of intellectual property); *Health Care Statements* § 2.A, 4 Trade Reg. Rep. (CCH) at 20,775 (safety zone for hospital joint ventures involving high-technology equipment); *Health Care Statements* § 7.A, 4 Trade Reg. Rep. (CCH) at 20,785-20,786 (safety zone for joint purchasing arrangements among health care providers); *Health Care Statements* § 8.A, 4 Trade Reg. Rep. (CCH) at 20,787-20,788 (safety zone for physician network joint ventures).

⁴⁷ Gellhorn 1165; Skitol 1252-53, 1292-93; Jorde 1294. *But see* Jones 1460-61 (Supreme Court has given fair amount of guidance in area of joint ventures and ancillary restraints).

⁴⁸ Faulkner 515-20 (possible "dampening effect" of U.S. antitrust law on joint
(continued...))

witnesses expressed concern that the current differences between joint venture and merger analysis might inappropriately influence business decisions with respect to transaction form.⁴⁹ Some advocated that the agencies should analyze joint ventures in the same way they analyze mergers.⁵⁰

Several commentators suggested adoption of more general “safe harbor” standards for joint ventures than those in the *IP Guidelines* and *Health Care Statements*,⁵¹ urging that safe harbors could be especially helpful to potential collaborations that must move quickly and that can be structured in a conservative manner. Although such safe harbors would still leave substantial room for antitrust liability, joint venturers would at least have some clearly legal area in which to operate with business certainty.⁵² Another commentator suggested publicizing the view “that legitimate collaborative efforts to set compatibility standards for new technologies are procompetitive and should be validated under the rule of reason.”⁵³

Some commentators urged the antitrust agencies to promulgate guidelines on the proper antitrust analysis of joint ventures in order to guide businesses in structuring their joint ventures and courts in evaluating private joint-venture antitrust litigation.⁵⁴ One participant suggested possible guidelines for international, interfirm arrangements to promote U.S. competitiveness.⁵⁵ Another advocated a structured rule-of-reason approach that would focus first on market

⁴⁸(...continued)
venture and other Kodak activity); Katz 1134-36.

⁴⁹ Jorde 1287-88. *See* Gellhorn 1164-69.

⁵⁰ Platt 49-51; Rill 155; Skitol 1252-54.

⁵¹ Dam 106; Gellhorn 1174-75; Jorde 1198-1202 (proposed safe harbor for “cooperating firms who have less than 20 [to] 25 percent market share”).

⁵² Gellhorn 1173-75; Jorde 1200-01.

⁵³ Miller 1159.

⁵⁴ Gellhorn 1173-75. *See* Katz 1134-36; Skitol 1264-66. *But see* Jorde 1266-67 (skeptical that increased agency guidance would significantly reduce danger of private litigation).

⁵⁵ Dam 105-08.

definition and market power, and then shift the burden to the parties to show efficiencies if the agency demonstrated “real market power concerns” outside of a safe harbor.⁵⁶ Other antitrust commentators, cautioned, however, that either we may not yet have enough information to write such guidelines,⁵⁷ or the task is inherently impossible, given the astounding variety of joint ventures and the circumstances in which they may be employed.⁵⁸

Some witnesses suggested that a problem -- especially for small business -- was the absence of information about antitrust, including the means of obtaining agency advice, as well as the availability of the NCRA and NCRPA.⁵⁹ They advocated agency adoption of procedures to disperse more information to businesses, especially small businesses, about these issues.⁶⁰

B. Is Existing Legislation Sufficient to Facilitate Collaborative Ventures?

The NCRA and the NCRPA clarify -- and in part modify -- the antitrust treatment of certain R&D and production joint ventures. The NCRA provides for rule-of-reason treatment of R&D joint ventures and limits damages, so long as any party to the joint venture files a written notification to the Department of Justice and the Federal Trade Commission.⁶¹ Once such notice has been published in the Federal Register, the registered joint venture is exempt from treble

⁵⁶ Jorde 1198-1202. Such an approach would require the agencies to develop a “sliding scale” analysis of the market power and efficiency tradeoff. Jorde 1206.

⁵⁷ Ordoover 1258 (very difficult to draft even a semi-general set of guidelines that would govern the issue of how standards affect competition because of uncertainty).

⁵⁸ Dam 154-55; Rill 4170-72. *See* Leary 246, 4153-56.

⁵⁹ Skitol 1242-44; Berends 1775-79.

⁶⁰ Skitol 1242-44 (agencies should add more information to Analyses to Aid Public Comment and give speeches on cases not brought, so that antitrust practitioners can better understand the reasoning behind FTC and DOJ decisions). *See also* Berends 1775-79 (put information on the Internet and produce pamphlet of antitrust “don’ts”).

⁶¹ 15 U.S.C.A. § 4305(a) (West Supp. 1983-1995).

damages in any subsequent private or state antitrust suit. The NCRPA extends the provisions of the NCRA to include production joint ventures as well.⁶²

Some participants stated that the NCRA and NCRPA have not done enough to limit litigation by private parties.⁶³ One witness argued that private-party litigation clearly impeded collaboration because such litigation brings the potential for treble-damage liability.⁶⁴ Another witness mentioned a case in which a joint venture registered under the NCRA⁶⁵ was alleged to be ineligible for NCRA registration and therefore subject to treble-damage liability.⁶⁶ One business representative suggested that a system of agency clearance might facilitate procompetitive collaboration.⁶⁷ Under such a system, clearance by the antitrust agencies would immunize inter-rival collaborations against all private antitrust suits.⁶⁸ In this vein, some witnesses suggested adoption of the EU model, under which the competition authorities have sole jurisdiction to decide the legality of any registered joint venture.⁶⁹

⁶² 15 U.S.C.A. §§ 4302, 4305(a)(3) (West Supp. 1983-1995).

⁶³ Platt 39-40; Skitol 1254.

⁶⁴ Katz 1162-66. *See also* Katz 1122-39.

⁶⁵ In *Addamax Corp. v. Open Software Foundation*, 888 F. Supp. 274 (D. Mass. 1995), a court considered whether a joint venture registered under the NCRA violated Section 1 of the Sherman Act. Addamax alleged that the Open Software Foundation (OSF) joint venture “rigged its [software] procurement system to favor specific companies and technologies” and forced competitors to offer products at “below-market prices and under disadvantageous conditions.” 888 F. Supp. at 278. Consistent with the NCRA, the court applied the rule of reason in assessing defendants’ summary judgment motion. In concluding that plaintiff’s claims contained triable issues of fact, the court found *inter alia* “evidence that [Hewlett-Packard] and Digital formed OSF at least in part to impair the progress of certain competitors.” 888 F. Supp. at 281.

⁶⁶ Miller 1159.

⁶⁷ Platt 41.

⁶⁸ Platt 41.

⁶⁹ Katz 1145-49 (international companies have fewer concerns in Europe about joint
(continued...))

One witness argued that special consideration beyond the NCRA and NCRPA should be given to “cooperative arrangements among competitors designed to create new innovations or to commercialize innovation.”⁷⁰ In close cases, antitrust agencies should err in favor of dynamic efficiency, according to this witness.⁷¹ Another commentator suggested that the inability of the NCRA and NCRPA to protect ventures that extended to the point of commercialization made the statute inadequate to meet the needs of the steel industry.⁷²

Some participants suggested increased protection from antitrust liability for standard-setting activities.⁷³ One witness claimed that industry concern about antitrust liability may slow standard-based innovation in the United States, especially compared to other countries.⁷⁴ This witness advocated that collaborations on interface specifications and compatibility standards should fall within the protections of the NCRPA.⁷⁵ By contrast, others questioned whether antitrust has “put a blind eye” to certain anticompetitive standard-setting activities, and asked for heightened antitrust scrutiny.⁷⁶

⁶⁹(...continued)

venture activity, because the EU registration protects against private litigation; companies recognize that they may be investigated by the EU, depending on available resources and whether complaints are received, but they prefer that to continued exposure to possible treble-damage claims). *See* Platt 40-41.

⁷⁰ Jorde 1193-94.

⁷¹ Jorde 1195.

⁷² Fruehan 468-73.

⁷³ Katz 1144-48; Miller 1158-62.

⁷⁴ Miller 1158-59.

⁷⁵ Miller 1159-62.

⁷⁶ Gellhorn 1169-70, 1172-73 (standard setting by private parties, which is subsequently adopted by the government); Heckman 1847-50.

IV. ANALYSIS AND CONCLUSION

Despite significant efforts by Congress, the courts, and the antitrust agencies to limit and clarify the antitrust treatment of collaborations among competitors, there still appear to be significant misapprehensions among some businesses about the likelihood of antitrust liability. At this point, antitrust enforcers know more about the existence of this uncertainty than about what might provide the antitrust certainty that U.S. businesses seem to be requesting.

We know that the NCRA and NCRPA have had limited effects at best. At the hearings, there was consensus that the NCRA and NCRPA have been underutilized, at least compared with the expectations for their use.⁷⁷ There were only 544 registrations under the NCRA over its ten years of existence, and there have been only 242 R&D joint venture notifications and only 38 R&D/production joint venture notifications over the almost three years of the NCRPA's existence.⁷⁸ In addition, the data indicate that registrations under the NCRA tended to be prevalent in only a few industries.⁷⁹ Recent registrations have tended to involve vertical joint ventures that put together competencies that are complementary along the production channel,⁸⁰ as well as enhanced participation by service-oriented firms that require high-technology products.⁸¹ Some scholars are now studying why registered joint ventures have failed to meet

⁷⁷ Ordover 1206; Ordover 1214-16 (participation in recent joint ventures is highly concentrated in a handful of firms; current downturn in the number of NCRA-registered joint ventures; marked number of firms exiting from registered joint ventures); Noll 1295-96.

⁷⁸ Data on NCRA and NCRPA registrations provided by the U.S. Department of Justice. The NCRPA registration statistics are current to April 16, 1996.

⁷⁹ Ordover 1215 (25% of NCRA-registered joint ventures from telecommunications; 20% from energy and environment, where "generic research is very critical and appropriability is very difficult"); Noll 1295-96 (for first four years of NCRA, about 88% of registered joint ventures were in computers, autos, and telecommunications).

⁸⁰ Ordover 1215.

⁸¹ Ordover 1215.

expectations and why the range of industries using the NCRA and NCRPA has been so small.⁸² The FTC should follow the results of such studies. No recommendation for any action would be appropriate until we know more about why the NCRA and NCRPA have been seemingly underutilized.

The *IP Guidelines* and the *Health Care Statements* represented a significant dedication of agency resources toward providing substantive guidance on competitor collaboration issues in two areas crucial to the U.S. economy -- intellectual property and health care. The *IP Guidelines* and the *Health Care Statements* have received many encomiums, but the requests for more antitrust guidance still have not abated.⁸³ Indeed, with respect to the *Health Care Statements*, questions have been raised about whether their guidance in some cases has discouraged the adoption of innovative health care collaborations among competitors that, allegedly, more likely would have taken place *without* the antitrust guidance in the *Health Care Statements*.⁸⁴

The courts and the FTC have continued to issue opinions that formulate the applicable standards as clearly and as specifically as possible. Most recently, the Commission issued its opinion in *California Dental Association*,⁸⁵ which provides a further basis for understanding the

⁸² Ordover 1214; Skitol 1246-48 (FTC's Bureau of Economics should conduct case studies to better understand how the NCRA and NCRPA have performed and to provide guidance on enforcement policy for the high-technology sector); Noll 1295.

⁸³ See, e.g., Prepared Statement of Robert Pitofsky, Chairman, Federal Trade Commission, *Before The Comm. on the Judiciary, U.S. House of Representatives*, 104th Cong., 2d Sess. (Feb. 27, 1996).

⁸⁴ See *id.*

⁸⁵ In *California Dental Association*, Dkt. 9259, 1996 FTC LEXIS 88 (FTC Mar. 25, 1996) (Comm'r Azcuenaga dissenting) (Comm'r Starek concurring in part & dissenting in part), the Commission considered whether an association's price and non-price advertising restrictions violated the Sherman Act. After concluding that the restraints on price advertising were *per se* illegal, the Commission analyzed the non-price restrictions under the rule of reason and found them likely to have anticompetitive effects. Slip op. at 28. The Commission, noting that market power is part of a rule-of-reason analysis, then considered whether the association had sufficient power to enforce the restrictions. Slip op. at 28. As the third step in the Commission's "quick look," it examined the efficiency justifications and found that they did not justify the

(continued...)

relationship of the FTC's analytical approach to that applied by the Supreme Court in cases such as *NCAA* and *BMI*.⁸⁶ Nevertheless, it cannot be denied that the articulations of the essential questions in Supreme Court and other cases differ⁸⁷ in ways that may have significance in particular factual settings. This should not be surprising, given the wide variations in

⁸⁵(...continued)

association's imposition of the restrictions at issue. Slip op. at 32. In a dissenting opinion, Commissioner Azcuenaga noted that the majority opinion "implicitly overrules the method of analysis set forth in *Massachusetts Board of Registration in Optometry*, 110 F.T.C. 549, 602-04 (1988)." Dissenting op. at 3. In a separate opinion, Commission Starek raised questions about how to synthesize the majority opinion with the *Mass. Board* analysis.

⁸⁶ *NCAA v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85 (1984); *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1 (1979). *See also* Lipsky 347-48.

⁸⁷ In *United States v. Topco Associates, Inc.*, 405 U.S. 596 (1972), the Supreme Court evaluated a joint venture among independent regional supermarket chains, which included an allocation of territories in which each grocer could sell Topco private-label goods. The Court found that the territorial allocation was a horizontal restraint constituting a *per se* violation of the Sherman Act. *Topco*, 405 U.S. at 608. In *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979), the Supreme Court applied a "quick look" approach to copyright blanket licenses that included fixed prices for the licenses. Under the quick look, the court first sought to "characterize" the challenged conduct, and it found that the blanket license arrangement allowed for the provision of a product that would otherwise have been unavailable. The arrangement offered an integration of sales, monitoring, and enforcement against unauthorized copyright use. The Court concluded that the blanket licensing arrangement was not *per se* illegal and therefore should be analyzed under the rule of reason. In *Arizona v. Maricopa County Medical Society*, 457 U.S. 332 (1982), the Supreme Court analyzed an arrangement among doctors to fix the maximum prices that each would charge. Suggesting that the maximum fee schedule was nothing more than an attempt to agree to minimum prices, the Supreme Court found the arrangement to be *per se* illegal. In distinguishing the case from *BMI*, the Court noted the lack of integration associated with the arrangement in question; the doctors were competing with each other to provide services and they were not offering a product that would have been otherwise unavailable. *Maricopa*, 457 U.S. at 356. In *NCAA v. Board of Regents of the University of Oklahoma*, 468 U.S. 85 (1984), the Supreme Court considered whether NCAA's television plan, which limited the number of televised college football games, violated Section 1 of the Sherman Act. The Court concluded that application of a *per se* rule of illegality was inappropriate because some horizontal restraints were necessary if the product (college football) were to be available at all. In applying the rule of reason, the Court found that the NCAA plan raised price, reduced output, and had no countervailing efficiencies that justified it. Therefore, the Court concluded that the NCAA plan created a significant potential for anticompetitive effects.

collaborations that appear for court review, but it does not help to promote clarity or simplicity. In addition, informal attempts by the lower courts to override Supreme Court precedent⁸⁸ have not succeeded in reducing concerns among potential defendants that older case standards indeed may be applied as a basis for treble damages.

In light of all of these circumstances, we believe that the time has come for a significant effort to rationalize, simplify, and articulate in one document the antitrust standards that federal antitrust enforcers will apply in assessing collaborations among competitors. This effort should be directed at drafting and promulgating “competitor collaboration guidelines” that would be applicable to a wide variety of industry settings and flexible enough to apply sensibly as industries continue rapidly to innovate and evolve. We propose that the Commission authorize us to undertake this effort.

⁸⁸ See, e.g., *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 226-30 (D.C. Cir. 1986) (opining that *Topco* and *Sealy* had been effectively overruled in some respects by other Supreme Court precedent), *cert. denied*, 479 U.S. 1033 (1987).

EPILOGUE: THEMES FOR THE FUTURE

One of the principal responsibilities of government agencies is to ensure that the laws they enforce are regularly reviewed and occasionally adjusted to take into account changing conditions in the world. Congress created the Federal Trade Commission in 1914¹ with this in mind and instructed the new body to gather accurate and complete information about industry and the nature of competition.² In the years since then, the FTC has held a number of hearings on issues of economic importance, leading to, among other things, Congressional adoption of the Securities Act of 1933, the Federal Communications Act of 1934, the Public Utilities Holding Company Act of 1935, and amendments to Section 7 of the Clayton Act.

The hearings on global and innovation-based competition, held in Washington between October 12 and December 13, 1995, reflected the Federal Trade Commission's historic role. The hearings were designed to consider whether the competition and consumer protection policies enforced by the FTC continue to be effective and sensible for the modern economy. Specifically, the agency wanted to learn what, if any, adjustments to antitrust and consumer protection policy may be necessary in light of competitive changes. The hearings confirmed that the core aspects of antitrust law continue to serve the United States well, and that vigorous competition in domestic markets aids success in today's global marketplace. Indeed, witnesses agreed that antitrust enforcement is vital to ensure competitive markets for U.S. consumers and competitive advantages for U.S. businesses.

We undertook these hearings with three goals in mind, but the hearing participants have persuaded us that achieving these goals should be just the beginning of a further process. Our initial goals were: (1) to restore the FTC's tradition of linking law enforcement with a continuing review of economic conditions to ensure that the laws make sense in light of contemporary competitive conditions; (2) to solicit the opinions of a wide variety of witnesses from government, the business world, and academia on issues of global competition and innovation;

¹ Federal Trade Commission Act of 1914, 38 Stat. 717 (current version at 15 U.S.C.A. §§ 41-46, 47-58 (1988)).

² H.R. REP. NO. 533, 63d Cong., 2d Sess. 2 (1914).

and (3) to draft a report to the public and Congress on the status of United States competition and consumer protection enforcement on the eve of the twenty-first century. With the publication of this report, we believe that we have achieved these goals.

Here, we write simply to bring to the Commission's attention four themes that emerged time and again at the hearings. First, witnesses urged the FTC to continue its careful approach to the development of competition policy, considering government intervention in markets the exception rather than the norm. Participants encouraged the Commission to adopt new economic ideas cautiously and to subject these new ideas to continued empirical testing after their adoption.

Second, witnesses supported the FTC's efforts to evaluate its own actions, congratulating the agency for its willingness to use the hearings to examine the results of past enforcement and to employ the lessons learned in that process as a guide for what it should do in the future. Participants called for additional retrospective empirical studies and the continuing use of *ex post* review to assess the results of specific enforcement initiatives.

Third, witnesses spoke persuasively about business' need for greater transparency in FTC decision making. Transparency, we were told, is especially important in light of increased reliance on consent decrees, which by necessity lack a formal discussion of all of the facts or policy arguments that either motivated antitrust prosecution or weighed against a decision to intervene. To increase transparency, some witnesses suggested that the Commission issue, in connection with consents, statements that include a fuller discussion of the arguments that the respondent raised on its own behalf along with the agency's reasons for discounting or rejecting these defenses. Some witnesses also called on the Commission to increase transparency by issuing additional guidelines to clarify the FTC's enforcement intentions and the analytical methodologies the agency expects to employ, especially with respect to efficiencies and collaboration among rivals.

Finally, witnesses urged the Commission to use more opportunities to explain and propound the importance of competition policy and, in particular, to participate more proactively in policy making by the courts, by Congress, and by other governmental agencies.

Effective antitrust enforcement requires rules and processes that facilitate accurate judgments in the face of inherent uncertainty. We agree with the many witnesses who stated that

development of such rules and processes depends on a cautious approach, reliance on specific facts, a willingness to learn from the past, transparent decision making, and the articulation of competition values whenever antitrust policy is being made.

APPENDIX A

<u>NAME</u>	<u>AFFILIATION</u>	<u>DATE</u>
Dr. Sumanth Addanki	Vice President, National Economic Research Associates	10/25/95
George Addy	Director of Investigation and Research, Bureau of Competition Policy, Canada	12/13/95
Dr. Pascual Garcia Alba	Commissioner, Federal Competition Commission, Mexico	11/2/95
Professor Diran Apelian	Worcester Polytechnic; Sloan Foundation	10/26/95
Kevin Arquit	Rogers & Wells	12/5/95
James R. Atwood	Covington & Burling	10/18/95
Norman R. Augustine	President, Lockheed Martin Corporation	11/2/95
Donald I. Baker	Baker & Miller	10/19/95 & 11/15/95
Professor John Barton	Stanford University	11/29/95
Professor William F. Baxter	Stanford University	11/30/95
Robert B. Bell	Wiley, Rein & Fielding	10/19/95
Boyd Berends	President and Chief Executive Officer, Cryogenic Product Recovery; representing the U.S. Chamber of Commerce	11/8/95
Stanley Besen	Vice President, Charles River Associates	11/30/95
Edward J. Black	President, Computer and Communications Industry Association	11/30/95
Maxwell Blecher	Blecher & Collins	11/29/95
Dr. Allen Bloom	Dechert, Price & Rhoads	10/23/95

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Molly Boast	LeBoeuf, Lamb & McKay	11/15/95
Professor Timothy Bresnahan	Stanford University; Sloan Foundation	11/30/95
John D. Briggs, III	Howrey & Simon	10/18/95 & 12/12/95
Professor Joseph Brodley	Boston University	11/7/95 & 12/13/95
Kathleen A. Buck	Kirkland & Ellis; on behalf of Hughes Aircraft Company	Written Statement
Daniel F. Burton, Jr.	Vice President, Government Relations, Novell Corporation	Written Statement
Roxane C. Busey	Gardner, Carton & Douglas	12/13/95
Terry Calvani	Pillsbury, Madison & Sutro	11/7/95
Professor Dennis Carlton	University of Chicago	10/25/95
W. Dale Collins	Shearman & Sterling	11/2/95
Lloyd Constantine	Constantine & Partners	10/19/95
Professor Charles Cooney	Massachusetts Institute of Technology; Sloan Foundation	10/23/95
Professor Edward Correia	Northeastern University	11/14/95 & 11/15/95
Dr. William Coyne	Vice President, Research and Development, 3M Corporation	10/17/95
James Cubbin	Executive Director, General Motors Health Care Initiatives	11/7/95

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L. Norton Cutler	Corporate Counsel, Advocacy Section, U S WEST	11/30/95
Professor Kenneth W. Dam	University of Chicago Law School	10/12/95
Richard Donaldson	Senior Vice President and General Patent Counsel, Texas Instruments	10/24/95
Esther Dyson	President, EDventure Holdings	11/29/95
Christine A. Edwards	Executive Vice President, General Counsel, and Secretary Dean Witter Discover & Company	12/1/95
James Egan	Rogers & Wells	11/2/95
Fredric J. Entin	Senior Vice President and General Counsel, American Hospital Association	Written Statement
Terence W. Faulkner	Director of Strategic Planning and Vice President, Eastman Kodak Company	10/19/95
Professor Eleanor Fox	New York University	12/13/95
Kenneth M. Frankel	American Intellectual Property Law Association	11/29/95
Professor Richard Fruehan	Carnegie-Mellon; Sloan Foundation	10/19/95
Professor Betty W. Fulton	Southeast Missouri State University	Written Statement
Professor Ernest Gellhorn	George Mason University	10/26/95 & 12/12/95
Professor Richard J. Gilbert	University of California, Berkeley	10/25/95 & 11/14/95
Calvin Goldman	Davies, Ward & Beck, Canada	12/13/95

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Professor Harvey Goldschmid	Columbia University	12/5/95
William G. Green	Chiron Corporation	10/23/95
Joseph Griffin	Morgan, Lewis & Bockius	12/5/95
Professor Jerry Hausman	Massachusetts Institute of Technology; for Eastman Kodak Company	11/14/95
Professor Carey Heckman	Stanford Law School	11/8/95
Benjamin W. Heineman, Jr.	Senior Vice President, General Counsel and Secretary, General Electric Company	10/17/95
Professor Herbert Hovenkamp	University of Iowa College of Law	Written Statement
Thomas R. Howell	Dewey Ballantine	10/19/95
Donald Hudler	Vice President, General Motors Corporation, and President, Saturn Corporation	11/2/95
Ann Jones	Blecher & Collins	11/2/95
Professor Thomas M. Jorde	University of California, Berkeley	10/26/95, 12/12/95 & Article co-authored
Peter J. Kadzik	Dickstein, Shapiro & Morin, L.L.P.	Written Statement
Professor Chickery J. Kasouf	Worcester Polytechnic; Sloan Foundation	11/8/95
Joseph Kattan	Morgan, Lewis & Bockius	11/14/95

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<u>NAME</u>	<u>AFFILIATION</u>	<u>DATE</u>
Bennett Katz	Group Executive Vice President, General Counsel and Secretary, VISA International	10/26/95
Professor Robert Katzmann	The Brookings Institution; Georgetown University	12/12/95
Kenneth R. Kay	Executive Director, Creative Incentive Coalition	Written Statement
David W. Kemps	Manager, Employee Benefits Policy, U.S. Chamber of Commerce	Written Statement
Michael K. Kirk	Executive Director, American Intellectual Property Law Association	Written Statement
Ellen M. Kirsh	Vice President, General Counsel and Secretary, America Online Incorporated	Written Statement
Dr. Calvin Knowlton	President, American Pharmaceutical Association	11/8/95
Robert H. Kohn	Senior Vice President of Corporate Affairs, Secretary and General Counsel, Borland International, Incorporated	11/29/95
Professor William Kovacic	George Mason University	12/12/95 & 12/13/95
Professor Robert H. Lande	University of Baltimore	11/14/95
Thomas B. Leary	Hogan & Hartson	10/17/95 & 12/12/95
Mark Leddy	Cleary, Gottlieb, Steen & Hamilton	10/19/95
Lizabeth Leeds	Assistant Attorney General, Florida	11/14/95
Abbott B. Lipsky, Jr.	Senior Competition Counsel, The Coca-Cola Company	10/18/95
Sanford M. Litvack	Senior Executive Vice President and Chief of Corporate Operations, The Walt Disney Company	10/12/95

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<u>NAME</u>	<u>AFFILIATION</u>	<u>DATE</u>
Duncan MacDonald	General Counsel, Citicorp	11/30/95
William C. MacLeod	Collier, Shannon, Rill & Scott, representing Grocery Manufacturers Association	11/7/95
Amy Marasco	Vice President and General Counsel, American National Standards Institute	12/1/95
Francine Matte	Senior Deputy Director, Bureau of Competition Policy, Canada	11/2/95
Janet L. McDavid	Hogan & Hartson	12/5/95
Paul S. Miller	Legal Division, Pfizer Incorporated	Written Statement
Samuel R. Miller	Folger & Levin	10/26/95
Michael Morris	Vice President, General Counsel and Secretary, Sun Microsystems	11/30/95
Professor David Mowery	University of California, Berkeley; Sloan Foundation	10/24/95
Professor Timothy Muris	George Mason University	11/7/95
Philip B. Nelson	Principal, Senior Vice President and Senior Economist, Economists Inc.	10/19/95
Steven A. Newborn	Rogers & Wells	11/15/95
Professor Roger Noll	Stanford University	10/26/95
Kenneth Nunnenkamp	Finnegan, Henderson, Farabow, Garrett & Dunner	11/29/95
Kevin O'Connor	Assistant Attorney General, Wisconsin Department of Justice; Chair, NAAG Multistate Task Force	11/7/95
Joseph Opper	Assistant Attorney General, New York; Chair, NAAG Payment Systems Working Group	11/30/95

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Professor Janusz Ordober	New York University	10/26/95 & 12/1/95
Gayle Parker	President, Licensing Executives Society	11/29/95
Marshall Phelps	Vice President of Intellectual Property and Licensing Services, IBM	11/30/95
Roel Pieper	President and Chief Executive Officer, UB Networks, and Senior Vice President, Tandem Computers	12/1/95
David Pitts	President and Chief Executive Officer, Pitts Management Associates	11/2/95
Lewis E. Platt	Chairman, President and Chief Executive Officer, Hewlett-Packard Company	10/12/95 & Written Statement
Ryal R. Poppa	Chairman, President and Chief Executive Officer, Storage Technology Corporation	10/12/95
Phillip Proger	Representing Alliance for Managed Care, Jones, Day, Reavis & Pogue	11/7/95 & 11/14/95
Nicholas Pyle	Vice President of Legislative and Environmental Affairs, Independent Bakers Association	11/8/95
Cecil D. Quillen, Jr.		Written Statement
Richard T. Rapp	President, National Economic Research Associates	10/25/95
James F. Rill	Collier, Shannon, Rill & Scott	10/12/95 & 12/12/95
Richard Rogers	National Association of Manufacturers; Ford Motor Company	10/18/95
Professor Daniel Roos	Massachusetts Institute of Technology; Sloan Foundation	10/18/95

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<u>NAME</u>	<u>AFFILIATION</u>	<u>DATE</u>
Thomas Rosch	Latham & Watkins	12/1/95
Mark Rosenblum	Vice President of Law and Public Policy, AT&T	11/30/95 & Written Statement
Douglas Rosenthal	Sonnenschein, Nath & Rosenthal	11/29/95
Professor Steven Salop	Georgetown University	11/2/95 & 12/1/95
Margaret Sanderson	Chief of Enforcement Economics Division, Bureau of Competition Policy, Canada	11/2/95
Professor Anthony Santomero	University of Pennsylvania; Sloan Foundation	10/19/95
Dr. Derek Schafer	Chairman and Chief Executive Officer, Schafer International Incorporated	10/23/95
Professor F.M. Scherer	Harvard University	11/29/95
Professor Richard Schmalensee	Massachusetts Institute of Techonology	12/1/95
Richard Scott	President and Chief Executive Officer, Columbia/HCA Healthcare Corporation	11/7/95
Professor Gregory Shaffer	University of Michigan	11/8/95
Emery Simon	Executive Director, Alliance to Promote Software Innovation	11/30/95
Joseph Sims	Jones, Day, Reavis & Pogue	11/14/95
Robert A. Skitol	Drinker, Biddle & Reath	10/26/95 & 11/8/95
J. Walker Smith	Managing Partner, Yankelovich Partners Inc.	Written Statement

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<u>NAME</u>	<u>AFFILIATION</u>	<u>DATE</u>
Michael Sohn	Arnold & Porter	10/25/95
Dr. Stephen A. Stack, Jr.	Dechert, Price & Rhoads	10/23/95
Terence P. Stewart	Managing Partner, Stewart and Stewart	Written Statement
Joseph E. Stiglitz	Chairman, Council of Economic Advisers	10/12/95
Professor David J. Teece	University of California, Berkeley	10/24/95 & Article co-authored
U.S. Consumer Product Safety Commission		Written Statement
Professor Spencer Waller	Brooklyn Law School	11/14/95
Ken Wasch	President, Software Publishers Association	Written Statements
Russell Wayman	Corporate Vice President, Storage Technology Corporation	11/30/95
Professor David Weil	Boston University; Sloan Foundation	10/18/95
Michael L. Weiner	Skadden, Arps, Meagher & Flom	10/18/95
Charles D. Weller	Baker & Hostetler	Written Statement
Judy Whalley	Howrey & Simon	10/24/95, 10/25/95 & 12/12/95
Professor Lawrence White	New York University	10/24/95
Marcy E. Wilkov	Group Counsel, American Express Travel Related Services	Written Statement
Professor Robert Willig	Princeton University	12/1/95
Joseph Winterscheid	Jones, Day, Reavis & Pogue	10/18/95
Professor Dennis Yao	University of Pennsylvania	10/25/95

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NAME

AFFILIATION

DATE

John S. **Zapp**, D.D.S

American Dental Association

Written Statement

APPENDIX B

HEARINGS AGENDA AND PROCEDURES

SUMMARY OF PROCEDURES:

The Federal Trade Commission published a Federal Register notice on July 20, 1995, to inform the public of its intention to hold hearings in the fall on whether there have been broad-based changes in the contemporary competitive environment that warrant any adjustments in competition and consumer protection policy in order to keep pace with those changes.

This notice specified the issues to be addressed and solicited public response, either in the form of requests to participate in the hearings or through written comments. A detailed day-by-day agenda of topics for the hearings was made available in September, 1995, on the FTC Home Page, through various publications, and through Policy Planning at the FTC.

The hearings took place over 23 days between Oct. 12, 1995 and Dec. 13, 1995. The proceedings at the hearings were transcribed and placed on the public record at FTC headquarters and on the FTC's World Wide Web site at: <http://www.ftc.gov>. In December, 1995, the FTC extended until January 26, 1996, the period for accepting written comments in connection with the hearings. Written comments also have been placed on the public record and on the FTC's World Wide Web site.

Hearing participants included those who requested participation and those whose participation was requested by FTC staff in order to ensure representation of a broad and diverse range of viewpoints. The FTC's Policy Planning staff is especially grateful to the Sloan Foundation, which arranged hearings testimony by a number of leading scholars to discuss competition issues in the industries they have been studying with the support of Sloan Foundation funding.

APPENDIX B

HEARINGS AGENDA

Day 1 (October 12, 1995) OPENING

AM: **The Importance of Competition to U.S. Competitiveness in a Global Economy**

The Honorable Robert Pitofsky, Chairman of the FTC

The Honorable Joseph E. Stiglitz, Chairman, Council of Economic Advisers

**How Firms Are Adapting to Changing Competitive Conditions;
Whether Antitrust Law Impedes the Ability of U.S. Firms to Compete
Vigorously and to Innovate**

Lewis E. Platt, Chairman, President and CEO, Hewlett-Packard Co.

Sanford M. Litvack, Senior Executive Vice President and Chief of Corporate Operations, The Walt Disney Co.

Ryal R. Poppa, Chairman, President and CEO, StorageTek

PM: **Should Antitrust Enforcers Adjust Their Enforcement Policy In Light of Changes Stemming From Global and Innovation-Based Competition?**

Professor Kenneth W. Dam, Univ. of Chicago Law School

James F. Rill, Collier, Shannon, Rill, & Scott; former Ass't Att'y General Antitrust, DOJ

Day 2 (October 17, 1995)

PM: **How Firms Are Adapting -- And Whether Antitrust Needs to Adapt -- to Changing Industry Conditions of Competition**

Benjamin W. Heineman, Jr., Sr. Vice President, General Counsel and Secretary, General Electric Co.

Dr. William Coyne, Vice President, Research and Development, 3M Corp.

Thomas B. Leary (Hogan & Hartson)

APPENDIX B

Day 3 (October 18, 1995)

Market Definition, Market Power and Entry in Light of Global Competition

AM: How Businesses View Their Markets; The Extent to Which Geographic Location is Significant to Competition

Professor David Weil (Boston Univ.) Sloan Foundation Textile Study
Professor Daniel Roos (MIT) Sloan Foundation Auto Study
Abbott B. Lipsky, Jr. (The Coca-Cola Company)
Richard Rogers (Nat'l. Ass'n of Manufacturers; Ford Motor Company)

PM: How Do Difficulties in Obtaining Evidence From Abroad Affect Market Definition Issues? Who Should Bear the Consequences of Failure to Obtain Relevant Evidence?

James R. Atwood (Covington & Burling)
John D. Briggs, III (Howrey & Simon)
Michael L. Weiner (Skadden, Arps, Meagher & Flom)
Joseph Winterscheid (Jones, Day, Reavis & Pogue)

Day 4 (October 19, 1995)

Market Definition, Market Power and Entry in Light of Global Competition (cont'd)

AM: How Businesses Compete in a Global, Innovation-Based Economy; The Role of Imports and When Location Matters for Businesses, Customers or Suppliers

Professor Richard Fruehan (Carnegie-Mellon) Sloan Foundation Steel Study
Terence W. Faulkner (Kodak)
Professor Anthony M. Santomero (Univ. of Penn.) Sloan Foundation Financial Services Study
Thomas R. Howell (Dewey Ballantine; Coalition for Open Trade)

APPENDIX B

Day 4 (October 19, 1995) (cont'd)

PM: **How Should Antitrust Assess the Role of Imports in Markets? Does Current FTC Practice Capture the Dynamics of Global Markets, or Should Modifications to Current Practice Be Considered? Which Modifications and Why?**

Donald I. Baker (Baker & Miller)
Robert B. Bell (Wiley, Rein & Fielding; counsel for Kodak)
Lloyd Constantine (Constantine & Partners)
Mark Leddy (Cleary, Gottlieb, Steen & Hamilton)
Philip B. Nelson (Economists Inc.)

Day 5 (October 23, 1995)

Market Definition, Market Power, Entry and Collaboration in Innovation Markets

PM: **How Innovation Occurs in the Pharmaceutical Industry; How Innovation Occurs in Biotechnology Firms; Lessons for Antitrust in Preserving Competition in Innovation**

Professor Charles Cooney (MIT) Sloan Foundation Pharmaceutical Study
William G. Green (Chiron Corp.)
Derek Schafer (Schafer Int'l Inc.)
Stephen A. Stack, Jr./Dr. Allen Bloom (Dechert, Price & Rhoads)

Day 6 (October 24, 1995)

Market Definition, Market Power, Entry and Collaboration in Innovation Markets

AM: **How Innovation Occurs, How Businesses Compete with New Products, How Businesses and Consumers View Competitive Substitutes in Fast-Changing Industries**

Professor David Mowery (UCal, Berkeley) Sloan Foundation Semiconductor Study
Richard Donaldson (Texas Instruments)

APPENDIX B

Day 6 (October 24, 1995) (cont'd)

PM: **How Should Antitrust Define Current Generation Markets When Firms Compete on Innovation (or Product Attributes) as Much as Price? Should the Timeliness Standard for Entry be Adjusted? Are Other Adjustments Desirable?**

Professor David J. Teece (UCal, Berkeley)
Judy Whalley (Howrey & Simon)
Professor Lawrence White (NYU)

Roundtable

Day 7 (October 25, 1995)

AM: **Should Antitrust Enforcers Rely on Potential Competition Analysis or the Concept of Innovation Markets?**

Sumanth Addanki (NERA)
Professor Dennis Carlton (Univ. of Chicago)
Professor Richard J. Gilbert (UCal, Berkeley)
Richard T. Rapp (NERA)
Professor Dennis Yao (Univ. of Penn.)

PM: **How Should Antitrust Assess the Likelihood of Unilateral or Coordinated Anticompetitive Conduct in R & D and Future Generation Markets? How Should Antitrust Assess the Likelihood of Entry in R & D and Future Generation Markets?**

Professor Richard J. Gilbert (UCal, Berkeley)
Michael Sohn (Arnold & Porter)
Judy Whalley (Howrey & Simon)
Professor Dennis Yao (Univ. of Penn.)

Roundtable

APPENDIX B

Day 8 (October 26, 1995)

Innovation or Dynamic Efficiencies Obtained Through Collaboration

AM: **How Do Businesses Capture Innovation or Other Efficiencies Through Collaboration in Markets Undergoing Change? Does Antitrust Ever Impede Firm or Industry Efforts to Collaborate to Achieve Innovation-Based Efficiencies?**

Professor Diran Apelian (Worcester Polytechnic) Sloan Foundation Aluminium - Casting Study

Professor Ernest Gellhorn (George Mason Univ.)

Bennett Katz (VISA)

Samuel R. Miller (Folger & Levin)

PM: **How Should Antitrust Treat Dynamic/Innovation Efficiencies in Mergers and Joint Ventures? Are Such Efficiencies Peculiarly Valuable (or More Subject to Imitation by Others)?**

Professor Thomas M. Jorde (UCal, Berkeley)

Samuel R. Miller (Folger & Levin)

Professor Roger Noll (Stanford Univ.)

Professor Janusz Ordover (NYU)

Robert A. Skitol (Drinker, Biddle & Reath)

Day 9 (November 2, 1995)

Efficiencies (General)

AM: **What Efficiencies Matter Most to Various Industries? Up to What Point Can Firms Benefit From Economies of Scale or Scope?**

Norman R. Augustine (President, Lockheed/Martin Corp.)

Donald Hudler (President, Saturn Corp.; Vice-President, General Motors Corp.)

David Pitts (Pitts Management Associates)

APPENDIX B

Day 9 (November 2, 1995) (cont'd)

PM: **Should Antitrust Enforcers View Certain Efficiencies as More Important Than Others in Promoting Market Competition? Are Some Efficiencies Too Difficult to Measure or Subject to Manipulation by Private Parties? Should Enforcers Seek to Ensure That Efficiencies From a Merger Are Passed On to Consumers?**

W. Dale Collins (Shearman & Sterling)
James Egan (Rogers & Wells)
Ann Jones (Blecher & Collins)
Professor Steven Salop (Georgetown Univ.)

PM: **What Can We Learn From Foreign Competition Regimes About the Extent To Which Enforcers Should Weigh -- or Can Measure -- Efficiencies or Other Public Benefits, Particularly in Mergers?**

Commissioner Pascual Garcia Alba Iduñate, Federal Competition Commission
Francine Matte (Senior Deputy Director, Bureau of Competition Policy, Canada)
Margaret Sanderson (Bureau of Competition Policy, Canada)

Day 10 (November 7, 1995)

Efficiencies in Light of Global Competition and Innovation

AM: **How Businesses Value and Achieve Efficiencies; Whether Antitrust Law Impedes Businesses' Efforts to Obtain Efficiencies**

Richard Scott (President, HCA Healthcare Corp.)
James Cubbin (Executive Director, General Motors Health Care Initiatives)
William C. MacLeod (Collier, Shannon, Rill, & Scott, representing Grocery Manufacturers Association)
Phillip Proger (Jones, Day, Reavis & Pogue, representing Alliance for Managed Care)

APPENDIX B

Day 10 (November 7, 1995) (cont'd)

PM: Whether Antitrust Enforcers Should Adjust Current Enforcement Policy Regarding Efficiencies; Whether a More Skeptical Approach is Warranted if Claimed Efficiencies Are Difficult to Measure; What is Required to Show That Comparable Savings Can Reasonably Be Achieved Through Other Means?

Professor Joseph Brodley (Boston Univ.)

Terry Calvani (Pillsbury, Madison & Sutro)

Professor Timothy Muris (George Mason Univ.)

Kevin O'Connor (Ass't Att'y General, Wisconsin, Chair, NAAG Multistate Task Force)

Day 11 (November 8, 1995)

Small Businesses' Ability to Compete in a Changing Global, Innovation-Based Economy

AM: Does Antitrust Impair the Ability of Small Businesses to Compete in a Global Environment? Do Small Firms Have Advantages in Terms of Flexibility or Their Ability to Innovate? Does Antitrust Create Barriers to Strategic Alliances or Joint Ventures for Small Businesses?

Professor Chickery J. Kasouf (Worcester Polytechnic) Sloan Foundation Powder Metal Study

Boyd Berends (CEO, Cryogenic Product Recovery, representing the U.S. Chamber of Commerce)

Professor Carey Heckman (Stanford Law School)

Dr. Calvin Knowlton (President, American Pharmaceutical Association)

PM: How Should Antitrust Evaluate the Effects of Changing Distribution Systems (e.g., Slotting Fees) on Small Firms?

Robert Skitol (Drinker, Biddle & Reath)

Professor Gregory Shaffer (Univ. Michigan)

Nicholas Pyle (Independent Bakers Association)

APPENDIX B

Day 12 (November 14, 1995)

Failing Firms in Light of Global Competition

AM: When is Merging the Best Use of a Failing Firm's Assets? Does Antitrust Impede Options for the Rational and Productive Use of a Failing Firm or a Distressed Industry's Resources? Should Antitrust Adjust Current Enforcement Policy Regarding Efficiencies?

Professor Richard J. Gilbert (UCal, Berkeley)
Joseph Kattan (Morgan, Lewis & Bockius)
Professor Robert H. Lande (Univ. of Baltimore)
Joseph Sims (Jones, Day, Reavis & Pogue)

PM: Should Antitrust Law Make Adjustments in the Failing Firm Defense to Enable the Rationalization of Overcapacity in Industries Affected by Global Competition or Other Change? Should the Failing Firm Defense Remain the Same or Even Be Made More Stringent?

Lizabeth Leeds (Ass't Att'y General, Florida)
Professor Edward Correia (Northeastern Univ.)
Professor Jerry Hausman (MIT; for Kodak)
Phillip Proger (Jones, Day, Reavis & Pogue)
Professor Spencer Waller (Brooklyn Law School)

Day 13 (November 15, 1995)

AM: Which, if Any, Proposals for Failing Firm/Distressed Industry Defenses Are Superior to Current Enforcement Policy? Should Antitrust or Some Other Policy Deal with Capacity Reduction in a Distressed Industry?

Donald I. Baker (Baker & Miller)
Molly Boast (LeBoeuf, Lamb, & McKay)
Professor Edward Correia (Northeastern Univ.)
Steven A. Newborn (Rogers & Wells)

APPENDIX B

Day 18 (November 29, 1995)

Networks, Standards, Foreclosure, Strategic Conduct

AM: What Roles Do Antitrust and Intellectual Property Protection Play in Promoting Innovation and Competition? How Do Licensing Practices Affect Competition in Various Industries?

Maxwell Blecher (Blecher & Collins)
Esther Dyson (Pres. EDventure Holdings)
Kenneth M. Frankel (American Intellectual Property Law Association)
Robert H. Kohn (Borland International, Inc.)
Professor F.M. Scherer (Harvard Univ.)
Gayle Parker (Pres., Licensing Executives Society)

PM: What is the Appropriate Relationship Between Antitrust and Intellectual Property Policy?

Professor John Barton (Stanford Univ.)
Maxwell Blecher (Blecher & Collins)
Kenneth Nunnenkamp (Finnegan, Henderson, Farabow, Garrett & Dunner)
Douglas Rosenthal (Sonnenschein, Nath & Rosenthal)
Professor F.M. Scherer (Harvard Univ.)

Day 19 (November 30, 1995)

How Should Antitrust Enforcers Assess Foreclosure, Access and Efficiency Issues Related to Networks and Standards?

AM: Introductory Overview: Professor William F. Baxter (Stanford Univ.)

How Do Computer Companies Compete? How Do the Network and Interoperability Aspects of the Industry Affect Competition? What Can We Learn From Computer Networks (in Terms of Efficiencies and Competitive Behavior)?

Professor Timothy Bresnahan (Stanford Univ.) Sloan Foundation Computer Study
Michael Morris (Sun)
Marshall Phelps (IBM)
Russell Wayman (StorageTek)
Edward J. Black (President, Computer & Communications Indus. Assn.)
Emery Simon (Alliance to Promote Software Innovation)

APPENDIX B

Day 19 (November 30, 1995) (cont'd)

PM: **What Can We Learn From the Telecommunications and Financial Services Industries About Possible Ways to Assess Pro and Anticompetitive Behavior in Other Network Industries?**

Stanley Besen (Charles River Associates)

L. Norton Cutler (U S WEST)

Duncan MacDonald (Citicorp)

Joseph Opper (Ass't Att'y General, New York, Chair, NAAG Payment Systems Working Group)

Mark Rosenblum (AT&T)

Day 20 (December 1, 1995)

Horizontal and Vertical Issues Related to Networks and Standards

AM: **Horizontal Issues: To What Extent, if Any, Do Networks Offer New Opportunities for Strategic Anticompetitive Conduct? How Should Antitrust Assess Whether Strategic Conduct is Procompetitive or Anticompetitive? How Should Antitrust Assess the Possible Procompetitive and Anticompetitive Effects of Industry Standards?**

Christine A. Edwards (Exec. VP., General Counsel & Secretary, Dean Witter Discover & Co.)

Amy Marasco (VP and GC, American National Standards Institute)

Professor Janusz Ordover (NYU)

Roel Pieper (CEO of UB Networks; Sr. V.P. Tandem Computers)

Thomas Rosch (Latham & Watkins)

Professor Richard Schmalensee (MIT)

Professor David J. Teece (UCal, Berkeley)

PM: **Vertical Issues: How Might Antitrust Distinguish Between Procompetitive and Anticompetitive Conduct That, to Some Extent, Forecloses Competitors? How Do Foreclosure Issues Arise in the Context of Networks and Industry Standards?**

Thomas Rosch (Latham & Watkins)

Professor Steven Salop (Georgetown Univ.)

Professor Robert Willig (Princeton Univ.)

APPENDIX B

Day 21 (December 5, 1995)

AM: **Should Antitrust Enforcers Adjust Current Enforcement Policy Regarding Efficiencies? Which, if Any, Proposals for Failing Firm/Distressed Industry Defenses Are Superior to Current Enforcement Policy?**

Kevin Arquit (Rogers & Wells)
Professor Harvey Goldschmid (Columbia Univ.)
Janet L. McDavid (Hogan & Hartson)
Joseph Griffin (Morgan, Lewis & Bockius)

Days 22 (December 12, 1995)

What Institutional Processes Will Help the FTC to Attain Its Goals?

(Panels Will Address Institutional Implementational Aspects of Issues Raised During the Hearings)

John D. Briggs, III (Howrey & Simon)
Professor Ernest Gellhorn (George Mason Univ.)
Professor Thomas M. Jorde (UCal, Berkeley)
Professor Robert Katzmann (The Brookings Institution/Georgetown Univ.)
Professor William Kovacic (George Mason Univ.)
Thomas B. Leary (Hogan & Hartson)
James F. Rill (Collier, Shannon, Rill & Scott)
Judy Whalley (Howrey & Simon)

Day 23 (December 13, 1995)

George Addy (Director of Investigation and Research, Canada)
Professor Joseph Brodley (Boston Univ.)
Roxane C. Busey (Gardner, Carton & Douglas)
Calvin Goldman (Davies, Ward & Beck, Canada)
Professor Eleanor Fox (NYU)
Professor William Kovacic (George Mason Univ.)