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The Lawful Acquisition and Exercise of Monopoly Power and
Its Implications for the Objectives of Antitrust

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The antitrust laws of the United States have, from their inception, allowed firms to acquire significant market power, to charge prices that reflect that market power, and to enjoy supra-competitive returns. This article shows that this policy, which was established by the U.S. Congress and affirmed repeatedly by the U.S. courts, reflects a tradeoff between the dynamic benefits that society realizes from allowing firms to secure significant rewards, including monopoly profits, from making risky investments and engaging in innovation; and the static costs that society incurs when firms with significant market power raise prices and curtail output. That tradeoff results in antitrust laws that allow competition in the market and for the market, even if that rivalry results in a single firm emerging as a monopoly, but also prevent firms from engaging in practices that go out of bounds. The antitrust laws ultimately regulate the “boundaries” of the “game of competition.” Three implications follow: First, the antitrust laws and intellectual property laws are based on similar policy tradeoffs between static and dynamic effects. Second, the antitrust rules have, all along, been based on this tradeoff and not on the effects of business practices on static consumer welfare in relevant antitrust markets. Third, one unintended consequence of the increased role of economics in antitrust analysis is to overemphasize the static considerations which are almost the sole focus of the economics literature considered by courts and competition authorities.

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I. Introduction

The antitrust laws of the United States have never prohibited a firm from having a monopoly as such or from enjoying the fruits of monopoly except in special circumstances. This observation is not new.¹ But its consequences for the objectives of antitrust, for the role of static versus dynamic competition in antitrust law, and for the debate over the tension between antitrust and intellectual property law are profound and underappreciated in the literature.

This article draws out the implications of the bedrock principle that neither monopoly nor its profits are unlawful. We highlight two. First, the U.S. antitrust laws recognize the role of “competition for the market” as a major source of innovation and monopoly profits² as the desirable rewards for entrepreneurship. Second, over the long run, the antitrust laws balance the benefits and costs of static and dynamic competition in the overall economy.

These two propositions pull some important additional implications in their wake. One is that there is no fundamental tension between the policies of antitrust law and intellectual property law; both balance the benefits and costs of static and dynamic competition for the economy as a whole. Another is that one cannot reliably appeal to the consumer-welfare objectives of the antitrust laws to rationalize legal tests based on examining short-run effects on price and output in relevant antitrust markets, although there may well be practical and operational reasons for doing so in the larger framework of antitrust analysis.

The article is organized as follows. Section II briefly summarizes the nature of the antitrust laws. As other authors have recognized, the antitrust laws are based on the presumption that society benefits from the competitive game among firms.³ The antitrust laws provide some limited rules to prevent firms from playing this game in ways that could be harmful ultimately.

Section III documents that antitrust policy presumes that it is lawful to have a monopoly and to enjoy the fruits of that monopoly. It then draws out the implications of this principle for the tradeoff between static and dynamic efficiency and to the application of the antitrust laws for developing the “rules of the game.”

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1. See e.g., *United States v. Standard Oil*, 221 U.S. 1, 62 (1911) (“[T]he statute . . . by the omission of any direct prohibition against monopoly in the concrete . . . indicates a consciousness that the freedom of the individual right to contract . . . was the most efficient means for the prevention of monopoly”) (emphasis added). See also PHILIP AREEDA & HERBERT HOVENKAMP, *FUNDAMENTALS OF ANTITRUST LAW* (3rd ed. 2004).
 2. We use the term monopoly for convenience. It should be understood throughout as referring to firms that have significant market power under U.S. law or a dominant position under EC law.
 3. See MASSIMO MOTTA, *COMPETITION POLICY: THEORY AND PRACTICE* 17-19 (2004). For a discussion of how competition leads to welfare see *id.* at 39-53.

Section IV considers the antitrust laws of the European Community. Although the European Community (“EC”) Treaty provides for the regulation of monopoly prices, the European Commission and the Community Courts have been reluctant over the last 50 years to invoke these powers. It is lawful in the European Community to have a monopoly and, by and large, to earn monopoly profits. Most countries follow U.S. or EC competition law⁴ and therefore presume that monopolies and monopoly pricing are lawful per se.

Section V shows that antitrust and intellectual property policy share the same basic objectives. Tension arises mainly because they deal with the tradeoff between static and dynamic competition from different constitutional, legislative, and case law perspectives.

Section VI argues that one can think of antitrust law as following a two-step process. In the first step, antitrust policy considers the effect of practices on long-run economy-wide consumer welfare to assess where to draw the boundaries and thus which practices are clearly lawful or not. In the second step, antitrust policy considers whether particular practices near those boundaries are lawful or not based on a fact-intensive inquiry. The traditional competitive effects analysis of examining the impact of a practice on price and output in a relevant antitrust market provides a method for assessing these close calls.

Section VII argues that the increasing use of economic analysis in competition policy tends to shift the focus away from dynamic competition because most of the economic literature, dating back to the original Chicago work, is based on mathematical models of static competition. There is “static competition bias” that affects how economists analyze antitrust problems. This section also argues that the current industrial organization literature provides limited insights into the tradeoff between static and dynamic competition that is at the heart of how the courts (properly) think about the design of competition rules.

Section VIII makes some brief concluding observations. The article argues that the antitrust laws were designed to promote long-run economic welfare in the economy and have long recognized the importance of allowing firms to obtain monopolies and its rewards for achieving that objective. That has led the courts to establish both boundaries for the game of competition and rules for assessing whether these boundaries have been crossed. This article should not be read as arguing that recognizing the importance of dynamic considerations, in the foundations of antitrust law, necessarily provides a basis for moving those boundaries or modifying those rules in either the United States or European Community. But it does caution against relying on static economic analysis in determining where those boundaries should lie and in devising rules to assess whether those boundaries have been crossed.

4. EINER ELHAUGE & DAMIEN GERADIN, *GLOBAL COMPETITION LAW AND ECONOMICS* (2007).

II. Competition Rules

The Supreme Court significantly shaped the antitrust laws of the United States during the first quarter century after the passage of the Sherman Antitrust Act of 1890.⁵ This culminated in several classic decisions. *Trans-Missouri*,⁶ in 1898, established that judicial interpretations of the Sherman Act would not be based on the common law of contracts in restraint of trade. *Standard Oil*,⁷ in 1911, adopted the rule of reason test while *Chicago Board of Trade*,⁸ in 1918, articulated the process for applying the rule of reason test.⁹ *United States Steel*,¹⁰ in 1921, clarified the limits of Sherman Act Section 2 in its application to monopolies. Some thought that the courts had taken too lenient a view on anticompetitive practices in the first two decades following the Sherman Act. That view led to the 1914 passage of the Clayton Act which proscribed particular practices including price discrimination, exclusive dealing, and tying under certain circumstances.

From their 1890 inception at the federal level, the antitrust laws soon evolved into a process for lightly regulating the competitive process.¹¹ Certain kinds of concerted action such as price fixing were prohibited. Other business behavior could be unlawful if it could be demonstrated that the firm had significant market power and engaged in practices that were seen as restricting competition. As a practical matter though, most businesses, including very large and powerful ones, could engage in an almost limitless range of practices that did not run afoul of the antitrust laws to make profits, fend off competitors, and increase their market shares.

One can see the role of the antitrust laws in the American economy in several ways. From 1890 to 1997, the U.S. Department of Justice (“DOJ”) filed 1,355 civil antitrust cases, or about 13 per year.¹² One estimate suggests only about 20 percent of DOJ cases were for monopolization or exclusionary practices claims; the remainder concerned merger and horizontal per se claims.¹³ That implies that

5. Many authors have examined the objectives of the antitrust laws by examining the history antecedents, the economic environment, and the legislative debate that led to the passage of the Sherman Antitrust Act of 1890. See the collection of papers *THE POLITICAL ECONOMY OF THE SHERMAN ACT: THE FIRST ONE HUNDRED YEARS* (Thomas E. Sullivan ed. 1991).

6. *United States v. Trans-Missouri Freight Assn.*, 166 U.S. 290 (1897).

7. *Standard Oil Co. v. United States*, 221 U.S. 1 (1911).

8. *Chicago Board of Trade v. United States*, 246 U.S. 231 (1918).

9. The rule of reason and per se distinctions were further refined in *Trenton Potteries* case of 1927. *United States v. Trenton Potteries Co.*, 273 U.S. 392 (1927). The boundaries of these rules were not clarified until *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 (1940). See, e.g., KEITH N. HYLTON, *ANTITRUST LAW: ECONOMIC THEORY AND COMMON LAW EVOLUTION* 90-111 (2003).

10. *United States v. United States Steel Corp.*, 251 U.S. 417 (1920).

11. John Vickers, *Abuse of Market Power*, 115 *Econ. J.* F224 (2005).

12. Joseph Gallo et. al., *Department of Justice Antitrust Enforcement, 1955–1997: An Empirical Study* 17 *REV. INDUS. ORG.* 75, 90 (2000). A further 82 were classified as having criminal as well as civil components.

roughly two cases a year involved monopolization or exclusionary practices claims. The same study found only about one-third to one-quarter of DOJ cases were filed against Fortune 500 firms.¹⁴ The Federal Trade Commission (“FTC”) filed 1,061 cases between 1915 and 1969, for an average of about 19 per year.¹⁵

THE LIKELIHOOD THAT ANY PARTICULAR BUSINESS PRACTICE USED BY A FIRM WITH SIGNIFICANT MARKET POWER IS CHALLENGED IS ALMOST CERTAINLY QUITE SMALL.

The U.S. antitrust enforcement agencies have engaged in relatively modest enforcement activities when viewed over long periods of time.

The number of private antitrust cases that were filed varied from 452 to 1528 in the 29 year period from 1971-1999.¹⁶ By way of comparison, the number of corporate tax returns varied from about 360,000 in 1926 to around 497,000 in 1947 to about 4.7 million in 1997.¹⁷ Business size distribution roughly follows the 80:20 rule,¹⁸ in which case the number of businesses that accounted for 80 percent of output varied from 72,000 to 814,000 between 1926 and 1999. If we assume that the antitrust cases were filed only against the firms in the top quintile, the number of private antitrust suits per business ranged from a high of about 1 in 293 firms in 1977 to a low of about 1 in 1,770 in 1997. It is important to keep in mind while considering these statistics that these antitrust cases only pertained to certain business practices that the companies sued engaged in. The likelihood that any particular business practice used by a firm with significant market power is challenged is almost certainly quite small.¹⁹

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13. Detailed breakdowns by type of violation have been compiled for the 1955 to 1997 period. About 38 percent of civil cases filed by the DOJ during this period were for horizontal per se claims (e.g., price fixing, bid rigging, and market/territory/customer allocation schemes) and about 42 percent were for merger violation claims. About 8 percent of cases were monopolization claims and about 12 percent were exclusionary practices claims (e.g., predatory pricing, price discrimination, tying, and exclusive dealing). *Id.* at 95.
 14. Between 1955 and 1997, for which more detailed data have been compiled, cases against Fortune 500 firms accounted for 454 of 1,348 cases based on 1 tabulation, and 631 of 2,689 cases by a second tabulation. *Id.* at 78. These tabulations include both civil and criminal cases. Data on cases against Fortune 500 firms are not available separately for civil versus criminal filings.
 15. Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J. L. & Econ. 365, 369 (1970). To our knowledge, additional details on the types of cases and defendants, or for other time periods, have not been compiled for FTC cases.
 16. RICHARD POSNER, *ANTITRUST LAW* 46 (2nd ed. 2001). Many of these private antitrust cases were against the same defendant over the same issue and many of these involved price fixing. See *id.* at 47. Note that Posner also reports data for the 1960-1964 period; the minimum and maximum number of private antitrust cases in this period are 228 and 2005, respectively. 1739 out of the 2005 cases that occurred in 1962 were against electrical-equipment conspirators.
 17. U.S. CENSUS BUREAU, *STATISTICAL ABSTRACT OF THE UNITED STATES* (various years).
 18. Robert Axtell, *Firm Sizes: Facts, Formulae, Fables and Fantasies* (Center on Social and Economic Dynamics Working Paper No. 44, 2006), arguing that size distribution of U.S. firms approximate a Pareto distribution.
 19. We also recognize that the antitrust laws can have a significant effect in deterring business practices because of the fear of antitrust liability, which would not be captured in the number of cases filed. Such effects are inherently difficult to quantify. We believe the point remains that firms have a lot of latitude in choosing business practices that do not trigger antitrust scrutiny.

To presage the theme of the next section, the antitrust laws did not preclude the existence of large corporations that dominated their industries after 1890 although they certainly reined in some of the excesses of the latter 19th century. We have seen no statistics but in our experience many groupings of products that would ordinarily be defined as a relevant antitrust market have at least one firm with significant market power.²⁰

The antitrust laws provide for a sort of referee process for the game of competition.²¹ The focus is on tactics rather than outcomes. The federal enforcement agencies and private litigants can challenge the tactics taken by a business, such as exclusive dealing, and try to prove to the courts that those tactics should not be allowed. The courts can impose fines and penalties for businesses whose actions have gone out of bounds. While businesses whose actions have been condemned may see a heavy hand, as Standard Oil and AT&T did at opposite ends of the 20th century, the antitrust laws have made relatively modest intrusion into laissez-faire competition.

That is what antitrust is. It is worth emphasizing what it is not.

Antitrust law is not similar to public utility regulation designed to prevent certain companies that are deemed to have monopolies from charging excessive prices or earning too much profit. In fact, none of the U.S. antitrust statutes provides for any direct regulation of the prices charged by, or profits earned, by monopolies. U.S. courts are highly averse to using the antitrust laws to regulate prices even as a remedy for violating the antitrust laws.²²

Antitrust law only concerns certain business actions that fall within its ambit.²³ It is only for these actions that courts will inquire into their effect on consumer

20. There would appear to have been periods where aggregate concentration in the U.S. economy, and/or of the relative importance of the largest firms in the U.S. economy, have increased, but, based on available data, the pattern is not systematic. Measuring concentration at an aggregate level is difficult. The available data are typically reported for markets that do not conform to antitrust markets. In addition, there are a number of other data and measurement shortcomings, such as the growing importance of exports for U.S. firms. For more details on this, see Lawrence J. White, *What's Been Happening To Aggregate Concentration in the United States? (And Should We Care?)*, NYU Economics Working Papers, Working Paper No. 02-03 (2001); F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 59-62 (3rd ed. 1990).

21. See e.g., Thurman Arnold, *Antitrust Law Enforcement, Past and Future*, 7 *LAW & CONTEMP. PROBS.* 5 (1940).

22. One classic statement of this aversion was Judge Wyzanski's discussion of the remedy imposed in *United States v. United Shoe Machinery Corp.*, 110 F. Supp. 295 (D. Mass. 1953). Wyzanski expressed reluctance to regulate United's pricing because such an effort would turn United "into a public utility, and the Court into a public utility commission." *Id.* at 349. Wyzanski also noted that an injunction against United Shoe's price discrimination could not be enforced.

23. See HERBERT HOVENKAMP, *BLACK LETTER ON ANTITRUST* (1993). Hovenkamp dedicates a chapter to each type of business action that is subjected to antitrust law.

welfare. Thus, a firm with significant market power can raise prices, refuse to adhere to standards, cease production of goods and services, and engage in many other tactics that could be shown to reduce consumer welfare in the short- or long run in relevant antitrust markets or in the economy overall. It is at best shorthand, and not really correct, to say that “the purpose of antitrust is to maximize consumer welfare” except in the long-run economy-wide sense that we describe below. In practice, consumer welfare may provide the tiebreaker for those practices that the courts agree should be subject to antitrust scrutiny at all.²⁴

That fact emphasizes the distinction between antitrust economics and antitrust law. Modern economic models can establish whether certain business practices can reduce consumer or social welfare in the short run under certain assumptions. These models can also be used to examine whether certain practices reduce consumer or social welfare in the factual context of a case. Modern economic models do not generally provide the courts with much help, however, for assessing whether a practice should be subject to antitrust scrutiny. Indeed, the same basic models that show that cartel price fixing reduces social welfare also show that monopoly pricing reduces social welfare. These models therefore over-identify anticompetitive practices.²⁵ The discipline of economics helps inform the application of antitrust analysis by the antitrust authorities and the courts. The antitrust laws themselves are based on a series of judgments made by the various branches of government, and especially the courts, concerning the role that the antitrust laws and institutions should play in regulating the market economy.

That leaves the question of why the United States has adopted this particular approach for regulating the competitive process and what series of judgments lie, at least implicitly, behind this approach.

24. It is well recognized that the courts do not seek to prohibit monopoly pricing or other exercises of monopoly power. See, e.g., *Verizon v. Trinko, LLP*, 540 U.S. 398 (2004). But courts do commonly attempt to assess the effect on consumer welfare of those practices that are subject to review. See, e.g., John E. Lopatka & William H. Page, ‘Obvious’ Consumer Harm in Antitrust Policy: *The Chicago School, the Post-Chicago School and the Courts*, in *POST-CHICAGO DEVELOPMENTS IN ANTITRUST LAW* 129, 129-132 (Antonio Cucinotta et. al., eds.2002)

25. Economists typically rely on factors outside their formal models to rationalize judicial decisions that have made some practices but not others subject to the antitrust laws. These factors include error costs, judicial costs, and effects on the incentives to innovate. See David S. Evans, *Economics and the Design of Competition Law*, in *ISSUES IN COMPETITION LAW AND POLICY* 99 (D. W. Collins ed., 2008); Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and Microsoft*, 8 *GEO. MASON L. REV.* 1 (1999); Frank Easterbrook, *Predatory Strategies and Counterstrategies*, 47 *U. CHI. L. REV.* 263 (1981).

III. The Objective and Premise of U.S. Antitrust Law

Previous works on the objectives of the antitrust laws have taken one of two approaches. A number of authors have tried to ascertain the “objective function” of antitrust from the legislative history of the Sherman Act.²⁶ Robert Bork, in perhaps the most influential work of this genre, argued that Congress intended the Sherman Act to maximize consumer welfare.²⁷ Some scholars have also relied on the legislative history to argue that Congress had other objectives in mind such as the protection of small businesses.²⁸ Other authors have concentrated on examining what the objectives of the antitrust laws should be. Older debates have surrounded whether the antitrust laws should focus entirely on consumer welfare rather than redistribution of wealth and other possible objectives. More recent discussions have focused on whether antitrust should seek to maximize consumer or total welfare.²⁹

A. A REVEALED PREFERENCE APPROACH TO THE OBJECTIVES OF THE ANTITRUST LAW

We take a different approach based on what economists call revealed preference.³⁰ Suppose, for the same price and length of time, a consumer can go to an

26. An objective function refers to what decision makers are seeking to maximize. Economists assume that consumers maximize a utility function which is based on their preferences for different goods and services subject to their budget constraints. Economists assume that businesses are maximizing a profit function. Economists ordinarily assume that a benevolent social planner would maximize social welfare.

27. Bork writes “. . . the policy the courts were intended to apply is the maximization of wealth or consumer want satisfaction. This requires courts to distinguish between agreements or activities that increase wealth through efficiency and those that decrease it through restriction of output.” See Robert H. Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J. L. & ECON. 7 (1966). We agree with Bork that the legislative intent of the Sherman Act was broadly to advance consumer welfare. Bork’s analysis, including his quotes from Senator Sherman, illustrates some of the confusion in the subsequent literature. It mixes statements and concepts that correspond to classic static welfare maximization with those that correspond to dynamic total welfare maximization. For example, in a typical passage Bork notes that “[C]ongress was very concerned that the law should not interfere with business efficiency. This concern, which was repeatedly stressed, was so strong that it led Congress to agree that monopoly itself was lawful if it was gained and maintained only by superior efficiency.” *Id.* at 12.

28. Lande argues that wealth transfer was the original objective. See Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Economic Efficiency Interpretation Challenged*, 34 HASTINGS L. J. 65 (1982). Hovenkamp argues that the protection of small businesses was a key objective. See Herbert Hovenkamp, *Antitrust’s Protected Classes*, 88 MICH. L. REV. 1 (1989).

29. See e.g., Joe Farrell & Michael Katz, *The Economics of Welfare Standards in Antitrust*, 2 COMPETITION POL’Y INT’L 3 (2006); Ken Heyer, *Welfare Standards and Merger Analysis: Why Not the Best?* 2 COMPETITION POL’Y INT’L 29 (2006).

30. For a text that covers revealed preference, see ANDREU MAS-COLLEL ET. AL., *MICROECONOMIC THEORY* 14 (1995).

opera or have dinner followed by a movie. The consumer chooses dinner and the movie. The consumer has revealed something about the underlying utility function she is seeking to maximize, subject to her budget constraint: the combination of dinner and the movie dominates opera. In the case of antitrust law we examine what choices the courts and other branches of government have made. From those choices we infer something about the objective function that those policymakers are maximizing.

The following broad choices have emerged from the U.S. antitrust laws:

- It is lawful for a firm to have significant market power.³¹
- It is lawful for a firm to engage in a multitude of practices that help it acquire significant market power.
- It is unlawful for a firm to engage in certain practices that help it acquire or maintain significant market power.³²
- It is lawful for a firm to engage in a multitude of practices that enable it to maintain significant market power including holding on to a monopoly.
- It is unlawful for a firm to collude with other firms over setting prices and other market parameters.
- It is normally unlawful to acquire significant market power through a merger, acquisition, or joint venture.

These choices reveal several aspects of the underlying purpose of the antitrust laws.

First, the proscribed and permitted activities are not consistent with the view that the antitrust laws are seeking to maximize static consumer or social welfare in a relevant antitrust market. We know from the basic monopoly welfare loss triangle shown in Figure 1 that greater market power results in consumers paying higher prices, obtaining less output, and receiving less consumer surplus than they would with lesser market power. Greater market power also results in lower social surplus since the exercise of market power results in units of output not being produced for which the value of the output to consumers is greater than the cost to society of producing that output. Yet the antitrust laws provide businesses with wide latitude for acquiring and exercising significant market power.

31. Significant market power includes the extreme case of having a monopoly.

32. Over time the courts have changed their views on whether certain practices should be treated under a per se rule or the rule of reason and have made some practices that could have been the basis for antitrust liability either per se lawful or presumptively lawful.

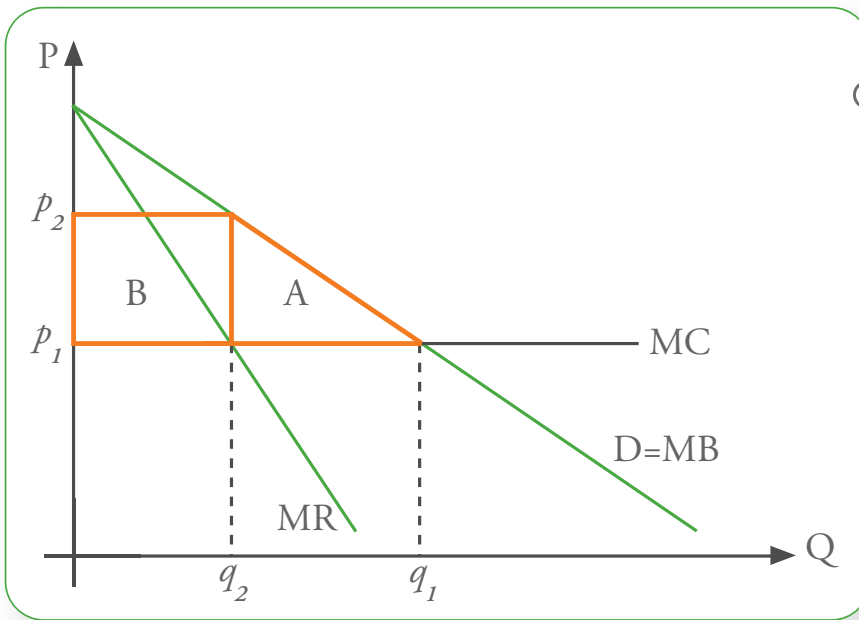


Figure 1

Monopoly pricing
and consumer
welfare

Second, the proscribed and permitted activities are not consistent with the view that the antitrust laws are seeking to maximize dynamic consumer or social welfare in a relevant antitrust market—in the sense of fostering a process of Schumpeterian creative destruction in that market.³³ Firms can exercise significant market power over long periods of time. They can do so even if they obtained that market power through luck or government-backed barriers to entry. The antitrust laws provide no facility for restraining dominant firms from charging high prices and earning significant profits. Firms with significant market power can also engage in a variety of actions that help them maintain that power such as advertising, various loyalty schemes, and obtaining patents.³⁴ They can, in practice, erect numerous barriers or benefit from ones that occur naturally, such as network effects, which deter entry.

Third, the proscribed and permitted activities are not consistent with other objectives that have been ascribed to the antitrust laws. They provide only limited relief to small businesses. Through many lawful means, larger firms can increase their market shares and in the course of doing so put smaller firms out

33. For an in-depth discussion of Schumpeter and Creative Destruction, see Thomas K. McCraw, *Joseph Schumpeter on Competition*, 4(2) COMPETITION POL'Y INT'L (2008).

34. In *California Computer Products v. International Business Machines*, 613 F.2d 727 (9th Cir. 1979), the court ruled that limiting monopolist right to engage in R&D would harm technological progress. In *SCM Corp. v. Xerox Corp.*, 507 F.2d 358 (2d Cir. 1974), the court ruled that accumulating patents, no matter how many, is not itself illegal. See also, *California Dental Association v. FTC* 526 U.S. 756 (1999) holding that prohibitions to advertise were not a form of cartelization; *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977) discussing exclusive territories; *State Oil Co. v. Kahn*, 522 U.S. 3 (1997), discussing resale price maintenance.

of business. Small businesses can seek protection only if these larger firms engage in a relatively limited number of practices that have been deemed anticompetitive. More generally, the antitrust laws do not pursue a populist objective function. They do not allow the redistribution of income from firms with significant market power to other parts of society. Nor do they provide a forceful tool for preventing the significant agglomeration of significant economic—and, perhaps, political—power.

Before we describe the objective function that we argue is behind the antitrust laws, it is helpful to take a brief detour into the political debate that led to the passage of the Sherman Act and influenced its early evolution.

B. MONOPOLY POWER AND THE EARLY HISTORY OF ANTITRUST

There is no dispute that the Sherman Act was enacted in response to public concerns over the rapid rise of very large firms and certain practices that those firms engaged in with respect to their rivals and to other businesses.³⁵ There were diverse views, however, on the extent to which the consolidation of American industry was a problem and how the country should deal with it.³⁶

The Democratic party of the time took the position that there is no good monopoly. Williams Jennings Bryan, the Democratic nominee for the Presidency in 1890, said,

“I do not divide monopolies in private hands into good monopolies and bad monopolies. There is no good monopoly in private hands. There can be no good monopoly in private hands until the Almighty sends us angels to pre-
side over the monopoly.”³⁷

The Democratic platform of 1900 asserted:

Private monopolies are indefensible and intolerable. . . . They are the most efficient means yet devised for appropriating the fruits of industry to the benefit of the few at the expense of the many, and unless their insatiate greed is checked, all wealth will be aggregated in a few hands and the Republic destroyed.”³⁸

35. See, e.g., PHILIP AREEDA ET. AL., *ANTITRUST ANALYSIS: PROBLEMS, TEXT, CASES* 34-35 (2004).

36. Historian Richard Hofstadter provides a helpful summary which we draw upon. See Richard Hofstadter, *What Happened to the Antitrust Movement*, in *THE POLITICAL ECONOMY OF THE SHERMAN ACT: THE FIRST ONE HUNDRED YEARS* 20 (Thomas E. Sullivan ed. 1991).

37. Williams Jennings Bryan, *The Man before the Dollar: Society Not Enthralled to the Institution Solely Because the Institution Exists: The Remedy of Congressional License* in *CHICAGO CONFERENCE ON TRUSTS: SPEECHES, DEBATES, RESOLUTIONS, LIST OF THE DELEGATES, COMMITTEES, ECT.*, 497 (1900).

38. TRIBUNE ASSOCIATION, *THE TRIBUNE ALMANAC AND POLITICAL REGISTER* 1901, 65 (1901).

Advocates for the powerful trusts took the opposite view, though they were comparatively reticent to speak in the face of hostile public opinion.³⁹ The near absence in Congress of strong vocal opposition to the Sherman Act may have reflected a perception on the part of opponents that the statute would be innocuous while dampening demands for more radical efforts to regulate the trusts.⁴⁰ The strongest statement against the principle of the Sherman Act was offered by Senator Platt of Connecticut:⁴¹

“Unrestricted competition is brutal warfare, and injurious to the whole country . . . The true theory of this matter is that prices, no matter who is the producer or what the article, should be such as will render a fair return to all persons engaged in its production, a fair profit on capital, on labor, and on everything else that enters into its production . . . I believe that every man in business . . . has a right, a legal and moral right, to obtain a fair profit upon his business and his work; and if he is driven by fierce competition to a spot where his business is unremunerative, I believe it is his right to combine for the purpose of raising prices until they shall be fair and remunerative.”⁴²

Both extreme views were rejected when it came to adopting an antitrust policy. Instead, Congress passed legislation that put more teeth into the common law treatment of monopoly. The common law had historically refused to enforce contracts that were unreasonable restraints of trade (the classic case is *Davenant v. Hurd* in which the tailor guild required that half of all cloth finishing for its members must be done by its members) and prohibited monopolies that had been acquired in certain ways (the classic case being the Queen’s grant of a monopoly in playing cards in *Darcy v. Allen*).⁴³ Instead of just dissolving illegal-

39. WILLIAM LETWIN, *LAW AND ECONOMIC POLICY IN AMERICA: THE EVOLUTION OF THE SHERMAN ANTITRUST ACT*, 54-55 (1981).

40. HANS THORELLI, *THE FEDERAL ANTITRUST POLICY: ORIGINATION OF AN AMERICAN TRADITION* 215 (1955).

41. *Id.* at 198. The most vocal critic of Senator Sherman’s proposed antitrust statute was Senator James George, see LETWIN, *supra* note 39, at 89. However, George did not object to the principle of the Sherman Act. George attacked the statute as unconstitutional and ineffective, though Bork’s account suggests that George also believed that the trusts sometimes hurt small businesses by offering superior products, or lower prices attained through scale economies. Bork, *supra* note 27, at 17; see also, LETWIN, *supra* note 39, at 89-90 (describing George’s critique of the Sherman’s bill for its inability to distinguish desirable combinations from undesirable combinations, its unconstitutionality, and its ineffectiveness.)

42. THORELLI *supra* note 40, at 198.

43. 1 Clode, *Early History of the Guild of Merchant Taylors* 393-94 (1888); 11 Coke 84, 77 Eng. Rep. 1260 (K.B. 1603); see also DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 632 (4th ed. 2004).

ly acquired monopolies and refusing to enforce restraints on trade, Congress provided for a system of criminal punishment that later evolved into a system of competition-based torts.⁴⁴

William Letwin, in his classic work⁴⁵ on the origins of the Sherman Act, argues that this approach can be seen as recognizing that both competition and monopoly had their place in the economic system.⁴⁶

“The economists thought that both competition and combination⁴⁷ should play their parts in the economy. The lawyers saw that the common law permitted combination in some instances and prohibited it in others. Congressmen seized on this hidden agreement, and set out to construct a statute which by the use of common-law principles would eliminate excesses but allow ‘healthy’ competition and combination to flourish side by side.”

Robert Bork has argued that Congress intended that the Sherman Act would outlaw practices that harmed consumer welfare.⁴⁸ He seems to have in mind static consumer welfare which falls when firms reduce output below the efficient level.⁴⁹ That strikes us as an overly simplistic interpretation and one that is not consistent with either the actual law or its subsequent implementation. Any firm that has market power restricts output below the level that an economic engineer seeking to maximize consumer welfare would set. Monopolies cause the greatest loss in consumer welfare—all else being equal. There is no economic reason why anyone seeking to maximize static consumer welfare would prohibit

44. The Sherman Act is a criminal statute. The right to bring a private action may have been implied, but did not become clear until the passage of the Clayton Act in 1914. Section 4 of the Clayton Act provides for private actions for treble damages. See, e.g., Hylton, *supra* note 9, at 47-60.

45. LETWIN, *supra* note 39, at 85.

46. At least some of the leading economists of the day were dubious about the whole antitrust enterprise. Richard Ely, who was the founder of the American Economic Association and the leader of a group of economists who rebelled against the laissez-faire tradition, seems to have recognized the loss of efficiencies in breaking up combinations such as the railroads and the need for direct regulation of prices. See RICHARD ELY ET. AL., *OUTLINES OF ECONOMICS* 153 (2nd ed. 1912).

47. The word “combination” was used at the time to refer to firms that had become large through internal growth as well as through mergers.

48. See Bork, *supra* note 27.

49. Bork tends to equate anticompetitive practices as ones that reduce output and, although this is sometimes vague, in relevant antitrust markets.

cartels from engaging in price fixing that may lead to a monopoly price but allow monopolies to set a price that leads to a similar welfare loss.⁵⁰ One can attempt to reconcile this stark distinction by appealing to a multitude of factors, including the dynamic ones considered below. But these explanations lead inevitably to frameworks in which static consumer welfare maximization is, at best, one element. And these factors are usually brought in as *deus ex machina* to reconcile what are facially inconsistent results.

Since the passage of the Sherman Act there have been periodic attempts to revisit the extent to which the antitrust laws should deal with the “monopoly problem.” The most famous, as well as the most successful, is the legislative package enacted in 1914, the Clayton and FTC Acts. The Clayton Act directed courts to apply a more rigid legal test—a type of *per se* rule—to tying, exclusive dealing, and price discrimination.⁵¹ The FTC Act created the Federal Trade Commission and gave it power to prosecute “unfair methods of competition” which might be difficult to pursue under the Sherman Act because of the evidentiary requirements.⁵² Both statutes sought to tighten the constraints on monopoly firms. The Clayton Act, as originally interpreted, did so by removing certain practices from the rule of reason framework established in *Standard Oil*. The FTC Act tightened constraints by creating an alternative enforcer that could pursue the anticompetitive conduct that was potentially immune because of the demanding evidentiary requirements of the Sherman Act. Both statutes have been interpreted more recently in a fashion that harmonizes them with the Sherman Act. More importantly, though, both statutes and the common law surrounding them have stayed well within the boundaries of the Sherman Act by taking a light hand with the monopoly problem.

More serious efforts to revisit the regulation of monopolies have failed to be enacted as law. For most of the first half of the Sherman Act’s life, there were repeated attempts in Congress to enact federal incorporation statutes that would impose strict competition-based regulations on large corporations.⁵³ The federal incorporation statutes would have provided a direct route to preventing firms with monopoly power from either exploiting or enhancing that power through methods that would not violate the antitrust laws. The last federal incorporation

50. That was especially the case for the early years of the antitrust laws. The independent railroads that formed combinations were early targets. Without judging the issue, one can easily come up with reasons that these combinations increased consumer welfare, including by permitting coordination of traffic over a network or disciplining inefficient price wars resulting from railroads having high fixed sunk cost investments and low marginal costs. ELY, *supra* note 46, states that breaking up these combinations had unfortunate consequences.

51. For a general description, see HYLTON, *supra* note 9, at 47-48.

52. *Id.*

53. Daniel A. Crane, *Antitrust Antifederalism* 96 CAL. L. REV. 1 (2008)

attempt was the failed 1937 Borah-Mahoney bill that would have required corporations operating in interstate commerce to be licensed by the FTC.⁵⁴

In response to recommendations of the White House Task Force on Antitrust Policy (Neal Report), in 1971 Congress considered a statute that would require the restructuring of oligopolistic industries, and, in 1973, another statute that would require dissolution of monopolies.⁵⁵ As recently as 1979, the National Commission for the Review of the Antitrust Laws and Procedures proposed that the Sherman

Act be amended to permit the government to seek dissolution in the absence of a finding of monopolization under Section 2.⁵⁶

THEREFORE, THERE HAS BEEN A CONSENSUS BETWEEN THE JUDICIAL AND LEGISLATIVE BRANCHES OF GOVERNMENT, FOR MORE THAN A CENTURY, THAT WHATEVER EVILS MONOPOLY MAY BRING, SOCIETY WOULD BE WORSE OFF REGULATING OR PREVENTING FIRMS FROM SEEKING, OBTAINING, AND EXERCISING MONOPOLY POWER.

Therefore, there has been a consensus between the judicial and legislative branches of government, for more than a century, that whatever evils monopoly may bring, society would be worse off regulating or preventing firms from seeking, obtaining, and exercising monopoly power.

There have also been periods in which the courts or antitrust enforcement agencies have taken a more hands-off approach. Posner's statistical study suggests that the DOJ was relatively quiet on antitrust matters from roughly 1910 to the late 1930s.⁵⁷ The Reagan administration introduced a shift in priorities away from monopolization cases that has continued in subsequent Republican administrations. But this variation has happened along a line that was drawn far away from regulating the outcomes of the competitive struggle among businesses, including ones that lead to monopoly.

C. WHAT THE COURTS HAVE SAID ABOUT MONOPOLY

To see how the courts have viewed firms with significant market power it is helpful to start with a decision that appears midway in the history of U.S. antitrust and is often viewed as one of the least friendly to firms sitting on enormous market shares: Judge Learned Hand's famous opinion in *U.S. v. Alcoa*.⁵⁸ The lower

54. *Id.* at.23-25.

55. See, e.g., AREEDA ET. AL., *supra* note 35, at 418.

56. Crane, *supra* note 53, at 26.

57. Posner, *supra* note 15, at 368.

58. *Alcoa* was decided by the 2nd Circuit Court of Appeals, on which Hand sat, because too many of the members of the Supreme Court had to recuse themselves. *U.S. v. Aluminum Co. of America*, 148 F.2d 416 (2nd Cir. 1945).

court had ruled against the government on the grounds that, although it had shown that Alcoa had a monopoly, it had failed to prove that Alcoa had engaged in anticompetitive conduct. Hand's opinion overturned the lower court and found that Alcoa had violated Sections 1 and 2 of the Sherman Act. He embraced the view that the purpose of the Sherman Act, and other government policy, "was to perpetuate and preserve, for its own sake and in spite of possible cost, an organization of industry in small units which can effectively compete with each other." He emphasized that Alcoa's sheer size enhanced its ability to engage in abuse.

Judge Hand also accepted, however, that there was nothing wrong with monopoly as the outcome of the competitive process. His views on this are worth quoting in full rather than just the famous last line:

"Nevertheless, it is unquestionably true that from the very outset the courts have at least kept in reserve the possibility that the origin of a monopoly may be critical in determining its legality; and for this they had warrant in some of the congressional debates which accompanied the passage of the Act. This notion has usually been expressed by saying that size does not determine guilt; that there must be some "exclusion" of competitors; that the growth must be something else than "natural" or "normal"; that there must be a "wrongful intent," or some other specific intent; or that some "unduly" coercive means must be used. At times there has been emphasis upon the use of the active verb, "monopolize," as the judge noted in the case at bar. What engendered these compunctions is reasonably plain; persons may unwittingly find themselves in possession of a monopoly, automatically so to say: that is, without having intended either to put an end to existing competition, or to prevent competition from arising when none had existed; they may become monopolists by force of accident. Since the Act makes "monopolizing" a crime, as well as a civil wrong, it would be not only unfair, but presumably contrary to the intent of Congress, to include such instances. A market may, for example, be so limited that it is impossible to produce at all and meet the cost of production except by a plant large enough to supply the whole demand. Or there may be changes in taste or in cost which drive out all but one purveyor. A single producer may be the survivor out of a group of active competitors, merely by virtue of his superior skill, foresight and industry. In such cases a strong argument can be made that, although the result may expose the public to the evils of monopoly, the Act does not mean to condemn the resultant of those very forces which it is its prime object to foster: *finis opus coronat*. The successful competitor, having been urged to compete, must not be turned upon when he wins."

As Hand summarizes the state of antitrust jurisprudence in 1945 there is nothing unlawful about obtaining monopolies by “superior skill, foresight and industry.” The monopoly is the “end that crowns the work” (*finis opus coronat*). Nor is there anything troubling if a firm gets the monopoly through “accident.” This view echoes Supreme Court decisions that stretch back through the previous half century of antitrust. The most prominent pre-*Alcoa* monopolization decisions, *Standard Oil* and *U.S. Steel*, stress the distinction between lawful and unlawful methods of gaining monopoly power.⁵⁹ Indeed, the law was much more protective of monopolization efforts before *Alcoa*, because the courts required evidence of “specific intent” to monopolize.⁶⁰ Judge Hand’s key change in the law of monopolization was to scrap the specific intent requirement. This was justified in his view because a monopolist, merely by setting his price at the monopoly level, causes the same harm to consumers as cartels do.

Antitrust law has moved far way from many of the anti-big business views expressed by Judge Hand in *Alcoa*. However, his analysis of why monopolies that win the competition for the market through superior skill, foresight, and industry have not violated the antitrust laws merely because of their success has become the standard treatment. All subsequent Section 2 decisions have embraced this view. Indeed, the fundamental test for monopolization, adopted after the *Alcoa* decision, requires the possession of monopoly power and “the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historical accident . . .”⁶¹ The variation observed in the post-*Alcoa* case law is not over whether lawful monopolization exists, but precisely how to define the boundary between lawful and unlawful monopolization. *Alcoa* opened the door for courts to define a much larger set of activities as unlawful than would have been permissible under the pre-*Alcoa* law. But, for the most part, courts have been conservative in accepting *Alcoa*’s invitation. They have looked for practices that seem to raise a special risk of maintaining monopoly—such as the lock-in contracts condemned by Judge Wyzanski in *United Shoe*.⁶² And more recently courts have come close, in the areas of predatory pricing (*Brooke Group*)⁶³ and essential facilities (*Trinko*),⁶⁴ to returning to the specific intent requirement of the pre-*Alcoa* law.⁶⁵

59. See, e.g., AREEDA ET. AL., *supra* note 35, at 368-372; HYLTON, *supra* note 9, at 186-188.

60. See, e.g., HYLTON, *supra* note 9, at 187-192.

61. *United States v. Grinnell Corp.*, 384 U.S. 563, 570-1 (1966).

62. *United States v. United Shoe Machinery Corp.*, 110 F. Supp. 295 (D. Mass. 1953), *Aff’d Per Curiam*, 347 U.S. 521 (1954).

63. *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993).

64. *Verizon Communications v. Law Offices of Curtis v. Trinko, LLP*, 540 U.S. 398 (2004).

65. See, e.g., HYLTON, *supra* note 9, at 202-219.

D. COMPETITION RULES

The antitrust laws are based on an objective and a premise.

The objective is economic progress broadly defined or, in the language of economics, long-run economy-wide consumer welfare. We believe the choices made by the legislatures and the courts are consistent with focusing on maximizing the performance of the economy, for the benefit of consumers, over long periods of time. We cannot conceive of their revealed preferences being consistent with any other objective function.

The premise is that the competitive process can generally be relied on to maximize long-run economy-wide consumer welfare. The pursuit of the crown of monopoly has been accepted by the courts and implicitly by the legislature as an important aspect of the competitive process. So much so, in fact, that the courts and legislature do not even want to distinguish between a monopoly that arrives through “accident” and one that arrives through superior skill.

In light of this objective and premise, the courts tend to proscribe business practices only when they become confident that these practices interfere with economic progress. That involves identifying situations in which the costs that consumers incur from the exercise of market power in relevant markets are substantial and outweigh the dynamic social benefits that the economy receives from allowing firms to receive monopoly profits as a reward for successful market competition. This tradeoff is between local costs (i.e. from those incurred in relevant antitrust markets) and global benefits (i.e. from stimulating investment and innovation in the overall economy).⁶⁶ Hardcore cartels are prohibited because the courts—and the U.S. Congress in passing the Sherman Act—have judged that the monopoly profits from cartels do not provide dynamic economy-wide social benefits that could offset the consumer welfare loss in relevant markets.⁶⁷ This global versus local tradeoff is central to our thesis and subsumes the more traditional static versus dynamic efficiency tradeoff.

66. To be precise, the tradeoffs are between the effect of prohibiting practices on consumer welfare loss in relevant antitrust markets including the deterrence effects of prohibiting those practices and the effect of those prohibitions on the incentives for making risky investments that could increase long-run consumer welfare in a variety of ways.

67. This judgment seems right to us but is not based on rigorous economic theory or empirical work. The prospect of sharing in cartel profits could induce entry and innovation in many of the same ways as the prospect of obtaining unilateral monopoly profits do. Similarly, one could argue that cartels may be necessary in a high-fixed cost oligopolistic industry subject to ruinous competition; see MICHAEL WHINSTON, *LECTURES ON ANTITRUST ECONOMICS* 16 (2006). This is an example of one of many aspects of antitrust in which modern economics rather incompletely informs the policy judgments that necessarily lay at the heart of antitrust law—a subject that we come to later in this article.

IV. Monopoly in European Community Competition Law

Our conclusion that the U.S. antitrust laws have a “revealed preference” for an objective function that maximizes long-run economy-wide social welfare applies with some qualification to EC competition law as well.

We focus our attention on Article 82 of the EC Treaty which pertains to abuses of a dominant position.⁶⁸ Under EC case law a firm has a dominant position if it “can hinder the maintenance of effective competition on the relevant market by allowing it to behave in an appreciable extent independently of its competitors and customers and ultimately of consumers.”⁶⁹ As a practical matter, firms are usually found dominant if they have market shares of 50 percent or more and sometimes as low as 40 percent.⁷⁰ One can consider a dominant firm as one that has significant market power. The European Commission investigates and determines whether a firm has abused a dominant position. Its decisions can then be appealed to the European Court of First Instance and the European Court of Justice.⁷¹

Article 82 provides for two sorts of abuses.⁷² The first are exclusionary abuses which are similar to those found in U.S. case law. The major difference is that the European Community treats most of these abuses under an essentially per se rule. A firm has committed an abuse if it is dominant and has engaged in the pro-

68. The European Community’s antitrust laws are based on two articles of the Treaty of Rome that established the European Community in 1957. These articles were renumbered in subsequent treaties.

Article 81 concerns concerted practices and is similar to Sherman Section 1 except insofar as Article 81(3) provides an explicit examination of efficiency rationales for horizontal agreements. The European Community’s treatment of mergers and coordinated practices are similar to those in the United States, at least for the purposes of our discussion. For an introduction to EC competition law generally, see BELLAMY AND CHILD: EUROPEAN COMMUNITY LAW OF COMPETITION: (Peter Roth & Vivien Rose eds., 6th ed. 2008).

69. Case 322/81, *Michelin v. Comm’n*, 1983 E.C.R. 03461.

70. In T-219/99, *British Airways v. Commission*, 2003 E.C.R. II-05917, ¶¶ 211, 225, British Airways was found dominant in the context of Article 82 with a share which had declined from 46 percent to just under 40 percent during the period of abuse. The finding relied heavily, though, on the fact that the rest of the market was very fragmented. Subsequently, in Case COMP/38.233, *Wanadoo Interactive*, 2003, the Commission concluded in paragraph 227 that Wanadoo did hold a dominant position, albeit it only had a market share of 39 percent. The Commission reached this finding based both on the size and strength of Wanadoo’s main competitors, who all had market shares between 6.5 percent and 16 percent.

71. The EC Member States have their own competition laws which are not covered in this section. The EC competition laws regulate business practices that involve multiple member states. For more detail, see ROTH & ROSE, *supra* note 68.

72. Neither of these two categories of abuses makes it unlawful for a firm to engage in practices that help it obtain a dominant position or, to use the Sherman Act phrase, “to monopolize.”

scribed practice. Some practices that are seldom prohibited in the United States because plaintiffs bear a stiff burden under a rule-of-reason analysis remain problematic in the European Community. Moreover, the European Commission and the European courts tend to focus on whether the dominant firm has placed its competitors at an “unfair advantage.”⁷³ From the standpoint of a dominant firm conducting business, the differences regarding exclusionary practices between the United States and the European Community are, however, matters of degree as well as both secular and cyclical trends in antitrust thinking.

The second type of abuse is “exploitative” which has no U.S. counterpart. In listing possible abuses of a dominant position Article 82 includes “directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions. . . .”⁷⁴ Thus Article 82 has a specific provision that bars firms that have a dominant position from charging “high prices.” The European courts have found that it is unlawful for a dominant firm to charge a price for a product or service that is excessive relative to its economic value where value is based on the cost of the product or service or the price of comparable goods.⁷⁵

However, the European Commission has taken its discretion, as the prosecutor, of not pursuing “excessive pricing” cases generally.⁷⁶ In 1975 the Commission said that “measures to halt the abuse of dominant positions cannot be converted into systematic monitoring or prices.” In 1994 the Commission affirmed that,

“The existence of a dominant position is not itself against the rules of competition. Consumers can suffer from a dominant company exploiting this position, the most likely way being through prices higher than would be found if the market were subject to effective competition. However, the Commission in its decision-making practice does not normally control or condemn the high level of prices as such.”⁷⁷

73. This is based on influences from the ordo-liberal school. See David Evans & Christian Ahlborn, *The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe* (Apr. 2008) (Working Paper, available at <http://ssrn.com/abstract=1115867>); Christian Ahlborn & Carsten Grave, *Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective*, 2 COMPETITION POL'Y INT'L 197 (2006).

74. Treaty Establishing the European Community, Nov. 10, 1997, 1997 O.J. (C 321) Art. 82.

75. Case 27/76, *United Brands v Comm'n*, 1978 E.C.R. 00207.

76. ROTH & ROSE, *supra* note 68, at 9-074.

77. The European Commission currently has an investigation against Qualcomm in which the main issue is whether Qualcomm's royalty rates are “excessive.” At the time of this writing the Commission has not issued either a statement of objections or a decision against Qualcomm.

The Commission's most recent decision on excessive pricing—in which it dismissed two complaints against the Port of Helsingborg by ferry operators—has indicated little enthusiasm for regulating the prices of dominant firms.⁷⁸

Perhaps the clearest evidence that the Commission does not prevent dominant firms from enjoying the fruits of their market power is its approach during its lengthy Microsoft investigation. Despite finding that Microsoft has a near monopoly over computer operating systems the Commission focused on such Microsoft practices as refusal to supply and tying rather than on Microsoft's prices.⁷⁹ Moreover, the Commission has not pursued excessive pricing claims against numerous dominant firms that are undoubtedly charging prices that exceed the cost of provision.⁸⁰

Overall the European Community has more stringent rules of the game for firms that achieve significant market power than does the United States. The European Community has per se rules where the United States has rule of reason; it finds practices unlawful under its per se analysis that would not be found unlawful under a rule of reason analysis with similar facts in the United States; and it allows for the possibility of restraining high prices. Moreover, for all intents and purposes, the European Commission has had the final word on abuses under Article 82. In the last 20 years the European Court of Justice has rejected a decision by the Commission concerning an Article 82 abuse on a substantive point only once, partially, out of 15 cases.⁸¹

However, the European Community provides for weaker enforcement of the antitrust laws than does the United States. There has been no mechanism for private enforcement of the competition laws for EC-wide offenses. Private actions remain relatively uncommon and difficult to pursue in most of the member states. Ordinarily, plaintiffs can only recover actual damages. Some European countries have begun to embrace class actions of some form and the European Community is considering the role of private actions going forward. The leading proposals for class actions have specifically rejected awarding multiples of damages.⁸² As a

78. Case COMP/A.36.570/D3, *Scandlines v. Port of Helsingborg*, 2004 ¶¶ 52,53.

79. The exception was, in seeking to enforce its remedies, the Commission asserted that Microsoft's royalty rates for certain licenses were excessive, but even here the main concern was that the royalties would continue to exclude market rivals for server operating systems and that the proposed royalties came from unlawfully acquired dominance.

80. The main exception to this statement is that the Commission has pursued excessive pricing cases against some of the formerly state-owned monopolies but it has done so in part as the de facto regulator for these sectors.

81. Evans & Ahlborn, *supra* note 73, at 25.

82. *Commission White Paper on Damages Actions for Breach of the EC antitrust rules* (April 2008), available at http://ec.europa.eu/comm/competition/antitrust/actionsdamages/files_white_paper/whitepaper_en.pdf; UK Office of Fair Trading, *Private actions in competition law: effective redress for consumers and business*, Discussion paper, available at http://www.offt.gov.uk/shared_offt/reports/comp_policy/oft916.pdf.

result, the European Community has higher standards of behavior for dominant firms but weaker enforcement while the United States has lower standards but stronger enforcement.

As in the United States, the reality is that most dominant firms, and even monopoly ones, can engage in many activities that help them obtain significant market power and exploit that power. The European Commission has issued 17 decisions that find an Article 82 abuse between 1998 and 2007 for an average of about two decisions per year.⁸³ Firms generally face few constraints in acquiring dominant positions and securing the benefits of those positions through various business practices. The hand seems heavy for those companies that are touched by the EC's competition laws which can seem inflexible and harsh on successful firms. As a practical matter, though, the European Community follows the United States in regulating the boundaries of the game of competition but giving firms wide latitude within those bounds. Companies that win the competitive struggle in the European Community can generally expect to enjoy the fruits of their efforts: *finis opus coronat*.⁸⁴

AS A RESULT, THE EUROPEAN COMMUNITY HAS HIGHER STANDARDS OF BEHAVIOR FOR DOMINANT FIRMS BUT WEAKER ENFORCEMENT WHILE THE UNITED STATES HAS LOWER STANDARDS BUT STRONGER ENFORCEMENT.

V. Reconciling Antitrust and Intellectual Property Law

As with the antitrust laws, the intellectual property (“IP”) laws provide firms with some guarantees that they will receive the prize of monopoly profits in return for winning at the competitive game.

In most industrialized countries, however, many creations of the human mind receive no property protection at all.⁸⁵ Basic mathematical and scientific research results go into the common pool of knowledge. Albert Einstein obtained protection for his methods of refrigeration but nothing for his work on the general theory of relativity. Arguably brilliant business insights such as creating an international chain of coffeehouses or placing advertising on search results pages receive no protection.

83. The EC member states each has a competition authority and these authorities also issue the equivalent of decisions on abuse of dominance for domestic matters. The United Kingdom's Office of Fair Trade is one of the most active authorities. It issued 90 decisions between 2001 and 2007 regarding violations of Articles 81 and 82.

84. There are some warning signs that this may not continue, which we discuss below.

85. For an excellent survey of intellectual property policy see ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS—HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT (2004).

When they are granted, intellectual property rights come with restrictions. Companies can keep secret whatever recipes, methods, or insights they have. While trade secrets law prevents the theft of those secrets, these laws do not prevent others from reverse engineering or independently discovering the secret. To gain protections, inventors can seek a patent in some circumstances but only in return for disclosing the invention—thereby adding to the pool of knowledge—and only for a limited period of time. For written, spoken, and visual works inventors can obtain a copyright which provides significant protection from others replicating the works but also provides for fair use.

Debates have occurred in many countries on whether intellectual property protection has gone too far or not far enough.⁸⁶ But the broad consensus in industrialized countries for the last two centuries has been that, when entrepreneurs must invest in activities that have an uncertain payoff, they need to be able to expect to receive a reward for their efforts. Patents, copyrights, trademarks, and trade secrets establish limited property rights that enable entrepreneurs to receive rewards for successful products and services. At the same time, however, there has been a broad consensus against establishing property rights over results that require little effort to produce or ones that are in some sense too important for scientific progress to limit.

Intellectual property policy in the industrialized world therefore balances the losses from restricting output in markets against the benefits from providing incentives for investment and innovation.⁸⁷ On the one hand, it recognizes the importance of ex post monopoly profits in stimulating innovative effort. That is the main motivation for granting rights at all. On the other hand, it is sensitive to the inefficiencies that would result from limiting the dissemination of knowledge and the output of products and services based on that knowledge. While there are legitimate debates over whether there is too much intellectual property protection, it is important to recognize that a vast portion of “innovative efforts” that could be given protection are not. In addition to the limitations on scope and duration observed in patent and copyright statutes, the case law in both fields adheres to a general principle against awarding property rights for abstract ideas, formulae, or processes that could be embodied in many different types of innovation or expression.⁸⁸ These restrictions place sharp limits on the static welfare costs that could result from the key intellectual property statutes.

86. *Id*; see also JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, LAWYERS, AND BUREAUCRATS PUT INNOVATORS AT RISK* (2008).

87. See Nancy Gallini & Susan Scotchmer, *Intellectual Property: When Is It the Best Incentive System?* in *INNOVATION POLICY AND THE ECONOMY* (Adam B. Jaffe et al., eds. 2002).

88. See, e.g., *O'Reilly v. Morse*, 15 Howard (56 U.S.) 62, 112-113 (1853) (denying patent protection to processes that could cover both known and unknown applications); *Gottshalk v. Benson*, 409 U.S. 63, 67 (1972) (denying patent for software based on general mathematical algorithm); *Mackay Co. v. Radio Corp.*, 306 U.S. 86, 94 (1939) (scientific truths and their mathematical expressions not patentable).

Antitrust law and intellectual property law serve very different policy purposes.⁸⁹ The former is designed to regulate the game of competition, while the latter is designed to establish the proper bounds of property rights over products of the mind. Nevertheless, they are based on the same fundamental recognition that profits from securing significant market power serve as a reward for expending effort on things that will ultimately benefit society and that securing this effort is worth the price of deviations from the static competitive outcome.

Some observers have suggested that there is a fundamental tension between antitrust law and intellectual property law. The more simplistic analyses claim that antitrust law is about preventing monopolies while intellectual property law is about creating monopolies.⁹⁰ As we have seen, that is quite wrong. Antitrust law does not seek to deter the formation of monopolies based on physical or intellectual property or based on knowledge that is not subject to any property protection. It does not seek to regulate the prices charged or the output produced by firms that secure significant market, including monopoly, power. Nor does it seek to dismantle or erode monopolies once secured. Vast fortunes have been made, in full view of the antitrust laws, by companies that have secured their positions through accident, super skill, foresight, or industry. Intellectual property law does not create monopolies with abandon. For a limited amount of the creations of the human mind it establishes property rights that may result in the owner obtaining and maintaining significant market power.

WE ARE NOT SUGGESTING THAT THERE IS NO TENSION BETWEEN ANTITRUST LAWS AND INTELLECTUAL PROPERTY LAWS, ONLY THAT THIS TENSION DOES NOT EMANATE FROM HAVING DIFFERENT OBJECTIVES.

We are not suggesting that there is no tension between antitrust laws and intellectual property laws, only that this tension does not emanate from having different objectives. Antitrust cases often involve intellectual property and, as with all cases, must take into account the circumstances surrounding that property. There may be ways in which companies can use intellectual property to engage in anticompetitive behavior beyond those that they can use with physical property.

There are also situations in which the courts need to consider relationships between antitrust and intellectual property laws. Requiring consumers who buy a patented product to purchase another product could increase the profits from invention. The intellectual property issue that is raised by such tying concerns

89. Other authors have reached a similar conclusion although from a somewhat different direction. See Ward S. Bowman, *Patent and Antitrust Law. A Legal and Economic Appraisal*, 11 J. ECON. LIT. 1403, 1403-1405; Mark Lemley, *A New Balance Between IP and Antitrust* (Stanford Law and Economics Olin Working Paper, Paper No. 340, 2007), available at <http://ssrn.com/abstract=980045>.

90. *Hartford-Empire Co. v. United States*, 323 U.S. 386 at 452, 65 S.Ct. 373 (1944), Justice Rutledge claims: "Basically these [patent laws and antitrust laws] are opposed in policy, the one granting rights of monopoly, the other forbidding monopolistic activities."

whether there should be limitations on the ways in which an inventor can secure profit from his invention and, ultimately, on his total return. Patent misuse deals with that question. The antitrust issue that is raised by such tying is whether that is the sort of practice the antitrust laws should consider prohibiting and, if so, should it be banned per se or subject to a rule of reason analysis. Given their foundations, an important consideration for both antitrust and intellectual property law is whether local costs outweigh global benefits

This example leads to our next important point.

VI. Consumer and Social Welfare and the Competitive Process

As we have seen, U.S. and, arguably, EC antitrust policy places great value on the dynamic competitive process in which firms can gain significant market power through superior skill, foresight, industry, and even accident but places some limits on how firms play the game. Those limits include cartels and other agreements among competitors, mergers that result in significant increases in market power, and some business practices that are deemed to go too far. That is consistent with policymakers—some combination of the legislators who enacted the laws and the courts and authorities that have interpreted them—believing that the competitive struggle among firms, with many dying and some achieving great success, counterbalanced by light regulation of the excesses, will maximize long-run economy-wide consumer welfare.⁹¹

A. THE BOUNDARIES OF COMPETITION LAW

These policy objectives are made operational in two related stages.

In the first stage, legislators and the courts, through the development of case law, roughly determine the boundaries of the game and a framework for assessing whether practices cross those boundaries. Sherman Act Section 1 and the Article 81 EC Treaty are reasonably specific that agreements among competitors are highly suspect although the case law has refined that considerably. The Clayton Act and Article 82 EC Treaty are specific that certain kinds of business practices such as tying are suspect. Sherman Act Section 2 and Article 82 EC Treaty provide a flexible mechanism for identifying other business practices that are suspect. Over time several categories have emerged. Some practices move from outside the boundaries to within as a result of legislative, judicial, or prosecutorial choices.

The courts have also devised general approaches for assessing whether firms have crossed the boundaries. The United States has the per se and rule of reason framework. The European Community has also developed a variety of rules-

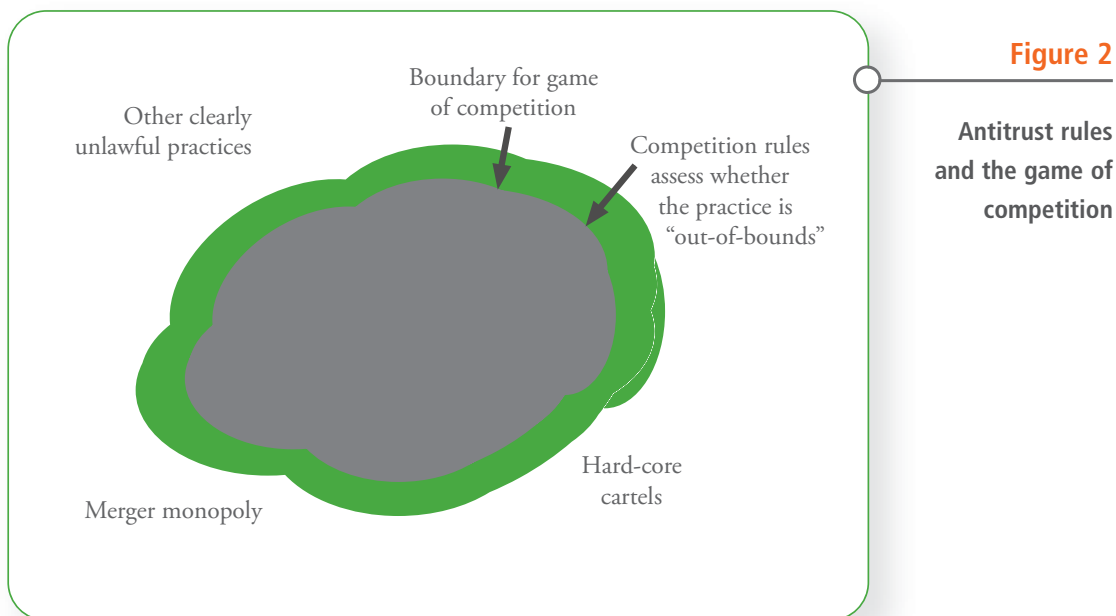
91. In the long run there is no meaningful distinction between consumer and social welfare.

based approaches although these tend to be closer to per se condemnation for dominant firms.⁹² These general approaches involve the assignment of the burden of proof at various stages of the inquiry.⁹³

In this first stage the courts (in particular), in determining what sorts of competitive practices should be condemned, have focused on the long-run consequence for economic progress. It is at this stage that the U.S. and EC courts have confirmed that it is not unlawful to have a monopoly or to acquire that monopoly through a myriad of lawful ways.

In the second stage the courts assess whether particular business practices cross those boundaries and should therefore be deemed violations of the antitrust laws. That is usually a fact-intensive inquiry within the framework set out in the first stage. The analysis is usually predicated on a “relevant antitrust market” which is determined as the first step of the inquiry. Many practices never reach court for this second stage, because it has become settled law that they are within the boundaries of the game of competition. Other business practices have come to be avoided because it has become settled law that they are outside the boundaries.

The first and second stages are related. Especially in common-law countries, it is through numerous fact-intensive inquiries at the lower court level that the higher courts fashion competition rules. Nonetheless, there is an important distinction: the development of competition rules and the application of those rules. Figure 2 describes the role of stage 1 and stage 2 in regulating the competitive game.



92. Evans, *supra* note 25.

93. United States v. Microsoft Corp., 2001 US App. LEXIS 14324 (DC Cir. June 28, 2001)

B. CONSUMER WELFARE AND THE COMPETITIVE PROCESS

In recent decades the U.S. antitrust community—in particular judges, law professors, economists, and agency officials—have come to accept the premise that the antitrust laws have the singular purpose of protecting (or maximizing) consumer welfare. As a result there has been an attempt in the cases—operating at the second stage—to make this principle operational by assessing whether particular practices reduce consumer welfare. An example is the balancing of anticompetitive and pro-competitive effects that underlies the application of the rule of reason in *U.S. v. Microsoft* in a decision that has become one of the leading explications of the rule of reason analysis.⁹⁴ Some treatments of consumer welfare examine whether the practices at issue raise prices or lower output—the drivers of the basic welfare analysis described in Figure 1 and in elementary economics textbooks.⁹⁵ Other treatments of consumer welfare focus on whether a business practice “harms the competitive process.”⁹⁶ Because it is assumed that the competitive process maximizes consumer welfare it is further assumed that harm to the competitive process reduces consumer welfare. Consumer welfare and the impact on the competitive process are usually considered within the context of a relevant antitrust market.

These approaches result in some confusion both in their case applications and in the literature.

First, it is not the case, for the reasons already discussed, that the overarching objective of the antitrust laws is to prohibit business practices that reduce consumer welfare in relevant antitrust markets. It is sensible and often practical to use the impact on consumer welfare in a relevant market in the second stage of the analysis as a basis for assessing whether a business practice crossed the boundaries established in the first stage. But the consumer welfare analysis used in the second stage is obviously different from the consumer welfare analysis used in the first stage since many of the practices allowed in the first stage would fail the competitive effects analysis in the second stage. The market-focused consumer welfare analysis in the second stage is a tactic for achieving the long-run economy-wide economic progress that is the focus of the first stage.

SECOND, THE “COMPETITIVE PROCESS” IS AN EMPTY PHRASE THAT CAN BE USED TO JUSTIFY OR CONDEMN ANY BUSINESS PRACTICE. THE PHRASE HAS NO OBJECTIVE MEANING IN ECONOMICS.

Second, the “competitive process” is an empty phrase that can be used to justify or condemn any business practice. The phrase has no objective meaning in

94. *Id.*

95. *Hospital Corporation of America v. Federal Trade Commission* 807 F.2d 1381.

96. *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1183 (1st Cir. 1994); *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, (1993).

economics. Economists have developed numerous models of static, and occasionally dynamic, competition and have used those models to assess how perturbations in those models would affect consumer and social welfare. Economists generally recognize that there is a tradeoff between static and dynamic competition. But economists have not reached any professional consensus on the outline of a specific competitive process that would maximize consumer or social welfare, nor is it clear that there is a specific competitive process that would do so. If one could determine that a practice harmed consumer welfare then one could reasonably define that practice as harmful to the competitive process. But there is no scientific basis for inferring harm to consumer welfare from the inchoate notion of harm to the competitive process.

“Competitive process” is a circular concept within the antitrust laws. Antitrust policy assumes, as we have seen, that unfettered competition in the market and for the market is the best approach for achieving economic progress and thus long-run economy-wide social welfare. The antitrust laws recognize that certain kinds of competitive practices may interfere with economic progress and therefore seek boundaries for the competitive game. The competitive process is defined in the first stage of the analysis above as competition that lies in these boundaries and therefore does not violate the rules of the game.

We have seen the assertion of harm to the competitive process used as the core justification of two recent and much discussed Third Circuit opinions on monopolization, *Dentsply* and *LePage’s*. In *Dentsply*, an exclusive dealing contract between the defendant, an artificial teeth supplier, and dealers was held to have unlawfully excluded rivals from the market for artificial teeth sales. In *LePage’s*, the defendant’s policy of offering bundled discounts was held to have excluded rivals from access to key distributors. In its *Dentsply* opinion, the Third Circuit perceptively noted that both cases involved a similar harm to competitive process, and treated both cases as requiring similar outcomes in court. The defendant’s practices in both cases were viewed as inherently harmful to the competitive process. Missing in both analyses is an explanation why exclusive dealing contracts and bundled discounts should not be regarded simply as features of “the competitive process.” Both are potential tools for seeking the undivided loyalty and promotional efforts of dealers and distributors. These points have been made in the literature, which is developing a sharper scientific basis for examining the welfare effects of exclusive dealing and bundled discounts.⁹⁷ Our point, which is in large part independent of the ultimate conclusions from the economic literature, is that the notion of harm to the competitive process, with no rigorous analysis of local or global welfare effects, fails as a theoretical rationale for decisions under the antitrust laws.

97. Benjamin Klein & Andres Lerner, Procompetitive Justifications for Exclusive Dealing: Preventing Free-Riding and Creating Undivided Dealer Loyalty (Nov. 6, 2006, available at <http://www.ftc.gov/os/sectiontwohearings/docs/kleindealerloyalty111206.pdf>); Michael Salinger, *A Graphical Analysis of Bundling* 68 J. Bus. 85 (1995).

Economists are at least in part responsible for sowing this confusion.

VII. The Role of Economics in Competition Policy

Modern economics has played a significant role in the development of antitrust law in the last fifty years. During the 1950s economists and legal scholars associated with the Chicago School demonstrated that a number of anticompetitive theories, especially those involving vertical restraints, were not founded on sound economics.⁹⁸ Other economists not associated with the Chicago School also started applying rigorous economic analysis to antitrust law.⁹⁹ These contributions have led to considerable refinement in antitrust jurisprudence starting with *Sylvania*¹⁰⁰ in 1977 and leading to *Leegin* in 2007. Economic analysis is regularly cited in decisions by the U.S. Supreme Court as well as lower courts and few antitrust cases proceed without dueling expert economists. Beginning in 1982, the DOJ started incorporating economic reasoning in its merger guidelines. Today, economics has become an almost *lingua franca* for the discussion of competition policy worldwide. Economics is widely and, correctly in our view, credited with making antitrust more rigorous and coherent.

There are, however, two limitations on the role that economics can play in antitrust.

One limitation is purely natural. It results from the fundamental difference between these two disciplines. Antitrust is a policy implemented through a legal process in which learning is built from examining different factual circumstances over time, in which precedents are developed which tend to promote clear and predictable rules of law, and in which making reasoned but ultimately subjective tradeoffs between local costs and global benefits is fundamental. Economics is a science that studies the behavior of consumers and businesses in a world of scarce resources that have alternative uses.¹⁰¹ Industrial organization, the branch of economics that is most relevant to antitrust, studies the structure of industries and how firms interact in these industries. It largely rests on analyzing theoretical models based on certain assumptions and sometimes testing those models against data. Economic analysis is a valuable input into a judicial process that weighs the

98. For a summary, see Herbert Hovenkamp, *The Reckoning of Post-Chicago Antitrust*, in *POST-CHICAGO DEVELOPMENTS IN ANTITRUST LAW* 1, 3 (Antonio Cucinotta et al., eds., 2002).

99. Einer R. Elhauge, *Harvard, Not Chicago: Which Antitrust School Drives Recent Supreme Court Decisions?* 3 *COMPETITION POL'Y INT'L.* 59 (2007)

100. *Continental T.V. v. G.T.E. Sylvania*, 433 U.S. 36 (1977).

101. LIONEL ROBBINS, *AN ESSAY ON THE NATURE AND SIGNIFICANCE OF ECONOMIC SCIENCE* 16 (1945).

value of alternative sources of evidence and considers tradeoffs that go beyond what any particular economic model can handle.

The other limitation—and the one we focus on in this section—results from a mismatch between the necessary focus of antitrust and the chosen focus of the modern industrial organization literature. The dynamic competitive process and its role in promoting economic progress are at the heart of antitrust policy. The big issues in antitrust have to do with whether the global benefits from the competitive struggle, that may well lead to the creation of significant and durable market power, are outweighed by local costs that result from the restriction of output in specific markets. Industrial organization economics has paid little attention to dynamic competition and, therefore, has had little systematic knowledge to contribute to the design of antitrust rules at the first stage of antitrust discussed earlier.¹⁰²

Industrial organization—from the early price theory work by the Chicago School to the most recent game theory work—largely considers static competition in a market.¹⁰³ Assumptions are made about certain aspects of the firms' technology, the nature of demand, how the firms interact with each other, and other factors. A model is then developed based on those assumptions and used to examine certain features of the market. Often the model is used to assess how certain business practices affect total welfare in that market. Empirical work may test some of the implications and assumptions of the model (although the ratio of empirics to theory is very low). Such models, and much of the empirical analysis, are based on looking at interactions at a point in time or possibly based on two periods. Longer-run concerns, including effects on incentives, are generally treated as “additional considerations” but are seldom actual features of the model. Moreover, matters that are important to judicial rulemaking such as error cost, ease of administration, predictability, and the indirect consequences on incentives are either ignored or mentioned in passing.

The focus on static competition in the market is not because economists have a bias against dynamic competition. Modern economics is based largely on developing mathematical models. It is hard enough to solve the equations of static models for unique solutions and draw inferences from these equations. Oftentimes the models are very sensitive to assumptions that have been made, for example, about the functional relationships between certain variables. The mathematics of dynamic models is far more challenging and the likelihood that an economist who invests efforts in such models will achieve a publishable result

102. That is not to say that economists, and economic-minded judges and lawyers, have not been influential in expounding on the problems of errors costs and the importance of long-incentives. However, systematic work on these issues is almost nonexistent in the academic literature.

103. See DENNIS & PERLOFF, *supra* note 43; JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* (1988). Of the 36 chapters of the *Handbook of Industrial Organization*, only two cover dynamic issues—one on innovation and the other on entry. *HANDBOOK OF INDUSTRIAL ORGANIZATION* (R. Schmalensee et al. eds, 2007).

WHEN REALISM AND RELEVANCE
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is lower.¹⁰⁴ It is easy to use words to talk about dynamic competition, as Professor Joseph Schumpeter did so eloquently, but it is much more difficult to use mathematics.¹⁰⁵ When realism and relevance butt heads with analytical tractability, tractability almost always wins out in economics.

A. TRACTABILITY BIAS

This “tractability bias” leads to “static competition” bias in antitrust economics. Economists focus on issues that pertain to static competition, not because they are more important than dynamic competition, but because that is what they are able to work out mathematically. This phenomenon is well known in economics and leads to one of the most popular jokes told by economists about themselves: the man who drops his keys at night and looks for them under the streetlamp because the light is better there.

To illustrate the effects of static competition bias we consider the effect of introducing dynamic considerations into several examples of possibly anticompetitive conduct. We do this to illustrate the bias and not to advocate any particular result. Moreover, we are not arguing that the development of more dynamic models would necessarily either provide any basis for changing where the boundaries for the game of competition are currently drawn or the analysis of particular cases.

1. Innovation

Consider the following illustration based in part on Williamson’s welfare trade-off model.¹⁰⁶ Suppose a firm monopolizes a market, as shown in Figure 3, leading to a transfer from consumers of T and a deadweight loss of D . At the same time, the conduct that led to the monopoly also created efficiencies, with the efficiency gain represented by E in the diagram. The diagram could describe the result of an exclusive dealing contract that has the effect of foreclosing market rivals (by blocking access to a key resource, supplier, or distributor) and at the same time reducing supply costs.¹⁰⁷

104. For a flavor of the complexity of dynamic models see Richard Ericson & Ariel Pakes, *Markov-Perfect Industry Dynamics: A Framework for Empirical Work*, 62 *REV. ECON. STUD.* 53, 53-82 (1995); Hugo A. Hopenhayn, *Entry, Exit, and Firm Dynamics in Long Run Equilibrium*, 60 *ECONOMETRICA* 1127 (1992); Boyan Jovanovic, *Selection and the Evolution of Industry*, 50 *ECONOMETRICA* 649, 649-670 (1982).

105. THOMAS K. McCRAW, *PROPHET OF INNOVATION: JOSEPH SCHUMPETER AND CREATIVE DESTRUCTION* (2007).

106. Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 *AM. ECON. REV.* 18 (1968).

107. The conduct that both monopolizes and generates efficiencies could take many different forms, such as a merger toward monopoly, as originally analyzed in Williamson’s tradeoff analysis, *id.* Alternatively, the conduct could involve technological innovation, see Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 *ANTITRUST L. J.* 311, 345-46 (2006) (example of change in product design standard with monopolizing effect).

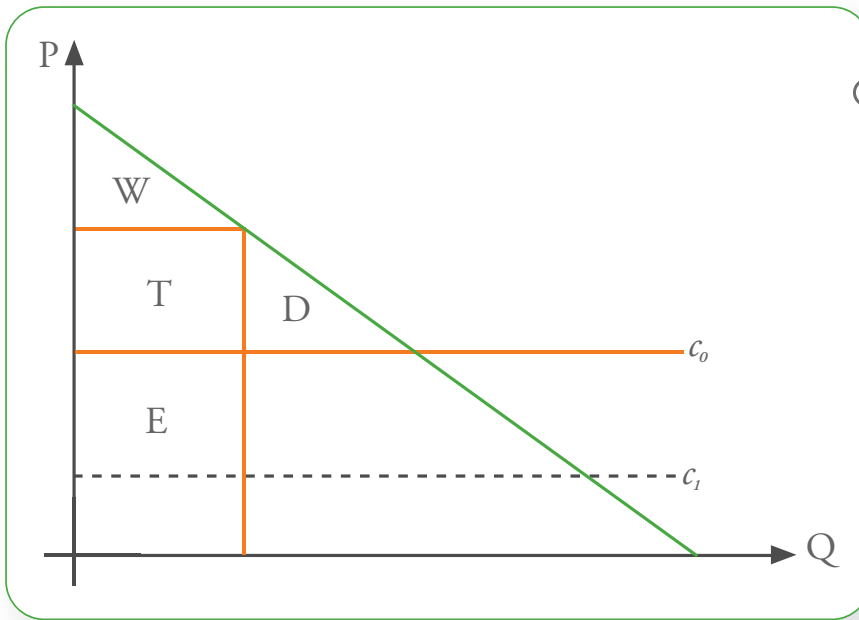


Figure 3

Monopoly,
efficiency, and
consumer welfare

One central argument of the Chicago School is that firms should not be penalized for efficient conduct. Doing so would discourage efficient business practices, which would reduce total welfare and could reduce consumer welfare as well. In terms of the welfare tradeoff analysis, this argument implies that the optimal penalty imposed for monopolization is the sum of the transfer and deadweight loss components $T + D$. Faced with having to pay the optimal penalty for monopolization, a firm would proceed with its monopolizing conduct whenever the efficiency gain (E) is greater than the deadweight loss imposed on society (D). Thus, if the adoption of a new product standard reduced production costs and also permitted a firm to monopolize its market, the firm would have an incentive to go ahead with the new standard if the profit expected as a result exceeded the total welfare loss imposed on consumers—or, equivalently, if the cost savings exceeded the deadweight loss.

The notion that a monopolist should be penalized an amount that reflects the static welfare costs of monopolization is accepted among analysts today. Even Chicago School critics have referred to it as one of the school's important lessons for antitrust.¹⁰⁸ But, as insightful as this Chicago School lesson on antitrust punishment is, it is still based on a static analysis; the welfare tradeoff model does not incorporate dynamic welfare concerns.

The simplest way to alter the welfare tradeoff model to incorporate the dynamic element is to consider the incentives that lead to the creation of monopolies. Suppose that, in the first period, the firm decides whether to invest in some

108. AREEDA & HOVENKAMP, *supra* note 1.

activity that could create a new market in the second period. In the second period, the firm decides whether it will adopt some practices that will enable it to monopolize the new market, depending on expected profits and the penalty, if any, for engaging in those practices.

For example, suppose in the first period the firm invests in the design and production of a new artificial tooth that will be ready to market in the second period. Rivals can copy the tooth design easily so the second period market could be highly competitive. However, the firm could reduce competitive pressure by engaging in some exclusionary act at the start of the second period. Ideally, it would like to obtain a legal barrier to entry, such as a patent or a tariff on foreign competitors, but perhaps such options are not available. The new tooth design may not be patentable or there may be too few legislators interested in providing protection from competition to the firm. Suppose the firm's best option for excluding competition, therefore, is entering into an exclusive dealing contract with a key resource supplier. The returns from the creation of the new artificial

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tooth depend on the firm's later success in excluding competition. It will have an incentive to monopolize if the gains from monopolization exceed the expected antitrust penalties.

If the firm monopolizes the market, it will impose a welfare loss on consumers equal to the monopoly transfer and deadweight loss ($T + D$), and introduce an efficiency gain (E) in the form of lower supply costs. If the firm is deterred from monopolizing the market in the second period, it will not impose any welfare losses on consumers, because the market will be competitive, and it will not generate the supply-side efficiency gain.

In this alternative "dynamic" description of monopolization, the firm's investment creates the market. The anticipation of an antitrust penalty would diminish its incentive to invest in the activity that creates the market—the new artificial tooth. More generally, the antitrust penalty has dynamic welfare consequences because it could suppress the creation of new products (as in our example) and therefore lead to the loss of the significant social wealth created from new products.¹⁰⁹ That is not to say that there should not be an antitrust penalty, only that the optimal penalty must consider the dynamic consequences.

Consider the private and social returns from investment for the would-be monopolist, on the assumption that it invests and later monopolizes the newly-created market. The private return to the firm would be the monopoly transfer and the efficiency gain ($T + E$). The social return from investment would be the

109. The value of new products equals roughly the area between the demand schedule and the cost schedule while the deadweight cost of monopoly is ordinarily a small fraction of the area between the demand schedule and the cost schedule.

residual consumer surplus after monopolization, the transfer, and the efficiency gain ($W + T + E$). A penalty assessed against the firm for monopolizing imposes a dynamic welfare cost because it could deny society (consumers especially) the residual surplus (W). In view of this, an optimal penalty for monopolization would include, to some degree, a bounty equal to the residual surplus to bring the private and social returns from innovation closer to each other.

An optimal antitrust penalty that includes a bounty equal to the residual surplus could easily be zero or negative. In other words, it may not be optimal to punish the monopolist at all when dynamic incentive effects are taken into account. The static punishment setting would require the optimal penalty to be set equal to the sum of the transfer and deadweight loss ($T + D$). The dynamic punishment setting would require the optimal penalty to internalize the sum of the transfer and deadweight loss *minus* the residual surplus ($T + D - W$).¹¹⁰ If the residual surplus is greater than the transfer and deadweight loss amounts, the optimal penalty for monopolization may not be positive. It is this sort of reasoning that, at least implicitly, has led the legislatures and the courts to allow many business practices that can lead to monopoly. We are not advocating lower scrutiny for any particular practice. Rather, we are observing that static economic models do not take these considerations into account and therefore provide, at best, incomplete information to those who are designing competition rules.

In this example, we have assumed that the monopolist has created a new market. If, in fact, the monopolist's investment did not create or enhance a market, the standard static analysis—internalize the transfer and deadweight loss—would remain valid. So if the monopolist in this story devoted his entire investment to designing a more efficient way to transfer surplus from consumers, then there would be no case for taking a more lenient approach to punishment.

But if the monopolist creates a new market, which is the core example of the dynamic welfare benefit of innovation, the welfare gain to consumers is substantial even when the firm monopolizes the market it has created. The same can be said of investment that expands a market. In these innovation scenarios, which we think are common in real world markets and go well beyond innovation (the subject of intellectual property laws), the static welfare tradeoff analysis is no longer the best source for an optimal regulatory policy.

Admittedly dynamic models are complicated. The optimal antitrust penalty in our dynamic scenario is a messier rule than the optimal static penalty. But this does not imply that the static model should be applied as the sole source for policy recommendations in settings in which dynamic competitive effects are present.

110. The optimal penalty formula is more complicated because it depends on the probability of monopolization following investment.

2. Entry

For another illustration, consider the economic analysis of the coordinated effects of mergers. Under the coordinated effects theory, mergers can be harmful to consumer welfare because they may facilitate collusion. Modern economic analysis of the coordinated effects builds on the modern analysis of collusion. Jonathan Baker provides an especially clear and straightforward presentation.¹¹¹ Let P be the coordinated price and $\pi_i(P)$ represent the per unit profit of firm i evaluated at the collusive price. The firm's profit in any period at the collusive price is $\pi_i(P)q_i(P)$. If the firm cheats, setting its price just under P , it produces at its capacity k_i . The firm will avoid detection for T periods, after which the industry price falls to the zero-profit level as punishment. The firm will prefer to remain in the collusive network rather than cheat if the discounted value of the stream of profits from collusion is greater than the discounted value of the stream of profits from cheating. Thus, if the firm's discount rate is δ , it will prefer to collude rather than cheat if $[\pi_i(P)q_i(P)]/(1 - \delta) > [\pi_i(P)k_i T(1 - \delta^T)]/(1 - \delta)$.

Under the modern analysis of coordinated effects, coordination may be hampered by the existence of a firm for which the discounted value of profits from collusion is equal to the discounted value of profits from cheating. These firms have been referred to as mavericks.¹¹²

Suppose a firm within the collusive network chooses to acquire a maverick. Such a merger can reduce consumer welfare by eliminating the pricing constraint imposed by the maverick's existence. This analysis has led to the suggestion that if the market is conducive to coordination, the acquisition of maverick firms should establish a presumption of harm to competition.¹¹³

As is well known, entry constrains prices, as does the existence of maverick firms. Any policy that eliminates mavericks and permits the collusive price P to be maintained also enhances the incentive to enter and undercut the collusive price. Of course, the coordinated-effects analysis assumes that entry is not attractive at the collusive price, otherwise it would have occurred. Thus, no entry occurs at the collusive price because the expected profits from undercutting the collusive price are less than the cost of entry.

This analysis of coordinated effects suggests that entry incentives are greater than under a model that ignores the effects of mergers. Presumably the firms within the collusive network would prefer a merger over charging the competi-

111. Jonathan B. Baker, *Market Concentration in the Antitrust Analysis of Horizontal Mergers*, in ANTITRUST LAW & ECONOMICS (Keith Hylton, ed. forthcoming 2009)

112. Jonathan B. Baker & Carl Shapiro, *Reinvigorating Horizontal Merger Enforcement* 35 (Oct. 2007, available at <http://ssrn.com/abstract=991588>).

113. *Id.*

tive price in all future periods. But doing so would be a bad policy for them because it would undermine the threat of punishment. Each prospective entrant therefore knows that it should enter not as a “cheater” (which would not be profitable anyway) but as a maverick firm. Entering as a maverick is potentially attractive because it allows the new firm to gain the same profits as from cheating (which are insufficient to cover the entry cost) plus the option value of the merger. And given the consistent finding that acquiring firms pay a substantial premium over the market, the share of the merged entity’s profits going to the entrant should be assumed to exceed the entrant’s contribution to the merged entity’s profits. As the merger option’s value to the entrant increases, the cost of entry loses its relevance as a constraint on entry incentives in this analysis.

The prospect of a merger, in this analysis, is like a golden parachute for the entering firm. A policy of acquiring troublesome mavericks, in order to maintain the collusive equilibrium, calls forth more prospective mavericks.¹¹⁴ Mergers with potential coordinated effects induce entry.

We are not proposing that either of these dynamic extensions is complete or should be used to modify current competition rules. Rather, the point is that dynamic considerations are important, courts and legislatures consider them implicitly, and modern economic models often do not.

B. THE STATIC-IZATION OF ANTITRUST

Economists are playing an increasing role in antitrust. Many of the antitrust scholars writing on antitrust are economists, economic analysis is playing an increasingly important role in antitrust authorities, and it is not uncommon in countries around the world for economists to head the antitrust authority.¹¹⁵ By and large economists have helped improve antitrust analysis considerably. A downside to the increased role of economists is the possible infection of antitrust with “tractability bias”—an excessive focus on static competition simply because that is what economists are most at ease in analyzing, as the parable of the keys emphasizes.

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114. The policy of acquiring mavericks encourages entry. There is also the more obvious argument that the threat of entry is a function of the coordinated price. If the acquisition policy is implemented, and the pricing constraint of the maverick removed, the firms might move to a higher coordinated price. The decision to move to a higher coordinated price level could induce entry. Entry was not desirable at the initial coordinated price, which was constrained by the maverick. But after the acquisition policy is put into effect, this changes and the threat of entry may become sufficient to prevent coordination at a higher price.

115. For example, the former European Commissioner in charge of antitrust was an economics professor and the current one has her undergraduate degree in economics and no law degree. The current and past heads of the U.K.’s Office of Fair Trade were economics professors. Economists are or recently served in top positions at authorities in Brazil, South Korea, and Mexico.

The excellent survey of the economic principles of antitrust by Kaplow and Shapiro illustrates the bias.¹¹⁶ They examine the economic underpinnings of market power, collusion, merger, and monopolization. Every model they present is based on static competition within a relevant antitrust market. There is no formal analysis of, and but a few afterthoughts on, dynamic considerations. The local versus global tradeoff that underlies modern antitrust is largely neglected. This same statement is true for every major treatment of antitrust by economists that we know of.¹¹⁷ These models therefore provide some utility for the application of competition rules adopted by the courts and some information that is relevant for the development of competition rules. But if a judge wanted to know whether any particular business practice should fall on one side or the other of the boundaries for the game of competition she would not find the answer—or even much of what she would need to know to make an informed judgment—in the modern industrial organization literature.

If the economic approach to antitrust were only of academic interest the tractability bias would be of no concern. However, the static economic approach is becoming infused in the practice of antitrust. This has become most apparent in the analysis of unilateral effects for Section 2 and Article 82. Most of the economic analysis related to determining the scope of antitrust rules concerning unilateral practices concerns competing models of largely static competition. The global benefits of unfettered competition largely get introduced through discussions of error costs.¹¹⁸

For antitrust enforcement in the United States, there is some irony here. Posner lamented years ago that lawyers dominated enforcement decisions within the antitrust enforcement agencies, allowing economists to serve largely as handmaidens.¹¹⁹ The critique of enforcement as excessively lawyer-driven led to the belief that better enforcement decisions would be made if economists played a greater role in reviewing antitrust enforcement decisions.¹²⁰ Circumstances have changed and economists now play important roles in the enforcement

116. Louis Kaplow & Carl Shapiro, *Antitrust* (Harvard Law and Econ. Discussion Paper No. 575, 2007), available at <http://ssrn.com/abstract=961264>.

117. Other superb expositions of modern antitrust economics have the same bias. See e.g., WHINSTON, *supra* note 67; MOTTA, *supra* note 3; HANDBOOK OF ANTITRUST ECONOMICS (Paolo Buccirossi ed.) (2008).

118. Evans and Padilla argue that firms are likely to be reluctant to implement alternative businesses practices that replicate the one found anticompetitive (such as price competition and tying), as such practices are likely to also be found anticompetitive. See David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach*, 72 U. CHI. L. REV. 73 (2005); for a basic static model that considers unilateral effects see Joseph Farrell & Carl Shapiro, *Horizontal Mergers: An Equilibrium Analysis*, 80 AM. ECON. REV. 107 (1990).

119. Richard A. Posner, *A Program for the Antitrust Division*, 38 U. CHI. L. REV. 500, 533 (1971).

120. See FRANKLIN FISHER ET. AL., *FOLDED, SPINDLED, AND MUTILATED: ECONOMIC ANALYSIS AND U.S. v. IBM* 348 (1983).

agencies, and some improvements have resulted. Perhaps the most important is a shift away from reliance on subjective intent evidence and toward the use of objective and empirical evidence of consumer harm.¹²¹ However, because of the tendency to focus on static welfare models at the expense of dynamic competition, the enhanced stature of economists in the federal enforcement agencies may be not be sufficient to lead to a substantial improvement in the quality of enforcement decisions.

Outside of the United States, antitrust law is largely enforced by competition authorities with limited judicial oversight. In the European Community, for example, the Commission acts as investigator, prosecutor, and judge. Its decisions can be appealed but the higher level courts defer to its findings of facts, especially those involving complex economic assessments. The static-ization of antitrust is particularly problematic in these jurisdictions. Static economic analysis forms the basis for guidelines that provide the framework for assessing whether particular business practices violate the rules.¹²²

The static focus of modern industrial organization is a problem both for itself as a branch of economic science and as a body of knowledge that is relevant to the big issues within antitrust. The academic literature needs to move from the static to the dynamic within markets and from the effects of policies within markets to the effects of policies for long-term economic progress. That will require a change in the reward systems in academic economics. The economic profession will need to provide a premium to researchers who work on dynamic competition and one that either compensates them for the especially hard mathematical work necessary for robust dynamic models or provides bonus points that skew incentives towards less mathematical dynamic analysis and away from highly technical, clever, and irrelevant static analysis.

VIII. Concluding Thoughts

The recognition of the importance of monopoly in promoting economic progress has been a key part of antitrust policy since its inception and is implicitly recognized in U.S. and EC law, which are the foundations for most global competition policy. However, there seems to have been great confusion on this point in the literature, perhaps most readily seen in the debate over the tension between IP and antitrust law and the role of antitrust and the new economy. This confusion seems to have resulted, ironically, from the increased role of modern economic analysis in the law which has imparted a bias towards static analysis. The United

121. Fisher complained that the case against IBM seemed to be based largely on evidence of subjective intent found in company memoranda. *Id.* at 347. Today, internal memoranda and emails are still used to suggest anticompetitive intent, but they are seldom the focus of a case.

122. U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES, (1992, Revised 1997).

States, European Community, and other jurisdictions around the world should avoid attempts to turn antitrust into a branch of static consumer welfare maximization. At the same time economists should spend more effort understanding how the pursuit of monopoly power affects long-run economic progress and the role of antitrust policy in this competition for the market. ▼