7 Industrial Organization

Antitrust Policy in the Clinton Administration

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7.1 Introduction

For at least 20 years a broad, bipartisan consensus has prevailed regarding the goal of U.S. antitrust policy: to foster competitive markets and to control monopoly power, not to protect smaller firms from tough competition by larger corporations. The interests of consumers in lower prices and improved products are paramount. When these interests are served by large, efficient firms, even firms with substantial shares of well-defined markets, the consensus view is that antitrust policy should applaud, not stand in the way. However, when those large and powerful firms wield their power to exclude rivals in unreasonable ways, antitrust policy should act to preserve competition, both on prices and regarding product improvements stemming from innovation. Since the 1970s these principles have been widely accepted, and antitrust law and policy have fundamentally been about economics—promoting competition and consumer benefits—not about broader social objectives such as favoring domestic firms, preserving employment, or protecting small businesses.

Within these confines, antitrust policy turned more activist during the Clinton years than in the prior Bush administration, and sharply more active than during the Reagan administration. To the general public, the most visible symbol of this activism was surely the Microsoft antitrust trial, which led in May

The authors are grateful for the very helpful comments and suggestions provided by the editors and by Robert Pitofsky.

2000 to a dramatic court order (largely upheld on appeal in June 2001) that Microsoft be broken up. To practicing antitrust lawyers and academicians who specialize in the field, the upturn in antitrust activity was evident in many more ways: in challenges to several large corporate mergers, in the uncovering and prosecution of some large national and international price-fixing conspiracies, and in the many active investigations of monopolization practices by dominant firms other than Microsoft.

To a significant extent, the enhanced activity reflected a more activist philosophy of the officials in charge of the two major federal antitrust enforcement agencies—the Antitrust Division of the Department of Justice (DOJ) and the Federal Trade Commission (FTC)—than was on display during the preceding 12 years. This statement was most clearly true of enforcement activity directed at various business practices of dominant firms, although an observable shift was also evident regarding certain proposed corporate marriages, especially in comparison with the second term of the Reagan administration.

The Microsoft case illustrates a key shift during the Clinton administration that explains in part the more aggressive approach taken at the DOJ and the FTC: greater attention was paid to long-term competition in the form of innovation, in comparison with the traditional focus of antitrust on shorter-term competition, namely pricing. We believe the increased emphasis on innovation can be attributed to the confluence of two fundamental factors.

First, the 1990s covered a period during which new technologies had a marked impact on a range of markets, with the Internet and information technology leading the way. Increasingly, the fruits of competition are seen in the form of new technologies that lead to new and improved products. At the same time, intellectual property rights, in the form of patents, copyrights, and trade secrets, increasingly have become a key source of competitive advantage for firms controlling such rights. How natural, then, that antitrust authorities have paid more attention to "innovation competition" and intellectual property rights.

Second, antitrust officials in the Clinton administration combined a willingness to predict the medium- to long-term effects of mergers and various commercial practices, a necessary element of enforcing the antitrust laws in the area of innovation, with a confidence that they could correct market failures in the realm of innovation. Unlike traditional pricing competition, the effects of which can be seen on a day-to-day basis and occur in the short term, innovation competition by its nature requires time to unfold and is far less amenable to quantification. Hence, the underlying philosophy of antitrust officials can greatly affect their actions (or inactions) in the area of innovation: the Clinton team's activism can be traced to its greater confidence regarding the ability of government officials to predict future outcomes in markets subject to technological change, along with greater skepticism that markets will correct problems over time and greater suspicion regarding the strategies employed by large or dominant firms.

Ultimately, the more active antitrust policy we have seen over the past eight years, in contrast to the policy we saw in the previous 12 years, can be traced to a greater confidence of Clinton appointees in their ability to correct market failures by banning business practices and blocking mergers thought to harm competition. We fully expect to see a shift back to a more cautious antitrust enforcement effort over the next several years, all within the boundaries of the broad consensus described previously.

We do not mean to suggest that a focus on innovation during the Clinton years in any way distracted from the most traditional, and least controversial, aspect of antitrust enforcement, namely, the breaking up of cartels and conspiracies in restraint of trade. To the contrary, the Antitrust Division had unprecedented success during the Clinton years, and especially during the second Clinton administration, in prosecuting price fixers. We see this as an area where an apparently small change in policy had a major impact. The change in prosecutorial policy—little noticed at the time—was the introduction by DOJ in August 1993 of a corporate amnesty program. Under the corporate leniency or amnesty program, immunity was granted for criminal prosecution to the first participant in a price-fixing or other collusive conspiracy to turn itself in. This seemingly innocuous policy change helped identify some of the largest price-fixing conspiracies ever uncovered, and eventually led to far and away the largest fines for antitrust violations ever imposed.

Antitrust policy during the Clinton years also became much more international in scope, both by necessity and design. The necessity arose from the greater frequency of cross-border mergers and price-fixing conspiracies brought to the attention of the American officials and their foreign counterparts (in part because of the corporate amnesty program). Cross-border antitrust cooperation—especially between American, Canadian, and European antitrust enforcement officials—also intensified, especially after the enactment by Congress (at the urging of the Justice Department and the FTC) of the International Antitrust Enforcement Cooperation Act of 1994. With few exceptions (such as temporary disagreements over how to analyze certain mergers), the Clinton years marked a major advance toward enhanced international antitrust cooperation. We forecast even more cross-border cooperation and interaction—and quite possibly conflict—among antitrust enforcement agencies in the years ahead.

The Clinton years also saw significant increases in the antitrust enforcement budgets of both federal agencies. The increased resources allowed sizable staffing increases among attorneys, economists, and staff support. In addition, DOJ in particular abandoned the prior practice of having staff attorneys handle all antitrust trials, and for its major cases—notably Microsoft, but also for certain other high-profile investigations—turned to highly experienced private attorneys to supervise these assignments. This change in tactics brought greater expertise to the prosecution of these cases and helped impart cutting-edge trial skills to the government's permanent staff attorneys (who played major supporting roles in these trials and investigations).

The antitrust agencies during the Clinton years were also aided by state attorneys general and private litigants who brought information to the enforcement officials, and in some cases assisted with the prosecution of the cases. The increased involvement of the state attorneys general, however, has been a mixed blessing, in our view, since more prosecutors can complicate efforts to obtain prompt resolution of investigations, especially settlements that promise similar results to litigation but can achieve them much more quickly.

Looking ahead, a key challenge confronting antitrust enforcement is how to adapt to the increasingly rapid pace of technological change, with the concomitant expansion in the role played by intellectual property. On the one hand, technological change can reduce the need for prompt antitrust action, by eroding more quickly any market power held by dominant firms. On the other hand, patents and copyrights can serve as significant barriers to entry. We fully expect the enforcement agencies and the courts to continue to explore the antitrust limits on the use or abuse of intellectual property. The challenge of fashioning antitrust policy in a world of rapid technological change is heightened by the presence of "network effects," primarily demand-side economies derived from compatibility, in some high-tech markets. Network effects, in conjunction with intellectual property rights, can result in durable market power even in the presence of rapid technological change. A firm that achieves dominance by taking advantage of network externalities—a perfectly lawful vehicle—may be able to thwart challenges from new competitors and technologies by having large numbers of existing customers "locked in" to the use of existing products and services. As a result, barriers to entry to new competitors can be significant in high-tech markets. In such situations, heightened antitrust scrutiny is needed to ensure that dominant positions are not being abused. Complicating the antitrust response, however, is the fact that the judicial process—even with quick disposition of pretrial motions and expedited discovery and trial—is often slower than ongoing market developments. How to deal with this disjunction between "technology time" and "judicial time," so evident in the Microsoft case, is likely to be one of the central challenges to antitrust enforcement in the future.

We assume that readers of this chapter will come to the material with varying levels of background in antitrust. For those with relatively little experience in the subject, we begin by outlining the basic antitrust laws in section 7.2, and the agencies that enforce them in section 7.3; these sections can be skipped by those already familiar with the basics of antitrust law and enforcement procedures. We then proceed in section 7.4 to provide a brief history of antitrust enforcement, concentrating especially on the two decades preceding the 1990s. This discussion provides the predicate for the heart of the chapter, the discussion of the Clinton antitrust enforcement record. After an introduction to the Clinton record in section 7.5, we explore the three key areas of antitrust enforcement: criminal prosecutions (section 7.6), civil nonmerger enforcement activity (section 7.7), and review of mergers (section 7.8). We then provide a discussion of the increased level of international cooperation and extraterritorial enforcement of U.S. antitrust laws in section 7.9. We conclude in section 7.10 by presenting our assessment of the Clinton antitrust record and by offering some thoughts about the future of antitrust, intellectual property, and high tech.

We caution readers at the outset that each of us brings to the subject our own experiences at the Antitrust Division at DOJ during two separate periods of the Clinton era, along with our private-sector experience on specific cases. We acknowledge that this personal history has the potential for introducing bias, and because we are aware of this possibility, we make great efforts to avoid it by discussing the issues in what we believe is a neutral manner. How successful we are in this effort is for readers to judge.

7.2 Some Basics of Antitrust Law

Antitrust law in the United States dates from the passage in 1890 of the Sherman Act, which prohibited contracts, combinations, conspiracies in restraint of trade (Section 1), and actions taken to monopolize or attempt to monopolize markets (Section 2). Almost a generation later, Congress added the Clayton Act of 1914, which, among other things, prohibited (1) firms with dominant power in one market from forcing consumers to buy entirely different products (tying); (2) competing firms from having overlapping boards of directors; and (3) mergers between firms that threatened to substantially reduce competition in any line of commerce.[1] In the 1930s, Congress supplemented these two basic statutes with the Robinson-Patman Act, aimed at preventing firms from charging different prices to different customers that were not based on costs

1. The Clayton Act was amended in 1950, mostly to broaden its coverage of mergers. The Hart-Scott-Rodino Act further strengthened merger enforcement procedures in the 1970s.

(i.e., from engaging in price discrimination) when such pricing harmed competition. The Robinson-Patman Act, roundly criticized, has rarely been enforced by the government in the past 20 years. Indeed, selective price discounting has for the most part come to be welcomed by antitrust authorities.[2] Most states have their own versions of one or all of these federal statutes, and so do most other industrialized countries, including Australia, Canada, European nations, and even Japan.

Broadly speaking, the antitrust laws punish conduct designed to impair the *competitive process*—that is, conduct likely to lead to higher prices and restricted output relative to a state of unfettered competition—not the economic fortunes of *individual firms*. Of course, as a practical matter, information about potential violations often is brought to the attention of the enforcement authorities (discussed section 7.3) by competitors of possible antitrust violators. The antitrust proscriptions can be and often are categorized in different ways.

One categorization, for example, distinguishes among the proscription of *collective conduct* aimed at restraining competition (price fixing, bid rigging, dividing markets among competitors, boycotts, and the like); *unilateral conduct* (acts designed to entrench or establish a monopoly that have little or no legitimate business purpose and that are only profitable because of their tendency to exclude competitors); and *mergers*, which very often pose no threat to the competitive process (and often enhance it by producing more efficient combinations) but in some cases so reduce the number of players in a market that the most likely result is higher prices or reduced innovation after the merger is consummated (in which case the merger almost certainly will be challenged by one, or several, antitrust agencies).

Another common distinction is based on the different penalties that apply to antitrust violations, at least in the United States. Where juries are able to conclude *beyond a reasonable doubt* that two or more companies have conspired to restrain commerce, the law provides for criminal penalties: fines and potential incarceration of the individuals involved. As a practical matter, criminal prosecutions tend to be brought primarily by the Justice Department, and then only for forming cartels to fix prices (perhaps the most naked form of anticompetitive conduct) or divide markets. Where the agencies, or private parties, cannot meet the high criminal standard of proof, antitrust violations are punishable by judicial decrees ordering the end of the offending conduct and actions that may resemble it (in cases brought by the government), by disgorgement

2. In contrast, discounting by foreign suppliers selling into the U.S. market has often been attacked as illegal "dumping." Conflicts between trade policy and antitrust policy are not uncommon, with antitrust officials welcoming import competition as a check on the market power of domestic firms.

of the unlawful gains from the violations (if the FTC has brought the action), or by treble damages to victims of the offensive conduct (in cases brought by private litigants). Unlawful mergers, meanwhile, can be prevented or undone by the courts; more often, they are restructured (often with divestitures of certain assets or activities) as part of a negotiation with the antitrust agencies. Other countries have different antitrust penalties. Notably, European Union law provides for no criminal sanctions; enforcers typically resort to fines or injunctions against the offending conduct. Furthermore, while private antitrust lawsuits are available in Europe, they are not nearly as common as they are in the United States.

A final distinction that antitrust specialists often draw is between conduct that is deemed to be a per se violation and conduct that is judged under a "rule of reason." The notion of per se offenses has been developed by the courts over time to eliminate the need for extensive proof of the anticompetitive effect of certain conduct that, on its face, has been determined to lack any legitimate justification, regardless of how much market power the actors may possess. Examples include such collective conduct as fixing prices, dividing markets, and a narrow range of group boycotts and tie-in sales. In virtually all other cases, courts take a case-by-case approach when examining the alleged unlawful behavior, requiring the plaintiff(s) to prove that the conduct, on balance, does more harm than good to the competitive process.

The standards for assessing the competitive impact of mergers have also become clearer over time with the development and refinement of Horizontal Merger Guidelines by the DOJ and the FTC, which set forth the methodology that enforcement officials use to decide whether to challenge particular business combinations involving direct competitors. Although these decisions must still be made case by case, antitrust practitioners and the courts have come to value the use of a common framework for understanding and assessing these decisions—in particular, standards for defining the "relevant" markets in which the effects of the merger will be assessed and measures of market concentration—that are likely to affect whether the merger will be judged to lead to higher prices or reduced innovation, thus justifying a challenge.

7.3 Antitrust Enforcement Procedures and Institutions

In the antitrust chapter of the last exercise of this kind—the volume edited by Martin Feldstein for the National Bureau of Economic Research that assessed economic policy in the 1980s—one of the leading academic authorities in this field identified the courts as the key institution for developing, articulating, and enforcing at least the federal antitrust laws.[3] Because the words of the antitrust laws are inherently vague—and seemingly so all encompassing—there is a sense in which this claim must be right. All contracts, for example, "restrain" trade; it has been left to the courts to identify which types of contracts do so unlawfully. The same applies to other "magic" words in the antitrust laws, such as "monopolization."

In practice, however, as in so many other areas of the law, the day-to-day decisions about enforcement are made by government antitrust law enforcement officials—primarily at the federal level, but also in the states.[4] Moreover, beyond appointing the key antitrust officials—the head of the Antitrust Division at Justice and the members of the Federal Trade Commission—the president and other members of the executive branch play essentially no role in day-to-day antitrust enforcement. On broad policy issues, it is possible that the president and his advisers may voice their views, but even these occasions are rare.

The key enforcement decisions are whether to launch an investigation, and then whether to file a formal legal complaint. Typically, right before formal action is taken, however, officials give targets of their investigations their "last rites": a final chance to settle, analogous to a plea bargain in the criminal context. In fact, it is our experience from serving in the DOJ during the Clinton years that most serious antitrust investigations are settled without a formal trial; this is one reason that we believe so much enforcement power is actually lodged in the prosecutors.

At the same time, however, there was a discernible shift in the willingness of the DOJ, in particular, to settle or litigate—at least between the two Clinton terms. Settlements were more the rule than the exception during the tenure of Anne Bingaman, the first Clinton assistant attorney general for antitrust at DOJ, for all types of antitrust matters. Both the department and the FTC became more willing to litigate, at least with respect to some high-profile matters, during the second term, under the direction of Joel Klein, the second Clinton appointee as assistant attorney general for antitrust, and at the FTC, under the chairmanship of Robert Pitofsky. In part, we attribute this willingness to the de-

3. Areeda (1994), p. 575.

4. The competition policy laws in most foreign countries, while distinct, are no less vague. Officials in other jurisdictions, most notably the European Union, are actively exploring the limits of their enforcement authority and interpreting their own statutes as they fashion competition policy. Since more and more firms, American and foreign, are doing business both in the United States and abroad, and since the very same business practices (ranging from Intel's pricing and licensing strategies to the merger of Boeing and McDonnell Douglas) affect commerce around the world, companies increasingly must be mindful of competition policy rules in multiple countries as they conduct their business affairs.

sire of Joel Klein and Robert Pitofsky to establish legal precedents, not "merely" to fix particular competition problems in specific matters that they happened to come across. As we shall see, both the DOJ and FTC met with mixed success when their cases were actually subjected to rigorous review by a trial court (and in several cases, appellate review as well).

This brief commentary highlights the fact that antitrust enforcement jurisdiction at the federal level is split between Justice and the FTC. This dual responsibility is unusual, but not completely atypical. In the tax field, for example, both the IRS and DOJ share jurisdiction. The same is true for civil rights enforcement, which is shared by the Equal Employment Opportunity Commission and the DOJ. In the antitrust field, the FTC was created in 1914 because of a perception then that DOJ was insufficiently aggressive in pursuing antitrust violations. Over the years, the two agencies have informally divided enforcement responsibility by industry—DOJ has handled airlines and telecommunications matters, for example, while the FTC has specialized in the oil industry and pharmaceuticals—but in many cases there are overlaps. Where these occur, responsibility is divided on a case-by-case basis, although sometimes with tension between staff or political appointees. We witnessed such tension during our tenure at DOJ, but found it to be the exception rather than the rule, and it is usually most pronounced in high-profile cases such as the AOL–Time Warner merger where each agency could claim real industry or company expertise.

As we have noted, most states have antitrust statutes that parallel one or more of the federal statutes. These give enforcement authority to state attorneys general. In the past, the states for the most part confined their antitrust enforcement activities to prosecuting local price-fixing conspiracies, often against competitors in bid-rigging schemes. During the 1990s, however, the states began to play a much higher profile role, not only bringing matters to the attention of the federal agencies, but also seeking a share of litigation responsibilities, as occurred during the Microsoft trial during the second Clinton term. One of the interesting developments to look for during the next administration not only is whether the federal antitrust agencies will become less activist in any sense (a subject we address at the end of the chapter), but also, if they do, whether and to what extent the states will take up any of the slack by becoming more aggressive.

The 1990s also saw more cooperation between U.S. and foreign antitrust agencies, especially the European Union. This was due in large part to two factors: the European Union significantly strengthened its merger enforcement procedures in the early 1990s, and the 1990s witnessed an increased number of mergers involving parties on both sides of the Atlantic, thus giving EU enforcement officials jurisdiction over the transaction along with U.S. officials. Except in rare cases (notably the Boeing–McDonnell Douglas and the General Electric–Honeywell mergers), the U.S. and EU agencies viewed transactions very similarly, with the EU agencies taking the lead in some, the U.S. agencies in others.[5]

Since the Clayton Act of 1914, the U.S. antitrust laws have allowed—many would say encouraged—private parties injured by antitrust violations to sue for damages. Under Section 4 of the Clayton Act, winning plaintiffs are entitled to three times the amounts by which they can prove they were injured,[6] a provision that provides very strong incentives for private litigants and their attorneys to investigate potential violations, and thus equally strong incentives for firms and individuals subject to treble damages to avoid violations of the antitrust laws.

We would like to emphasize the uniquely strong character of the U.S. system as regards financial penalties imposed on companies violating the antitrust laws. The United States has put into place a powerful combination of forces operating to benefit private antitrust plaintiffs: private antitrust cases are permitted and involve treble damages; private plaintiffs have extensive discovery rights; plaintiffs can demand a jury trial; and lawyers representing a class of plaintiffs often face a low hurdle to have their proposed class action certified. Antitrust hawks see these proplaintiff rules as a great virtue of the U.S. system. Others believe that the U.S. system allows plaintiffs' lawyers to extract substantial sums of money from corporations that have done nothing to violate the antitrust laws.

The unflattering view of private antitrust enforcement in the United States runs roughly as follows: lawyers for antitrust plaintiffs face a very low hurdle to obtain class certification. Once a class is certified, defendants face the possibility of a very large damages award (after trebling), such as claims based on overcharges from an alleged conspiracy. Plaintiffs then benefit from extensive rights to discovery of defendants' files and data, which often turns up at least a few unflattering statements or e-mails, perhaps written by low-level employees. These documents, in conjunction with the less-than-favorable views held by some jurors about large corporations, and the willingness of jurors to infer that a conspiracy may exist even absent direct supporting evidence, imply that a perceived risk to the defendant of an adverse jury decision exists in virtually any case. Given this risk, many executives will be inclined to pay substantial sums of money rather than face a jury trial, even if they are confident that their company's conduct has not harmed competition. The net result is many

5. See Evenett, Lerhmann, and Steil (2000). We discuss the substantive nature of this international antitrust enforcement activity later in the chapter.

6. As developed by the courts, only those plaintiffs who have suffered "antitrust injury"—such as having had to pay higher prices—can sue for damages. Under some circumstances, this limitation means that competitors of a defendant may not have standing to sue.

private antitrust lawsuits of dubious merit, imposing a type of tax on corporate America. Of course, there is an obvious counterargument: U.S. laws empower an army of private antitrust enforcers who collectively have a pronounced effect on improving compliance with the antitrust laws, thus stifling cartels and preserving competitive markets.

In any event, the dual nature of antitrust enforcement—government actions against companies that violated the antitrust laws along with private actions to collect damages—leads to various complex interactions between public and private enforcement, for a number of reasons.

First, because antitrust litigation can be so expensive—especially when launched against defendants with deep pockets—private litigants often bring their complaints to the government and wait for official prosecutions in court, either civil or criminal, to provide proof of a violation. With such judgments in hand, as a practical matter private plaintiffs rarely need to prove more than damages. In part for this reason, defendants that are targets of government antitrust investigations often settle by signing consent decrees, which involve no admission of unlawful conduct but simply agreement to change conduct in some manner to meet the government's objections. In such instances, private plaintiffs must therefore prove that a violation has occurred as well as any damages they might have suffered.

Second, because of the importance of private antitrust actions in the United States, confining attention to government enforcement actions, much less federal government enforcement actions, does not give a complete picture of the antitrust landscape. Enforcement of the antitrust laws is more stable over time than is reflected in federal antitrust policy, in part because of lags between federal activity, subsequent court decisions, and the resulting payoffs to private plaintiffs in antitrust actions.

Third, federal antitrust policy tends to have a multiplier effect: targets of antitrust investigations understand well that a lawsuit with federal officials (or even a settlement, which then becomes public) will almost invariably trigger one or more private antitrust lawsuits. Since private actions can involve hundreds of millions of dollars (such as the price-fixing cases involving the NASDAQ and the auction houses, which we will discuss later), increased enforcement activity by the FTC and the DOJ very quickly sends a message to companies throughout the economy that they are at real risk if they do not stay on the safe side of the line currently being drawn by federal antitrust officials.

7.4 Historical Cycles in Antitrust Enforcement

Before considering the antitrust enforcement record of the Clinton administration in some detail, it is useful first to place it in some historical perspective.

Accordingly, we will review here very briefly some of the developments and waves in federal antitrust enforcement in particular over the last century.[7] These cycles in enforcement reflect shifting views over time in public attitudes toward business as well as scholarly thinking about the appropriate role of government intervention in the market with the aim of ensuring competition. Although in the last several decades there has been convergence among antitrust legal scholars and economists on the basic structure that prosecutors and courts should use for analyzing markets, differences in views remain. It is these differences that account for the continued fluctuations in antitrust enforcement philosophy and activity that persist to this day.

Given the vagueness of the first antitrust law, the Sherman Act, the courts spent considerable time in the first few decades after the act was passed giving content to the meaning of terms like "contract in restraint of trade" or "monopolization." Broadly speaking, the courts condemned only those contracts under Section 1 of the act where direct rivals agreed to restrict output and raise price, or in other words, agreed to act like a monopolist.[8] The Supreme Court also condemned "vertical" agreements by manufacturers and their retailers on minimum prices above which retailers would sell.[9]

After some early cases in which the Supreme Court tolerated mergers that produced large or even dominant firms—examples being the Sugar Trust, General Electric, International Harvester, du Pont, Eastman Kodak, U.S. Steel, and Standard Oil—the Court in 1904 finally blocked the merger between the Northern Pacific and Great Northern railroads on monopolization grounds. Seven years later, the Court found that Standard Oil had achieved monopoly status with 90 percent of the market for refined oil products and abused its dominance by various forms of exclusionary conduct (all thoroughly documented in Ron Chernow's *Titan*, published in 2000). The following year, the Court handed down another antimonopolization decision in *Terminal Railroad Association of St. Louis*, holding that various railroads could not use their control over terminal facilities at a main crossing of the Mississippi River to discriminate against rivals. Both *Standard Oil* and *Terminal Railroad* would be widely

7. This section draws heavily on Kovacic and Shapiro (2000).
8. A notable example is *United States v. Addyston Pipe & Steel Co.* (85 Fed. 271 [6th Cir. 1898]).
9. *Dr. Miles Medical Co. v. John D. Park & Sons Co.* (220 U.S. 373 [1911]). This case has since been much criticized. A general problem with the development of the law regarding vertical restraints of trade is that the courts have attempted to take a distinction that makes sense in the horizontal realm—that between unilateral conduct and "agreements"—and apply it in the vertical area, where buyers and sellers necessarily "agree" to do business. In the area of "vertical price fixing" the courts have struggled long and hard to draw a line between conduct that constitutes an "agreement" between a manufacturer and a retailer versus conduct that is "unilaterally" imposed by the manufacturer.

cited as important precedents in the Justice Department's antimonopolization case brought against Microsoft in the 1990s (discussed later).

The monopolization cases of the early 1900s proved to be a temporary high-water mark for antitrust enforcement, however, as the next decades saw a movement by prosecutors and courts to adopt case-by-case "rule-of-reason" standards for assessing wrongdoing. The shift in attitude was due to several sources: a widespread consensus after World War I that cooperation between business and government was a good way to organize the economy; a strong sentiment after the Depression began in 1929 that prices were *too low* rather than too high; and a narrow interpretation by courts of the antitrust enforcement mandate of the Federal Trade Commission (created in 1914 in response to fears of excessive concentration of enforcement power in the executive branch).

The enforcement cycle turned in a different, more aggressive direction by the mid-1930s and continued on this path until the early 1970s. Interestingly, the shift in direction was prompted by Chicago-school economists—Henry Simons, Jacob Viner, and Frank Knight—who argued that economic planning was not getting the United States out of the Depression and that antitrust enforcement was needed to deconcentrate American industry.[10] Antitrust enforcement against various forms of collusive behavior—price fixing, tying, nonprice vertical restraints, group boycotts, and exclusive sales territories—was revitalized and eventually condemned by the Supreme Court using per se rules. In contrast to a rule of reason standard, per se rules required proof only that the conduct took place, not of its anticompetitive effects. The courts also became more willing to find fault with excessively aggressive behavior by dominant firms, most notably in the famous Alcoa case in 1945, when Judge Learned Hand found that the preemptive addition of capacity by a firm with most of the aluminum market was wrongful. In subsequent cases, the Supreme Court condemned a locally dominant newspaper's effort to destroy a small radio station by refusing to sell it advertising (*Lorrain Journal Co. v. United States*, 342 U.S. 143 [1951]); prevented the "lease only" policy of the United Shoe Company, which dominated the market in shoe-making equipment (eventually authorizing the breakup of the company); and found a nationally dominant bakery's localized price cuts to be wrongful (*Utah Pie Co. v. Continental Baking Co.*, 386 U.S. 685 [1967]). With the exception of *Lorrain Journal* and the price-fixing and tying cases, it is not clear that many of the others would be brought by enforcement officials (or supported by the courts) today.

Antitrust enforcement also became much more aggressive against corporate mergers, inspired by the "structure, conduct, performance" paradigm associated

10. See Kovacic (1989), p. 1134.

with Harvard economist Joe Bain, which posited a strong correlation between even relatively low levels of market concentration and industry profitability, and thus potentially anticonsumer outcomes. In a series of decisions in the 1960s, in particular, the Supreme Court approved government challenges to horizontal mergers (those among competitors in the same geographic and product markets) whose combined market shares would fall well below those that would be challenged now. Indeed, in a famous dissent in *Von's Grocery* (384 U.S. 270, 301 [1966]), in which the majority condemned a merger that would have generated a market share of only 7 percent in a generally unconcentrated market, Justice Potter Stewart summed up the prevailing judicial environment then with the declaration "The Government always wins."

Beginning in the 1970s, the three-decade-long pattern of antitrust activism began to attract strong criticism from various law professors and economists associated with the University of Chicago (where a previous generation of scholars, as just indicated, ironically helped launched the very trend that this newer generation of scholars attacked). Among other things, the Chicago School critique was leveled at the Supreme Court's per se rule against nonprice vertical restraints (which were argued to be procompetitive) and at the Court's various merger decisions for failing to define markets accurately or for stopping transactions without proof of competitive harm. Over time, more judges were appointed to the federal bench who were sympathetic to this line of argument, including Richard Posner and Frank Easterbrook, who were prominent contributors to the Chicago School critique of the earlier antitrust policy.

As a result, by the 1980s, the federal courts began to grow more skeptical of antitrust cases. Moreover, with the notable exception of the breakup of AT&T—where the evidence was clear that a dominant company had abused its market power—and various prosecutions against bid rigging, government antitrust authorities became much more reticent to mount antitrust challenges of all types. The shift in attitude was also reflected in personnel and resources, especially at the Department of Justice, where the number of attorneys was significantly reduced through much of the 1980s. This trend began to be reversed under James Rill, the assistant attorney general during the Bush administration of 1989–93. As noted earlier, antitrust enforcement resources were augmented throughout the two Clinton terms.

Although the Clinton antitrust appointees became more aggressive in pursuit of antitrust violations of various types, it is fair to say that a "post-Chicago" synthesis has emerged, reflecting a significant degree of consensus among antitrust scholars and practitioners on two key items. One important area of agreement is on the framework used to analyze mergers, especially to define markets, which were totally revamped during the first Reagan term (under the guidance of Assistant Attorney General William Baxter). As we will discuss later, the so-called Horizontal Merger Guidelines have since been revised under both the Bush and Clinton administrations, but the revisions have been more in the nature of tweaking—and certainly not rejecting—the initial framework. The second area of agreement is that collusive activities are to be punished. As we will discuss, one of the important features of the Clinton antitrust years is how many large price-fixing conspiracies were uncovered or investigated, often international in scope. To us, this development was a surprise. Prior to coming to the Justice Department, neither of us would have suspected how extensive collusive practices turned out to be.

7.5 The Clinton Antitrust Record: Introduction

7.5.1 *Measures of Enforcement Activity*

Antitrust enforcement activity can be measured and described. Here we do both, first by presenting some summary statistics from the Antitrust Division of the Justice Department that confirm the overall impression of increased activity during the Clinton years. The data only begin, however, in 1991, and thus provide an incomplete picture of enforcement in the pre-Clinton era. Nonetheless, we will accept the conventional wisdom that the number of investigations and cases initiated in the 1980s was below that of the 1990s and thus use the data primarily to concentrate on the latter decade when the Clinton antitrust team was in place. In addition, the data reported here are only for Justice Department cases, not those launched by the FTC. We do not believe this limitation is significant, however, since both DOJ and the FTC during the Clinton years shared similar antitrust enforcement philosophies.[11]

11. We do have some FTC data, but we lack a time series of FTC enforcement actions. The FTC data are from "Summary of Bureau of Competition Activity: Fiscal Year 1996 Through March 31, 2000," pp. 52–58. During this $3\frac{1}{2}$-year period, the FTC reports the following merger enforcement activity: 9 preliminary injunctions authorized, 2 Part III administrative complaints, 89 Part II consent agreements, 14 civil penalty actions, and 34 transactions abandoned after a second request was issued, for a total of 148 merger actions. On the nonmerger side, there were 5 Part III administrative complaints, 31 Part II consent agreements, 1 civil penalty action, and 1 injunction, for a total of 38 nonmerger actions. This same document lists all of these cases and describes a number of them. See http://www.ftc.gov/bc/abafy96thru00.pdf. During the subsequent year ending March 31, 2001, the FTC reports the following activity in the merger area: 4 preliminary injunctions, 20 consent agreements, and 7 mergers abandoned during the FTC investigation. On the nonmerger side, the FTC obtained a $100 million consent judgment in one case (*Mylan*) and entered into eight consent agreements. See http://www.ftc.gov/speeches/other/boastmollys.htm.

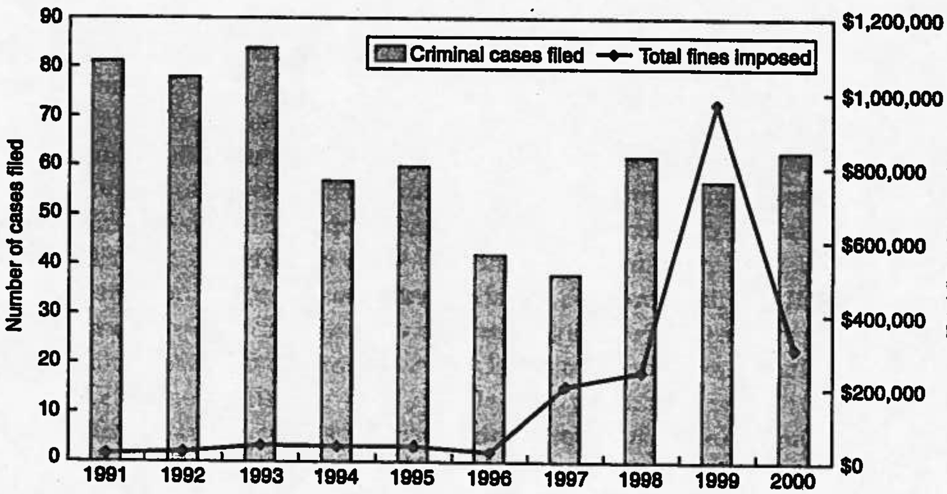

Figure 7.1
Criminal investigations. (*Source:* U.S. Department of Justice, Antitrust Division, *Workload Statistics FY 1991–2000.*)

The pictures are shown in Figures 7.1–7.4 and pretty much speak for themselves. Figure 7.1 illustrates that although the simple number of criminal prosecutions filed in court actually declined somewhat from a peak in the early years of the 1990s, the magnitude of fines collected jumped sharply, especially toward the end of the decade. As we will discuss shortly, this pattern reflects increased priority given by the DOJ to large national and international price-fixing conspiracies, leaving local bid-rigging cases to be investigated and prosecuted by the states.

Figures 7.2 and 7.3 illustrate the significant increase through much of the decade in both categories of civil nonmerger cases—restraint of trade under Section 1 of the Sherman Act and monopolization cases under Section 2—that the DOJ has brought and won. These graphs clearly evidence heightened activism on both these fronts during the Clinton era.

Figure 7.4 shows a more uneven pattern for merger enforcement activity. While the numbers of mergers requiring notification under the Hart-Scott-Rodino Act (any combination involving an entity with more than $15 million in assets) increased throughout the decade, the percentage of those mergers that were actually investigated seriously rose briefly and then fell back by the end of the decade. Even more strikingly, the percentage of mergers actually challenged was small—less than 1 percent of the total—and relatively stable throughout the period. The falling share of mergers investigated most likely

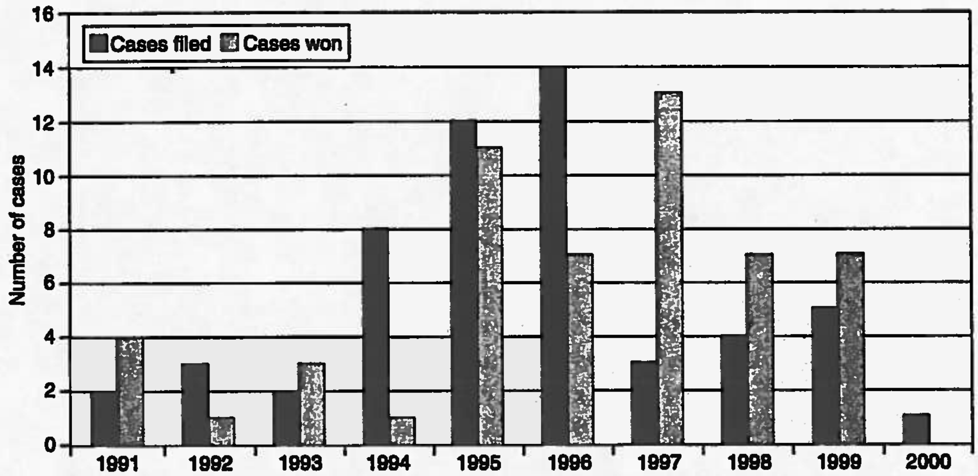

Figure 7.2
Restraint of trade cases (Sherman Act Section 1). (*Source:* U.S. Department of Justice, Antitrust Division, *Workload Statistics FY 1991–2000.*)

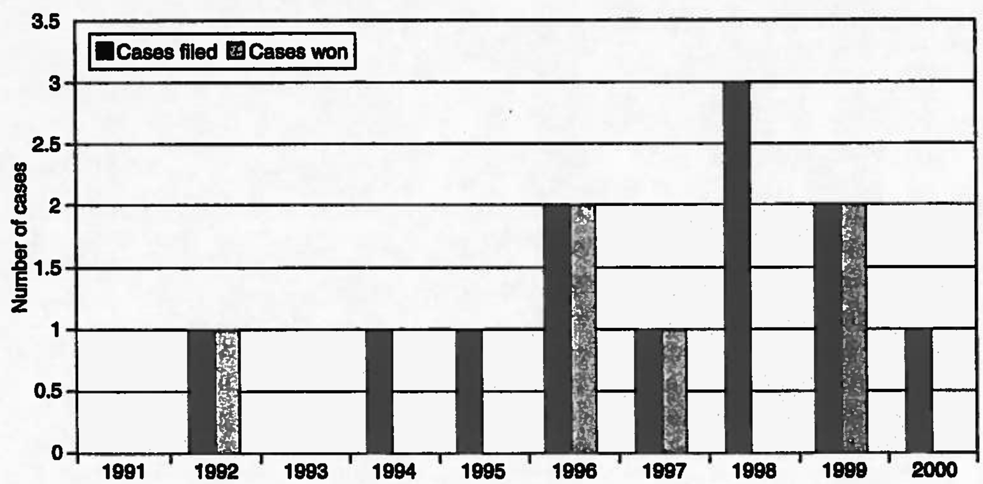

Figure 7.3
Monopoly cases (Sherman Act Section 2). (*Source:* U.S. Department of Justice, Antitrust Division, *Workload Statistics FY 1991–2000.*)

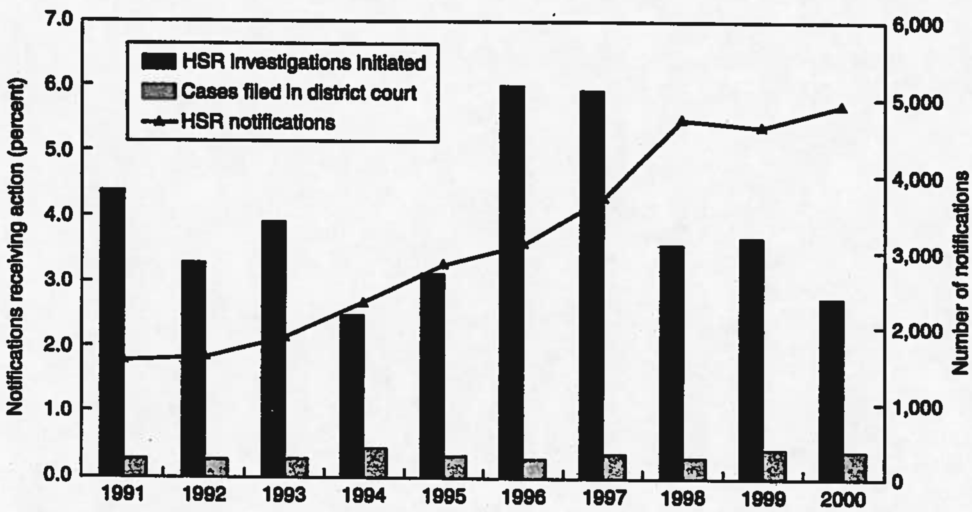

Figure 7.4
Hart-Scott-Rodino merger notifications and actions. (*Source:* U.S. Department of Justice, Antitrust Division, *Workload Statistics FY 1991–2000.*)

reflects the fact that, even with more staff, the antitrust agencies had to ration their time in light of the substantial increase in the numbers of mergers that needed at least to be preliminarily reviewed.

The low and stable share of mergers actually challenged reflects several aspects of merger enforcement. First, the DOJ was cautious in merger enforcement, insisting upon a solid factual and theoretical basis before bringing a challenge. Second, the Antitrust Division was inclined through much of the period to reach agreements with the parties to solve anticompetitive problems through divestitures of assets in markets where postmerger concentration was deemed to be excessive, or through consent decrees restricting the activities of the combined entity to prevent any future anticompetitive effects. Third, and perhaps most important, is the fact that companies contemplating a horizontal merger or acquisition can predict with reasonable accuracy how their proposed merger will be received at the DOJ and the FTC, based on the Horizontal Merger Guidelines. In other words, with enforcement policy well articulated, surprises at DOJ's enforcement stance, as well as the need for Court review to draw the line, are both relatively rare.

Numbers and trends provide only a glimpse of the true nature of antitrust enforcement activity. For a more in-depth look, we need to delve into some of the more important cases and developments surrounding them. We do that in the four subsequent sections of this chapter.

7.5.2 *Guidelines and Hearings*

Since so few antitrust cases actually involve litigation, much less an actual trial, a great deal of antitrust policy is set through either consent decrees (settlements) or through the enforcement guidelines that the agencies publish to inform the business community of their policies.[12]

Probably the most influential antitrust guidelines are the Horizontal Merger Guidelines, which are issued and followed by both the Justice Department and the FTC. These "Merger Guidelines" were totally reworked in 1982 under the first Reagan administration, then revised in 1992 under the Bush administration. The only change in the Horizontal Merger Guidelines during the Clinton years was the release in 1997 of an expanded explanation of how the agencies will treat efficiencies—namely, the ability of the merged company to achieve lower costs or improved product performance—as a result of the merger. While in principle the new treatment of efficiencies is more generous to merging companies than were the prior guidelines, practitioners generally believe that both agencies continue to apply a rather tough "screen" before they credit a merger with real efficiencies. In particular, both agencies are wary of efficiency *claims* that will not in fact be achieved, or that would be achieved even without the proposed merger. Only efficiencies that are "merger-specific" are given any weight.

Three major new sets of guidelines were issued during the Clinton administration.[13] First came the Statements of Antitrust Enforcement Policy in Health Care, issued in 1994 (later revised in 1996), which explain, among other things, how physician networks will be treated. Second were the Antitrust Guidelines for the Licensing of Intellectual Property, issued in 1995, which have been highly influential in mapping the role of antitrust policy in high-technology industries. Third came the Antitrust Guidelines for Collaborations among Competitors, issued in 2000, which address the very complex issues that arise when direct rivals seek to cooperate in various ways such as to set standards or participate in joint ventures.

In addition to these guidelines, Chairman Pitofsky revived an old tradition at the FTC of holding hearings on important current antitrust topics. Two sets of hearings stand out as offering rich and valuable information on topical issues: (1) Hearings in 1995 that led to a staff report, "Anticipating the 21st Century:

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12. All the FTC and DOJ guidelines and reports are available at their web sites, www.ftc.gov and www.usdoj.gov/atr. These sites also offer a wealth of information about specific antitrust cases brought by these two agencies.

13. In addition, the Antitrust Enforcement Guidelines for International Operations were updated in 1995.

Competition Policy in the New High-Tech Global Marketplace," issued May 1996; and (2) hearings held June 29–30, 2000, that led to a staff report, "Competition Policy in the World of B2B Electronic Marketplaces," issued in October 2000.

7.5.3 *Competition Advocacy*

The DOJ and the FTC have long played advisory roles, essentially acting as advocates within the federal government on behalf of market competition. As part of the executive branch, the DOJ (often along with the Council of Economic Advisers) takes the lead as the competition advocate in the context of interagency discussions, from trade issues to privatization to a range of regulatory issues. Both agencies also serve as sources of expert advice to Congress regarding legislation that has implications for competition and monopoly.

The DOJ played an especially large role in the developments and negotiations that led to the Telecommunications Act of 1996. DOJ's role was natural because the act was intended, in part, to replace the Court oversight of the Bell system, itself arising from the 1984 consent decree between AT&T and the DOJ, with regulatory oversight and deregulation. In particular, DOJ officials met regularly with other administration officials, led by Vice President Al Gore, on legislative strategy while the act was being considered by Congress. In addition, just prior to the act's enactment, the department negotiated a waiver of the consent decree to allow Ameritech to enter the long-distance market in Chicago, as a trial. The district court never issued a ruling on the waiver, however, because the act preempted that experiment. Nonetheless, many of the conditions set forth in that waiver for entry by the regional Bell operating companies (RBOCs) into long-distance telecommunications—largely relating to the openness of the local markets to effective competition—found their way into Section 251 of the act.

In addition, the act gave DOJ a special advisory role to the Federal Communications Commission on RBOC applications for entry (although the department and the administration had initially sought more—actual joint decision-making authority). Throughout the second Clinton term, DOJ took a relatively hard line on RBOC applications for permission to enter long-distance markets, recommending to the FCC denials in several cases because, in the view of the department, the RBOC applicants had not sufficiently opened up their own local markets to competition, as required by the 1996 act. Nonetheless, by the end of the administration, even DOJ's opposition started to soften. DOJ recommended, and in December 1999 the FCC agreed, to allow Bell Atlantic (now Verizon) entry into long distance in New York. The following year, the FCC permitted SBC to enter long distance in Texas. Shortly after the Bush administration came to office, in early 2001, the FCC granted Verizon's long-distance application in Massachusetts, and as this is written, it is widely expected that the FCC quickly will open up many more states to RBOC entry into long-distance service.[14]

DOJ also cooperated closely in the mid-1990s with the Securities and Exchange Commission during the investigation by both agencies into price fixing by securities dealers on the "bid-ask spreads" on certain highly traded stocks listed on the NASDAQ (a case we will discuss later). While the DOJ included in its consent decree with the dealers an injunction against certain practices that had the effect of facilitating collusion, the SEC also took important regulatory actions that compelled disclosure of "limit orders" (orders to buy or sell at, above, or below specific prices) that also helped ensure that collusion among market makers would not take place.

7.6 Cartel Enforcement in the Clinton Years

DOJ was extremely active during the Clinton years in investigating and prosecuting cases against companies and individuals involved in price fixing and bid rigging. While there is broad agreement across the political spectrum that such activities should be vigorously pursued, the Department in the two previous administrations had concentrated its enforcement activities in significant part on price fixing and bid rigging in limited geographic areas. The Clinton years saw a major pickup in enforcement uncovering not only national, but also international, conspiracies, resulting in incarcerations of key company executives, record fines, and in the civil area, some major changes in the way key industries did business.

7.6.1 *Criminal Price Fixing*

The Antitrust Division got off to a very poor start in its battle against price fixing with an embarrassing loss in the case against General Electric for price fixing in industrial diamonds. The government believed that a major reason for its failure was its inability to compel testimony of key foreign witnesses and to obtain documents abroad. The latter problem helped motivate the department to seek broader authority to cooperate with antitrust prosecutors in other countries, which we will discuss later. In any event, the DOJ's setback in the GE case was not a portent of things to come.

14. If the FCC does not approve a number of these applications in the near future, several influential members of Congress have vowed to seek legislation that would speed up such entry.

To the contrary, as shown in the figures already referenced, the DOJ imposed far greater fines for price fixing during the Clinton administration that had ever been assessed before. Gary Spratling, the deputy assistant attorney general in charge of criminal enforcement, was widely recognized for his expertise in guiding the department's enforcement effort, aided by the amnesty program discussed earlier.[15] Table 7.1 lists the price-fixing violations that led to fines of $10 million or more.

The citric acid and lysine cartels, which included Archer-Daniels Midland (ADM), led the way in FY97. ADM paid a fine of $100 million, at that time by far the largest such fine ever assessed. Total fines collected in FY1997 were $205 million, some five times the previous record. This number was exceeded in FY1998 with total fines of $265 million. Then, in FY1999, a breathtaking $1.1 billion in fines were obtained. During that year, the single largest fine ever assessed, $500 million, was imposed on Hoffmann–La Roche in the vitamins price-fixing case. This case involved an international cartel that operated from 1990 through 1999 covering certain vitamins used in human food, animal feed, and pharmaceuticals. The graphite electrodes case led to fines of over $400 million.

These are merely the most visible of the many price-fixing and bid-rigging cases brought by the DOJ, ranging from school milk and highway bid rigging to electrodes. As noted earlier, more and more cases had an international scope. Cases against Canadian producers of plastic dinnerware and Japanese manufacturers of thermal fax paper provide additional examples in this regard. Later we will discuss the international component of cartel enforcement more specifically. The United States has been quite successful in exporting its version of cartel enforcement to other countries, with the exception that other countries remain unwilling to make price fixing a *criminal* violation.

To put these fines in perspective, the annual fines during the previous Bush administration (1990–92) ranged from $20 million to $24 million. During the first Clinton administration (FY1993–FY1996), the annual fines collected ranged from $27 million to $42 million. From FY1997 through FY1999, the division collected more than $1.5 billion in fines, of which over 90 percent was based on international cartel activity.[16]

Clearly, there has been a sea shift, with cartel enforcement more effective and more active than in recent memory. Though it is unlikely that these dramatic numbers could be sustained under any administration, there is no doubt that

15. Indeed, the U.S. Department of Justice noted in its 1999 annual report (p. 8) that the amnesty program at that point was generating applications for amnesty at the rate of two per month.

16. Starting in FY1990, here are the total annual price-fixing fines collected by the Antitrust Division, rounded to the nearest million dollars: $24, $20, $24, $40, $42, $40, $27, $205, $267, $1,107.

Table 7.1
Sherman Act Violations Yielding a Fine of $10 Million or More

Defendant (FY)	Product	Fine ($ Millions)	Geographic Scope	Country
F. Hoffmann-La Roche, Ltd. (1999)	Vitamins	$500	International	Switzerland
BASF AG (1999)	Vitamins	$225	International	Germany
SGL Carbon AG (1999)	Graphite electrodes	$135	International	Germany
Mitsubishi Corp. (2001)	Graphite electrodes	$134	International	Japan
UCAR International, Inc. (1998)	Graphite electrodes	$110	International	United States
Archer Daniels Midland Co. (1997)	Lysine and citric acid	$100	International	United States
Takeda Chemical Industries, Ltd. (1999)	Vitamins	$72	International	Japan
Daicel Chemical Industries, Ltd. (2000)	Sorbates	$53	International	Japan
ABB Middle East & Africa Participations AG (2001)	Construction	$53	International	Switzerland
Haarmann & Reimer Corp. (1997)	Citric acid	$50	International	German Parent
HeereMac v.o.f. (1998)	Marine construction	$49	International	Netherlands
Sotheby's Holdings Inc. (2001)	Fine arts auctions	$45	International	United States
Eisai Co., Ltd. (1999)	Vitamins	$40	International	Japan
Hoechst AG (1999)	Sorbates	$36	International	Germany
Showa Denko Carbon, Inc. (1998)	Graphite electrodes	$32.5	International	Japan
Philipp Holzmann AG (2000)	Construction	$30	International	Germany
Daiichi Pharmaceutical Co., Ltd. (1999)	Vitamins	$25	International	Japan
Nippon Gohsei (1999)	Sorbates	$21	International	Japan
Pfizer Inc. (1999)	Maltol/sodium erythorbate	$20	International	United States
Fujisawa Pharmaceuticals Co. (1998)	Sodium gluconate	$20	International	Japan
Dockwise N.V. (1998)	Marine transportation	$15	International	Belgium
Dyno Nobel (1996)	Explosives	$15	Domestic	Norwegian Parent
F. Hoffmann-La Roche, Ltd. (1997)	Citric acid	$14	International	Switzerland
Merck KgaA (2000)	Vitamins	$14	International	Germany
Degussa-Huls AG (2000)	Vitamins	$13	International	Germany

Table 7.1 (continued)

Defendant (FY)	Product	Fine ($ Millions)	Geographic Scope	Country
Ueno Fine Chemicals Industry, Ltd. (2001)	Sorbates	$11	International	Japan
Eastman Chemical Co. (1998)	Sorbates	$11	International	United States
Jungbunzlauer International AG (1997)	Citric acid	$11	International	Switzerland
Lonza AG (1998)	Vitamins	$10.5	International	Switzerland
Akzo Nobel Chemicals, BV & Glucona, BV (1997)	Sodium gluconate	$10	International	Netherlands
ICI Explosives (1995)	Explosives	$10	Domestic	British Parent
Mrs. Baird's Bakeries (1996)	Bread	$10	Domestic	United States
Ajinomoto Co., Inc. (1996)	Lysine	$10	International	Japan
Kyowa Hakko Kogyo, Co., Ltd. (1996)	Lysine	$10	International	Japan

cartel enforcement activity remains high. The most visible recent price-fixing case is against the auction houses of Christies and Sotheby's. This case received a great deal of media attention, both because it occurred in the rarified world of art auctions in New York and because it led to a shake-up at both auction houses. Sotheby's has already agreed to pay a $45 million fine, and in December 2001 a federal district court convicted its former chairman of participating in the price-fixing conspiracy.

7.6.2 *Civil Price-Fixing Cases*

There were also some very prominent *civil* price-fixing cases brought by the DOJ during the Clinton years. While the penalty and deterrent—imprisonment—is plain for criminal price-fixing cases, readers might wonder what penalty is associated with *civil* price-fixing cases, where the companies involved typically agree to cease the alleged price fixing, a "sin no more" remedy, and perhaps some additional "fencing in" provisions designed to prevent related antitrust abuses in the future. An important part of the answer comes in the form of follow-on *private* antitrust actions. Virtually every DOJ case triggers a private case, in which customers asserting overcharges seek treble damages. These cases can be enormously costly to the companies involved. For example, in the NASDAQ case immediately following, the brokerage houses ultimately agreed to pay nearly $1 billion to settle the private cases that followed on DOJ and SEC enforcement actions.

The NASDAQ dealer case stands out as a signature case during Anne Bingaman's tenure. In this case, the DOJ alleged that the major brokerage houses had agreed to limit competition by only quoting NASDAQ stocks in even eighths, thus ensuring that spreads would not be any smaller than one-fourth. This investigation involved close cooperation between the DOJ and the SEC, which was simultaneously bringing its own enforcement action against NASDAQ dealers. The NASDAQ case raised some very interesting issues of evidence (tape recordings of dealer conversations), focal point theories (odd eighths versus even eighths), the role of academic research (an academic paper by Professors William G. Christie and Paul H. Schultz of Vanderbilt University initially brought this matter to the attention of the DOJ and SEC), and appropriate remedy (regulation versus antitrust). The final remedy agreed to by NASDAQ, which led to an SEC rule opening up the "limit order" books, has significantly increased on the exchanges.

In a similar if less visible case, four exchanges that trade options allegedly had an agreement not to engage in multiple listing at different exchanges of "grandfathered" options,[17] that is, options that had been exclusively assigned to individual exchanges by the SEC during an era when the SEC actively discouraged competition among exchanges, preferring instead that all trading take place at a given location. This case provides an interesting example of prior regulation being lifted and competition taking a long time to take root.

7.7 Civil Nonmerger Cases in the Clinton Years

The civil nonmerger antitrust enforcement effort covers several types of possible violations: unlawful conduct by dominant firms, or monopolies; unlawful cooperation among competitors (so-called horizontal conduct); and unlawful activities between firms in different levels of commerce, such as prices imposed by manufacturers on retailers (vertical conduct). The Clinton antitrust team was active on all these fronts, and we review the major efforts here.

7.7.1 *Monopolization Cases: Microsoft, Intel, and American Airlines*

Antitrust cases challenging the unilateral conduct of dominant firms are among the most controversial, although they also resonate well with a large body of the public, which sometimes distrusts the activities of monopolies. Nonetheless, a major reason for the controversy is that antitrust attacks on dominant firms inevitably involve challenges to the business practices of some of our

17. *U.S. v. American Stock Exchange, Chicago Board Options Exchange, Pacific Exchange, and Philadelphia Stock Exchange*, September 2000. See http://www.usdoj.gov/atr/cases/indx262.htm.

most successful firms. These criticisms are not new: they were heard when the government challenged Standard Oil, Kodak, Alcoa, IBM, and AT&T over the decades.

During the Clinton era, the most visible targets of antitrust activity in general were investigations or cases brought against the largest, most powerful firms. We explore three such cases in this subsection: Microsoft, Intel, and American Airlines. But readers should recognize that several less visible monopolization cases were also brought against smaller companies who nonetheless were viewed as dominant in their own spheres by the DOJ or the FTC. These include DOJ's 1996 case against General Electric regarding GE's licenses for medical-imaging-equipment software; DOJ's 1999 exclusive dealing case against Dentsply, the leading supplier of artificial teeth; and the FTC's 1998 case against Mylan Laboratories regarding two antianxiety drugs.

7.7.1.1 United States v. Microsoft

As we hinted at the outset, the Clinton antitrust years probably will be most remembered for the DOJ's continued investigation and ultimately its court action taken against Microsoft for conduct the department asserted constituted unlawful abuse of monopoly power.[18] Although the litigated case during the second Clinton term brought by Joel Klein was the most visible effort in this regard, the DOJ in the first term settled a less sweeping investigation with the company under the direction of Anne Bingaman. Because of its importance, we summarize here some of the key issues from the perspective of each side and then provide our own assessments of each of them. These issues are not unique to Microsoft, but also pose a challenge to competition policy generally with respect to high-technology industries.[19] We include arguments and relevant decisions up through the court of appeals decision in July 2001, which upheld much of the district court's original ruling, but reversed it in part.[20] At this writing, Microsoft had reached a settlement agreement with the DOJ and nine of the 18 plaintiff states, which was pending before the district court.

From the government's perspective, the following propositions seemed evident and well supported by the evidence in the trial (a judgment the court of

18. Both authors were involved in investigations of Microsoft when at the Antitrust Division, and Shapiro has offered testimony as an expert witness for the government in the remedy phase of the trial.

19. For excellent overviews of the economics of the Microsoft case from different perspectives, see Gilbert and Katz; B. Klein; and Whinston, all in the Spring 2001 issues of the *Journal of Economic Perspectives*.

20. The decision of the Court of Appeals for the District of Columbia in the Microsoft case is one of the most significant antitrust decisions in recent years and will have lasting implications for the application of the antitrust laws in the software industry and beyond. See http://msft.cadc.uscourts.gov/cadc/00-5212a.pdf.

appeals essentially confirmed). First, Microsoft has a clear monopoly over desktop operating systems, and that monopoly is protected by the "applications barrier to entry," which makes other operating systems (such as the Apple OS or Linux) far less attractive because many fewer applications are written to run on those operating systems: this is network effects in action. Second, Microsoft saw a threat to its operating system in the form of the Netscape browser combined with Sun's Java, which together offered the promise of "cross-platform" middleware that would provide a neutral platform to which applications could be written, thus paving the way (in a two-step entry process) for other operating systems to overcome the applications barrier to entry. Third, Microsoft acted during 1995–98 at least to eliminate the threat to its monopoly by engaging in a series of practices with the intent and effect of limiting the distribution and use of Netscape's browser and of Sun's Java. These practices, such as exclusive dealing arrangements and tying, involved the use of Microsoft's monopoly power over operating systems to stifle the adoption of Netscape and Sun software. Microsoft realized that it would be sufficient to prevent these middleware products from becoming ubiquitous and thus serving as an alternative platform that could "commoditize the operating system." Finally, as a result of Microsoft's conduct, consumers were deprived of a chance to pry open the Microsoft monopoly, which instead persists. While we do not know just how competition would have played out in the absence of Microsoft's conduct, we do know that one major threat to the monopoly (and these do not come along all that often) was eliminated through conduct that did not lead to benefit consumers, and thus cannot be construed as competition on the merits.

Microsoft challenged each of the government's propositions and counters with those of its own. First, the company argued that the software industry is extremely dynamic and fluid, making any monopoly power fleeting and insignificant. Microsoft asserted that it was forced to price competitively because of a multitude of threats that are ever present, since there can be no monopoly over software programming skills, which is all that is needed to design and sell an operating system. The "applications barriers to entry" allegedly are a fiction: applications companies often write software for multiple platforms and would readily do so if those platforms offered superior value to the Microsoft operating system. For example, the Apple system runs a great deal of software, and in fact Microsoft itself ports Office to the Mac OS. Second, Microsoft argued that Netscape and Java were not any unique threat to the company, and in fact did not even constitute a rival operating system as such. Netscape was a competitor in providing browser functionality, but did not offer a substitute to Windows. Third, Microsoft maintained it had done nothing more than innovate, improving the functionality of the operating system by incorporating browser functionality into Windows. This is a natural extension of the operating system, one that all other operating systems have also made as the Internet and computer networking have become important. Microsoft saw the government's attack on its design decisions for Windows as a direct attack on Microsoft's ability to innovate in ways that clearly benefit consumers. Finally, Microsoft claimed there was no consumer harm from any of its conduct, pointing to the fact that Netscape in fact achieved widespread distribution, and Internet Explorer has been able to gain share (against Netscape's initially dominant position) only by offering superior functionality and by leading the way in making its browser available for free. All of this has led to significant consumer benefits, in the company's view.

So, how did these respective arguments play out in the district court and ultimately at the court of appeals? We consider each argument in turn, beginning with the first point, whether or not Microsoft has monopoly power. No doubt Microsoft software has improved over time; no doubt, either, that the mere cost of writing an operating system is modest in comparison with Microsoft's market capitalization (in the hundreds of billions of dollars) and perhaps even in comparison with the annual revenues from Windows. And Microsoft's pricing for Windows—which Microsoft said indicated that entry was an ever-present threat—presented something of a puzzle for the government. But many antitrust economists would agree that Microsoft's durable and very high share of sales of personal computer operating systems, in conjunction with the compatibility issues that hinder Apple and Linux (for example), give Microsoft meaningful monopoly power. The trial record also left little doubt that Microsoft wielded significant power over personal computer makers such as Gateway and Compaq, who have no practical alternative to Microsoft if they want to actually ship personal computers to their customers. In short, software markets, like some other high-technology markets, involve a different set of entry barriers: here, compatibility and copyright, not traditional entry barriers such as specialized manufacturing facilities or trade restrictions. In June 2001, the Court of Appeals for the District of Columbia (CADC) upheld the district court's conclusion that Microsoft did indeed have a monopoly over desktop operating systems.

What about the second point—whether or not Netscape and Java posed a real threat to Windows? Here we get into some of the thorniest issues in "high-tech antitrust." We may imagine as a general principle that a high-tech company—monopoly or not—will be better placed than antitrust officials to identify at an early stage the threats to its position. Especially in software, which is inherently so malleable, the greatest threat may not come from a frontal assault, but rather from a complementary product that can be transformed into at least a partial substitute over time. Let us suppose that the high-tech monopolist, seeing a possible threat, acts to block it before it matures into a full-fledged and "obvious" direct threat. Surely sound competition policy cannot conclude that such behavior is immune from antitrust challenge merely because the threat was immature at the time it was eliminated. And surely it makes sense, as a matter of enforcement policy, to give considerable weight to the company's own documents and views about the likely market evolution. But it is equally clear that predictions of market effects will be very difficult to make if the threat is in its early stages and the market is inherently dynamic. Thus we have an unavoidable policy dilemma: if antitrust officials act early to prevent the incumbent from eliminating the threat, they will necessarily have a difficult time showing definite harm to competition; but if they wait until the harm is shown, it will be too late to correct the problem and far less likely to deter such conduct in the future. On this issue, the court of appeals came down squarely on the government's side, ruling that it would be inconsistent with the purpose of the Sherman Act to allow monopolists free reign to "squash nascent, albeit unproven, competitors at will"—especially in industries marked by rapid technological advance.

The third point—evaluating the actual economic effects of Microsoft's conduct—suffers the same problem just described with respect to the identification of anticompetitive effects. This problem has always been present in monopolization cases, although it is arguably exacerbated in the high-tech setting. The most heated debate revolves around the government's claim that Microsoft "tied" Internet Explorer to Windows. Many commentators harbor considerable unease about having the courts "second-guess" product design decisions, even those by dominant firms. And the antitrust law revolving around tying has always had problems stemming from the necessity of defining just when two "functions" constitute two separate "products," which can be tied, rather than a single product. All the long-standing thorny issues surrounding the law of tying are brought into sharp relief when software is involved, since the boundaries of one piece of software, or one piece of code, and another are inherently hard to define. In fact, the court of appeals remanded the district court's tying decision against Microsoft, indicating that while the application of a per se rule was inappropriate, the government could try again to make its tying case again using the rule of reason, which would require a balancing of the exclusionary effects and the beneficial effects of Microsoft's tying of Internet Explorer to Windows. The DOJ, however, under new leadership, declined the court's offer.

There is less debate surrounding Microsoft's contractual practices, such as exclusivity provisions in various contracts, although even there the effectiveness of these contracts to actually impede Netscape was hotly disputed. The court of appeals fully supported the district court's ruling that Microsoft violated the Sherman Act by defending its monopoly using exclusive contracts with a range of parties.

Finally, we face here the tricky question of whether Microsoft was defending its operating system monopoly or attacking Netscape's browser monopoly (or both). If we take network effects and compatibility seriously, as Microsoft clearly does, Netscape's browser posed a threat to Microsoft precisely because it was the *dominant* browser, and thus an attractive "platform" to which other software could be written. Thus, by attacking Netscape's "monopoly"—something normally encouraged under the antitrust laws—Microsoft was eliminating a threat to its own monopoly—actions which can amount to illegal "monopoly maintenance." Indeed, Microsoft documents indicate that Microsoft's primary goal was simply to match Netscape in browser share, not necessarily to "win" the browser war. Viewed this way, and looking for general principles beyond this particular case, limits on the conduct of one incumbent monopolist can potentially strengthen the position of *another* incumbent monopolist. The court of appeals fully accepted the findings of the district court that Microsoft engaged in "monopoly maintenance" by preventing Netscape's browser and Sun's Java from gaining sufficient acceptance to become an alternative software "platform." Furthermore, the appeals court held that it was an act of monopolization for Microsoft to meld the computer code for the browser and the operating system, given the potential of the browser (plus Java) to become a competing platform for a wide range of applications programs. As a practical matter, this part of the appellate ruling means at the very least that Microsoft must enable consumers and computer manufacturers to remove Internet Explorer from Windows. The proposed settlement before the district court at this time would require this to be done.

In sum, the June 2001 court of appeals decision sends a clear message, especially since is was written by a 7–0 Court: high-technology companies are not immune from antitrust scrutiny. Even if Microsoft ultimately survives with a settlement or court-imposed remedy that is no more than a slap on the wrist, we believe few dominant companies in the future will want to take on the legal risks, and face the public relations problems, that Microsoft has endured by acting so aggressively in wielding its economic power. Whatever happens next, we believe that the legacy of the Microsoft case is clear: powerful companies, even in industries experiencing rapid technological change, must compete on the merits, not by using their power to exclude competition, even competition offered by nascent technologies.

7.7.1.2 Federal Trade Commission v. Intel

The case brought against Intel by the Federal Trade Commission in 1998 is a useful contrast to the Microsoft case.[21] When Intel was faced by patent infringement suits by some of its customers (Intergraph and Digital being the leading examples), Intel withdrew certain valuable Intel intellectual property (including trade secrets valuable to customers building systems incorporating Intel microprocessors) from those customers. The FTC viewed this conduct as a monopolistic abuse by Intel, since these customers would suffer significant economic harm if deprived of the Intel intellectual property. The FTC took the view that Intel should not be able to engage in "self-help" to resolve patent claims brought against it, but rather should resolve such claims in court. Intel viewed its conduct as a natural defensive response, refusing to share its intellectual property with companies that were bringing their own intellectual property cases against Intel.

The parallels between the Microsoft and Intel cases are clear enough: Intel, like Microsoft, is a powerful company in the personal computer business; Intel, like Microsoft, sells a critical component (microprocessors) of personal computers and has a very large share of the sales of this component; Intel, like Microsoft, has enjoyed this large share for years.

But the similarities end there. The Intel conduct challenged by the FTC was very narrow, confined to Intel's response in situations in which an Intel customer sued Intel for patent infringement. Intel's conduct was directed at certain customers, not at Intel's competitors (such as AMD, Intel's primary competitor in making x86 compatible microprocessors, or IBM and Sun, two of Intel's leading competitors in making microprocessors for servers). Unlike the Microsoft case, the FTC never identified any evidence that Intel was attempting to do anything more than defend itself, and reduce its exposure, in the face of patent infringement cases brought against it. Nor was the FTC able to point to any adverse effect of Intel's conduct on competition in microprocessors. The final difference is the disposition of the two cases: shortly before (and not after) trial, Intel settled its case with the FTC, agreeing to partially alter its business practices to meet the FTC's concerns. The Intel case is now seen as a leading example of the boundary between intellectual property and antitrust, as well as a good example of how a leading company can minimize its antitrust exposure by compromising with antitrust enforcers.

Both the Intel and Microsoft cases illustrate the willingness of Clinton antitrust officials to make predictions about how specific business practices will affect competition well into the future. In the Microsoft case, the DOJ necessarily

21. Shapiro served as an expert witness on behalf of Intel in this proceeding.

was predicting that Netscape's browser and Sun's Java could, in time, have posed a genuine threat to Microsoft's monopoly position. One reason the government case was so strong in court is that Microsoft itself took precisely this view. Some would say that Microsoft overreacted to the Netscape/Java threat, but who was better placed to judge the severity of the threat than Microsoft itself? Clearly, the efforts of Microsoft executives to distance themselves from their own earlier documents and e-mails undermined their credibility with Judge Thomas Jackson. In the Intel case, the FTC predicted that Intel's conduct inevitably would have a chilling effect on companies that might otherwise engage in innovation to challenge Intel's position in microprocessors. But again we see the importance of the documents and internal assessments of the company itself: the FTC had an underlying theory but virtually no evidence, either from Intel or from third parties, in support of its position. Intel's own documents showed that it was fighting back in the context of patent litigation in an effort to limit its exposure to patent infringement suits. Intel's stated objective was to reduce the royalties it might have to pay and thus lower its costs. And Intel's actions were primarily directed at its customers, not its competitors.

What lessons can we learn from these two signature cases at the intersection of antitrust, intellectual property, and high technology? The lesson for powerful companies subjected to antitrust scrutiny is clear: they must be prepared to defend themselves based on their contemporaneous assessment of their own actions combined with economic analysis of the likely effects of those actions, not based on a reconstruction of why they pursued the strategies they did. The lesson for antitrust officials: court challenges to the conduct of dominant firms based on predictions about future effects on competition and innovation are unlikely to have much force without a solid evidentiary basis for those predictions combined with a sound economic theory of harm to competition.

7.7.1.3 United States v. American Airlines

A third monopolization case stands out from the Clinton years: the predatory-pricing case brought against American Airlines in 1999 by the DOJ. The government challenged American's strategy of cutting prices on flights into and out of its Dallas–Fort Worth (DFW) hub in response to competition from new entrant airlines seeking to serve certain spokes out of that hub.[22]

What was remarkable about the American Airlines case is that the DOJ sued even though there was no evidence that the airline was pricing below average

22. Earlier, the Department of Transportation had proposed promulgating rules regarding the pricing and frequency decisions of airlines at their hubs. Meeting resistance by the larger carriers, these rules were never put into place. The DOJ case against American Airlines was an attempt to control aggressive behavior by hub airlines using antitrust rather than regulation.

variable cost or marginal cost, the conventional test for assessing whether predatory pricing was present that is applied by courts, as recommended by antitrust scholárs Philip Areeda and Donald Turner. The government nonetheless asserted in its complaint that American Airlines intended to drive new entrants out of business with extraordinarily low fares and expected success precisely because marginal costs in the industry—the cost of filling an additional seat on an airplane—were so low.[23] In late April 2001, however, the federal district court in Wichita, Kansas, that was hearing the case threw it out on summary judgment, in effect affirming the Areeda-Turner test. As a result, predatory-pricing law remains where it was before the American Airlines case was brought.[24] In our view, it is unlikely we will see many such cases in the future.[25]

7.7.2 *Horizontal Activity*

Whatever one may believe about the wisdom of government challenges of conduct by dominant firms, there is much more consensus among antitrust scholars and practitioners that the government should be vigilant in prosecuting various types of horizontal, or collusive, arrangements to fix prices and divide markets. Nonetheless, even this consensus can break down when confronted with the facts of particular cases. The Clinton antitrust years were marked by some rather novel investigations and prosecutions of horizontal conduct, not merely plain vanilla price fixing. A review of the most notable efforts follows.

7.7.2.1 DOJ's Credit Card Case

DOJ sued Visa and MasterCard in October 1998 for their rules regarding dual governance and exclusivity. Dual governance refers to the fact that many of the banks in control of Visa also play a lead role in running the MasterCard system. Exclusivity refers to the rules that prohibit banks that are members of Visa or MasterCard from issuing rival cards such as American Express or Discover.

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23. As usual in predatory pricing cases, the measurement of "marginal cost" or "average variable cost" is both contentious and tricky. In this case, the treatment of the cost of aircraft was a central issue. DOJ sought to have the opportunity cost of an aircraft, namely, the profits that could be earned by flying that aircraft on an alternative route, included in the measurement of variable cost (at least when evaluating decisions to add more flights to the routes in question). Courts historically have been reluctant to include opportunity costs in their measurement of incremental costs.

24. In June 2001 the DOJ announced that it would appeal the district court's ruling in the American Airlines case.

25. Prior to the American Airlines case, the government had not brought a predatory-pricing case for years. Generally, the courts have become less and less receptive to predatory-pricing cases over the past 25 years.

DOJ asserted that dual governance and exclusivity had impeded competition among and innovation by credit card systems (such as Visa, MasterCard, American Express, Discover). A trial was held in the summer of 2000 in this case. After a trial in the summer of 2001, the district court judge who heard the case struck down the exclusivity rules, but rejected the government's claim that dual governance stifled innovation in the credit card market.

7.7.2.2 FTC Cases Challenging Patent Settlements by Drug Companies

Starting in 1999, the FTC moved aggressively to challenge agreements reached between incumbent companies holding pharmaceutical patents and would-be challengers offering generic drugs. Several of these cases display variations on the same fact pattern. First, the challenger files with the FDA for permission to introduce a generic version of a popular branded drug. Next, the incumbent supplier, who holds a patent, asserts that the challenger would infringe the patent, which (under the Hatch-Waxman Act) freezes the generic challenger for 30 months while the patent infringement issues are sorted out in court. Then the incumbent and the challenger reach a settlement, which specifies a date at which the challenger is licensed to enter the market.

The FTC has objected strongly when these patent settlements involve a cash payment from the patent holder to the challenger. The FTC asserts that incumbents are effectively paying to delay the entry by the generic challenger, thereby depriving consumers of the benefits of generic competition, which typically involves much lower prices than are charged by the branded incumbent supplier. In some cases, due to the operation of the Hatch-Waxman Act, a settlement between the patent holder and the first company to file with the FDA to offer a generic can also freeze *other* generic suppliers out of the market. The FTC has filed several of these cases and has opened a broader industry investigation into this type of settlement agreement.[26]

7.7.2.3 Patent Pools

As intellectual property becomes a more and more important element of competition, the antitrust limits on agreements involving intellectual property loom larger in the antitrust enforcement world. The FTC generic drug cases just described fit into this category. So does the Intel case, which was in many respects about cross-licensing: Intel would not license its patents and trade secrets unless the licensee also shared its intellectual property with Intel. As explained in Shapiro (2000), the surge in patenting activity has created a "patent

26. For a more complete discussion of these cases, see Gilbert and Tom (2001). On the broader question of the antitrust limits on settlements of patent disputes between direct rivals, see Shapiro (2001).

thicket" that companies must cut through to commercialize products in a number of high-tech industries, inevitably leading to more licensing and cross-licensing activity.

Patent pools are yet another type of intellectual property agreement. Under this form, two or more companies contribute their patents to the pool, which then licenses out a package of patents to companies seeking to manufacturer products using those patents. Patent pools have long raised red flags in antitrust circles, as they can easily involve an agreement on pricing (at least to set the price charged by the pool) between actual or potential competitors.[27]

The Clinton Justice Department was quite supportive of patent pools, with suitable protections. The DOJ recognized that pooling the *complementary* patents necessary for a product or technology can be highly procompetitive. In theory, forming a patent pool can lower licensing costs for two reasons: by offering convenient, one-stop shopping for licensees whose products make use of several patents, and by internalizing the "Cournot complements" problems that leads to inefficiently high prices when two complementary monopolists price their products (or patents) independently. Using this sound economic reasoning, DOJ issued favorable business review letters for a patent pool involving the MPEG video compression technology and for two patent pools involving DVD technology.

In contrast, the FTC took a distinctly more hostile approach to patent pools, challenging the patent pool formed by Summit and VisX, the two key suppliers of technology for laser eye surgery. Despite the fact that Summit and VisX appeared to have held complementary blocking patents (this being the standard used by the DOJ for allowing the formation of a pool), the FTC challenged their pool, Pillar Point Partners. In the Summit/VisX case, the parties agreed to abolish their pool and give each other royalty-free cross-licenses. Although this agreement served the short-run interests of consumers, the FTC approach may discourage the formation of efficient and procompetitive patent pools in the future, and may discourage innovation by failing to give sufficient returns to innovators who must deal with others holding complementary blocking patents.

7.7.2.4 Standard Setting

The FTC's case against Dell Computer articulated an important principle regarding the use of intellectual property in the standard-setting process: after Dell had agreed not to assert any patents against other companies for the purpose of

27. See J. Klein (1997) for a discussion of cross-licensing and patent pools, including a nice description of an airplane patent pool dating back to World War I, which was approved by the Justice Department.

complying with a certain hardware standard, Dell indeed tried to assert such patents. The FTC challenged this practice, and Dell agreed not to assert its patents on this standard. The key principle here is that companies must meet the promises they make in a standard-setting context with respect to the licensing of their patents necessary to comply with the standard. For a further discussion of the antitrust treatment of standard-setting activities, see Shapiro (2000).

7.8 Merger Control Policy During the Clinton Years

For reasons having nothing to do with antitrust policy, there was a massive merger wave during the mid- to late 1990s. The merger wave washed over large sections of the economy, ranging from banking to telephones, from defense to health care, from railroads to radio. Inevitably, many of these mergers involved dominant firms or direct competitors, and thus triggered antitrust review. As shown in Figure 7.4, the number of Hart-Scott-Rodino merger notifications received by the FTC and the DOJ more than tripled from the early 1990s to the late 1990s.[28] Even more dramatic was the increase in the *value* of U.S. merger activity. During the 1990–92 time period, the average annual value of U.S. merger activity was $151 billion. During the 1998–99 time period, this average had jumped more than tenfold to $1.7 trillion. While some of this increase reflects the overheated stock market valuations of 1998–99, the real economic value of merger activity clearly rose dramatically during the 1990s. Naturally, this increase put more pressure on the resources of the DOJ and the FTC and increased their crucial role ensuring that mergers and acquisitions do not substantially reduce competition.[29]

We find it notable, however, that the rate of *challenges* of mergers as a percentage of HSR filings (again, see Figure 7.4) did not rise significantly from the early 1990s to the late 1990s. In fact, despite the huge number of mergers proposed and consummated, virtually none of these mergers were challenged and litigated on antitrust grounds. In large part, the dearth of litigation reflects a clear articulation of merger control policy—less uncertainty means less litigation. In no year were more than 6 percent of proposed mergers subjected to a full investigation (second request for information); in no year were more than 0.5 percent of proposed mergers challenged in court. And, in the vast majority of deals that were modified as a result of the HSR review, these modifications (usually divestitures) were achieved through a settlement with the DOJ or the FTC.

28. During 1990–92, an average of 1,366 HSR filings were made per year. During 1998–2000, an average of 4,584 HSR filings were made.

29. Data are taken from the Antitrust Division's *Annual Report* for FY1999.

We also should note a reality of today's capital markets: few companies are prepared to fight in court a DOJ or FTC challenge to their merger. The ensuing litigation inevitably takes several months, if not more, during which time the target company is likely to suffer, both in terms of its stock price and in terms of its ability to operate effectively. As a result, merging parties often abandon their mergers once DOJ or the FTC makes it clear that a challenge will ensue and if the agency's requirements to "fix" the deal are unacceptable to the merging parties.

7.8.1 *The Predictable Nature of Merger Enforcement Policy*

We attribute the low level of merger litigation in no small part to the relatively predictable nature of merger enforcement, at least as regards horizontal mergers, following the 1992 Horizontal Merger Guidelines. Recall that the guidelines have been largely in place for nearly 20 years. In other words, the small amount of litigation should not be taken as indicating that antitrust policy was somehow lax or irrelevant. To the contrary, companies are continually counseled on which proposed mergers will pass, or fail, antitrust scrutiny. In this very real sense, merger control policy has an ongoing, profound, if largely hidden effect on the very structure of American industry.

As noted earlier, the economic principles behind merger control policy have not shifted since the Reagan administration. Rather, the differences across administrations have been one of judgment and emphasis. For example, in the Reagan years, antitrust officials were quite receptive to "entry arguments," namely, arguments put forward by merging parties that they could not exercise market power postmerger because any attempt to do so would be met with easy and rapid entry into the market. Clinton administration officials also acknowledged that entry *can* eliminate concerns, but tended to require much more solid evidence of ease of entry before giving significant weight to these arguments.

There has been one clear shift in merging thinking throughout the 1990s. Early on, the primary theory used by lawyers at the DOJ and FTC was a collusion theory: after the merger, with one fewer player in the market, the remaining suppliers would find it easier either to form a cartel (explicit collusion) or simply to adopt "live and let live" strategies (tacit collusion) rather than to compete actively and aggressively. By the mid-1990s, an alternative theory, known in antitrust circles as "unilateral effects," became much more common in merger analysis. This is effectively the theory that the post-merger competitive equilibrium (formally, some type of Nash equilibrium) would involve reduced output and higher prices than before the merger. Based as it is on noncooperative oligopoly theory, unilateral effects analysis is highly amenable to economic modeling and estimation. As a result, the emphasis on unilateral effects has led to a great expansion in the role of oligopoly theory and econometric analysis in merger review. This has been evident especially in cases where considerable data are available, such as mergers involving consumer goods where supermarket (or comparable) scanner data are available. Some of the most detailed empirical work on differentiated products, pricing, and oligopoly now takes place in the context of merger analysis, in part because economists conducting such analysis have exceptional access to detailed company records as well as high-frequency, disaggregated price and quantity data.

7.8.2 *General Approach to Remedies*

We did see some general shifts in the approach taken at the FTC and the DOJ regarding three broad classes of merger "remedies": (1) blockage of the merger; (2) requiring the merged firms to divest certain assets to preserve competition (a so-called structural remedy); or (3) requiring the merged entity to operate its business subject to certain limitations (a so-called behavioral remedy).

As a general rule, both agencies have long been unwilling to enter into behavioral remedies in horizontal mergers. For example, an agreement to lower prices 5 percent per year after the merger would typically not be accepted as a substitute for premerger competition between the merging parties. Underlying this view is the judgment that the benefits of competition cannot be replicated through consent agreements: perhaps competition would lead to much better products, or to prices falling at a rate greater than 5 percent per year. Concerns about enforceability also argue against behavioral remedies, especially in horizontal mergers.

In contrast, behavioral remedies are often accepted in vertical mergers. For example, in the Time Warner/Turner merger, the FTC accepted a commitment by Time Warner to provide access on the Time Warner cable systems to either MSNBC or Fox News, the two leading competitors to CNN, which was part of Turner Broadcasting and was being acquired by Time Warner. This behavioral remedy was intended to address the concern that Time Warner might use its cable properties to exclude rivals to CNN from obtaining needed cable distribution.

Returning to horizontal merger cases, where divestitures are the typical remedy, there still remains the question of how big a package of assets must be divested. The operative rule at both agencies is that the divestiture should create a viable competitor so that there is no significant loss of competition in comparison with the premerger state of affairs. In most cases, the competitive vitality of the divested assets depends both on the package of assets that is divested *and* the identity of the company acquiring those assets. For example, in the proposed acquisition of Intuit by Microsoft, which the DOJ asserted would have reduced competition in the market for financial software (Intuit's Quicken competed against Microsoft's Money), the divestiture offered by Microsoft was rejected by the DOJ. Simply spinning off Money (even if a full package of assets had been offered) was inadequate, since it was unlikely that any firm picking up the Money assets would be as strong a competitor in the financial software market as Microsoft was viewed to be prior to the proposed merger.

The implication: before accepting a divestiture remedy in a merger case, antitrust officials are interested in knowing not just what assets will be divested but also the likely identity of the firm acquiring the divested assets. On this score, we observe the DOJ, and especially the FTC, taking a tougher stance in the second Clinton term than during the first. The FTC went so far as to issue a report in 1999 on the divestiture process, reaching the conclusion that certain "partial" remedies had not been as effective as hoped. The unavoidable policy conclusion: divestitures should be more complete, and the FTC should make sure that the buyer of any divested assets will be a highly capable competitor in the relevant markets at issue. In short, the prevailing approach during the first term was to accept surgical fixes, while a "clean sweep" of assets was more likely to be required during the second term. Leading examples in which the agencies required the divested operations to be full-fledged, viable businesses on their own were Exxon/Mobil, BP/Amoco, BP/ARCO, Time Warner/Turner, and Worldcom/MCI.

7.8.3 *Major Merger Challenges*

We cannot do justice here to the many mergers investigated and challenged during the Clinton years. Rather, we will simply mention a handful of the more visible cases at each agency, with very brief commentary on the substance of these cases, what they tell us about merger enforcement policy during the Clinton years, and their implications for future merger enforcement.

7.8.3.1 Department of Justice

The Antitrust Division challenged Microsoft's acquisition of Intuit in 1995. Intuit's Quicken financial planning software was a direct competitor to Microsoft's Money software. Microsoft and Intuit abandoned the deal prior to litigation. This case shows the DOJ rejecting arguments that entry barriers into software markets are inevitably low, and viewing Microsoft as a strong force capable of adding significant competition in an area where Intuit was the leader. The case also shows that DOJ was unwilling to accept a partial divestiture of Money assets by Microsoft.

In 1996 the division urged the Surface Transportation Board (STB) not to approve the proposed merger between the Union Pacific and Southern Pacific railroads, two of the three major railroads in the western United States. Analysis of this merger at DOJ involved extensive econometric work to define relevant railroad markets and the impact of competition from trucking and waterborne freight transportation. The DOJ also expressed skepticism over the large efficiency claims put forward by the merging parties. The STB approved the merger over DOJ objections. After the merger, Union Pacific experienced very substantial disruptions to its operations—effectively an antiefficiency. Later, following a complex deal by which CSX and Norfolk Southern split up Conrail, the STB imposed a ban on railroad mergers, which was only lifted by the Bush administration in the summer of 2001. This case shows how resting final authority over mergers in the STB, rather than DOJ, is likely to lead to a more lenient policy, just as it did during the 1980s when the Department of Transportation approved several airline mergers over DOJ objections.

DOJ challenged several hospital mergers during the first Clinton term, but was less active in controlling hospital mergers after facing several defeats in court, including a 1994 setback in the merger of the only two hospitals in Dubuque, Iowa, Mercy Health Center and Finley Hospital, and a 1997 defeat in the merger of Long Island Jewish Medical Center and North Shore Health System.

Throughout the Clinton administration, and especially after the passage of the Telecommunications Act of 1996, the Antitrust Division was faced with a series of proposed mergers in the telecommunications sector. The radio industry experienced a wave of consolidations, with the DOJ (not the FCC) serving as the gatekeeper limiting concentration of radio assets in various cities. Likewise, DOJ faced several huge telephone mergers, including SBC/Pacific Bell, SBC/Ameritech, Bell Atlantic/Nynex, Bell Atlantic/GTE, and Qwest/U.S. West. Generally, DOJ approved these mergers with relatively minor divestitures or other conditions. DOJ effectively took the view that adjacent regional Bell operating companies (RBOCs), such as Bell Atlantic and Nynex, either were not significant potential competitors in each other's regions or that the merging parties were only one of several potential competitors. One telecom merger in which the DOJ required a significant divestiture was the merger between Worldcom and MCI in 1998: the DOJ required the sale of a major MCI unit to preserve competition in Internet backbone services. Various antitrust observers have noted that preserving competition among the various underlying pipes that constitute the Internet—itself often viewed as a technology that breaks down entry barriers and enables wide-open competition—requires vigilant antitrust enforcement.

During the second Clinton term, several very large mergers or acquisitions were abandoned in the face of DOJ challenges: Alcoa and Reynolds in aluminum (1997); Lockheed Martin and Northrop Grumman in defense contracting, at $11.6 billion the largest merger ever blocked on antitrust grounds at that time (1998); the acquisition of Primestar, a direct broadcast satellite service, by several cable companies (1998); and the merger of Worldcom MCI and Sprint in telephone and Internet services (2000). In some respects, these are the most visible merger enforcement actions of all: major deals that are not merely restructured, but flat-out abandoned because of antitrust problems.

7.8.3.2 Federal Trade Commission

One of the most important merger cases brought by the FTC was against Staples and Office Depot, two office supply "superstores" that sought to merge in 1997. The case was a significant test of the "unilateral effects" theory described earlier. The FTC, relying on extensive econometric evidence showing that prices were lower in cities served by multiple office superstores, claimed that this was a three-to-two merger in a market for office supply superstores. The parties asserted that the market included all suppliers of office supplies, and that their combined share was too small to pose a serious antitrust problem. By winning this case, the FTC strengthened merger enforcement by convincing a court that direct evidence of pricing effects could overcome more qualitative arguments about "reasonable substitutes" that have often been used by courts to define antitrust markets.

One of the most sensitive mergers reviewed by the FTC was Boeing's acquisition of McDonnell Douglas. In 1997 the FTC cleared this merger, despite the fact that Boeing's share of the market for large commercial aircraft was roughly 60 percent and the fact that McDonnell Douglas was one of only two rivals, the other being Airbus Industrie. In a statement explaining their decision, three commissioners explained that they had not acted to further a "national champion," but rather had simply concluded that "McDonnell Douglas, looking to the future, no longer constitutes a meaningful competitive force in the commercial aircraft market."[30] The case caused some tension across the Atlantic when the European Commission required that Boeing modify some of its exclusive contracts with airlines as a condition for approving the merger.

Like the DOJ, the FTC experienced an acceleration of its merger enforcement duties in the second Clinton term. Generally speaking, the FTC displayed a far greater appetite to look for behavior remedies in vertical cases than the DOJ,

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30. See the statement by Chairman Pitofsky and Commissioners Steiger, Starek, and Varney at http://www.ftc.gov/opa/1997/9707/boeingsta.htm. Shapiro served as an outside economic consultant to the commission on the Boeing/McDonnell Douglas merger.

which was more inclined to simply let vertical deals proceed. Two of the most significant vertical mergers reviewed by the FTC were the acquisition of Turner Broadcasting by Time Warner (1997) and the merger of AOL and Time Warner in 2000. In both cases, the FTC insisted on behavioral provisions before approving these deals.

The FTC also found itself in the middle of a major consolidation in the oil industry during the second Clinton term. After extensive reviews, the FTC insisted on major divestitures in the BP/Amoco merger (1998), the Exxon/Mobil merger (1999), and the BP/ARCO merger (2000). The entire vertical chain in the oil industry was implicated in these various mergers, from exploration and drilling (BP/ARCO in Alaska) to retail gasoline stations. As usual, oil industry mergers are highly visible and politically sensitive. The FTC did not block any of these mergers outright, but was aggressive in the divestitures sought. For example, in the BP/ARCO deal, the FTC insisted that BP divest ARCO's entire Alaskan operations, on the theory that BP had monopoly power in the sale of Alaskan North Slope crude oil on the U.S. West Coast, even though the State of Alaska was satisfied that a much smaller divestiture would preserve competition in bidding for exploration rights on the Alaska North Slope, and despite a consensus among experts that the market for crude oil is a worldwide market, with no separate market for Alaskan crude oil used on the U.S. West Coast. After entering into litigation with the FTC, BP agreed to the divestiture sought by the FTC, averting a trial.[31]

A final FTC case worthy of note is the FTC's challenge to the proposed acquisition of Beechnut's baby food business by Heinz. The FTC challenged this merger in 2000, expressing concern that Heinz and Beechnut were the only two rivals to Gerber, the dominant supplier of baby food in the United States. The merging parties argued that they would achieve significant efficiencies by joining forces and thus be better able to take on Gerber. The district court agreed with the parties on this point and refused to grant a preliminary injunction blocking the merger. However, the FTC appealed this decision. Such appeals are very rare, since most merging parties lack the patience to appeal unfavorable merger decisions by the lower courts, and the agencies at times choose not to appeal if the merger in question is consummated after a request for preliminary injunction is denied. Because they are so rare, decisions by the appeals court on merger matters are highly influential. In this case, Heinz and Beechnut were able to hold their merger together through the appeals process. In a blow to the "efficiencies defense" in mergers, the appeals court ruled that the merging parties had *not* established sufficient efficiencies to offset the presumed re-

31. Shapiro served as an expert witness for BP and ARCO in this case.

duction in competition based on the increase in concentration in the market for baby food. This case is significant because it raises the hurdle even further for companies seeking to justify their mergers based on achieving efficiencies.

Several major mergers were also abandoned in the face of a potential FTC challenge, including Barnes & Noble's proposed marriage with Ingram and the Air Liquide–Air Products merger. As with threatened actions by the DOJ, the potential for challenge by the FTC also discourages some anticompetitive mergers from ever seeing the light of day.

7.9 The Rise in International Antitrust Enforcement in the Clinton Years

There is no doubt that antitrust enforcement became more international in scope during the Clinton years. For more detail on how U.S. companies and U.S. antitrust officials must be mindful of international issues, see the final report of the International Competition Policy Advisory Committee (ICPAC), which was issued in February 2000. The ICPAC was established by the attorney general in November 1997 to address global antitrust problems.[32]

The increasingly global nature of antitrust enforcement should be expected to some degree, since the U.S. economy itself was become more integrated during these years—as measured by rising shares of imports and exports and capital flows as a share of total output (for more details, see Chapter 5 in this volume). Nonetheless, the international nature of the enforcement agenda was surprising in one respect. Normally, one would assume that the greater the competition from foreign imports, in particular, the more competitive pressure would be applied to domestic firms; and thus the need for antitrust scrutiny would be reduced. But while this effect almost certainly did materialize, increasing cross-border economic activity led to a more active international agenda for at least four important reasons.

First, there were mounting numbers of highly visible mergers involving companies that had international operations, and thus which triggered antitrust review in multiple jurisdictions—especially Europe, where antitrust enforcement had been centralized since the early 1990s in the European Commission. Some of the best-known examples included several major telecommunications alliances—British Telecom and MCI, and then with AT&T; Deutsche Telecom and France Telecom with Sprint; MCI's marriage with Worldcom; Boeing's purchase of McDonnell Douglas; and most recently, General Electric's plan to acquire Honeywell (which was blocked by the European Commission in July 2001).

32. The report is available on-line at http://www.usdoj.gov/atr/icpac/icpac.htm.

Second, as we indicated earlier, the U.S. corporate amnesty program eventually uncovered a number of price-fixing conspiracies that were international in scope. Indeed, the vitamins case—which resulted in the largest criminal antitrust fine in U.S. history—had a number foreign defendants. However, there were other price-fixing cases—notably, fax paper involving Japanese defendants and dinner flatware involving Canadian defendants—where U.S. authorities successfully mounted a court challenge (or agreed to a settlement) even though most, if not all, of the evidence and illegal activity were located abroad. Nonetheless, U.S. law is sweeping in scope: well-established cases allow U.S. antitrust prosecution as long as the offending activity adversely affects U.S. consumers. The problem of international cartels is not simply a problem for the United States, but has been recognized as an important global issue (WTO, 1997).

Third, both European and U.S. antitrust authorities have become involved in investigating and prosecuting dominant-firm abuses where the target of the investigation conducts business and engages in similar activities in both jurisdictions. A prominent example is the first Microsoft investigation during 1993–94. In that case, Microsoft actually consented to a joint investigation—and ultimately to a joint settlement—because the company did not want potentially inconsistent rulings from both authorities (see Litan, 2000). A more recent example is the initiation of an investigation of Intel by the EC in 2001 after the FTC had conducted and then closed its own investigation. In this instance, the EC investigation apparently is proceeding without much U.S. involvement or cooperation—a possible harbinger of things to come, as we will note shortly.

Finally, the Clinton Justice Department carved out new ground in the international arena when it acted on a potentially important policy change that was announced in 1992 under Assistant Attorney General James Rill: the prosecution of foreign defendants for taking steps outside the United States that violated our antitrust laws in a way that harmed U.S. *exporters*, not just importers. The initial target of this change in policy was a British company, Pilkington, which the DOJ asserted had a dominant position worldwide in the provision of technology for the manufacturing of glass. The Justice Department charged Pilkington with using exclusive territories and other restrictive licensing practices to entrench its monopoly position. Eventually, the company agreed to a consent decree to abandon these practices.

Where antitrust investigations or matters involve multiple jurisdictions, it is appropriate—indeed necessary—for U.S. authorities to cooperate with their counterparts in other countries. As early as 1967, the OECD went on record urging such cooperation, a recommendation that has been modified a number of times since (OECD, 1995). U.S. antitrust authorities have followed up this recommendation by entering into a number of bilateral cooperation agreements with similar authorities in other countries, including Australia, Canada, the European Commission, and Germany. During the Clinton years, Brazil, Israel, Japan, and Mexico were added to this list. Each of these agreements obligates the parties to notify the other of a pending investigation, contemplates the sharing of information about planned actions that may affect the interests of the other party, and outlines efforts to cooperate in actual investigations, to the extent permitted by applicable law. None of these agreements, however, overrides domestic laws that prohibit the sharing of confidential information without the consent of the target of the investigation. The United States does have one other agreement, however, with Canada—a "mutual legal assistance treaty" (MLAT)—that allows the sharing of information obtained in criminal investigations that otherwise might be confidential.

While these bilateral agreements have been important, they do not require the sharing of all information, nor can they compel foreign witnesses to testify or produce any documents they may have in their possession, unless home country authorities compel such production. The latter shortcoming was arguably the main reason why the Justice Department failed to survive a motion for directed verdict in the criminal price-fixing case it brought against General Electric during 1993–94 involving industrial diamonds. Shortly after that case, however, the department was more successful in persuading Congress to authorize U.S. antitrust agencies to enter into bilateral MLATs to share otherwise confidential information in *civil* cases. That authority was granted in the International Antitrust Assistance Act, and the government has since entered into such an agreement with Australia.

Given the relatively heavy volume of mergers and other investigations involving joint jurisdiction with the European Commission (EC), much of the cooperative activity of the U.S. authorities during the Clinton years was with the European Commission's competition directorate, DG IV (now known as DG-Comp). By and large, the U.S. and EC authorities saw eye-to-eye, with perhaps the notable exception of the Boeing–McDonnell Douglas merger, where the European Commission was more insistent on conditions (which it eventually got, in the form of a ban on exclusive contracts between Boeing and certain airlines). In the first Microsoft investigation, Justice and EC officials sat side-by-side in the negotiations with Microsoft that led to the first consent decree. In other cases, notably the MCI–Worldcom merger, the U.S. authorities let the EC take the lead in imposing conditions (a divestiture of Internet backbone operations).

While the trend toward increasing cooperation with foreign authorities exists, some rough spots remain. In our view, the Justice Department during our tenure was somewhat frustrated with what it saw as a less-than-aggressive posture by the Japanese Fair Trade Commission. The department also ruffled feathers abroad with its insistence on extraterritorial application of our antitrust laws, not just in the Japanese fax paper case, but also in the Pilkington matter, where the primary harm was to U.S. exporters in third-country markets rather than to U.S. consumers. Meanwhile, European officials appear to be frustrated with the resistance of our antitrust authorities to add antitrust harmonization to the list of issues to be negotiated under the auspices of the World Trade Organization (WTO). The main reason for recalcitrance on our part has been a fear of U.S. officials that any international agreement could water down our own antitrust standards. Nonetheless, shortly before he left office, Assistant Attorney General Joel Klein endorsed a recommendation by an advisory board report that the United States seek to harmonize merger reporting requirements so as to facilitate the review, approval, or where necessary, opposition of authorities to mergers invoking the jurisdiction of multiple countries.[33]

Both antitrust and trade officials in the U.S. government have also been extremely hesitant about putting antidumping reform on the trade agenda. Intellectually speaking, this reluctance is difficult to justify. The antidumping law punishes behavior by foreign companies—selling below average cost and engaging in price discrimination—that is lawful for domestic firms selling in the U.S. market and certainly not in violation of U.S. antitrust law. Less developed countries, in particular, have been fond of pointing this out and have insisted that antidumping policy reform be added to the agenda of any future trade negotiating round. Until USTR Robert Zoellick boldly agreed at the November 2001 WTO ministerial to add antidumping to the next trade work plan, U.S. trade officials, in both Democratic and Republican administrations, had strongly resisted such a course, as a large majority of Congress continues to do. In our view, the strong congressional support of the antidumping laws is the major reason why U.S. antitrust officials have not so far pressed for antidumping reform.[34]

Finally, it is possible that any material changes in antitrust policy during the current Bush administration will lead to more friction with antitrust officials abroad, especially in Europe, where the Competition Directorate in recent years appears to have become even more aggressive in antitrust enforcement. If this

33. Ibid.

34. One of us (Litan) has suggested a reform of the antidumping laws that would not require their repeal (and replacement with just antitrust law): eliminating the cost of production test or changing it to penalize only sales below average *variable* cost for goods bought from countries that have reasonably adequate antitrust enforcement and that do not maintain significant barriers to imports of the same goods. This modification is designed to satisfy those who claim that an antidumping law is necessary to prevent firms in countries with closed markets from "dumping" their goods abroad, and especially in our market. But if foreign markets are not really closed, then arguably a different (more reasonable) antidumping test should apply. See Burtless et al. (1998).

friction emerges, then major multinational companies that might have anticipated benefits from a more relaxed antitrust enforcement policy in this country could end up being sorely disappointed. At the same time, disagreements over antitrust policy between the United States and Europe could make an already difficult trade relationship even more contentious. Most recently, the July 2001 opposition of the European Union to the proposed General Electric and Honeywell merger—a deal that was cleared by the DOJ with selected divestitures—has occasioned significant comment, most of it adverse, from the U.S. press and political leaders. Since the EC's concerns are difficult to justify on traditional antitrust grounds,[35] the events surrounding the GE/Honeywell merger could be the harbinger of further tensions between the United States and European antitrust authorities in the future.

7.10 Challenges Ahead: Antitrust in an Era of High Tech[36]

Looking ahead, questions have been raised about whether antitrust enforcement is up to the challenges posed by certain aspects of what has come to be called the new economy. One challenge grows out of the sheer speed of technological change, especially in the information technology sector, where new generations of microprocessors have been doubling the speed of computers every 12 to 18 months. Ever faster computer chips lead to the creation and production of very powerful personal computers and other chip-based devices, which in turn require new and more powerful software. Technological change in the biotech sector also seems extraordinarily rapid, with potentially even more far-reaching benefits for society.

It is tempting to conclude that the quickened pace of technological change makes antitrust irrelevant. If technology, firms, and markets can change so rapidly, how long can any single firm retain monopoly power? More to the point, given the relatively slow pace of the judicial process—even after the relatively rapid trial in the Microsoft case, more than three years elapsed between the filing of the government complaint and a decision by the appeals court, and we still have no definitive outcome—how can antitrust enforcers expect to contribute more good than harm when litigating?

35. The European Commission opposed the merger in part on the grounds that GE would be able to offer Boeing, Airbus, and others discounts on packages of GE engines and Honeywell avionics and other products. The commission feared that this discounting would put pressure on rivals and ultimately create or strengthen a dominant position by GE. Needless to say, blocking a merger based on concerns that it will lead to discounting is not in the mainstream of economic thinking about merger control policies, nor in keeping with U.S. antitrust law. Shapiro has provided economic assistance to GE and Honeywell during their merger review process.

36. This section draws on Litan (2001) and Shapiro (2000).

There are several answers to this techno-pessimism about antitrust. One is that even in the face of rapid technological change, incumbent monopolies enjoy tremendous advantages that make it difficult for new entrants to dislodge them even when technology advances. Microsoft, for example, has maintained a monopoly in operating systems for personal computers over a decade. Likewise, Intel has enjoyed a high share of desktop microprocessor sales for over a similar period. Incumbents not only have the advantage of deep pockets, but they also can take advantage of lead time in designing upgrades or new products that are "backward compatible" with their preexisting versions. Accordingly, there is time for litigation—and often early settlement—to make a real difference where monopolies are believed to be abusing their market power. The appeals court in the Microsoft case certainly did not back away from the application of the antitrust laws in the rapidly changing software industry.

A second answer is that rapid technological change underscores the *importance* of antitrust in the review of mergers among firms in high-technology markets. An ounce of prevention is worth more than a pound of cure when market conditions are subject to change. Accordingly, mergers in high-tech markets should face an extra degree of scrutiny precisely because the relative sluggishness of the judicial process makes it more difficult after the fact to unscramble in a timely and meaningful fashion concentrations of markets made possible by mergers.

A third answer concedes the problem that rapid change poses for antitrust enforcement but then seeks to speed up the judicial process so that resolution of antitrust litigation can occur much more quickly. One approach, which is difficult to legislate but nonetheless should be copied, is to conduct trials in the streamlined way in which the Microsoft trial was conducted. That is, discovery can be limited, the parties can be confronted with a real, early trial date, and the trial itself can be streamlined by limiting the number of witnesses each side is able to present. Requiring all judges to conduct their litigations this way is difficult, if not impossible, to mandate, as the experience with the Civil Justice Reform Act of 1990 has demonstrated.[37] But Judge Jackson demonstrated in the Microsoft case that a major antitrust liability trial could be conducted relatively quickly (even if he then got himself into trouble by attempting to impose a structural remedy without sufficient evidentiary hearings and by discussing the case with the press after his decision). Nonetheless, it is not clear that a lag of

37. There was uneven adoption of expedited procedures in the ten "model" district courts that were funded to experiment with ways to streamline their cases. The CJRA experience highlights the fact that procedural reform depends almost exclusively on the willingness of particular judges to adopt such approaches as early trial dates and limits on discovery and witnesses.

more than three years from complaint to final judgment is truly workable and effective in high-tech industries.

Continued advances in technology undoubtedly will raise many more fascinating antitrust issues in the years ahead. One of them is how the emerging business-to-business (B2B) exchanges on the Internet—many of which are joint ventures among competing firms—will be treated by the antitrust authorities. In theory, of course, joint ventures of this type pose the dangers of collusion, not just among the competing buyers but also among the suppliers from whom bids are sought, and so need to be scrutinized carefully. To give another current example, American, Continental, Delta, Northwest, and United Airlines recently launched their Orbitz venture to sell tickets on-line, over the strong objections of travel agents (but approved by the Transportation Department). Will this venture streamline ticket sales and cut out middlemen, or will it serve as a mechanism for collusion?

The Federal Trade Commission staff indicated in its October 2000 staff report that antitrust concerns over B2B exchanges can usually be eliminated by adopting well-crafted operating rules. B2B exchanges are likely to pass muster as long as they meet a number of conditions designed to ensure that pricing is transparent, that the price quotes are "firm" (and not signals of what suppliers intend to charge), that confidential information is protected, and that exchanges avoid being "overinclusive" while also making sure that they are not used to exclude buyers or suppliers from the market. At this writing, we are aware of no exchange that has failed to meet these conditions.

We close simply by flagging two potentially broader and deeper issues that we believe the antitrust authorities will inevitably be forced to deal with more and more frequently in the years ahead: tying and intellectual property rights.

Tying is a storied topic in antitrust law and policy. Traditionally, the courts and the enforcement agencies have been very wary of commercial tying, whereby a company with a dominant product (the tying product) sells that product only on the condition that buyers take another of its products (the tied product). The Microsoft case involved allegations of tying the browser to the operating system. At this writing, Microsoft has recently launched its new operating system, XP, that integrates additional features, including Microsoft's own audio and video player, a "single passport" identification system for doing commerce on the Net, and other features. The problem posed for antitrust authorities by such efforts at integration is to find justifiable and easily administrable ways of distinguishing between a single, integrated product (in which case there can be no tying) and two distinct products (in which case tying is possible). The courts have struggled to fashion a broadly applicable rule to determine whether two distinct "functions" are one product or two. Is the browser part of the operating system? Is the car radio part of the car? What about the tires or the engine? The decision by the appeals court in the Microsoft case offers some guidance regarding tying cases by calling for a rule of reason inquiry rather than a per se treatment. This decision nonetheless means that what will constitute one product or two will require a more complex, exhaustive, and time-consuming inquiry conducted in each case.

As this conclusion implies, the Microsoft appellate decision suggests that longstanding difficulties with tying doctrine are likely to become more pronounced in various high-tech industries in the future, given the trends toward *integrated* products.[38] For example, Intel's microprocessors and chip sets now handle the functions that were handled by many more parts 10 or 20 years ago. Indeed, the name "Intel" stands for "integrated electronics." The Microsoft court explicitly noted the example of integration of the microprocessor with the math coprocessor as an example of apparently beneficial integration of two products into one. If customers value integration and technology makes integration efficient, surely the antitrust laws should not stand in the way. Worse yet, the boundary between one "functionality" and another is especially messy in the software industry. We predict that a number of sharp antitrust issues in the years ahead will revolve around integrated products, interfaces, and the meaning of "tying" under antitrust law.

Finally, we see a continuation of the clear trend toward a greater role for intellectual property within antitrust.[39] As we noted previously, patents, copyright, and trade secrets—not production facilities or access to raw materials—increasingly are the key sources of competitive advantage in the "knowledge economy." This being the case, it is inevitable that owners of intellectual property rights will push to the limit the advantages such rights confer upon them. These limits are defined not only by the scope of the intellectual property rights themselves, but also by antitrust principles. While former FTC Chairman Robert Pitofsky and former Assistant Attorney General Joel Klein were both keen to point out that the laws governing intellectual property serve the same underlying goal as the antitrust laws—to promote innovation and thus benefit our economy—there is no getting around the fact that tensions arise between these two bodies of law. We expect those tensions to be actively explored in the years ahead by the private litigants, the antitrust enforcement agencies, or both.

38. For one recent survey of the antitrust issues surrounding bundling in high-tech markets, see Sidak (2001).

39. Gilbert and Tom (2001) document this trend nicely in the enforcement actions taken by the DOJ and the FTC during the Clinton years.

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Comments

Robert Pitofsky

The central theme of the Litan-Shapiro chapter is that antitrust enforcement at the federal level was "noticeably more activist" during the eight years of the Clinton administration than in the previous two administrations. That is true as far as it goes, but the substance of antitrust enforcement in the 1990s might be more fully appreciated if examined in a larger historical perspective.

In the 1960s, U.S. antitrust enforcement was extremely aggressive. Practices and transactions were added to the zone of illegal behavior (e.g., conglomerate mergers, agreements based on expectations of reciprocity); abbreviated treatment to find illegality—the so-called per se approach—was expanded to cover additional categories of behavior (e.g., tie-in sales, boycotts, nonprice vertical limits on marketing); antitrust considerations regularly trumped exclusivity rights granted to innovators of intellectual property; price discrimination was frequently challenged under the Robinson-Patman Act; and many transactions among small players in unconcentrated markets were blocked on what would now be regarded as tenuous theories. The most extreme examples of questionable enforcement occurred in the merger area. In one notable case (*Brown Shoe*),[1] a vertical merger in the shoe business was declared illegal when a manufacturer with 4 percent of the production market acquired a distributor with less than 2 percent of the nation's retail sales despite the fact that there was low concentration and moderate or low barriers to entry at both the manufacturing and retailing level; in another example of extreme activism (*Von's Grocery*),[2] a horizontal merger between retail supermarkets in Los Angeles, producing a combined market share of between 8 and 9 percent, was blocked, though there were low barriers to entry and a trend among the leading firms in the market toward deconcentration. The Warren Court, convinced that Congress was committed to an extreme effort to prevent concentration and preserve competitive markets, supported federal enforcement almost without exception.

1. *Brown Shoe Co. v. U.S.*, 370 U.S. 294 (1962).
2. *U.S. v. Von's Grocery Co.*, 384 U.S. 270 (1966).

The heightened level of 1960s antitrust enforcement, and particularly enforcement that was insensitive to legitimate claims of efficiency, was subjected to strong and cogent criticism by many academics and most of the bar. Economists and economically trained lawyers at the University of Chicago are usually credited with the major role in changing the nature of thinking about antitrust, and they did represent the cutting edge. In fact, however, challenges to overenforcement were heard from most points of the academic and legal spectrum.

The result was a substantial diminishing of antitrust enforcement in the 1970s and a reconsideration of some previous draconic rules, especially in the area of scope of per se application to vertical agreements and in merger review. Perhaps demonstrating a rule of life that almost all "revolutions," especially revolutions in ways of thinking, go too far, the 1980s saw a sharp decline in both the number and scope of enforcement activities. Toward the end of the decade, all that remained of antitrust enforcement was an admirably aggressive effort against hard-core cartels (horizontal price fixing and market division) and challenges to a few relatively large mergers and joint ventures among direct competitors. There was a complete or close to complete disappearance of enforcement against exclusionary practices by monopolists or attempts to monopolize, vertical or conglomerate mergers, all vertical distribution arrangements including minimum price fixing (despite the fact that the Supreme Court and Congress had indicated that such practices were anticompetitive), exclusive dealing arrangements and tie-in sales, all boycotts, and all forms of discriminatory pricing. To the extent that enforcement did occur, it was against practices so clearly illegal (like hard-core price fixing) that defendants rarely appealed to the courts, or the cases were settled with agreements on fairly easy remedies. As far as federal enforcement was concerned, the courts were dealt out of the game.

The minimalist enforcement efforts of the 1980s began to change during the four years of the Bush administration. Except for price discrimination enforcement under the Robinson-Patman Act, many of the types of behavior and transactions stricken from the antitrust agenda in the early 1980s were restored.[3]

Now to antitrust enforcement in the Clinton years. In my view, the goal of Clinton antitrust was to focus on basic competitive values and to find a

3. It bears noting that these vast changes in domestic antitrust—bouncing from maximum enforcement to minimalist enforcement and then to something of a middle ground—occurred without participation, other than some commentary from the sidelines, from Congress. It is characteristic of American antitrust in recent decades that virtually all changes in direction occur as a result of prosecutorial discretion (i.e., who to sue and on what grounds) and a few judicial pronouncements. The Supreme Court has rarely reviewed substantive competition rules since the end of the decade of the 1960s.

sustainable middle ground between the overenforcement of the 1960s and the underenforcement of the 1980s—that is, an active but careful program that hopefully would survive the results of future elections. The program was designed with considerable input from economists and from the academic community and characterized by an effort to be sensitive to claims of efficiency, especially when those claims were based on incentives to innovate. Aside from continuation of enforcement against practices restored to the agenda by the Bush administration, the eight years saw a more activist stance with respect to mergers (including challenges for the first time in many years to vertical mergers), challenges to a wide variety of distribution practices including restoration of tough enforcement against minimum resale price maintenance, and challenges to allegedly unreasonable behavior by monopolists—the two leading examples, as the Litan-Shapiro chapter points out, involving challenges to Microsoft and Intel, two giants of the new technology.

Thus, the theme of the Litan-Shapiro chapter—that federal antitrust enforcement was "noticeably more activist"—is valid. However, the differences in antitrust enforcement were probably greater between the Reagan and Bush years than between the Bush and Clinton enforcement efforts. Also, despite an unprecedented merger wave during the 1990s, the percentage of mergers challenged during the Clinton years was about the same as during the first Bush administration, and challenges continued to be organized around the excellent merger guidelines introduced by Assistant Attorney General William Baxter in the early 1980s.

Two aspects of federal antitrust enforcement in the 1990s, noted in the Litan-Shapiro chapter, deserve comment: first, a much greater willingness on the part of the Antitrust Division and the Federal Trade Commission to litigate their cases and, second, imposition across the board—both in criminal and civil enforcement—of more severe penalties.

Far more cases were litigated rather than settled in the 1990s than any decade since the 1960s. This trend had several useful consequences. Once private parties realized that litigation was an option, and the agencies each would throw maximum resources into any litigation effort, they were likely to be more accommodating in settlement negotiations. More important, I believe the bipartisan consensus in the United States that supports reasonable antitrust enforcement depends on a sense that any government initiative eventually must be passed on by the courts. If enforcement initiatives are untested, and yet the parties decline to litigate because of the enormous cost, burden, and delay caused by litigation, concerns arise about the influence of an unreviewed bureaucracy.

Incidentally, it is interesting that the judiciary, clearly more conservative as a result of appointments in the 1980s, nevertheless backed government initiatives in the 1990s to a very high degree. For example, the Federal Trade Commission won nine of eleven cases that resulted in opinions after the parties appealed to the courts.

Finally, more active judicial participation had the desirable consequence of clarifying the law. Much antitrust doctrine in the previous decades had been elaborated in the form of joint Department of Justice–FTC guidelines, including the immensely important and influential horizontal merger guidelines published in 1982 and revised in 1992 and 1997. By litigating, the courts were given an opportunity to embrace and close the gap between the guidelines and pre-1980 law. Thus in the merger area, courts adopted the guidelines approach to measurement of market power (*Staples*),[4] took a more demanding stance when claims were advanced that entry would defeat any price increase occasioned by a merger or other business behavior (*Microsoft*),[5] appeared comfortable with the guideline adoption of various levels where alarms were set off about undue concentration, and elaborated upon and qualified what private parties must do to take advantage of the more generous treatment of efficiencies as a mitigating factor introduced into the merger guidelines in 1997 (*Heinz–Beech Nut*).[6]

In my view, it is not correct to suggest that the Clinton administration litigated for the sake of establishing precedent. But where the parties are unwilling to consent to an order that will fully restore competitive conditions as they existed before the anticompetitive effects of the transaction, the government in my view can only act responsibly by litigating.

The Litan-Shapiro chapter is correct to conclude that remedies, both criminal and civil, became much more severe in the decade of the 1990s. On the criminal side, Antitrust Division enforcement, particularly against international cartels, was extraordinarily successful, and unprecedented fines frequently amounting to hundreds of millions of dollars were imposed and prominent business people were sent to jail. The Criminal Fine Improvement Act of 1987, which had not been used in the antitrust area prior to the Clinton administration, and which provided for an alternative minimum fine of twice the gross pecuniary gain or loss resulting from a violation, had much to do with permitting fines at unprecedented levels. On the civil side, until quite recently the principal non-merger remedy consisted of conduct orders in effect telling the parties that

4. *FTC v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1977).
5. *U.S. v. Microsoft*, Civil Action No. 00–5212 (D.C. Cir. 2001).
6. *FTC v. Heinz*, 246 F.3d 708 (D.C. Cir. 2001).

if they engage in the same or similar conduct again, they would be subject to civil penalties. Unfortunately, the parties often were allowed to keep the illegal gains of the first transaction—subject only to the possibility of private treble-damage actions, which themselves face formidable procedural barriers. In *FTC* v. *Mylan*,[7] a generic drug company allegedly cornered the market on an essential ingredient for its product and promptly raised the price to consumers by about 3000 percent. By the time the government had put together a challenge a little over a year later, the company allegedly had taken in over $100 million in illegal profits. Relying on the court's equitable powers, the FTC persuaded a district court that the proper remedy in these circumstances would be disgorgement, and in fact an elaborate system was introduced that required repayment to exploited consumers of over $100 million. It is far too early to tell, but it may be that the disgorgement approach to civil remedies may in the future have a significant impact on the nature of antitrust law enforcement.

Finally, I would like to offer some thoughts on a set of questions raised in the Litan-Shapiro chapter and in some important cases: did Clinton administration antitrust enforcement depart in serious ways from past practice in discharging its burden of proving anticompetitive effects on competition? The chapter introduces the discussion by noting that Clinton-era enforcers were more comfortable with long-term predictions about market effects.

I would put the point differently. Virtually all antitrust enforcement involves predictions of competitive effect. When the government initiates litigation, it is offering its prediction that the transaction will have an adverse effect on the competitive process and then on consumers. But when the government fails to challenge a transaction, it is similarly making a prediction of long-term effects. In the 1980s, government enforcers regularly declined to challenge mergers on grounds that if the merger led to coordinated behavior and higher prices, the higher prices (in the absence of barriers to entry erected by government action) would attract new entry and defeat the price increase. That is also a long-term prediction. My conclusion is that there is little difference between Clinton-era and earlier enforcement efforts in terms of willingness to make predictions, but rather the difference is in indulging some premises in those predictions. Specifically, Clinton-era enforcement was much less comfortable with the theory that the overwhelming majority of anticompetitive effects would be better addressed through assumed market responses than the enforcement efforts of a band of bureaucrats.

The Litan-Shapiro chapter concludes its discussion of the market-effects point with some expressions of mild skepticism about the validity of the Federal

7. *FTC v. Mylan Labs, Inc.*, 99 F. Supp. 221 (D.D.C. 1999).

Trade Commission's 1998 complaint against Intel. The facts of the FTC-Intel controversy frame the issue of proof of effects so nicely that the case is worth some elaboration. The government had alleged that Intel had achieved and maintained a monopoly position with respect to microprocessors, an essential component of all personal computers. It licensed its technology widely and generally without attempts at coercion, with one striking exception. When it found itself in a controversy involving intellectual property (IP) with one of its licensees, and controversies did arise with respect to at least three licensees, it tried to settle the matter with cross-licenses. But if the negotiations proved unsuccessful and the IP rival refused to agree to terms, Intel withdrew previously provided IP and refused to supply additional IP or advance samples to its challenger. The government alleged that Intel was a monopolist, and, without access to the IP and samples, it would be difficult for the rival company to remain competitively effective in the marketplace.

All agree that the plaintiff's burden is to show "likely" competitive effects. If there are no anticompetitive effects, there can be no antitrust violation. The narrow but critically important issue is, What is the government's burden to establish anticompetitive effects when a monopolist cuts off access to essential technical information as a result of being sued by a rival? Should a monopolist be allowed to engage in self-help in those circumstances? One possible resolution is to infer "likely" competitive effects from the cutoff. If self-help is permitted to a monopolist, the strong will prevail over the weak every time, regardless of the merits of their cases. Existing or potential rivals would then be aware of the consequences if they had the temerity not to reach agreement with the monopolist with respect to intellectual property controversies, and would cave in during future negotiations. Preventing this kind of self-help would not lead to the monopolist giving up its legitimate rights to intellectual property; rather the issue would be settled, as intellectual property disputes are commonly settled, by judges in court.

An alternative approach to the question of the rights of monopolists to terminate relations with IP challengers is to require proof of marketplace effects—as a practical matter, proof that as a result of the monopolist's behavior, prices went up, output declined, or there was a chilling effect on innovation. In the past, antitrust decisions have not required direct proof of price or output effects (see *Lorain Journal, Aspen Ski*)[8] because the burden of demonstrating whether prices went up, went down, or stayed the same as a result of a particular line of behavior is a difficult if not impossible burden to discharge.

8. *Lorain Journal Co. v. U.S.*, 342 U.S. 143 (1951); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

The Litan-Shapiro chapter concludes with the prediction that resolution of problems at the intersection between intellectual property and antitrust will be among the most severe challenges to sensible economic regulation in the future. I agree and particularly admire the analysis in that portion of the paper. I do not believe, however, that limits on self-help by a monopolist when sued by a rival are an example of a difficult area to reconcile. We build courthouses and pay judges to solve that sort of problem.

Comments

Richard Schmalensee

The core of U.S. antitrust enforcement involves cartel behavior and horizontal mergers. In these areas, what's remarkable about the Clinton years is the extent of policy continuity. By any mainstream standard, DOJ's cartel enforcement results during this period are absolutely outstanding. In the merger area, the survival of Bill Baxter's 1982 merger guidelines to 2001 with only "tweaking" is a tribute to Bill and those who worked with him.

Outside these core areas, the Clinton years saw marked increases in antitrust activism, most obviously at the federal level. Before discussing federal enforcement policy in more detail, though, I want to say a few words about what happened outside of the Beltway—at the states and the European Union.

The state attorneys general have become more active on a number of fronts in recent years, particularly and visibly in antitrust. Most recently, they participated in the *Microsoft* litigation and were reliably reported to have blocked its settlement in early 2000. The European Union's antitrust authority, DG Comp, has recently killed the proposed GE/Honeywell merger, even though U.S. authorities had approved it. A few years ago, DG Comp belabored the Boeing/McDonnell Douglas merger after DOJ had approved it.

The causes of these changes at the states and the European Union are complex, and there is no obvious reason to expect them to be reversed in the near term. Thus substantive and procedural concerns raised by greater antitrust activism outside the Beltway are likely to be with us for some time.

Substantively, neither the European Union's statute or case law nor the state unfair competition laws, under which state attorneys general may sue, have the kind of tight focus on consumer welfare that has served to discipline U.S. antitrust policy at the federal level for at least the last two decades. In addition, neither the states nor the European Union can match the economic expertise on which the federal agencies have long relied. DG Comp in Europe pays much more attention to competitors' complaints than the U.S. agencies and, notably in GE/Honeywell, has embraced economic models that have been out of the U.S. mainstream for decades. Indeed, merger-specific efficiencies that U.S. agencies treat as virtues are apparently treated as vices in the European Union if they would be hard for competitors to match. In light of all this, it should be no surprise that Brussels is full of U.S. companies complaining to DG Comp about U.S. competitors.

In terms of procedure, lawsuits by state attorneys general in state courts against out-of-state corporate defendants are not always models of due process. In Europe, DG Comp is prosecutor, judge, and jury. Defendants have very limited opportunity to cross-examine adverse witnesses or even to see adverse evidence, and the appeals process is time-consuming and not defendant-friendly. Add private plaintiffs to the states and the European Union, and we obtain what Judge Richard Posner has called "the cluster bomb" of antitrust: a single complaint about anybody by anybody else may result in a host of lawsuits involving a variety of plaintiffs in different forums under different substantive and procedural rules. The outcome may bear little or no relation to the original injury to consumers, if any. There is every reason to expect this problem to intensify and to be on the agenda at the next one of these conferences a decade hence.

Let me now return to the increase in antitrust activism at the federal level. I find it interesting that Litan and Shapiro, who ought to know, attribute this in part to the rise in the importance of "innovation competition." In industries in which competition focuses on the generation and use of intellectual property, network effects are often important, and, as a consequence of both attributes, competition often centers on winner-take-most struggles *for* the market, rather than price/output competition at the margin *in* the market.

Now it is not obvious, without some argument, why an increase in the relative importance of this sort of dynamic or Schumpeterian competition *for* the market calls for a more activist antitrust policy. Indeed, as Litan and Shapiro discuss, the speed of change in innovation-driven industries poses serious problems for antitrust. (They suggest that expedited process, as in the *Microsoft* case, can mitigate some of these problems. But, particularly in complex cases with high stakes, putting a high weight on procedural efficiency risks denial of due process. And, despite an expedited process, it is very unlikely that any final settlement or court-imposed remedy in the Microsoft case will take effect before 2002—five or six years after the acts that were the focus of the case. This is an eternity in the computer business.)

The rise in innovation competition seems to have been linked to the increase in antitrust activism in the Clinton administration by a particular view of the competitive process in innovation-driven industries. At the core of this view are the notions, present as assumptions in much of the theoretical literature, that competition *for* the market generally happens only once and that network effects are very strong. Relying on these assumptions, it is argued that once any firm somehow acquires even a small market share lead over its competitors, the market tends to tip in its favor, and it is very hard thereafter to dislodge it from market dominance.

To say the least, this is a very static view of what have historically been very dynamic industries; it was surely not Schumpeter's view. The basic notion that competition *for* the market happens only once is blatantly inconsistent with history in many sectors—word processing is an obvious example.

Even if the static, one-shot view of dynamic competition were generally correct, however, it would not imply that increased antitrust activism—which in this context must mean tightening conduct restrictions on market leaders—would in practice make consumers better off. In the first place, this view implies that monopoly is inevitable in high-tech industries; the only issue is which firm gets it. But, despite various urban legends, there is no real evidence that unregulated markets ever get this sort of choice wrong in any important sense. That is, there is little or no evidence of suboptimal performance in innovation-driven markets. Moreover, the substantial probability of judicial error in the face of conflicting testimony about cutting-edge technologies makes it likely that courts would not on average choose monopolists as well as the market.

One other aspect of the treatment of new-economy industries by the DOJ and FTC deserves comment. During the Clinton administration, these agencies sometimes seemed to treat the advantages given to incumbents by network effects as less worthy than, say, the tremendous advantages that Henry Ford once enjoyed because of economies of scale in the production of Model T's. The agencies sometimes seemed to feel that if an incumbent's advantages stemmed in part from network effects, antitrust should be tilted against it to level the playing field for its competitors. Of course, there is no theoretical or empirical support for such a position: network effects provide both advantages to incumbents and real economic benefits to consumers.

Though Litan and Shapiro do not make this point, an important underlying source for the rise in antitrust activism in the Clinton years was surely the erosion of the Chicago consensus in antitrust economics. Through the early 1980s, the Chicago School used basic price theory to argue that some practices, like tying, to which antitrust has been hostile can never harm consumers, even when engaged in by monopolies. These arguments had a strong influence on federal antitrust policy during the Reagan years. By the 1990s, however, game-theoretic tools had been used to show that many of the practices at issue, including tying, can in fact produce anticompetitive results under some, specific conditions.

Unfortunately, this recent work rarely provides simple, practical rules that can reliably sort procompetitive from anticompetitive conduct.

There are several kinds of policy responses one could make to this state of intellectual affairs. The Clinton administration's response is reflected in the paper's observation that increased activism stemmed in part from the greater confidence of Clinton officials "in their ability to correct market failures." That is, in the Clinton years the DOJ and FTC adopted what might be called a *regulatory* approach to antitrust: rather than concentrating on the hard task of establishing economically sound general rules to define lawful conduct and guide business behavior, they concentrated on developing market-specific remedies to correct what they perceived to be market failures. With a market failure identified and a remedy in hand, liability was to be established by any available means.

Full disclosure requires me to admit that I was involved in the 1970s as an expert witness in an earlier instance of this regulatory approach: the FTC's *Ready-to-Eat Cereals* case. I still believe that the remedy the commission proposed in that case would likely have improved market performance. But I have no doubt that basing decisions to prosecute on market performance more than on business conduct—in the *Cereals* case and in the Clinton years—gives rise to significant uncertainty in the business community about the boundaries of acceptable conduct. And though the economic costs of increased uncertainty are rarely visible, they are nonetheless real.

What about the Clinton administration's antitrust legacy? I agree with Litan and Shapiro that the increased activism of the Clinton years will likely be reversed in substantial measure in the George W. Bush administration. Will the civil, nonmerger cases brought in the Clinton years benefit consumers substantially or establish economically sound precedents? At least as regards four of the important cases highlighted by Litan and Shapiro, I think the answer is no on both counts.

The American Airlines case, in which I have not been involved, seems to have been based on the post-Chicago theoretical result that prices can be above cost and yet, by discouraging entry, can injure consumers. As I understand it, the DOJ attempted to persuade the district court to replace the below-cost component of the *Brooke Group* test for predation with a test involving the profitability of increments to capacity and to apply that test to established firms that merely matched prices set by entrants. The district court, which threw out the DOJ's case on summary judgment, was obviously troubled by the departure from previous law. I am more troubled by the difficulty of reliably implementing the standard that the DOJ proposed. If this standard is ultimately adopted by the courts, which seems possible but unlikely, I believe the main result will be to chill price competition. Today, prices above variable cost are almost surely legal; the DOJ's proposed standard would remove this relatively clear safe harbor and, I believe, cause established firms to hesitate to match entrants' price reductions—thus raising prices paid by consumers, at least in the short run.

At least two other panelists know a lot more about the FTC's case against Intel than I do. But I do want to note that it is not obviously sound economic policy to compel market leaders to share intellectual property with customers who are suing them. It is my understanding that the FTC's economic expert admitted there was no way to show that Intel's refusal to share under these conditions harmed consumers. It thus seems unlikely that the settlement ultimately agreed upon by the FTC and Intel will benefit consumers noticeably, and, of course, the case established no precedent.

The DOJ's case against Visa and MasterCard, which is mentioned only briefly by Litan and Shapiro, is a high-water mark of regulatory antitrust. This case would take too much space to describe in any detail, but it is fair to say that the government proposed a thorough reorganization of the credit-card industry based on an organizational design that to my knowledge, and to that of the government's economic expert, has never been tried here or abroad. And, in essence, the antitrust violation alleged was the failure to adopt the government's remedy. (One novel wrinkle was that the remedy proposal ultimately adopted by the DOJ differed in nontrivial ways from the proposal about which its economic expert testified.) As this is written, the trial has been over for almost a year, but the district court has not yet announced a decision. Whatever the final outcome, this case represents an attempt to impose complex regulation of organizational form on an industry that by almost any standard is performing well. Thus, whatever happens, industry performance will not be improved much, and it may well be degraded, and no general rule will be established.

Finally, let me turn to the *Microsoft* case, on which the Circuit Court of the District of Columbia spoke about an hour before this session began. I agree with much, though not all, of what Litan and Shapiro say about the issues in this case, but I do want to add one important issue that, presumably for tactical reasons, neither side stressed. It seems clear from the documents that Microsoft was concerned with the determination of standards for the Internet. In the Microsoft e-mail quoted most prominently by the District Court (Finding of Fact No. 377), for instance, a Microsoft employee says, "we set out on this mission 2 years ago to not let netscape dictate standards and control the browser api's [sic]." Microsoft clearly accomplished this mission, and I would argue that the public interest has been better served by open Internet standards than it would have been if Netscape (or anyone else) had been able to impose proprietary standards.

I believe that *Microsoft* can also be fairly characterized as a regulatory case. The DOJ began with the belief that it had encountered a market failure it should correct. Initially, the core of the liability case was the contention that under the *Jefferson Parish* test, the addition of a browser to a market-leading operating system should be considered a per se illegal tie—illegal regardless of its effects on competition or consumers. I doubt that any economist in the Antitrust Division believes that this standard should be applied broadly to block product integration by leading firms—particularly in high-technology industries. But, until the *Jefferson Parish* standard was apparently rejected by the DC circuit court in a related case, it seemed a convenient club with which to beat Microsoft. After that DC circuit decision, the government elected to try the Microsoft case essentially as a RICO matter, with a wide range of "bad acts" waved before the judge. This approach worked: Judge Jackson has made it clear to the press and in his Findings of Fact that he came to regard Microsoft and its witnesses as corrupt. Very few of these "bad acts" survived examination by the appeals court, although, of course, some did. At the end of the day, I do not believe this case will have a substantial impact on the software industry (unless private plaintiffs obtain ruinous judgments against Microsoft) or that it will contribute to the establishment of clear and economically sound standards for the conduct of dominant firms.

Tying arose in two ways in the Microsoft case. I don't think the attempt to have the addition of Internet Explorer to Windows declared illegal per se, regardless of its costs and benefits, can be characterized as an attempt to clarify the rules. There is, as I said earlier, no economic support for a rule declaring tying illegal per se. I think the only way to describe the per se tying claim in the Microsoft case is as an attempt to find some doctrine under which Microsoft's conduct could be found illegal, thus leading to a remedy that, DOJ believed, would improve market performance.

Tying also arose in the Microsoft case as part of a long list of practices that the DOJ described as illegal monopoly maintenance and as part of a substantially shorter list that the DC circuit court described the same way. In this context, tying by a monopolist is illegal only if it has substantial anticompetitive effects that are not outweighed by efficiency benefits. I have no objection in principle to this sort of analysis of tying, though I would note that the discussion of this issue by both the district and circuit courts (particularly on the issue of "commingling of code") gives one no confidence in the courts' ability to distill understanding of complex technical matters from conflicting testimony.

I think it may be difficult to keep politics out of antitrust policy, depending on what DG Comp does over the next few years and on whether or not its actions are viewed as outrageous. If they are viewed as outrageous by an appreciable fraction of the American people, there will be a political response. I don't think the result will be to politicize prosecutorial decisions by the federal agencies, however. Rather, antitrust would be put on the agenda for high-level international negotiations, and the federal agencies might operate under politically driven instructions when dealing with their counterparts abroad.

Comments

Robert Willig

Robert Litan and Carl Shapiro have produced an excellent chapter. It is a real contribution to the literature and will be extremely helpful in teaching students about antitrust policy in the 1990s. On my next class syllabus, I will put a "star" next to it, signifying that it is a must-read. The paper is both accessible and lively, a rare combination for a paper on antitrust policy. The paper also provides a significant amount of background information and depth about both the policy process and relevant economic theory.

The paper asserts that it tries to be neutral in its reporting. And maybe it did try. But like most lively reporting, it did not succeed in being truly neutral in many important respects. While this failure does not really bother me, I will have to put an extra "star" next to the paper on my reading list so that the students understand that it includes a lot of personal judgments about certain cases. It is important to note that the authors are not always biased toward the Clinton administration. In some instances, an author worked on a case against the administration. The paper often reflects such involvements, and these personal expressions should be noted by the reader.

Let me point to one bias that I take very personally. The paper shows excellent team spirit by taking credit for the good things that happened during the Clinton administration. But a number of these "good things" were really continuations of policies developed during the first Bush administration—or even earlier during the Reagan administration. The Clinton administration did implement a number of sound policies, but we should not forget the broad and strong shoulders that preceded it.

Since it is still June, I'm still in academic mode. Therefore, I have decided to develop a report card for the Clinton administration's antitrust policies. (The grading is on the typical Princeton University curve, which means that a comfortable amount of grade inflation is included.) Emulating every good elementary school report card, I have not produced an overall grade. Rather, I have produced a grade for each subject.

Subject one: breaking up international cartels. The administration deserves an A++. The administration's efforts were off the scale; as the chapter notes, there was a real sea change on breaking up international cartels. Looking to the future, it is important to discuss how the administration achieved such remarkable success. The paper suggests that we should thank the corporate amnesty program. Evidently, the program was responsible for helping kick-start the dramatic string of prosecutions, which broke all previous records by a factor of 10 (in terms of impact on commerce and on penalties collected). If the causal relationship between the corporate amnesty program and the busting of international cartels is right, it should lead us to think seriously about using that kind of tool more pervasively in other government-business relationships. I should note for the record that the amnesty program was engineered by a Bush administration appointee, whom the Clinton administration had the good sense to keep on and to listen to.

Subject two: policy guidelines. Here, the administration deserves an A−, on a senior thesis scale. The administration had some creativity. But the administration largely maintained the Bush administration's guidelines and acted upon them, and where the Reagan administration had good sense, the Clinton administration borrowed from their efforts too. In summary, the policy guidelines were just fine: a little creativity, but not that much, combined with a lot of good judgment.

Subject three: policy overlaps with other agencies. Here again I give the Administration an A−. The paper discusses this issue, and I've had some personal experience in these areas. Thus, I want to grade subcategories.

The first subcategory is overlaps with the Federal Communications Commission (FCC). The Department of Justice (DOJ) provided excellent guidance to the FCC on telecommunications policy. The administration did a good job all around. In this subcategory, it deserves an A+.

The second subcategory is the Department of Transportation (DOT). Here the Clinton administration deserves an A−. The Justice Department did a great job controlling DOT's excesses and stopping DOT's efforts to interfere with airline competition. DOJ was there both explicitly and behind the scenes to keep DOT on track, and with the help of Congress, actually succeeded in holding DOT at bay. Finally, the DOJ made the wise decision to bring a predatory-pricing case against American Airlines with a novel but sound logical structure—although I don't know if the asserted facts are interpreted accurately. Why the A− rather than a better grade? DOJ did not do a very good job interacting with the railroad regulators. DOJ seemed to be influenced by the attitude that it, not the railroad regulators, should analyze rail mergers. Given the DOJ's attitude, I am glad that DOT wound up making the call.

The third, and final, subcategory is the Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC). The Justice Department failed to muster sufficient energy to show DOE and FERC how to promote competition in the energy sector. While no one else has succeeded in this effort either in the energy area, an opportunity was lost.

Subject four: process. Many people do not understand that process is extremely important in antitrust policy. It is very important in providing U.S. businesses with a road map on mergers, acquisitions, and conduct. Here, I give the administration a B+. The administration made little progress on the age-old problems of process. The Federal Trade Commission (FTC) deserves congratulations on their efforts toward greater transparency. The FTC held terrific hearings, produced great reports, and advanced policy on the foundations of the lessons adduced. Thus, good job to the FTC, but a not-so-great job at the DOJ.

Subject five: the cases. In the end, it is perhaps the cases brought that constitute the most important legacy. Here I cannot assign a single grade. There's very high variance from A+ all the way to C− (and, at Princeton, C− is a failing grade).

Case 1: The American Airlines predatory pricing case. The administration deserves an A+. DOJ showed a lot of courage in bringing this case. It articulated just the right economic theories and linked the evidence to them with strength. While I am not a partisan on the case, I appreciate it as an outside observer.

Case 2: The Microsoft and Intuit merger. Many people are not aware of this other Microsoft case. Microsoft tried to buy Intuit, the maker of Quicken—a marvelous financial software package. The antitrust agencies said no, which was probably the right decision. I give the administration an A for the theory. DOJ carefully articulated a brilliant, far-reaching theory of how to analyze competitive effects in the Microsoft-Intuit case. The view was that it is not concentration per se that ought to be the indicator of competition or the lack thereof. The department did not argue about concentration as measured by market shares, which is the traditional way to undertake such analyses. Rather, DOJ made it perfectly clear that the issue involved platforms for competitive advantage and success. The DOJ decided that it was important to count competitive platforms, and that a merger between the two leading platforms would be anticompetitive.

In this case, the two platforms consisted of Microsoft's operating system and Quicken's financial software installed base. As with Microsoft's operating system, people who use Quicken tend to stay with Quicken. Thus the Department argued that combining these two platforms would illegally diminish competition, and I think they probably got that decision right.

Case 3: The Microsoft case. Microsoft was the signature case of the Clinton administration, in the view of the press as well as the Litan-Shapiro chapter. And

I have to give them a C or C– on it. All of my remarks are based on knowledge prior to the appellate decision. Every curve needs a bottom, and for the Clinton administration, the Microsoft case was the bottom of the curve. How did it happen? I think the DOJ got carried away in formulating its complaint and in making its litigation decisions during the course of the case, for reasons that were understandably human. Microsoft, and almost everybody involved in the case on behalf of Microsoft, acted with various degrees of arrogance. But meeting extreme with extreme and arrogance with arrogance is not necessarily conducive to good competition policy.

In my personal view, some of the exclusivity contracts that Microsoft imposed on those dealing with the company were basically measures for self-protection from competition in the economic sense (and dirty tricks in a business sense) that were made possible only because of Microsoft's market power over operating systems. I should note that some prominent economists do not think that Microsoft had the market power from which those dirty tricks were levered. My read on the issue is that Microsoft did have sufficient market power. And those dirty tricks were imposed in an anticompetitive way, which probably was actionable in a properly tailored case.

As the case unfolded, the main issue had to do with the characterization of the bundling of the Explorer browser with the Windows operating system, and the characterization that that bundling was a "tie." Under the law, tying is per se illegal. Unfortunately, this characterization in the case was substantially flawed. The claim that the bundling of Explorer with Windows significantly maintained Microsoft's monopoly is a dramatic reach for a per se theory, since the bundling may have provided important consumer benefits that should be weighed against the asserted foreclosure.

Even Judge Jackson could not find successful monopolization of the browser space. All computer users certainly had Netscape available to them. The bundling that actually occurred in no way displaced rival browsers. You could have downloaded Netscape, even though you had Explorer given to you with your computer. Thus, if there were an adverse impact on competition, it should not be viewed as a per se consequence of bundling that might very well be an important source of consumer benefits, both in the Microsoft context and in other dynamic and progressive industries too.

In closing, let me note that I agree with the chapter that high tech is not immune from antitrust, and I think the world has received that message. In fact, the behavior of Microsoft, Intel, and others has improved in the last few years because of the attention paid by antitrust regulators to the high-tech sector. Nonetheless, as an economist, I am worried about the deterrence of good, aggressive conduct that benefits consumers that may result from treatment like that received by Microsoft by the antitrust regulators and the district court.

Summary of Discussion

Victor Fuchs opened the discussion by referring to the correlation between merger activities and the stock market noted in the paper, and asking whether one can predict a falloff in such activity from the recent decline in the stock market relative to its early-2000 height.

Joseph P. Newhouse opined that the FTC had been right in its cases against hospitals and thought some of the negative outcomes strange. He further questioned the reason for the silence of the FTC in this domain. He had in mind both sides of the market—the health plan side as well as the buyer side.

Robert Pitofsky, in response, pointed out that the FTC has only lost two cases in the last eight years, achieving the best batting average ever. Furthermore, the two hospital merger cases that were lost were both local markets in relatively small cities. Hence, it is not discouragement from losing cases that is keeping the FTC quiet about the issue. The message from the local judges was that they did not think Washington ought to be telling them how many hospitals should be present in their community. In this light, he said that although he is troubled by the trend in hospital mergers in smaller cities, resulting in monopolies in some cases, he thinks it is more sensible to put the FTC's resources to use elsewhere. Concerning the health plan side, Pitofsky noted that the practice has been that the Department of Justice handles this area, not the FTC.

Gregory Mankiw argued that "pushing the envelope" of antitrust laws, as Antitrust Division chief Joel Klein did, is always dangerous, because it creates uncertainty as to what the rules are in any business. He questioned what the guideline is that the government is trying to establish in the Microsoft case, particularly concerning the complaints surrounding the internet browser. There are many firms with dominant positions in their markets; is the government telling all of them, "Once you get a dominant position, you can't use it to introduce new products"?

Carl Shapiro agreed that pushing the envelope creates uncertainty. However, he presumed that Joel Klein and others would say, "We were just trying to keep you on the right side of the line we think was always there, in the context of a new industry." In the American Airlines case, the Supreme Court, among others, was trying to draw a bright line—if you are above cost measured in a certain way, you are clean, and otherwise not. With respect to the Microsoft case, there were already tying cases and tying law, and the question is how those can be applied to software. Working this problem out may inevitably entail some uncertainty, but the lines need to be drawn and clarified in new and emerging industries.

Richard Schmalensee followed up by stating that tying played two roles in the Microsoft case. First, the government charged that integrating the browser in Windows was illegal per se—that is, regardless of its effects. There is no economic justification for this approach, except as an attempt to establish liability and justify imposing a legal remedy. Second, the government charged that tying was illegal monopoly maintenance. To establish this sort of charge, one has to look at the effects of the tie. The Microsoft case began as an attempt to use the per se rule as a club to force Microsoft to change; the case ended up being tried as a RICO proceeding instead, and the judge was clearly convinced by the government that the company, its employees, and its experts were all corrupt.

Peter Orszag asked the panel's views on the progress of the Telecom Act. *Litan* responded that the issue is divisive, and there will be no agreement among the panel. After the Telecom Act had passed, long-distance and local phone companies did not agree with each other, and cable companies were thrown in. It is a combustible mix. He thinks that the act was an improvement, but it was a mistake to pretend that the act was somehow going to lead to nirvana and introduce a lot of competition.

Robert Willig complimented the administration on its telecom policy as far as supporting the FCC statutory law. The Modified Final Judgment (MFJ) settlement against AT&T was a marvel in its time in the 1980s, but it became an albatross around the neck of the industry and policy-makers by the time of the 1990s. Hence, the Telecom Act of 1996 was a remarkable success in replacing the MFJ. The Telecom Act has been litigated up to the Supreme Court a couple of times already, and there is high hope that the Supreme Court will get it right. Arguments are there for the Court to find correctly regarding the economics of the future of the industry.

Robert Lawrence raised a question about the roles played by the Congress and the president in the decision-making process of antitrust policy, as opposed to leaving it up to the competition agencies. He stressed the importance of this point, for it tells us something about how difficult it would be to bring antitrust policy into international trade negotiations, where executives and parliamentary bodies must be involved.

Pitofsky addressed the question posed by Lawrence. For more than 110 years, U.S. antitrust has been judge-made law, more so than in any other country. In the Clinton administration especially, the White House took a more hands-off position in antitrust than at any time in recent history. With high stakes and powerful companies, the entry of the White House into antitrust policy would be a sure road to political scandal. As for Congress, in recent years members have been active in commenting, but not in legislating, in this area.

Litan pointed out that the White House tried to stay as far away as it could for two reasons. First, there were other investigations going on, and second, it is convenient for the White House to have distance, since it did not want to be accused in the press of getting involved. Congress has very intensive interest in cooperation with both the FTC and Justice, and on selective cases it did play a role in heightening the visibility of certain mergers. Congress certainly also took an interest in the Microsoft case. Litan suggested that the role of Congress is to put heat on the DOJ and FTC at various points to avoid a particular outcome.

Willig emphasized the enormous amount of discretionary power in the hands of the assistant attorney general and FTC chairman. The power of appointment takes on remarkable influence in antitrust policy. The individual personas of various past leaders of the antitrust division of the DOJ and of the FTC have been very influential in the conduct of policy, though their influence to some extent reflected deliberate choices by the administration.

Alan S. Blinder asked for panelists' comments on the issue of separation of politics from international antitrust enforcement.

Schmalensee answered that he does not think decisions regarding international enforcement will be politicized in response to recent EU actions, but that there will be a political response if EU actions are viewed as outrageous by an appreciable fraction of the American public.

Shapiro, continuing on the theme of international antitrust enforcement, referred to the recent GE–Honeywell case, in which the European Union's competition authority blocked the merger. He viewed it as extraordinary that President Bush made remarks that the EU decision troubles him. He raised the possibility of retaliation in other areas, which gets into the trade policy issue. He responded to Lawrence's question, agreeing that it is White House tradition not to get involved in mucking around with individual antitrust cases. The Antitrust Division of the DOJ and the Bureau of Competition of the FTC want to describe what they are doing as "law enforcement" rather than "regulation," since law enforcement is straightforward but regulation opens up another whole set of boxes.

Paul Joskow gave the enforcement agents a B– for not playing a more active role in the electricity restructuring and competition initiatives at the Federal Energy Regulatory Commission (FERC). There were staff at the Justice Department and at the FTC who tried to interact with FERC, but limited resources were devoted to these initiatives. He said that one of the problems at FERC has been that there was very little interest in serious economic analysis, although there was much interest in competition. It is crucial that FERC develop a group of economists, like those in the antitrust division of the DOJ or FTC, who can play a more active role on market design issues, market monitoring, and mitigation of market flaws. Currently they do not have enough people with skills necessary to play that role, and the commission is poorly organized to use the skills of those economists it does have effectively. At the DOJ and FTC, economists are fully integrated into antitrust enforcement. At FERC the economists seem to be peripheral to important decisions about market design, market imperfections, and market power mitigation.

Willig added that the staff of the DOJ and FTC had some sound ideas about what was going right and wrong in electricity deregulation, long before anyone thought of it as a crisis. But the problem from the Justice's point of view was that, at FERC or the Energy Department, there was no leadership from the top, no attempt to use the executive branch to try to get such ideas in play.