ANTITRUST AND COMPETITION, HISTORICALLY CONSIDERED

THOMAS J. DiLORENZO and JACK C. HIGH*

Although antitrust laws enjoy wide support among economists, there was almost no such support during the early years of the Sherman Act. One reason for this transformation is a change in the theory of competition. Until the 1920s most economists viewed competition as a dynamic, rivalrous process that would be stifled by antitrust laws. Once the perfect competition model—which largely ignores rivalry—was accepted, economists' opinions of antitrust grew more favorable. To the extent that antitrust interferes with rivalry and enterprise, the competitive model has very likely misdirected the profession, at least as far as antitrust policy is concerned.

I. INTRODUCTION

Antitrust laws enjoy widespread support among modern economists. According to a recent survey, 83 percent believe that "antitrust laws should be used vigorously to reduce monopoly power from its current level" [Frey et al. 1984, 988]. The current approval of antitrust law differs markedly from the attitude of economists during the early years of the Sherman Act. Although there was intellectual support for the Act, ". . . none of it came from economists" [Clark 1931, 89].

Economists' initial disapproval of the Sherman Act remains a puzzle. In his Ely address to the American Economic Association, Stigler [1982, 1] wrote:

> For much too long a time students of the history of antitrust policy have been at least mildly perplexed by the coolness with which American economists greeted the Sherman Act. Was not the nineteenth century the period in which the benevolent effects of competition were most widely extolled? Should not a profession praise a Congress which seeks to legislate its textbook assumptions into practice? And with even modest foresight, should not the economists have foreseen that the Sherman Act would put more into economists' purses than perhaps any other law ever passed?

Stigler advanced three reasons for economists' coolness toward the Sherman Act. One, they did not appreciate the importance of tacit collusion. Two, they had too much confidence in regulation as a means of dealing with monopoly. Three, they underestimated the income they would receive as antitrust consultants. Whatever merit these reasons possess, Stigler himself was not wholly

* DiLorenzo is the Scott L. Probaso, Jr. Professor of Free Enterprise at the University of Tennessee at Chattanooga; High is Associate Professor of Economics at George Mason and the director of the Center for the Study of Market Processes. The authors wish to thank James T. Bennett, Thomas Borcherding, William Breit, Donald Dewey, Kevin Grier, Paul Heyne, Don Lavoie, Robert Tollison, Lawrence H. White and three anonymous referees for their comments. The usual caveat applies.

Economic Inquiry
Vol. XXVI, July 1988, 423–435

convinced by them. "If you are unsatisfied with the adequacy of these reasons," he wrote [1982, 6], "... you share that feeling with me."

A clue to a more satisfactory explanation may be found in the "new learning" of industrial organization.[1] Much of this learning doubts that antitrust law promotes competition. Brozen [1982, 14], for example, concludes that antitrust laws "are themselves restraining output and the growth of productivity." Harold Demsetz has said that if certain policies were continued, he would favor outright repeal of the Sherman Act [Goldschmidt et al. 1974, 235].

The economists who comprise the "new learning" not only doubt the competitive effects of antitrust laws, they also criticize the perfectly competitive model. McGee [1971, 16], for example, says, "for a variety of reasons ... it is simply *not* correct to assume that atomistic competition is the ultimate *policy* goal; or to regard departures from that kind of competition as necessarily bad" (his emphasis). Johnson [1983, 3] writes, "... the competitive model of economic theory not only offers little guidance [for antitrust law], but actually points us in the wrong direction. The confusion arises because many economists fail to realize that the 'competitive model' is silent on the subject of competition." Economists of the "new learning," rather than relying on the perfectly competitive model, include rivalry or enterprise in their notion of competition.[2]

Modern Austrian economists, including Armentano [1982], Hayek [1948], Kirzner [1973], and Rothbard [1962], also criticize the perfectly competitive model. Armentano argues that perfect competition "is not really concerned with the process of competition," and that it assumes away "the significant aspects of a generally competitive process" [1982, 25]. These aspects include advertising, product differentiation, marketing research, and the search for optimal input combinations. If one views competition as rivalry rather than as an equilibrium state, "then the legitimacy of all antitrust policy must be open to the most serious question" [Armentano 1982, 32]. Armentano favors outright repeal of antitrust, as do other modern Austrians who maintain a process view of competition.[3]

The coincidence between viewing competition as rivalry and opposing antitrust law suggests that economists' views of competition influence their judgments about antitrust policy. Competition in the sense of rivalry or enterprise is less conducive to approving antitrust than is perfect competition. Economists of the late nineteenth and early twentieth centuries, we will argue, anticipated modern critics of antitrust law on this point. The earlier economists opposed the Sherman Act because they understood competition to be a process of rivalry or enterprise.

To study the relationships between rivalry and antitrust policy, we have analyzed professional economists who wrote on both the nature of competition

1. See Bittlingmayer [1982], Bork [1978], Brozen [1982], Goldschmidt, Mann, and Weston [1974], McGee [1971], and Telser [1978] for examples.

2. See Demsetz [1968], McGee [1971, 8–12], and Bork [1978]. For an analysis of rivalry in Bork's work, see High [1984–85].

3. See Rothbard [1962, 790], High [1984–85, 27–31].

and antitrust policy between 1885 and 1920 (see Appendix). We have excluded journalists, lawyers, and businessmen, because their views are more likely to be shaped by extra-economic considerations. We have chosen 1920 as a cut-off date because perfect competition gained wider acceptance among economists thereafter (see Stigler [1957, 1]). We also briefly discuss how, once the perfect competition model was accepted in the post-1920 era, economists were more inclined to favor antitrust.

II. COMPETITIVE GROUPING

Schumpeter [1942], Hayek [1948; 1978], McNulty [1967; 1968], Dennis [1977] and others have delineated the differences between perfect competition and competition as rivalry. In general, rivalry focuses on behavior associated with the verb "to compete," whereas perfect competition focuses on properties of equilibrium. As McNulty [1967, 398] has stressed, "the two concepts are not only different; they are fundamentally incompatible. Competition came to mean, with the mathematical economists, a hypothetically realized situation in which business rivalry . . . was ruled out by definition." (Also see Hayek [1948, 92].)

With so sharp a contrast between the two concepts of competition, we should not be surprised to find theoretical differences that lead to policy differences. The first one we examine is what Dennis [1977] calls competitive grouping. Under perfect competition the competitive unit is a small firm.[4] Under rivalry, the size and organization of firms are variables chosen by enterprisers as part of their competitive strategies. There is no presumption that larger firms are less competitive, or less beneficial to consumers, than smaller firms.

The competitiveness of large firms was a common theme among economists at the turn of the century. Richard T. Ely [1900, 162] noted that ". . . large scale production is a thing which by no means necessarily signifies monopolized production." John Bates Clark [1888, 21] wrote, "that combinations are to play an increasingly important part in economic affairs, is altogether probable. But that competition is to be to a corresponding extent destroyed . . . should not be too hastily accepted." Herbert Davenport [1919, 483] expressed a similar sentiment, saying that large firms "imply, obviously, a small number of competitors, but do not require the elimination of competition," and James Laughlin [1902, 71] noted that "even when the combination is large, a rival combination may give the most spirited competition." (See also Seligman [1909, 330].)

One reason enterprisers will choose to compete using a large firm is the cost advantage of a large-scale plant. This was commonly recognized, but other advantages were also pointed out. Irving Fisher [1923, 330] and Edwin R. A. Seligman [1909, 341] mentioned the cost savings in advertising, selling, and less cross-shipping associated with larger firms. Several economists stressed that large firms put entrepreneurial and managerial talent to good use. Henry

4. Strictly speaking, small means that a firm has measure zero. See Weintraub [1985, 38–42].

Seager [1913, 159] wrote, "the success of industrial cooperation depends in large measure upon the ability of business managers or enterprisers." To succeed, the enterpriser had to have good judgment, confidence, and the ability to organize.

> A community that is well supplied with leaders having these qualities is sure to have its industrial forces turned to good account. Its workmen will be assigned the special tasks for which they are best fitted so far as conditions permit, and its capital will take the form of the capital goods that are found to be most efficient. Invention and discovery will be highly appreciated and progress in the technique of production will be rapid [1913, 159]. (See also Laughlin [1902, 68–70] and Seligman [1909, 341].)

Economists of the period thought that the advantages of competing in large-scale units increased output and benefited the consumer. Without large scale production, said Seligman [1909, 97], ". . . the world would revert to a more primitive state of well-being, and would virtually renounce the inestimable benefits of the best utilization of capital." Simon Patten [1889, 13] expressed a similar judgment, noting that "the concentration of capital does not cause any economic disadvantage to the community. Those producers who seek protection through combinations are much more efficient than were the small producers whom they displaced."

Since large firms did not eliminate competition, and since they increased efficiency and enhanced welfare, economists were reluctant to endorse a law whose purpose was to inhibit or proscribe trusts. They thought that ". . . the courts would have dealt better with our industrial problems than they have done if the anti-trust act had never been passed" [Hadley 1912, 96]. They thought that "We are only slowly awakening to the fact that what is needed is regulation rather than prohibition" [Seligman 1902, 349], and that "combinations have their roots in the nature of social industry and are normal in their development, and their practical working. They are neither to be deprecated by scientists nor suppressed by legislators" [Clark 1888, 11].

III. CUT-THROAT COMPETITION

Not only did turn-of-the-century economists believe that there could be rivalry among large enterprises, they also believed that competitors set and changed market prices. Unlike the perfectly competitive model, competition as rivalry recognizes that cutting price is an important competitive weapon. As J. B. Clark [1888, 6] said, "actual competition consists invariably in an effort to undersell a rival producer."

But price cutting did not, in the eyes of these economists, always produce beneficial results. It could, in industries with large fixed capital, lead to cut-throat competition that harmed both producers and consumers.

Fisher, for example, argued that in industries with large sunk capital, competition could drive prices below average costs of production. Producers lose from this kind of competition, but so do consumers. The risk of losses from cutthroat competition will discourage capital investment. "The rise of the trusts, pools, and rate agreements," Fisher [1912, 331] wrote, "is largely due to the necessity of protection from competition, precisely analogous to the protection given by patents and copyrights." Similar reasoning can be found in Davenport [1919, 472], Hadley [1896, 152–53], and Seligman [1909, 146].

Cutthroat competition was one of several instances in which economists of the period judged competition to be undesirable, and they naturally opposed unchecked rivalry when its effects were harmful. This is another reason they did not endorse antitrust laws. Fisher [1912, 332] wrote:

> The antitrust movement, in so far as it aims to compel competition, does not take these facts into account; nor does it understand the necessities which have led to monopoly. So considerable are the lines of business in which either there is a large sunk capital or a descending supply curve, that if we do not allow some form of trade agreements many kinds of trade are to-day practically impossible.

IV. COMPETITIVE PROFITS AND ENTRY

Economists' views of profits and entry also lessened their concern about large firms. In perfectly competitive equilibrium, no firm earns economic profits, and the existence of profits is often taken as a sign of monopoly power. By contrast, economists of the late nineteenth and early twentieth centuries argued that capturing profits was a competitive activity. Clark [1888, 33], for example, held that

> . . . statistics that group several branches of manufacturing and state returns in the aggregate may be expected to show a profit somewhat above the natural rate; and figures for the country at large must certainly do so. The general rate of profit in the United States is high, not only because of gains realized by many inventions, but because of returns still realized by the quick exploitation of natural resources. Statistics that group several branches of manufacturing and state returns in the variation.

Seager [1913, 199] listed five general causes of competitive profits: fluctuating prices, inventions, improved methods of production, changing natural conditions, and exploitation of new land. He remarked [1913, 211], ". . . with all of these causes of profits the essential principle to know is that they originate in change and are important because it takes time for competition to adjust economic relations to changed conditions." Taussig [1913, 132] and Hawley [1907, 432] also stressed the importance of competitive profits in guiding economic activity.

So far as antitrust is concerned, competitive profits check the ability of large firms to exploit consumers by charging high prices. This theme is common throughout the period under consideration. Alfred Marshall [1919, 398] said that "absolute monopolies are of little importance," because if they charged prices "above the levels necessary to cover their outlays with normal profits" then "competition would . . . make itself felt." Frank Taussig [1917, 432] expressed the opinion that "the trust must be always on its mettle, on the watch against interlopers. These may be browbeaten or bought up; but new ones will constantly appear if the profits are very high." Hadley [1896, 88–90], Laughlin [1902, 70], and Seligman [1909, 141] maintained similar positions.

Large firms did not constitute a barrier to entry because capital markets enabled competitors to raise large sums. In Ely's view [1900, 178], "When we observe how readily capital can be raised by the millions for promising enterprises, we can hardly escape the conclusion that, so far as our present knowledge is concerned, we are not warranted in attaching much weight to mere mass of capital."

Innovation was also a competitive weapon that enterprisers could use against large firms. James Laughlin [1902, 71] notes that "if any firm, resting on its supposed security, does not keep up with invention and with new processes, firms of enterprising men arise as competitors, and, by lowering the price, take away their trade."

Because profits attracted competing firms into an industry, even an industry composed of large firms, economists were doubtful of the necessity of antitrust laws. Seager [1913, 497] was so convinced that monopoly abuse was exaggerated that he wrote:

> Heretofore the bugaboo of monopoly has confused the public mind. Responsive to every demagogic arraignment of the trusts, public opinion has coerced our law-makers into an attitude with reference to trust legislation which has been emotional rather than rational.

Marshall was typically cautious in his judgment, but did not seem optimistic about antitrust laws. He expressed more confidence in "the growing abundance of free capital" to restrain monopoly abuse than he did in antitrust regulation.

V. COMPETITION AND EFFICIENCY

The theory of perfect competition judges efficiency by the equality of marginal cost and price. Under the assumptions of the model, this standard is unassailable. But where the most efficient production techniques are not given and known, where consumer tastes are not fixed and readily apparent, where costs are not easily computed and measured in advance of production, enterprise serves to discover efficient methods of production and organization. The competitive process rewards efficient producers and penalizes inefficient ones. Without this process, there is less assurance that efficient firms will emerge and survive.

Robert Liefman, a prominent German economist invited by the editor of the *Quarterly Journal of Economics* to express his views on antitrust law, stressed the efficiency aspects of rivalry. He wrote, "Only a peculiar combination of competition and monopoly brings about the greatest possible satisfaction of wants. Free competition, i.e., the voluntary pursuit of gain, must decide, as it does now, just how much capital and labor is to flow to each branch of industry" [1915, 317].

Taussig also pointed to the efficiency of the competitive process. Whether or not one large firm can produce and sell more cheaply than many independent firms, "only the test of competition and experience can decide . . . . Let them fight it out, and let that form of organization survive which does the work most cheaply" [1917, 425].

Because they recognized the efficiency value of the competitive process, most of these economists objected to trust-busting. Ely [1900, 162] said, "the so-called trusts are not a bad thing, unless business on a large scale is a bad thing. On the contrary, when they come about as the result of a free development, they are a good thing, and it is a bad thing to attempt to break them up."

Hadley [1915, 88–89] felt that, even though stricter enforcement of the Sherman Act after 1912

> . . . has been satisfactory to the public from a political standpoint, it has not been so from an economic one. The dissolution of large companies has not been followed by a reduction in charges. On the contrary, it has been attended in many instances by an increase . . . . Dissolution appears to have hurt the consumers more than the investors.

VI. ENDORSEMENT OF THE SHERMAN ACT

Viewing competition as rivalry does not preclude economists favoring antitrust law, as evidenced by Henry Carter Adams. His view of competition is much the same as that of his fellow economists. He wrote [1918, 27]:

> It thus becomes evident that the principle of control, upon which industry relies for discovering the needs of consumers and of limiting production to what is needed in every line of goods produced, is the principle of competition. This result is obtained by opening wide the door of opportunity and trusting to results. Those who have the keen business sense, or who master the details of what is called market demand, survive the trial.

However, Adams did not want to trust results so far as to allow large firms to win out in the competitive process. He thought [1918, 169] that large size was a source of monopoly power, and should be prohibited by law. He approved of the courts annulling contracts in restraint of trade, and applauded the legislature for passing antitrust laws. He wrote [1918, 252], "such a purpose on the part of government is sound. These monopolies ought to be destroyed. Competition ought to be restored as the regulator of business." Thus, Adams's view that competition requires small firms led to his endorsement of the Sherman Act.

Allyn Young also endorsed the Sherman Act. He thought that "There is a substantial difference between competing and 'attempting to monopolize' . . ." [1915, 214] and that, consequently, "There can be little doubt but that the public policy which the [Sherman] act was intended to embody is that competition should be maintained, artificial monopoly destroyed, and its growth prevented." [1915, 213].

Although Adams and Young were the only economists we could find who explicitly endorsed the antitrust law between 1890 and 1920, J. B. Clark and J. M. Clark [1912] favored the prohibition of interlocking directorates. The change in the elder Clark's attitude between 1888 and 1912 probably resulted from his development of marginal productivity theory, in which he employed the static, perfectly competitive model.

VII. GOVERNMENT REGULATION OF INDUSTRY

Although economists between 1890 and 1920 did not favor antitrust law, some of them did favor other forms of government regulation. They were mainly concerned with unfair methods of competition or with unsavory business practices. Ely, for example, wanted legal limitations on child labor, on the number of hours worked each day, and on "sweatshops." But he emphasized that such legislation "is altogether different from the proposals of restrictive legislation . . . since it places no obstacles in the way of the growth of these businesses, but gives them a full and free field" [1900, 272]. Several economists of the period, including Hadley [1912, 71–72], Fisher [1912, 330], Seager [1913, 477], and Adams [1918, 256], condemned price discrimination, because they felt it was an unfair competitive device.

Alfred Marshall typified the views of economists toward regulation during this period. He favored regulating morals rather than mergers. He condemned unfair business practices, but noted that "there are many difficulties in the interpretation of the term unfair" [1919, 512]. He specifically favored regulation to deter libel and the physical destruction of competitors' property, but was reserved in his attitude toward antitrust. He wrote, "Experience only can show whether [antitrust] regulations can be made effective without considerable hurt to legitimate interests" [1919, 542].

VIII. DEVELOPMENTS AFTER 1920

Although viewing competition as enterprise does not preclude prohibiting large scale enterprise, it is evident that the majority of professional economists were cool towards the Sherman Act, and that their reservations were directly related to their view of competition. J. D. Clark [1931, 8] summarized the majority opinion. He wrote:

> . . . it was contended that combination, even to the extent of monopoly, was not only the normal outcome of competition, but was beneficial rather than harmful to the public; the costs of production would be reduced, and fear of competition would induce the monopolist to avoid extravagant profit, which would tempt newcomers into the attractive business.

As Stigler [1982, 4] pointed out, it was not until ". . . the decades that immediately followed [1920] . . . that tolerance of antitrust policy grew . . . among economists." This was the same period during which economists came to accept the perfectly competitive model both as a theoretical tool and as an efficiency benchmark. Tracing the link between perfect competition and endorsement of antitrust law is the work of another paper, but some brief observations suggest that the two developments are related.

Not long after the perfect competition model was accepted by American economists came the monopolistic competition revolution. From the 1920s onward, economists who accepted the perfect competition model as their ideal benchmark were persuaded that, since real-world markets diverged from competitive equilibrium, markets were not very competitive. The work of Sraffa [1926], Hotelling [1929], Chamberlin [1933], Robinson [1933], and others spawned an intense professional interest in theories of imperfect competition. Once perfect competition was accepted as the ideal benchmark, economists concluded that most markets were inherently monopolistic. It was not that markets themselves had become less competitive; it was that the *idea* of competition had changed.

This logically led to endorsement of antitrust law as a cure. There is explicit recognition of this in Horace G. White's 1936 survey of imperfect-competition research in the *American Economic Review*. He approvingly noted that "by tackling rather than neglecting such matters as product differentiation and market promotion, [monopolistic competition] theory is more realistic" [1936, 649]. White expressed hope that the "reoriented theory" would be widely accepted among economists and would encourage them to accept antitrust regulation. "In the sphere of ethico-economic thought . . . the prospect of widespread recognition of the new theoretical developments is certain, for in them the groping of social welfare advocates for a rationale of public interference in private capitalistic enterprise . . . to combat that of a laissez faire [through antitrust] finds glorious realization" [1936, 649].

Historian Ellis W. Hawley also wrote of a link between economists' views of competition and their acceptance of antitrust. During the 1920s and '30s, there had emerged "a new technique of economic analysis, one that regarded monopolistic conditions as ubiquitous, . . . not exceptional, . . . and one that treated the typical seller as a partial monopolist . . . . For the real world, the new theorists felt, the principles of oligopoly and duopoly were more pertinent than those of [perfect] competition" [1966, 298]. These developments, according to Hawley, reinforced economists' "faith in antitrust action."

Perhaps the clearest link between economists' changing views of competition and their support of antitrust in the post-1920 era is found in the structure-conduct-performance paradigm of industrial organization theory. One of the earliest statements of this paradigm was by E. S. Mason, who wrote [1939, 73] that the economic problem posed in the study of industrial organization "runs from differences in market structure to differences in price response, and from differences in price response to the consequences of these differences for the functioning of the economy." To Mason and others, market structure had replaced rivalry as a measuring rod of competition. The structuralist paradigm became the conventional wisdom during the forties, fifties, and sixties.

Mason's student, Joe Bain, wrote one of the most popular industrial organization texts. In it he clearly illustrated how thinking of competition as perfect competition led to greater acceptance of antitrust regulation.

> Control of market structures should be a major tool of [antitrust] policy in remedying or averting monopolistic . . . tendencies . . . (1) by requiring dissolution . . . of existing dominant firms into several parts . . . (2) by reducing entry barriers . . . (3) by . . . inducing lesser degrees of product differentiation . . . the policy could go further and attack . . . very high seller concentration . . . as a *precautionary measure* (emphasis in original) [1959, 237].

Another book/textwriter who echoed this view was Richard Caves [1967, 17], who explained that "market structure determines the behavior of firms in the industry, and that behavior determines the quality of the industry's performance." Clair Wilcox's [1955] popular text, *Public Policies Toward Business*, also espoused the structuralist viewpoint. Wilcox agreed with Bain that governmental control of market structure was the key to a successful antimonopoly policy. "A firm should be judged," wrote Wilcox [1955, 870], "not by the social consequences of its operations, but by the power conferred by its operation, not by market performance, but by market structure." Market structure, according to Wilcox, "throws light on the extent of market power," and such power "in itself, should be the test of legality" [1955, 871]. Because many markets appeared to be concentrated, Wilcox argued that antitrust should be "strengthened in many ways" [1955, 873], and he bemoaned "a lack of vigor in enforcement" [1955, 847]. In contrast to the prevailing economic wisdom at the turn of the century, antitrust had become, by the late 1950s, a sacred cow to economists. Deregulating antitrust, according to Wilcox [1955, 849], was unthinkable: "considering the . . . alternatives [to antitrust regulation] . . . laissez faire is not among them . . . the choice lies between public enterprise and . . . regulation of private enterprise."

This discussion is not meant to be comprehensive. We only wish to suggest that a cursory examination of the literature on public policy toward business during this period would reflect the structuralist view of markets, which led economists of that time to strongly favor antitrust regulation. George Stigler's survey article on perfect competition captured the conventional wisdom when he wrote that "one of the assumptions of perfect competition is the existence of a Sherman Act" [1957, 1]. Once one thinks of competition as perfect, a Sherman Act is indeed required. But to the nineteenth century economists, the Act was incompatible with rivalry.[5]

IX. CONCLUSION

There is no doubt that economists at the turn of the century looked upon competition as a process of enterprise and rivalry, and that they disapproved of antitrust law. These two views were not merely coincidental. Although viewing competition as rivalry does not necessitate opposition to antitrust law, it surely encourages such opposition.

5. See DiLorenzo [1985] for evidence that the Sherman Act of 1890 diminished rather than enhanced competition.

If our thesis is correct, economists owe special attention to the meaning they attach to competition. Stigler [1957, 16] has praised the perfectly competitive model for its vitality in drawing normative conclusions. But if these conclusions are substantially different from conclusions based on rivalry, then the competitive model has very likely misdirected the profession, at least as far as antitrust policy is concerned.

REFERENCES

Adams, Henry Carter. *Description of Industry*. New York: Henry Holt and Company, 1918.

Armentano, Dominick. *Antitrust and Monopoly: Anatomy of a Policy Failure*. New York: Wiley, 1982.

Bain, Joe. *Industrial Organization*. New York: Chapman & Hall, Ltd., 1959.

Bittlingmayer, G. "Decreasing Average Cost and Competition: A New Look at the Addyston Pipe Case." *Journal of Law and Economics*, October 1982, 201–29.

Bork, Robert. *The Antitrust Paradox*. New York: Basic Books, 1978.

Brozen, Yale. *Concentration, Mergers and Public Policy*. New York: Macmillan, 1982.

Caves, Richard. *American Industry: Structure, Conduct, Performance*. Englewood Cliffs, NJ: Prentice-Hall, 1967.

Chamberlin, Edward. *The Theory of Monopolistic Competition*. Cambridge: Harvard University Press, 1933.

Clark, John Bates and Franklin Giddings. *Modern Distributive Process*. Boston: Ginn & Co., 1888.

Clark, John Bates and John Maurice Clark. *The Control of Trusts*. New York: Macmillan, 1912.

Clark, J. D. *The Federal Trust Policy*. Baltimore: Johns Hopkins University Press, 1931.

Coats, A. W. "The American Political Economy Club." *American Economic Review*, September 1961, 621–37.

Davenport, Herbert. *The Economics of Enterprise*. New York: Macmillan, 1919.

Demsetz, Harold. "Why Regulate Utilities?" *Journal of Law and Economics*, April 1968, 55–66.

Dennis, Kenneth G. *"Competition" in the History of Economic Thought*. New York: Arno Press, 1977.

DiLorenzo, Thomas J. "The Origins of Antitrust: An Interest-Group Perspective." *International Review of Law and Economics*, Fall 1985, 73–90.

Ely, Richard T. *Monopolies and Trusts*. New York: Macmillan, 1900.

Fisher, Irving. *Elementary Principles of Economics*. New York: Macmillan, 1912.

Frey, Bruno, Werner Pommerehne, Frederic Schneider, and G. Gilbert. "Consensus and Dissension Among Economists." *American Economic Review*, September 1984, 986–94.

Goldschmidt, Harvey, Patrick Mann, and Fred Weston. *Industrial Concentration: The New Learning*. Boston: Little, Brown & Co., 1974.

Hadley, Arthur T. *Economics: An Account of the Relation Between Private Property and Public Welfare*. New York: G. P. Putnam's Sons, 1896.

———. *Standards of Public Morality*. New York: The Macmillan Company, Ltd., 1912.

———. *Undercurrents in American Politics*. New Haven: Yale University Press, 1915.

Hawley, Ellis W. *The New Deal and the Problem of Monopoly*. Princeton, NJ: Princeton University Press, 1966.

Hawley, Fredrick Barnard. *Enterprise and the Productive Process*. New York: G. P. Putnam's Sons, 1907.

Hayek, Friedrich. "The Meaning of Competition," in *Individualism and Economic Order*, edited by F. A. Hayek. Chicago: University of Chicago Press, 1948, 93–103.

———. "Competition as a Discovery Procedure," in *New Studies in Philosophy, Politics, Economics, and the History of Ideas*, edited by F. A. Hayek. Chicago: University of Chicago Press, 1978, 179–90.

High, Jack. "Bork's Paradox: Static vs. Dynamic Efficiency in Antitrust Analysis." *Contemporary Policy Issues*, Winter 1984–1985, 21–34.

Hotelling, Harold. "Stability in Competition." *Economic Journal*, March 1929, 41–57.

Johnson, Bruce. "Can Economic Analysis Give Better Guidance to Antitrust Policy?" *Economic Inquiry*, January 1983, 1–10.

Kirzner, Israel. *Competition and Entrepreneurship*. Chicago: University of Chicago Press, 1973.

Laughlin, James Lawrence. *The Elements of Political Economy*, revised edition. New York: American Book Co., 1902.

Liefman, Robert. "Monopoly and Competition as the Basis of a Government Trust Policy" *Quarterly Journal of Economics*, February 1915, 314–27.

Marshall, Alfred. *Industry and Trade*. London: Macmillan, 1919.

Mason, E. S. "Price and Production Policies of Large-Scale Enterprise." *American Economic Review*, Supplement, March 1939, 61–74.

McGee, John S. *In Defense of Industrial Concentration*. New York: Praeger Publishers, 1971.

McNulty, Paul. "A Note on the History of Perfect Competition." *Journal of Political Economy*, August 1967, 395–99.

———. "Economic Theory and the Meaning of Competition." *Quarterly Journal of Economics*, November 1968, 639–56.

Patten, Simon N. "The Economic Effects of Combinations." *Age of Steel*, January 5, 1889, 13.

Robinson, Joan. *The Economics of Imperfect Competition*. London: Macmillan, 1933.

Rothbard, Murray. *Man, Economy, and State*. Los Angeles: Nash Publishing, 1962.

Schumpeter, Joseph A. *Capitalism, Socialism and Democracy*, 3rd edition. New York: Harper and Row Publishers, Inc., 1942.

Seager, Henry. *Principles of Economics*. New York: Henry Holt and Co., 1913.

Seligman, E. R. A. *Principles of Economics*. New York: Longmans, Green and Co., 1909.

Sraffa, Pierro. "The Laws of Returns Under Competitive Conditions." *Economic Journal*, December 1926, 535–50.

Stigler, George J. "Perfect Competition, Historically Contemplated." *Journal of Political Economy*, February 1957, 1–17.

———. "The Economists and the Problem of Monopoly." *American Economic Review*, May 1982, 1–11.

Taussig, Frank. "The Economics of Governmental Price Regulation—Discussion." *American Economic Review, Papers and Proceedings*, March 1913, 132–3.

———. *Principles of Economics*. New York: Macmillan, 1917.

Telser, Lester. *Economic Theory and the Core*. Chicago: University of Chicago Press, 1978.

Weintraub, E. Roy. *General Equilibrium Analysis, Studies in Appraisal*. Cambridge: Cambridge University Press, 1985.

White, Horace. "A Review of Monopolistic and Imperfect Competition Theories." *American Economic Review*, December 1936, 636–49.

Wilcox, Clair. *Public Policy Toward Business*. Chicago: Irwin, 1955.

Young, Allyn. "The Sherman Act and the New Antitrust Legislation." *Journal of Political Economy*, March 1915, 201–20.

APPENDIX

Economists Who Wrote on Competition and Antitrust, 1885–1920[1]

Economist	Affiliation	Economist	Affiliation
H. C. Adams	Cornell	J. L. Laughlin[2]	U. of Chicago
J. B. Clark	Columbia	R. Liefman	U. of Frieburg
H. Davenport	U. of Chicago	A. Marshall	Cambridge
R. T. Ely	Wisconsin	S. Patten	U. of Penn.
I. Fisher	Yale	H. Seager[3]	Columbia
A. T. Hadley[4]	Yale	E. R. A. Seligman	Columbia
		W. Taussig	Harvard
		A. Young	Cornell

[1] To the best of our knowledge, this is a complete list. By today's standards it appears small, but as Coats [1961] noted, there were only ten men who had attained full-time professional status as economists by the 1880s. The size of the profession grew steadily thereafter, but not everyone commented on antitrust. Other prominent economists of this period who did not link their views on competition and antitrust, or who expressed no opinion on antitrust, are E. B. Andrews (Brown), H. W. Farnam (Yale), E. J. James (Director of the Wharton School, U. of Penn.), H. L. Moore (Columbia), and T. Veblen (Chicago, Stanford, Johns Hopkins).

[2] First Departmental Head at Chicago and founder of the *Journal of Political Economy*.

[3] Former President of the American Economic Association.

[4] Former President of Yale University.