The Invention of Antitrust

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THE INVENTION OF ANTITRUST

HERBERT HOVENKAMP*

ABSTRACT

The long Progressive Era, from 1900 to 1930, was the Golden Age of antitrust theory, if not of enforcement. During that period courts and Progressive scholars developed nearly all of the tools that we use to this day to assess anticompetitive practices under the federal antitrust laws. In a very real sense, we can say that this group of people invented antitrust law.

The principal contributions the Progressives made to antitrust policy were (1) partial equilibrium analysis, which became the basis for concerns about economic concentration, the distinction between short- and long-run analysis, and later provided the foundation for the development of the antitrust “relevant market”; (2) the classification of costs into fixed and variable, with the emergent belief that industries with high fixed costs were more problematic; (3) the development of the concept of entry barriers, contrary to a long classical tradition of assuming that entry is easy and quick; (4) the distinction between horizontal and vertical relationships and the emergence of vertical integration as a competition problem; and (5) price discrimination as a practice that could sometimes have competitive consequences. Finally, at the end of this period came (6) theories of imperfect competition, including the rediscovery of oligopoly theory and the rise of product differentiation as relevant to antitrust policy making.

Subsequent to 1930, antitrust policy veered sharply to the left. Then, two decades later it turned just as sharply to the right. Eventually it moderated, reaching a point that is not all that far away from the Progressives’ original vision.

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The long American Progressive Era to the New Deal, roughly 1900 into the early 1930s, was the formative age of antitrust policy. During this period a diverse group of policy makers developed nearly all of the analytic tools that antitrust law uses today to evaluate business practices or market structures thought to be anticompetitive. For all intents and purposes, they invented antitrust law. In fact, after decades of experimentation we are reclaiming much of it. The extraordinary Progressive influence on antitrust policy was at least partly a historical coincidence. The passage of the Sherman and Clayton Acts and the development of techniques for evaluating practices tracked extraordinary developments in technology as well as social and economic thought. Antitrust policy would have looked very different had it developed a half century earlier.

The Progressive Era antitrust movement was both political and economic. It reflected the emergence of new interest groups as well as new sources of economic concern and theoretical developments. The emergent interest groups were large multistate business, the trade association movement dominated by small business, consumers, and labor. The new sources of concern were industrialization, the rise of modern distribution, the labor movement, and the increasing importance of consumers as market participants. The new theoretical developments were the rise of marginalist economics and industrial organization theory, which provided competition analysts with a set of tools like none they had before.

The legislative debate leading up to the Sherman Act can hardly be characterized as a dispute about economic theory. That came later as litigants and courts looked for tools that would enable them to assess practices in a coherent way. Consistent with the economic-focused language of the Sherman Act itself, the tools that emerged were mainly economic, although they were applied by non-economist lawyers and judges. The record of their engagement with the law is impressive; judges routinely used them even if they were not aware of their economic origins or technical meaning. Nearly all of these developments placed antitrust theory on an expansion course that


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prevailed until the reaction against the New Deal found a voice in the neoliberalism of the 1940s, particularly as expressed by the Chicago School. Even so, the neoliberal revolution adopted most of these tools, although it modified some of them and rejected a few.

The Progressives are occasionally caricatured as people who really did not care about costs and productivity but were concerned exclusively about bigness as such. That could not be further from the truth. By and large the Progressives appreciated the fact that the trusts had lower costs than smaller firms and did not want to punish them for that. In fact, they were fairly obsessed with efficiency and cutting of costs. That obsession extended even to Louis Brandeis, a strong proponent of business efficiency even as he railed at large firms. He campaigned for “Taylorism,” or scientific management, as a way of limiting price increases.

One antinomy in Brandeis’s work was his persistent failure to acknowledge the relationship between greater efficiency and larger size, even though contemporary economists clearly did.

The numerous and varied participants in the Chicago Conference on Trusts, discussed below, favored lower costs and were also concerned about higher prices. They worried that exclusionary practices might be a vehicle for achieving them and making market dominance permanent.

I. THE CHICAGO CONFERENCE ON TRUSTS

The Progressive Era was heavily preoccupied with the rise of larger firms, or the “trust” problem. The initial reaction was an eclectic range of views about what to do about them, or whether to do anything at all. The gigantic 1899 Chicago Conference on Trusts, hosted by the Civic Federation of Chicago, is an exceptional window into the contemporary mindset.

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5. See Mark Aldrich, On the Track of Efficiency: Scientific Management Comes to Railroad Shops, 1900–1930, 84 BUS. HIST. REV. 501 (2010) (commenting on Brandeis’ arguments that scientific management could save the railroads $1 million daily, avoiding the need for a rate increase); see also ALPHIEUS THOMAS MASON, BRANDEIS: A FREE MAN’S LIFE 315–30 (1946) (noting Brandeis’s advocacy of scientific management as a way of reducing railroad costs).
7. See infra text accompanying notes 37–41.
because it reflected this diversity of views. Its personnel and proceedings, which were published in 1900, represented every interest group that had a stake in policy about the trusts. Some participants were invited by the conference managers, while others were invited by the governors of individual states.8 The speakers included politicians, economists, lawyers, social scientists and statisticians, industrialists, labor union leaders, insurance company representatives, and even clergy.9

This diverse group identified a number of phenomena that explained the rise of the trusts and that either justified or damned them. Some argued that the trusts were entirely the consequence of economies of scale or scope and as such were an engine of economic progress that should be left alone.10 Others argued that potential competition and new entry would always be present to discipline monopoly pricing, thus mitigating any concerns.11 Many others saw the trusts as harmful and blamed their rise on deficiencies in state corporate law. They debated about a national corporation act as a potential solution.12 Others both blamed and defended tariffs13 or unethical business actors.14

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8. See Jeremiah W. Jenks, Chicago Conference on Trusts, 15 POL. SCI. Q. 349, 349 (1900).
10. E.g., Charles Foster, Desirability of Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 268, 268–71.
11. See discussion infra text accompanying note 65.
12. A.E. Rogers, Historical Development of the Corporation, with Exclusion of the Principle of Public Benefit, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 409, 409–21; William Jennings Bryan, The Man Before the Dollar: Society Not Enthralled to an Institution Solely Because the Institution Exists: The Remedy of Congressional License, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 496, 503–09; see also William Dudley Fouke, In Criticism of Certain Views of William J. Bryan, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 579, 579–80 (opposing Bryan’s suggestion that corporations be generally forbidden from doing business in more than one state).
13. E.g., Bryan, supra note 12, at 501 (arguing that trusts are a product of high tariffs); Byron W. Holt, Tariff the Mother of Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 171, 171–76 (speaking on “Tariff, the Mother of Trusts”); Samuel Adams Robinson, The Antidote of Free Trade and the International Trust, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 193, 193–201; Lawson Purdy, The Wrong of Special Privilege, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 166, 166–71 (arguing that tariffs were a principal vehicle for the rise of the trusts; “the combinations not protected by an iniquitous tariff are few in number”); accord John F. Scanlan, Trusts and Free Trade, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 177, 177–86; Thomas Updgraff, Protection and Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 187, 187–88 (“Protectionists would kill the snakes and save the paradise. Free traders in America would devastate the paradise and save the snakes.”). Contra Henry W. Blair, The Tariff Not Mother of Trusts, but Mother of American Wealth and Power, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 604, 604–19 (stating that “the protective tariff is not the mother of trusts, but the protective tariff is the mother of American wealth and power”).
14. E.g., William Fortune, A Plea for Moderate Action, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 53, 53–57; G.W. Nonthrop, Jr., Practical Remedies for Industrial Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 522, 522–30; J.G. Schonfarber, Corporate Ownership of
Within this amalgamation of concerns the Sherman Act itself was hardly dominant. In fact, it played a surprisingly small part, and the speeches tended to emphasize its deficiencies more than its strengths. Henry Rand Hatfield’s well-known contemporary account of the Chicago Trust Conference is very likely responsible for the view that the economists who spoke were nearly all opposed to the Sherman Act.15 A fair reading of the proceedings suggests two quite different splits. First was the division of those who thought that the trusts were efficient and harmless from those who regarded them as threatening. Contrary to Hatfield’s view, a clear majority believed that the trusts presented a serious problem. Second was the question of the best legal tools for confronting them. Here, Hatfield’s point has more traction. As correctives, corporate law and tariff reform were at least as prominent as the Sherman Act, and many of the speakers professed strong disappointment in Sherman Act litigation to that time. Although the speakers were hardly unanimous, the strongest consensus around a single view was that the trusts should be controlled by changes in corporate law.

Prior to the Chicago Conference, the Civic Federation had sent a questionnaire to participants.16 The summaries contained in the Proceedings say nothing about the methodology, but there were 554 respondents to 69 questions. The respondents were described as “trusts, wholesale dealers, commercial travelers’ organizations, railroads, labor associations, contractors, manufacturers, economists, financiers, and public men.”17 A separate list, or circular, was sent to a smaller but overlapping group of lawyers, economists, and “public men.” The description of the survey also fails to indicate whether respondents were limited to one answer or could select multiple answers. Nor does it specify how recipients of the questionnaire were selected and what was their distribution over various interest groups. These omissions largely reflected the state of public opinion research at the time.18 In any event, nothing suggests that this was anything

Railroads the Backbone of the Trust; Protective Tariff Its Right Arm, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 343, 343–45.

15. See Henry Rand Hatfield, The Chicago Trust Conference, 8 J. Pol. Econ. 1, 6 (1899) (“The weight of evidence . . . supported the view that the modern system of large business establishments was the outgrowth of natural industrial evolution. This was necessarily the view of those who advocated trust methods, but it was also advanced by all save one of the professional economists, by the leading labor representatives, and even by some who were avowed anti-trust men.”). At the time, Hatfield was an instructor in accounting at the University of Chicago.


17. Pingree, supra note 16, at 264.

more than an informal questionnaire distributed broadly to invitees.

David Kinley, a professor from the University of Illinois, reported on the results.\textsuperscript{19} Three quarters of the participants overall believed that the trusts injured consumers.\textsuperscript{20} Two-thirds of the respondents regarded the trusts with “apprehension.”\textsuperscript{21} Most on the main questionnaire believed that the trusts resulted in higher prices.\textsuperscript{22} However, 90\% of the respondents on the second Circular, which was more focused on academics, lawyers, and government officials, believed that the effect of the trusts was to reduce costs.\textsuperscript{23} Two-thirds of the respondents on this second list also believed that consumers would benefit. Interestingly, roughly two-thirds of the respondents overall believed that labor organizations should be treated as all other trusts, while one-third took an unspecified “opposite view.”\textsuperscript{24} This suggests that the idea of a labor “exemption” from antitrust law did not have popular support in 1900.\textsuperscript{25} Tellingly, this occurred after the federal courts had begun using the Sherman Act as a powerful striking-breaking device.\textsuperscript{26} Evidently, most of the participants did not object.

The survey concluded with a very general question: “What shall be done with combinations?” The answers were all over the place, with pluralities going to unspecified “legislation” (61 respondents), “let alone” (60) and the third highest specific proposal going to “Tariff revision” (45).

\textsuperscript{19} Kinley, \textit{supra} note 16, at 530. However, former Michigan Governor Hazen S. Pingree also commented on the report. Pingree, \textit{supra} note 16, at 263–64.

\textsuperscript{20} Kinley, \textit{supra} note 16, at 531 (reporting that 105 responses on the issue thought consumers were injured; 24 thought they were benefitted; and 41 believed there was no difference).

\textsuperscript{21} \textit{Id.} at 532.

\textsuperscript{22} \textit{Id.} at 531–32. As Kinley summarized:
The items of information about prices aggregate 506; 452 were to the effect that prices rose after combinations were made; 24 that they fell, 15 that there was no change, and 15 that they were fluctuating; 210 do not specifically assign a cause, 189 ascribe trusts as the cause of the change (increase, in most of these cases); and 40 assign other causes, usually “increased demand,” “rise of raw materials,” or the tariff.

\textit{Id.} at 531.

\textsuperscript{23} \textit{Id.} at 531. Kinley noted that 432 thought that combinations “should” reduce production costs; 17 believed that they “should” increase it. Among these, 289 believed that this “ought” to be a benefit to society, and 74 thought that it “ought” to be a detriment. Apparently, several respondents believed that the trust both reduced costs but raised prices. On the question of passing on of reduced costs, there were 444 answers. Forty said it “depends on competition”; 110 concluded that customers would eventually “get most or all of the gain”; 101 believed that passing on would “depend on the trusts”; and 75 believed that “the consumer will gain nothing.” The rest were uncertain. On worker wages, 180 believed that the combinations increase them, and 148 that they reduce them. Fifty-one respondents said that they would reduce the number of employees; three believed they would lengthen the working day and three that they would shorten it. Twenty-five believed they would have no effect.

\textsuperscript{24} \textit{Id.} at 532.


\textsuperscript{26} See infra text accompanying note 31.
“Antitrust” did not appear on the list, except to the extent it may have been included in unspecified legislation. Twenty-six respondents preferred government ownership or control of natural monopolies, and even fewer (10) supported “Stricter Limitation on Corporate Powers.”27 No specific proposal other than “let alone” received 10% of the votes, and it received only 10.8%. The list of options did not include any that were obviously related to morals or ethics, although 123 responses were classified as “miscellaneous,” with no specification of their content.

At the time of the conference, the Sherman Act was nearly ten years old and had produced two important Supreme Court decisions condemning railroad cartels.28 Even here, the very small number of comments on the railroad cartel decisions were more negative than positive. One complaint was that the railroad cartel cases did not authorize the courts to set reasonable rates, but only to condemn bad agreements.29 Another was that the Trans-Missouri railroad cartel case, which had adopted a per se rule against price fixing, had largely “expunged” the rule of reason from the law.30

By 1900 the Sherman Act had also been used aggressively several times against labor unions, a development that was both praised and condemned by participants. In nearly all of the labor cases the plaintiff had been the United States, thus inviting debate about what should be government policy toward labor union activities.31 P.E. Dowe, statistician of the Anti-Trust League, declared that while the cost of living within the last two years had increased some 12–16%, wages had risen by less than 3%.32 Nevertheless, as noted above, there was little support for labor antitrust immunity. Overall, while attitudes toward labor changed significantly between 1890 and 1914 when the Clayton Act was passed, most of this was not yet reflected in the conference proceedings.

30. Thurber, supra note 29, at 135.
31. See generally United States v. Cassidy, 67 F. 698 (N.D. Cal. 1895) (instructing jury that Sherman Act reaches labor conspiracy); United States v. Elliott, 62 F. 801 (E.D. Mo. 1894) (granting preliminary injunction under the Sherman Act, under what is now 15 U.S.C. § 25); United States v. Agler, 62 F. 824 (D. Ind. 1894) (similarly, approving injunction even against defendants who were not named in the bill); see also In re Debs, 158 U.S. 564 (1895) (upholding labor conspiracy injunction against Eugene Debs under Congressional power to regulate commerce; not relying on Sherman Act, but noting that the district court did and expressing no opinion about whether that was correct). Other decisions are discussed in Herbert Hovenkamp, Labor Conspiracies in American Law, 1880-1930, 66 TEX. L. REV. 919, 950 (1988).
32. P.E. Dowe, Trusts and Their Effects Upon Commercial Travelers, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 115, 119.
Other conference participants criticized the Supreme Court’s very first Sherman Act decision, United States v. E.C. Knight Co., which had concluded that Congress lacked the constitutional authority to control intrastate manufacturing simply because the goods were destined for interstate shipment. That provoked the view that the country “must have a constitutional change if the general government is to deal with the trust problem.” Another speaker praised the railroad cartel decisions as well as E.C. Knight for developing the distinction between intrastate and interstate trusts. Many commentators expressed concerns about federalism, but most were of the nature that while the states had a primary role in combatting trusts they could not control interstate companies without federal assistance.

Several conference participants spoke about the role of costs. Many recognized that the trusts tended to reduce costs. Even the “Great Commoner” William Jennings Bryan acknowledged the cost reductions but protested that nothing ensured that these savings would be passed on in the form of lower prices. “A trust, a monopoly, can lessen the cost of distribution. But when it does so society has no assurance that it will get any of the benefits . . . .” Similarly, others indicated a concern for higher prices.

34. John I. Yellott, The Trust: An Institution Pronounced by the United States Supreme Court, in 1895, Beyond Congressional Control, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 427, 434–35 (concluding that “this enabling amendment must be made, or we must rely upon state legislation for a remedy”). Largely in accord was William Dudley Foulke. Foulke, supra note 12, at 579–80.
36. E.g., Foster, supra note 10, at 270; Jefferson Davis, The Arkansas Anti-Trust Law, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 271, 272; George R. Gaither, Jr., Maryland and the Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 285, 290–291; Francis G. Newlands, Federal Taxation as a Means of Regulation, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 305, 306–308.
37. E.g., A. Leo Weil, The Combination in History, Ethics, and Political Economy: Should It Be Prevented by Law?, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 77, 89 (“That such large enterprises reduce the cost of production, is an economic fact too well established now to need further authentication.”); Foster, supra note 10, at 270 (acknowledging that Standard Oil has reduced the cost of gas for lighting); George Gunton, The Public and the Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 276, 278–80 (noting that both trusts and railroads greatly reduce the cost of production); David Ross, Combinations the Inevitable Incidents of Industrial Evolution, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 371, 372, 374 (similar); Edward W. Bemis, Trust Evils and Suggested Remedies: A Problem for a Generation to Settle, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 394, 394–96 (citing economist Henry Carter Adams for proposition that large trusts significantly reduce costs); Foulke, supra note 12, at 453 (similar, Standard Oil); Emerson McMillin, Combinations in the Main Beneficial, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 617, 617 (similar, and concluding that “[t]he consumer and the laborer should be the chief beneficiaries”); James W. Ellsworth, The Advantages of Rightful Combination, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 618, 618 (similar).
For example, John M. Stahl of the Farmers’ National Congress acknowledged that the trusts had lowered costs but accused them of setting anticompetitively high prices. Some participants defined competition in terms of cost reduction.

Critics later faulted the Chicago Conference for failure to make specific recommendations, and state governors called a second conference for that purpose which met in St. Louis later in 1899. It issued a number of recommendations, but its proceedings were apparently never published and it received little attention from the press. It was dominated by state attorneys general who focused largely on corporate law remedies. Its recommendations either duplicated those already contained in the Sherman Act or else called for corporate law modifications limiting the power of corporations to do business in more than a single state.

The path of antitrust development that took place in subsequent years leading up to the Clayton Act in 1914 was much more focused than the conference debates, mainly because many alternatives dropped away. The move for a national incorporation statute or expanded state corporate law remedies ran out of gas. Debates over the tariff remained, but no legislation

40 Aaron Jones, Federal and State Regulation of Trusts, in Chicago Conference of Trusts, supra note 9, at 218, 223.
41 E.g., Weil, supra note 37, at 87 (“The true and only kind of competition that is desirable is the constructive, which wins by decreasing cost or improving product.”); Holt, supra note 13, at 173 (observing that the steel trust had reduced the cost of production sufficiently to offset the 1891 McKinley tariff); Robinson, supra note 13, at 195–97 (similar).
43 See Sylvester Pennoyer, How to Control the Trusts, 33 Am. L. Rev. 876, 877–78 (1899) (describing St. Louis conference). The conference resolutions called for the enactment and enforcement, both by the several States and the nation, of legislation that shall define as crimes any attempted monopolization or restraint of trade in any line of industrial activity; punishment to the corporation to the extent of dissolution; an efficacious system of reports to State authority by corporations and the strict examination of all such as are organized under its laws; the prevention of entrance within a State of any foreign corporation for any other purpose than interstate commerce, except on terms that will put it on a basis of equality with domestic corporations, making it mandatory upon foreign corporations to procure State license as a condition precedent to their entry; the enactment of State legislation preventing corporations created in one State from doing business exclusively in other States; providing that no corporation shall be formed in whole or in part from another corporation, or hold stock in another corporation engaged in similar or competitive business; recommending that each State pass laws providing that no corporation which is a member of any pool or trust in that State, or elsewhere, can do business in that State; that the capital stock of private corporations should be fully paid up, and that shareholders shall be liable to twice the face value of the stock held by each.
44 On the rise and fall of the movement, see Gabriel Kolko, The Triumph of Conservatism (1963); Camden Hutchison, Progressive Era Conceptions of the Corporation and the Failure of the
ever linked them to trusts as such.

The role of labor became more controversial after 1900, with distinctive positions emerging by the 1912 presidential election. The 1912 Democratic Party platform called for protection of labor organizing so that “members should not be regarded as illegal combinations in restraint of trade.” The Republican platform was silent on that issue, although it did advocate for preservation of high tariffs as a means of protecting workers’ wages. High tariffs, it should be noted, protected producers directly, and labor only if producers passed on some of their gains in the form of higher wages. The Progressive Party, with Theodore Roosevelt as its head, called for an end to labor injunctions but did not mention a substantive antitrust immunity. The Democrat’s 1912 election victory very likely accounts for insertion of a labor immunity into the Clayton Act, now as section 6.

Debates over good morals in business behavior are of course never ending, but the concerns were never reflected in the text of an antitrust statute. Rather, when it passed the Clayton Act in 1914, the Progressive-dominated Congress doubled down on the use of exclusively economic language. The Act condemned conduct when it threatened to “substantially lessen competition” or “tend to create a monopoly.”

One thing that emerges powerfully in the proceedings of the conference is that, even though the participants represented a wide variety of political beliefs as well as professions, for a clear majority of them the dominant concern was with the power of the trusts to set high prices or drive rivals out of business. But there were some exceptions. Of the roughly seventy participants whose statements were published, a half dozen emphasized...
political or social concerns either in addition or as an alternative to the economic ones. The most prominent in Progressive circles was economist Henry Carter Adams, at this time a statistician for the Interstate Commerce Commission. Adams spoke at some length about rising concentration and economic power, as well as the deficiencies of state corporate law. However, he also complained about the “general social and political results of trust organizations” that must be considered. “For the preservation of democracy there must be maintained a fair degree of equality in the social standing of citizens,” he observed, and wondered whether the rise of the trusts was consistent with that.\(^{50}\) He concluded:

I would not claim, without discussion, that the trust organization of society destroys reasonable equality, closes the door of industrial opportunity, or tends to disarrange that fine balance essential to the successful workings of an automatic society; but I do assert that the questions here presented are debatable questions, and that the burden of proof lies with the advocates of this new form of business organization.\(^{51}\)

He also suggested that the trusts might have outsize political influence.\(^{52}\)

Dudley Wooten, then a member of the Texas legislature, agreed, arguing that the trusts were antidemocratic perversions brought about by selfishness.\(^{53}\) Aaron Jones, a leader of the national Grange, a populist political organization of farmers,\(^{54}\) observed that the sugar trust made political contributions to the Republican Party in Republican-controlled states and to the Democrats in Democrat-controlled states.\(^{55}\) John W. Hayes, General Secretary of the Knights of Labor, saw a political war between the power of the state and the power of the trusts,\(^{56}\) as did Edward W. Bemis from the Bureau of Economic Research.\(^{57}\) However, Bemis also praised chain stores for offering low prices and distinguished them from the trusts. While the trusts cut prices selectively in order to drive out rivals, the department store “furnishes alike to all the advantage of lower prices, which

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51. *Id.* at 39.
52. *Id.* at 39.
55. Jones, supra note 40, at 221.
57. *Id.* at 394, 397–98.
are rendered possible by the economies of a big business."\textsuperscript{58} William Dudley Foulke, a prominent journalist and political activist for Progressive causes, argued that “the political and social effects of monopoly are far more menacing to society than its economic results.”\textsuperscript{59}

For more conservative political activist George Gunton, by contrast, politics were present but pulling the other way: politicians were being urged to abandon sound economic principles of “industrial freedom” in order to vote the “arbitrary paternalism” of harsh regulation of the trusts.\textsuperscript{60}

Following the Chicago Conference, Progressives began to focus more narrowly on the antitrust laws and the discipline of economics as the preferred tool for dealing with the trusts. While political and moral rhetoric about the trusts has always been present, there is little evidence that it provided substantial guides to policy making. The dominant tool became marginalist economics, then in its infancy, and the darling of the younger generation of political economists in the United States. Most of these were Progressives with a much stronger bias in favor of government intervention than their predecessors had supported.\textsuperscript{61}

The principal tools that emerged were (1) partial equilibrium analysis, which became the basis for concerns about economic concentration, the distinction between short- and long-run analysis, and later came to justify and provide support for the concept of antitrust’s “relevant market”; (2) classification of costs into fixed and variable, with the emergent belief that industries with high fixed costs were more problematic; (3) development of the concept of entry barriers, contrary to a long classical tradition of assuming that entry by new firms is easy and quick; (4) the distinction between horizontal and vertical relationships and the emergence of vertical integration as a competition problem; and (5) price discrimination as a practice that could have competitive consequences. Finally, toward the end of this period came (6) theories of imperfect competition, including the rediscovery of oligopoly theory and the rise of product differentiation as relevant to antitrust policy making.

II. MARGINALIST ECONOMICS AND MARKET REVISIONISM

The antitrust movement in the United States coincided with a far-reaching revolution in economics. The marginalist revolution has

\textsuperscript{58} Bemis, supra note 37, at 395. At this time most of the chain store debate lay in the future. See Hovenkamp, supra note 4.
\textsuperscript{59} Foulke, supra note 12, at 454.
\textsuperscript{60} Gunton, supra note 37, at 276.
unfortunately been seriously undervalued in history writing about antitrust, mainly because so many historians did not understand it and failed to appreciate its implications.\textsuperscript{62} Nevertheless, the fact remains that one cannot understand the set of tools that Progressive antitrust policy makers deployed without understanding their underlying economics. By the 1930s nearly all economists were marginalists.\textsuperscript{63}

The classical political economists had seen value as inhering in goods or the labor that went into making them.\textsuperscript{64} They tended to assess costs and benefits by looking at averages, which were necessarily taken from the past. They also tended to believe that capital would flow naturally toward profit and that the only practical impediment was government licenses or other restrictions.\textsuperscript{65} In sharp contrast, marginalists saw value as willingness to pay or accept for the next, or “marginal,” unit of something. As a result, its perspective on value was forward looking. Further, market entry was a dynamic concept and its ease and likelihood varied greatly from one market to another.

Three features of marginalism account for both its influence and the resistance to it. One was that marginalist analysis enabled various values governing demand, supply, or economic movement to be “metered,” or quantified, in ways that classical political economy could not do. This feature also made marginalist economics much more technical, with increasing informational demands, but also promised to give Progressive Era economists capabilities far beyond those of their predecessors. Second, and relatedly, marginalism expanded the use of mathematics in economics, to a degree unknown by the classical political economists. This became a particularly attractive feature to younger economists and social scientists looking to add rigor and expertise to their disciplines. It also accounts for


some of the resistance from older economists. A third feature was that marginalism undermined the classical view that markets are competitive unless the state creates monopoly. Under marginalism competitiveness was a matter of degree, and only a small percentage of markets satisfied the conditions for perfect competition. As a result, marginalism began to make a broad and unprecedented case for selective state intervention in the economy.

A. MARKETS AS HUMAN INSTITUTIONS: COERCION

The classical political economists saw the world of commercial relationships in binary terms. For private arrangements people were either free or bound. Aside from government constraint, the boundaries of obligation were defined by contract, property, and tort law. Value inhered in things or the labor used to produce them, and people either purchased or not. Setting aside public obligations, within that world people were free to make their own economic decisions unless a contract, property right, familial hierarchy, or sovereign command bound them. That bond was particularly strong because the common law principle of liberty of contract refused to set very many contracts aside.

Further, the classical tradition regarded the market itself as a part of nature. Francis Wayland’s popular textbook on political economy defined the discipline in 1886 as “a branch of true science,” and by science “[he] mean[t] a Systematic arrangement of the laws which God has established.”

By contrast, one prominent feature of the late nineteenth century was its fascination with change—in everything from biological evolution to physics to mechanics. The historian Howard Mumford Jones described the period as the “Age of Energy.” It was only natural that economists would develop marginalism, with its forward-looking concept of value that focused on change and the next thing rather than on averages from the past.

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68. See discussion infra text accompanying note 79 (discussing Robert Hale and the classic statement of this disjunction).


“Equilibrium” became the steady state to which all change aspired but seldom reached. Motion rather than stasis was the natural order of things.

Marginalism began with the premise that value is a measurable expression of human choice. Value depended on willingness to pay or willingness to forego. Further, marginalism distinguished among goods depending on costs, availability, and preference. One corollary was the increasing belief that markets were not all the same and did not all function equally well. This opened the way for more substantial if selective intervention to correct market deficiencies.73

This change in the conception of markets from a pure product of nature to a created human institution was perhaps Progressive economics’ most important contribution. Markets became imagined as human creations and not merely a reflection of permanent natural laws. Their design was a product not only of preference but also of state policy, which could be for good or for ill. As the institutionalist progressive economist John R. Commons put it in his important book on law and capitalism, the evolution of economic phenomena was artificial, more like “that of a steam engine or a breed of cattle, rather than like that of a continent, monkey or tiger.” 74

Further, the “phenomena of political economy” are in fact “the present outcome of rights of property and powers of government which have been fashioned and refashioned in the past by courts, legislatures and executives through control of human behavior by means of working rules, directed towards purposes deemed useful or just by the law-givers and law interpreters.”75

An outpouring of literature stretching from the 1890s through the early decades of the twentieth century developed aspects of this view that markets are “created” rather than simply present in the natural world. One manifestation was unprecedented economic concern with the distribution of wealth as a legitimate target of state policy because, after all, the state was responsible for it in the first place.76 Progressive economist Richard T. Ely argued in his two-volume book on the common law and the distribution of wealth that the legal system itself was strongly biased against the poor. The

74. JOHN R. COMMONS, LEGAL FOUNDATIONS OF CAPITALISM 376–78 (1924).
75. Id.
76. Published books alone include JOHN BATES CLARK, THE DISTRIBUTION OF WEALTH: A THEORY OF WAGES, INTEREST AND PROFITS (1899); THOMAS NIXON CARVER, THE DISTRIBUTION OF WEALTH (1904); JOHN R. COMMONS, THE DISTRIBUTION OF WEALTH (1893); RUFUS COPE, THE DISTRIBUTION OF WEALTH (1890); CHARLES WILLIAM MACFARLANE, VALUE AND DISTRIBUTION (1899); JOHN A. RYAN, DISTRIBUTIVE JUSTICE (1916); CHARLES B. SPAHR, AN ESSAY ON THE PRESENT DISTRIBUTION OF WEALTH IN THE UNITED STATES (Richard T. Ely ed., 1896); DAVID A. WELLS, RECENT ECONOMIC CHANGES, AND THEIR EFFECT ON THE PRODUCTION AND DISTRIBUTION OF WEALTH AND THE WELL-BEING OF SOCIETY (1889).
coercive rules of property and contract relinquished power to those who already had it.77 In a review, Cambridge economist Charles Percy Sanger concluded that “the most salient fact is the mass of evidence which shows how hostile the constitution of the United States, as interpreted by judges, is to the poor or the public.”78

A related consequence that had more salience for antitrust policy was the idea that markets themselves could be coercive instruments that limited human freedom. Columbia Professor Robert Hale, another Progressive who was one of the earliest economists to be hired onto a law school faculty, expressed this idea for an entire generation. In an article entitled “Coercion and Distribution in a Supposedly Non-Coercive State,” he observed that the economic systems that had been developed by classical economists gave lip service to freedom. In reality, however, their systems are “permeated with coercive restrictions of individual freedom, and with restrictions, moreover, out of conformity with any formula of ‘equal opportunity’ or of ‘preserving the equal rights of others.’”79

Many of these newly discovered concerns about market coercion showed up in public law—things such as greater protection for labor from onerous wage agreements, prohibitions of child labor, women’s suffrage, the progressive income tax, and eventually the expansive safety net programs of the New Deal. But they also affected competition policy. For example, the law of vertical restraints became increasingly aggressive, particularly in its protection of small retailers. It abandoned very benign common law rules for virtual per se illegality for most distribution agreements that limited dealer behavior, as well as aggressive rules for vertical mergers.80 The classical conception that new entry would always be around to discipline monopoly unless the government prevented it gave way to one that saw markets themselves as forestalling new competition.81 The idea of competition itself came increasingly under attack, and not from socialists who did not believe in it. Rather it was from neoclassically-trained economists who realized that the viability of competitive markets depended on several assumptions that did not invariably obtain.82

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77. Richard T. Ely, Property and Contract in Their Relations to the Distribution of Wealth (1914).
80. See discussion infra text accompanying notes 457–65.
81. See discussion infra text accompanying notes 241–47.
82. See discussion infra text accompanying notes 241–47.
B. PARTIAL EQUILIBRIUM ANALYSIS

Marginal utility theory permitted the creation of tools for determining the relationship between costs and either competitive or monopoly prices within a firm. By itself, however, it was not able to assess how competition works among multiple firms or what the conditions are for achieving it. That required additional theory about interactions among firms.

Partial equilibrium analysis permitted people to group firms producing similar products into “markets” on the assumption that the interactions of firms within the same market were much more important for evaluating competition than the interactions (or lack of them) among firms in different markets. Cambridge University Professor Alfred Marshall, the first great marginalist industrial economist, borrowed this approach from the science of fluid mechanics: for goods within the same market, prices and demand would flow toward equality, but not across the market’s boundaries.

In 1890 Marshall brought the ideas of marginal utility and equilibrium together in a way that made the analysis of market behavior both tractable and useful. First, he developed what came to be known as the Marshallian demand curve, illustrating the inverse relationship between price and output of a single commodity. The downward slope of the demand curve is driven entirely by the next, or “marginal,” buyer’s willingness to pay for one unit of that commodity. The model ignored choices people might make about different commodities, even though in a world of limited budgets such choices were relevant.

Marshall was not the first marginalist, but he did turn marginalism into a practical tool of competition analysis. He explained that he had come to attach great importance to the fact that our observations of nature, in the moral as in the physical world, relate not so much to aggregate quantities, as to increments of quantities, and that in particular the demand for a thing is a continuous function, of which the “marginal” increment is, in stable equilibrium, balanced against the corresponding increment of its cost of production.

For example, a firm would calculate a selling price by comparing the amount of additional cost that production and sale would encounter and the amount of additional revenue that it would produce.

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83. Famedly specified in Milton Friedman, The Marshallian Demand Curve, 57 J. POL. ECON. 463 (1949), which also cites the lengthy history of conceptual development up to that time. Marshall’s own specification appears in ALFRED MARSHALL, PRINCIPLES OF ECONOMICS 159 n.1 (1890).
84. See HOWEY, supra note 64; Knight, supra note 63.
85. MARSHALL, supra note 833, at x.
86. Marshall did not use the term “marginal revenue” in reference to the monopolist’s profit.
Marginalism provided a partial theory of individual firm behavior, but not so obviously a theory of firm interaction and competition. In order to do that, Marshall needed a mechanism for identifying who in the economy competes with whom. This was in contrast to earlier contemporaries such as Leon Walras and Marshall’s own successor as professor of political economy at Cambridge, Arthur Cecil Pigou, who were more concerned with the economy as whole. Today this division roughly segregates macroeconomics and microeconomics.  

Marshall’s concern was to make economic analysis more manageable by focusing on those firms that competed with one another in an obvious way. He realized that everything in an economy affects everything else, but the most important influences can be identified and tracked. In the influential eighth edition of Principles, published in 1920, Marshall observed that informational demands made it necessary for people, with their “limited powers” to “go step by step.” They would have to break up “a complex question, studying one bit at a time and at last combining [their] partial solutions into a more or less complete solution of the whole riddle.”

He described his solution, which came to be known as partial equilibrium analysis, this way:

The forces to be dealt with [in the economy are] so numerous, that it is best to take a few at a time; and to work out a number of partial solutions as auxiliaries to our main study. Thus we begin by isolating the primary relations of supply, demand and price in regard to a particular commodity. We reduce to inaction all other forces by the phrase “other things being equal”: we do not suppose that they are inert, but for the time we ignore their activity. This scientific device is a great deal older than science: it is the method by which, consciously or unconsciously, sensible men have dealt from time immemorial with every difficult problem of ordinary life.

This focus on individual industries quickly took over the entire field of business economics, or “industrial organization,” as a distinct area of economic inquiry. Industrial organization theory seeks to determine the conditions under which a particular industry attains equilibrium. Today, antitrust has become a substantially microeconomic discipline, certainly in litigation if not always in theory.
Marshall set industrial organization economics on the path of studying industries individually by identifying goods, which he termed “commodities,” that were sufficiently similar that they could be said to compete with each other. He borrowed from Augustin Cournot the definition that a “market” is the “whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equality easily and quickly.”

This assumption had numerous implications that were relevant to antitrust. One was to invite questions about exactly how to identify who was in such a market and who was not. A second was to consider whether the identity of the firms in this grouping changed over time. The concept of “entry barriers” explained the likelihood that firms would cross this line, coming in when profits were high. A third was to make the analysis of relationships among competitors, or “horizontal” relationships very different from the analysis of vertical or other relationships. A fourth was a search for the conditions that either furthered or undermined competition once such a group of firms or their commodities had been defined.

Marshall clearly realized that in reality there is no such thing as a single market that is completely isolated from the rest of the economy. Partial equilibrium analysis, as it came to be called, was no more than a working assumption—although a very important one for making economic analysis manageable. The idea that groupings of similar (competing) commodities should be industrial economics’ principal subject of study had a profound influence on antitrust policy. One of the most important antitrust tools to come out of this focus was the idea of the “relevant market,” or the grouping of sales whose products and prices are strongly influenced by one another.

The late nineteenth century was the golden age of engineering and science, including social science and economics. Marshall borrowed his ideas about markets, movement and equilibrium straight from Newtonian physics: “When two tanks containing fluid are joined by a pipe, the fluid, even though it be rather viscous, which is near the pipe in the tank with the higher level, will flow into the other,” he wrote in 1890. Further, “if several tanks are connected by pipes, the fluid in all will tend to the same level . . .”

While he appeared to be discussing fluid mechanics, Marshall was
actually speaking of the principle of economic substitution at the margin, which he defined as the tendency for prices within a single market “to seek the same level everywhere,” just as the fluid in a tank. Further, “unless some of the markets are in an abnormal condition, the tendency soon becomes irresistible.” Within this model a “market” was a closed system in which fluids moved naturally toward equality. A different market would be a different enclosed system, and without any flow from one system to the other. Further, as soon as one relaxed the assumption that resources would move freely and quickly from any place of low utility to any place of higher utility, it became prudent to investigate where such movements could be expected to occur, when they would be less likely, and what were the obstacles that stood in the way.

Irving Fisher, who was to become one of America’s most important early marginalists, used his Ph.D. program at Yale in the 1890s to construct a “utility machine.” The machine illustrated with fluids controlled by pumps and valves how prices within the same market flowed to an equilibrium, but did not flow across market boundaries.

The utility machine was thought to be so innovative that it was scheduled for display at the 1893 Columbian Exhibition in Chicago but was destroyed in route. Other American economists also used illustrations derived from fluid mechanics to illustrate the equilibrium of prices in a market.

96. Id. at 387.
97. Id. He observed, “And similarly, the Law of Substitution is constantly tending by indirect routes to apportion earnings to efficiency between trades and even between grades which are not directly in contact with one another, and which appear at first sight to have no way of competing with one another.” Id. at 706.
Marshall’s conclusion that the fluids in a tank would flow to a level equilibrium, even though they were “rather viscous,” presaged another development in marginalist economics: the idea of friction, or “costs of movement,” in the words of Marshall’s successor Pigou. This idea was later narrowed and refined to become “transaction costs.” The idea was simply that the costs of moving resources to an equilibrium varied from one market situation to another, and in some cases these costs prevented the movement altogether. As a result, one feature of some markets was “chronic disequilibria,” as Joseph Schumpeter later observed. Another result was increasing awareness that these costs could interfere with a market’s movement toward competition. These concerns were reflected in the increasing attention toward barriers to entry, in contrast to the historical

Marginalist industrial economics also broke the bond that had always existed between classical political economy and laissez faire policy—at least until significant neoliberal pushback occurred in the 1940s. The classicists had been strenuous opponents of government intervention in the economy, but the new Progressives were not. Indeed, Marshall himself moved significantly to the left as he grew older. As the technical study of market competition under marginalist principles developed, economists became increasingly concerned about defining the conditions for “perfect” competition. Accompanying this came the realization that the conditions are in fact quite strict. Nearly all markets deviated from them, although some more than others. One thing that marginalism provided was a set of tools for measuring these deviations, provided that the data were available. Antitrust policy in turn became a tool for examining certain industry structures and practices in order to determine whether they were anticompetitive and, if so, whether they could be corrected by the legal system.

C. INDUSTRIAL CONCENTRATION

The idea of a correlation between the number of firms in a market and its degree of competitiveness dates back to Cournot, a French mathematician who wrote in the mid-nineteenth century. In Cournot’s model, as the number of effective competitive players in a market becomes smaller, the margin between price and marginal cost increases until it reaches the monopoly level with a single firm. For more than a century, the relationship between industrial concentration and competitive performance has been an important component in competition policy, both at the legislative level and more specifically in merger policy. Nevertheless, its

104. See discussion infra text accompanying notes 241–47.
106. J.M. Clark, Toward a Concept of Workable Competition, 30 AM. ECON. REV. 241, 241 (1940) (stating perfect competition “does not and cannot exist”).
109. E.g., Derek C. Bok, Section 7 of the Clayton Act and the Merging of Law and Economics, 74 HARV. L. REV. 226, 228–50 (1960) (detailing Congress’s concern in the 1940s with rising industrial concentration).

“Concentration” refers to the number of firms in a market and, under most measures, their size distribution. A market is said to be more concentrated as the number of firms goes down or as the size distribution is more lopsided. In order to have a measure of industrial concentration someone needs to have a concept of a market, or “industry,” and that is why partial equilibrium analysis was an essential premise.

Around the turn of the century, marginalist economists began to examine the relationship between market structure and industry performance. As early as 1888 Gunton used data from the U.S. Census of Manufactures to conclude that over the previous half century, industrial concentration in some markets had grown significantly.\footnote{George Gunton, The Economic and Social Aspect of Trusts, 3 POL. SCI. Q. 385, 391 (1888).} For example, the cotton industry census data from 1830 and 1880 showed that during that interval the amount of capital invested in the industry grew fivefold, the amount of production more than tenfold, but the number of firms had actually shrunk from 801 to 756.\footnote{Id. at 391–92.} The data also showed that the amount of capital invested per worker had roughly doubled, indicating that the firms were becoming more capital intensive.\footnote{Id.} Gunton also identified railroading, telegraphing, petroleum production, and sugar as showing greatly increased concentration.\footnote{Id. at 392.}

Gunton’s conclusions were not addressed to competitiveness. He never discussed the relationship between the number of firms in a market and the threat of oligopoly or collusion. He observed that some had complained that the “concentration of capital tends to increase prices”\footnote{Id. at 390. Gunton did not identify who the complainers were.} but found no evidence of it. Rather, he found that most of the facts “point the other way.”\footnote{Id.} Prices in most of the industries that had experienced higher concentration had actually gone down rather than up.\footnote{Id.} He also rejected the argument that “although these trusts have constantly resulted in reducing prices,” still greater saving would result “should the government run the business.”\footnote{Id. at 398.} He then concluded that the large firms were fundamentally a
good thing.\textsuperscript{119}

Increasingly, however, economists and competition lawyers became less sanguine. Boston attorney Lionel Norman lamented that industrial concentration was increasing at an alarming rate.\textsuperscript{120} Cornell economist Jeremiah Jenks and Walter Clark, a professor of mathematics and economics, were also much more pessimistic,\textsuperscript{121} as were Progressive economists Ely\textsuperscript{122} and Edwin R.A. Seligman.\textsuperscript{123} Looking at the business landscape just after the turn of the century, Seligman concluded that the “study of modern business enterprise thus becomes virtually a study of concentration.”\textsuperscript{124} He also relied heavily on data from the U.S. Census of Manufactures, which showed rapidly increasing concentration around 1900 and a significantly greater number of “combinations,” or firms that had attained their large size by merger. All but one of the top twenty-five combinations had been formed between 1890 and 1904.\textsuperscript{125} On effects, he noted both the possibility of lower costs and higher profits.\textsuperscript{126} He also noted that higher profits did not necessarily mean higher prices, because higher output and lower prices could also be profitable.\textsuperscript{127} He seemed particularly troubled by the fact that the trusts earned higher margins, even if they sold at lower prices.\textsuperscript{128}

\textsuperscript{119} Gunton wrote: Manifestly, therefore, the charge that the concentration of capital in the form of trusts and syndicates, necessarily tends to produce monopoly (in the obnoxious sense), destroy competition, increase prices, oppress labor, or to put the government into the hands of an industrial oligarchy, is without any real foundation in fact, or justification in reason. On the contrary, these institutions, instead of being the evidence of industrial abnormity and economic disease, are the natural consequence of modern industrial differentiation, and in their nature are economically wholesome, and politically and socially harmless. \textit{Id.} at 406. Gunton did not attribute these charges to any particular person. \textit{See also} Charles H. Cooley, \textit{The Theory of Transportation}, 9 PUB. AM. ECON. ASS’N 13, 75–76, 109–20 (1894) (finding increasing concentration troublesome but acknowledging that it led to lower costs).

\textsuperscript{120} Lionel Norman, \textit{Legal Restraints on Modern Industrial Combinations and Monopolies in the United States}, 33 AM. L. REV. 499, 499 (1899).

\textsuperscript{121} \textit{Jeremiah Whipple Jenks, The Trust Problem} 15–19 (1901). He was joined in several later editions by Walter Clark.

\textsuperscript{122} \textit{Richard T. Ely, An Introduction to Political Economy} 42–47 (rev. ed. 1901) (“Readers can readily gather from census and trade reports many similar illustrations of this concentration of business, which is one of the main causes of the existence of present economic problems.”). Ely ultimately recommended expanded public ownership. \textit{Id.} at 264.

\textsuperscript{123} \textit{Edwin R.A. Seligman, Principles of Economics: With Special Reference to American Conditions} (Albert Bushnell Hart ed., 1905).

\textsuperscript{124} \textit{Id.} at 300.

\textsuperscript{125} \textit{Id.} at 342–43; \textit{see id.} at 343 tbl.1 (ranking the largest combinations). United States Steel is at the top, followed by American Tobacco, and then American Smelting and Refining.

\textsuperscript{126} \textit{Id.} at 347.

\textsuperscript{127} \textit{Id.}

\textsuperscript{128} \textit{Id.}
Progressive railroad economist and Harvard Professor William Z. Ripley also undertook a comprehensive examination of industrial concentration data derived from the Census of Manufactures. He found that in 142 of the 322 industries grouped in the census, the number of firms had declined, and there had been significant increases in per firm output. He was able to group industries by their tendency toward monopoly, simply by examining the trend toward increased concentration. "Concentration varies more or less directly with the degree of monopolization," he concluded.

These writers generally assumed a correlation between the data contained in the Census reports and the "markets" that Marshall referred to for partial equilibrium analysis. In fact, the census data correlated very poorly. For example, one classification in the 1909 Census of Manufactures was "[f]urniture and refrigerators," which included both metal and wood furniture of all kinds, as well as wooden iceboxes and metal refrigerators, which were first coming into commercial use. A metal refrigerator did not compete very much with an upholstered chair, which did not compete very much with a wooden bed. This very poor fit between industry census data and antitrust markets has served to weaken conclusions about industry competitiveness from census classifications—something that a few Progressive economists realized already at the turn of the century. This poor correlation has remained to this day as a problem with the measurement of industrial concentration through the use of census data. The classifications are better today than they were a century ago, but they still are not well designed to address this problem. Nevertheless, data of this type have been in continuous use to produce measures of industry competitiveness ever since the late nineteenth century.

129. William Z. Ripley, Industrial Concentration as Shown by the Census, 21 Q. J. ECON. 651 (1907).
130. Id. at 652.
131. Id. at 655.
132. Id. at 657.
134. See Balthaser H. Meyer, Trusts—Discussion, 5 PUB. AM. ECON. ASS’N 108 (1904) (acknowledging that the data were not well designed to answer questions about changes in the number and size of firm and the propensity of a market toward collusion or trust formation). Meyer was an economist at the University of Wisconsin who also served several years as a member of the Interstate Commerce Commission.
136. E.g., ALBERT O. HIRSCHMAN, NATIONAL POWER AND THE STRUCTURE OF FOREIGN TRADE
The Chicago School largely rejected the significance of concentration data, opting for a position more like Gunton’s that the aggregation of large firms resulted mainly in greater efficiency and lower prices. Numerous other scholars from the mainstream and further left have disagreed. In the mid-1970s, the debate produced an influential conference collecting representatives from both sides. The resulting book hardly put the debate to rest, however, and census-driven concentration data continue to find a controversial but important place in debates about American competitiveness. For example, the Biden Administration’s 2021 executive order on American competitiveness lamented declining competition and relied on concentration data to make the point.

D. FIXED COSTS AND EQUILIBRIUM

Both marginalism as a theory of value and Marshall’s theory of equilibrium made cost classification essential. In fact, for Marshall, the cost problem produced significant frustration. Competition drives prices to marginal cost which, by definition, are costs encountered for each incremental change in output. But if hard competition drives prices to marginal costs, then how could a firm pay off its other costs?

Marshall used the term “marginal cost” to describe the immediate additional cost that a firm faced when it increased output by a single unit. In a chapter on the “Equilibrium of Normal Demand and Supply,” he observed that under what he called “free competition” prices would be driven to a level very close to marginal cost, and this would become a stable equilibrium.

98–99 (1945); Orris C. Herfindahl, Concentration in the U.S. Steel Industry (1950); see also Clair Wilcox, Monograph No. 21: Competition and Monopoly in American Industry (1941). The FTC expressed alarm in Federal Trade Commission, The Present Trend of Corporate Mergers and Acquisitions (1947), a prelude to the 1950 Celler-Kefauver amendment to section 7 of the Clayton Act.

137. E.g., George J. Stigler, Monopoly and Oligopoly by Merger, 40 Am. Econ. Rev. 23 (1950).


142. Id. at 412.

143. Id. at 535.
Marshall’s theory of marginal cost was an effort to determine how firms decide on prices. He observed that prices are related to costs but not all costs are the same. Some costs seem to be quite unrelated to a firm’s decision about what price to charge, at least over the short run. This included administrative costs as well as depreciation on plant and durable equipment. In calculating whether a particular price is immediately profitable, the firm largely ignores these costs. Marshall identified “total cost” as the sum of these supplemental costs plus marginal costs. In the short run each additional sale would add to a firm’s profit so long as it was at a price that exceeded the firm’s marginal costs.

Marshall never used the terms “fixed costs” or “variable costs.” He devoted an entire chapter to “cost of production,” which spoke of “prime costs,” “total costs,” and “marketing costs.” The words “prime” and “direct” were almost always used as references to what we would call variable costs. Within prime costs he included “the (money) cost of raw material used in making the commodity and the wages of that part of the labour spent on it which is paid by the day or the week.” He excluded salaries such as are paid to management because these did not vary with output over the short run.

Marshall observed that for goods that require a “very expensive plant” the “[s]upplementary” cost is a “large part of their [t]otal cost.” As a result, a “normal price” “may leave a large surplus above their [p]rime cost.” In today’s terminology, in order to be profitable a business with high fixed costs would have to charge a premium above its variable costs. He also observed what would become a significant problem for establishing equilibrium in markets with high fixed costs. “[I]n their anxiety to prevent their plant from being idle” producers may “glut the market.” If they “pursue this policy constantly and without moderation,” price may be so low “as to drive capital out of the trade, ruining many of those employed in it, themselves perhaps among the number.” When firms are under “keen competition” this urge becomes inevitable, and firms “whose business is of this kind . . . are under

145. MARSHALL, supra note 83, at 599.
146. He also never used the term “overhead costs,” which some economists used to describe fixed costs. E.g., J. MAURICE CLARK, STUDIES IN THE ECONOMICS OF OVERHEAD COSTS 463 (1923).
147. MARSHALL, supra note 83, at 599, 452, 518–19, 522.
148. Id. at 519.
149. Id.
150. Id. at 520.
151. Id.
152. Id.
153. Id.
a great temptation” to sell “at much less than normal cost.”

Marshall’s problem was getting an equilibrium that would sustain a market that was both competitive and had high fixed costs—an increasingly prominent feature of industrial production. By his eighth edition in 1920, Marshall had come up with a largely unsatisfactory biological model to explain how firms with significant fixed costs might attain equilibrium. Firms were like trees in a forest, he explained. They have individual lifecycles, and thus come and go, and some never survive infancy. This organic metaphor never fit very well into the emergent neoclassical model of equilibrium that looked strictly at the mathematics of profit-maximization.

During the formative years of antitrust policy in the United States, a “fixed cost controversy” drawn from Marshall’s model of competition dominated important debates about the appropriate roles of competition, antitrust policy, and regulation. In industries such as the railroads or heavy steel manufacturing, the argument went, “ruinous” competition would occur because firms would be forced to cut their prices toward marginal cost, leaving insufficient revenue to pay off their fixed costs. One equilibrium solution was the emergence of monopoly, perhaps by merger. Others were collusion or price regulation. These concerns were very likely a major contributing factor to the great merger wave that occurred around the turn of the twentieth century.

Antitrust lawyers representing cartel defendants in markets with high fixed costs repeatedly asserted a “ruinous competition” defense to price fixing, but the federal courts consistently rejected it, as they do today.

154. Id. at 640.
155. MARSHALL, supra note 89, at 315–16. He even used different species of trees as a metaphor for “different branches of industry.” Id. at 434. On Marshall’s changing use of the trees metaphor through successive editions, see D. C. Hague, Alfred Marshall and the Competitive Firm, 68 Econ. J. 673 (1958).
160. More recently, see United States v. Apple, Inc., 791 F.3d 290, 332 (2d Cir. 2015) (same, dicta,
On the other side, several of the more left-leaning Progressives denied that there was any such thing as chronic overproduction. By rejecting the defendants’ arguments, the Supreme Court was effectively taking their position. That was ironic, because the principal architect of the view was Justice Peckham, also the author of *Lochner v. New York*. He could hardly be classified as a left-leaning Progressive. Peckham’s opinion in the *Joint Traffic* case expressed strong doubts about the ruinous competition argument, concluding that the principal consequence of very low rates was increased demand, which would in turn produce a larger supply. One possibility, of course, was that Justice Peckham did not fully understand the implications of high fixed costs.

Justice Peckham’s clever response to the defense in the *Addyston Pipe* case was that, whether or not competition was ruinous, the defendants themselves could not be trusted to set a price no higher than necessary to prevent it. In fact, they had set prices so high as to deprive the public of the advantages of any competition at all. The Court cited cost evidence developed in the lower court that the reasonable cost of the defendants’ pipe, including a fair profit, did not exceed $15 per ton and could have been delivered profitably to Atlanta for $17 to $18 per ton. The bid price was actually $24.25 per ton. That statement at least suggested that one judicial response to a ruinous competition defense could be a judicial inquiry into costs, but the Court never went down that rabbit hole. It simply rejected the defense outright, as it has done ever since.

Theorizing about the behavior of firms with high fixed costs became a central focus of early antitrust literature, as well as the early American economic literature on the theory of industrial organization. It also proved to be a general attack on the model of perfect competition.

Prior to the development of imperfect and monopolistic competition models in the early 1930s the principal Progressive theorist of fixed costs in the market for e-books, which also have very high fixed costs).

161. RICHARD T. ELY, AN INTRODUCTION TO POLITICAL ECONOMY 149 (1889); see also HENRY ROGERS SEAGER, INTRODUCTION TO ECONOMICS 160–61 (1904) (arguing against general overproduction); EDWIN R.A. SELIGMAN, PRINCIPLES OF ECONOMICS 584–86 (3d ed. 1908) (noting that the problem is not overproduction, but rather overcapitalization based on expectations of future orders); Charles J. Bullock, Trust Literature: A Survey and a Criticism, 15 Q.J. ECON. 167, 205–10 (1901) (rejecting a general overproduction problem; “the evils of competition are greatly exaggerated”).


165. *Id.* at 237.

166. See Hovenkamp, *infra* note 65, at 122–43 (discussing the literature during the period 1900–1930).

167. See discussion *infra* text accompanying notes 512–14.
was the institutionalist economist John Maurice Clark. Clark found the existence of significant fixed costs, which he termed “overhead” costs, to be a disruptor of the standard notion of the equilibrium of supply and demand under competition.\textsuperscript{168} The problem, as he noted, was that in the short run of immediate demand price and output are determined by demand and marginal cost, but in the presence of fixed costs this could be attained only over some longer run.\textsuperscript{169} High fixed costs continuously produced “irregularities” that threw the relationship between demand and supply out of balance, with some periods of excess capacity and others of excessive demand.\textsuperscript{170} Echoing Marshall, he observed that “where overhead costs are a substantial item, the perfect theoretical equilibrium is not found.”\textsuperscript{171}

The implications, as Clark worked them out, were chronic overproduction, because any price above short run marginal cost would serve to reduce the deficit in payment of fixed costs.\textsuperscript{172} Another result was that price discrimination became a profitable strategy to the extent that a firm was able to maintain higher prices on established demand while bidding a lower price for new sales.\textsuperscript{173} One characteristic of price discrimination as a solution to the problem of high fixed costs is that when it occurs it results in increased output. Clark concluded that there was nothing inherently anticompetitive or even suspicious about most instances of price discrimination.\textsuperscript{174} They were simply a mechanism that firms used to sell individual batches or product at a profit-maximizing (or loss-minimizing) price. That view has very largely persisted within antitrust policy.

The Marshall equilibrium problem ultimately went away when economic models began to incorporate product differentiation, particularly in the theory of monopolistic competition.\textsuperscript{175} The principal problem had been Marshall’s assumption that all sellers in competition sold identical “commodities.” As a result, firms competed only on price. When differences in the product or even the terms of sale were incorporated, it became possible to have equilibrium without relying on any non-economic theorizing about the nature of the firm. The significance of this debate, which occurred almost entirely during the Progressive and New Deal eras, is difficult to exaggerate.

\textsuperscript{168} CLARK, supra note 146.
\textsuperscript{169} \textit{Id. at} 464.
\textsuperscript{170} \textit{Id. at} 465.
\textsuperscript{171} \textit{Id. at} 468.
\textsuperscript{172} \textit{Id. at} 469 (“With some capacity unused the differential cost of producing more goods is low, and it pays to sell them for anything above differential cost, but if all goods are sold as cheap as this, the concern will not even cover all its operating expenses.”).
\textsuperscript{173} \textit{Id.}; see also \textit{id. at} 428–33.
\textsuperscript{174} \textit{id. at} 2–4.
\textsuperscript{175} The developments are briefly recounted in BLAUG, supra note 64, at 375–78.
It gave us much of our theory about equilibrium in industrial markets, analysis of costs, and theories about the limits of competition and the appropriate scope of regulation. It also fueled the Harvard School view that markets differ from one another, and antitrust policy thus requires intense factual queries into particular industries and practices.

E. MARKET FAILURE AND REGULATION

The fixed cost controversy strongly supported Progressives’ suspicions that markets were not as inherently benign as the classical political economists had believed. However, some worked better than others. Antitrust for its part is dedicated to the proposition that markets can be made to work tolerably well on their own with only selective intervention. In other cases, however, the roots of failure are so deep that ordinary market forces are ineffective.

Increased appreciation of market diversity led to a more general theory of market “failure,” championed by Pigou. Pigou developed the idea of a “divergence” between private and social costs, or “externalities” that private bargaining could not correct. For example, a negative externality might occur when a polluting refiner was not required to compensate downwind neighbors for its air pollution. By contrast, a positive externality occurred when the inventor of a new product could not effectively prohibit people from copying it. In the first case the result would be too much pollution; in the second case it would be too little invention.

The idea, which became more technically expressed in the 1950s, was that in a few markets sustainable competition is impossible without state intervention. The goal of regulation became to emulate competitive outcomes in these markets. Adams had anticipated a version of that argument already in the 1880s, arguing that competition was not sustainable in industries with declining costs because the emergence of monopoly was inevitable.

The Progressive Era then saw an outpouring of literature on regulation as a corrective for market failure, much of it focused on transportation and public utilities. Among the most important contributions was Joseph Beale

176. See Hovenkamp, supra note 73, at 454–70, 484–92.
177. E.g., Pigou, supra note 101; Arthur C. Pigou, A Study in Public Finance (1928).
180. See Hovenkamp, supra note 73.
and Bruce Wyman’s 1906 book on railroad regulation. They made two important observations. The first was that monopoly provisions in corporate charters for railroads and bridges were common at least since the early nineteenth century. The argument that Justice Story articulated for them already in 1837 was that monopoly privileges were essential to attract investment into public utility markets, which were distinctive because of the amount of investment they acquired. However, Beale and Wyman observed a second rationale, which was “virtual monopoly”—namely, that the cost structure of these industries required a monopoly. Further, they argued, this was the “true ground” for regulation of monopolies. “[W]here competition prevails it regulates the conduct of business by its own processes, but monopoly requires the intervention of the law of the land . . . .”

This neoclassical theory of regulation has since formed the basis of core regulatory theory in the United States, as well as one of its most controversial features: cost-of-service rate making. The idea of market failure expanded significantly in the 1930s and after, bolstered in significant part by the Depression. Regulation moved far beyond the relatively narrow neoclassical conception of market failure even to the idea that markets themselves cannot be trusted to distribute goods or services in an efficient, egalitarian manner.

Both Progressive and New Deal regulatory theory were aggressively assaulted in the 1960s and 1970s by Chicago School critics such as George J. Stigler. His critique completely ignored natural monopoly or other structural characteristics thought to justify regulation. Rather, he substituted

181. JOSEPH HENRY BEALE, JR. & BRUCE WYMAN, THE LAW OF RAILROAD RATE REGULATION WITH SPECIAL REFERENCE TO AMERICAN LEGISLATION (1906). Other important contributions include NEEDHAM C. COLLIER, A TREATISE ON THE LAW OF PUBLIC SERVICE COMPANIES (1918); WILLIAM Z. RIPLEY, RAILROADS: RATES AND REGULATIONS (1912); HUGO RICHARD MEYER, GOVERNMENT REGULATION OF RAILWAY RATES (1905); DEWITT C. MOORE, A TREATISE ON THE LAW OF CARRIERS (1906). On ruinous competition and regulation among railroads, see Harry Gunnison Brown, The Competition of Transportation Companies, 4 AM. ECON. REV. 771 (1914).
183. BEALE & WYMAN, supra note 181, § 55, at 57.
184. Id.
185. The leading treatment for decades was ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS (2d ed. 1988).
a theory based entirely on political capture—namely, that regulation is nothing more than interest group purchase of regulatory favors from legislatures or government agencies. Stigler never even mentioned declining average costs or natural monopoly. In fact, the only costs he discussed were the cost of operating the political process, including the costs to lobbyists or political operatives of obtaining favorable legislation.\textsuperscript{188} He argued, for example, that the costs of successfully lobbying for an exclusionary occupational license are small when distributed over each member of society, but they can produce enormous gains to activists seeking such licensing protection.\textsuperscript{189} In sum, Stigler’s model completely divorced the theory of regulation from firm costs or market structure; it was purely political.

That Chicago School effort substantially failed. It never generated a theory with significant explanatory power outside the realm of badly designed regulation that could be explained only by political influence. For example, it could not explain why public utilities are subject to price regulation at the retail level while groceries in every state are sold competitively, except perhaps by offering that the utilities had better lobbyists. To be sure, the Chicago School did make some important contributions at the margins—mainly by hammering home the proposition that regulation can lead to harmful capture and there are good reasons to be on guard about overreach. In addition, regulatory fervor led to excessive controls that did more harm than good. For that, however, the usable critiques came from centrists such as then-Professor Stephen Breyer\textsuperscript{190} or Cornell economist and Chair of the Civil Aeronautics Board Alfred E. Khan.\textsuperscript{191}

\textbf{F. PRICE DISCRIMINATION}

Price discrimination, which technically refers to selling to two or more customers at different ratios of price to cost, has always produced divisions in antitrust policy, most typically between economists and non-economists.\textsuperscript{192} Lawyers often view it with suspicion, something like race or gender discrimination. By contrast, economists have always tended to be more circumspect, and more inclined to divide it up into different varieties. Even a Progressive institutionalist economist such as John Maurice Clark

\begin{footnotesize}
\begin{itemize}
\item\textsuperscript{188} \textit{id.} at 12.
\item\textsuperscript{189} \textit{id.} at 13–14.
\item\textsuperscript{190} STEPHEN BREYER, \textit{REGULATION AND ITS REFORM} 2 (1984).
\item\textsuperscript{191} KAHN, supra note 185.
\item\textsuperscript{192} On the economics of price discrimination and the way that the framers of the Robinson-Patman Act understood it, see HERBERT HOVENKAMP, \textit{FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE §§14.1–14.6} (6th ed. 2020).
\end{itemize}
\end{footnotesize}
discussed it in relatively benign terms. Minnesota economist and eventual Director of the United States Census Edward Dana Durand probably stated the consensus view among Progressive economists. In a critique of the Clayton Act, he observed that price discrimination “is an all but universal practice and is not necessarily injurious or calculated to bring about a monopoly.”\footnote{193} However, he also observed that price discrimination could be a strategy of selective predatory pricing used to drive competitors out of the market.\footnote{194}

Most of the economic foundations for our understanding of price discrimination developed during the Progressive Era as an outgrowth of marginal analysis. The principal originator of the modern theory was Pigou.\footnote{195} Pigou divided price discrimination into three types, which he named first-, second-, and third-degree price discrimination. First-degree, or “perfect” price discrimination, is an analogue of perfect competition: it never exists in the real world but is an important tool for analysis. Under it, a seller sells every unit at that customer’s reservation price, or the highest price that customer is willing to pay. The result is that output is at the competitive level, but all of the industry profits go to producers rather than consumers.\footnote{196}

Second-degree price discrimination occurs when the seller adopts a discriminatory pricing formula and the buyer “chooses” its price by selecting how to purchase. A quantity discount schedule is one prominent example. The purchaser can obtain a lower price by buying more. A discount for early booking is another.

In third-degree price discrimination the seller preselects categories of customers based on certain observed characteristics and charges them different prices—for example, one price for commercial users and another for residential users.

United States antitrust law has never developed general antitrust rules governing price discrimination. Section 2 of the Clayton Act, subsequently amended by the Robinson-Patman Act, addressed a practice that it called “price discrimination.”\footnote{197} But the set of practices that statute reached often had little to do with economic price discrimination. Rather, the statute simply condemned price differences.\footnote{198} The Progressives did often identify

\footnotetext{193}{E. Dana Durand, The Trust Legislation of 1914, 29 Q.J. ECON. 72, 79 (1914).}
\footnotetext{194}{Id.}
\footnotetext{195}{On Pigou, see IAN KUMEKAWA, THE FIRST SERIOUS OPTIMIST: A.C. PIGOU AND THE BIRTH OF WELFARE ECONOMICS (2017).}
\footnotetext{196}{For Pigou’s classification, see Pigou, supra note 101, at II.17.6. On the three degrees of price discrimination and antitrust policy, see HOVENKAMP, supra note 192, § 14.4, at 729–32.}
\footnotetext{198}{See 14 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2320a, at 63–66 (4th ed. 2019).}
predatory price discrimination as one of the evils brought about by the trusts, particularly Standard Oil.\textsuperscript{199} The result was the original section 2 of the of the Clayton Act,\textsuperscript{200} which the Robinson-Patman Act later amended. The original statute was intended to reach a particular form of predatory pricing widely attributed to the Standard Oil Company as well as others.\textsuperscript{201} The House Judiciary Committee report on the provision indicated that its purpose was to target the practice of large corporations using local price cutting intended to destroy a competitor.\textsuperscript{202} In a 1923 decision, the Second Circuit described the condemned practice this way:

\begin{quote}
[P]rior to the enactment of the Clayton Act a practice had prevailed among large corporations of lowering the prices asked for their products in a particular locality in which their competitors were operating for the purpose of driving a rival out of business. Such lowering of prices was maintained within the particular locality while the normal or higher prices were maintained in the rest of the country; and this practice was continued until the smaller rival was driven out of business, whereupon the prices in that locality would be put back to the normal level maintained in the rest of the country. The Clayton Act was aimed at that evil.\textsuperscript{203}
\end{quote}

The statute did not explicitly require that the lower price be below cost, but that was largely the way it came to be interpreted.\textsuperscript{204} The Supreme Court |

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\textsuperscript{199} E.g., 2 IDA M. TARBEll, THE HISTORY OF THE STANDARD OIL COMPANY 31–63 (1904); see Christopher R. Leslie, Revisiting the Revisionist History of Standard Oil, 85 S. CAL. L. REV. 573 (2012). \textsuperscript{200} The original Clayton Act, ch. 323, § 2, 38 Stat. 730 (1914) (current version at 15 U.S.C. § 12) provided:

\begin{quote}
That it shall be unlawful for any person engaged in commerce, in the course of such commerce, either directly or indirectly to discriminate in price between different purchasers of commodities . . . where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce: \textit{Provided}, That nothing herein contained shall prevent discrimination in price between purchasers of commodities on account of differences in the grade, quality, or quantity of the commodity sold, or that makes only due allowance for difference in the cost of selling or transportation, or discrimination in price in the same or different communities made in good faith to meet competition: \textit{And provided further}, That nothing herein contained shall prevent persons engaged in selling goods, wares, or merchandise in commerce from selecting their own customers in bona fide transactions and not in restraint of trade.
\end{quote}

\textsuperscript{201} On the early litigation history, see Breck P. McAllister, Sales Policies and Price Discrimination Under the Clayton Act, 41 YALE L.J. 518 (1932). \textsuperscript{202} H.R. REP. NO. 63-627, at 8 (1914) ("This section expressly forbids discrimination in price . . . when such discrimination is made with the purpose or intent to thereby destroy or wrongfully injure the business of a competitor, either of such dealer or seller."). \textsuperscript{203} Mennen Co. v. FTC, 288 F. 774, 778–79 (2d Cir. 1923). The court went on to conclude that the defendant’s practice of refusing to charge retailers the same price as wholesalers was not a violation. \textsuperscript{204} See, e.g., United States v. Nat’l Dairy Prods. Corp., 372 U.S. 29 (1963) (requiring sales "below cost" in order to protect the statute from a void for vagueness constitutional challenge).
initially construed the statute broadly without discussing any requirement of below-cost pricing. Further, the statute’s express limitation to “commodities” meant that it could not apply to things such as railroad rates, which were one of the biggest targets of price discrimination concern.

John Maurice Clark’s important 1923 book on fixed costs made a convincing argument that, setting aside differences in bargaining relationships or customer sophistication, price discrimination is largely a consequence of fixed costs. A firm with a heavy fixed cost investment needs to keep its output up, and any sale at a price greater than incremental costs will improve its bottom line. As a result, it tries to retain legacy customers at higher prices while bidding lower prices for new or spot market sales. When a firm has excess capacity, these pressures are great.

This explanation of price discrimination was already known in the railroad industry by Clark’s time. Forty years earlier Yale economist and eventual President Arthur Twining Hadley had made a similar observation in justifying railroads’ policies of charging different freight rates for different commodities depending on shippers’ willingness to pay. By doing this the railroads were able to maximize output. Given their high fixed costs, this meant that the average cost of transportation went down.

The Robinson-Patman Act was passed in 1936, subsequent to the period under discussion here. It was not a way of approaching the problem of fixed costs. The statute condemned many of the things that Clark’s analysis had explained as causing no competitive harm. In any event, the Robinson-Patman Act was a complete misfire. The concern motivating the statute was the emergence of large chain stores such as A&P, which had become the nation’s largest grocer. A&P drove many smaller grocers out of business, mainly because it was vertically integrated and also because it was able to purchase in large quantities, enabling it to undersell small grocery stores. The Robinson-Patman Act ignored vertical integration and scale economies

205. See George Van Camp & Sons Co. v. Am. Can Co., 278 U.S. 245 (7th Cir. 1929) (not addressing whether the statute required the lower price to be below cost); see also Wm. S. Stevens, *Unfair Competition*, 29 POL. SCI. Q. 282, 284 (1914); cf. Porto Rican Am. Tobacco Co. v. Am. Tobacco Co., 30 F.2d 234 (2d Cir. 1929) (noting that price discrimination among buyers of cigarettes was unlawful when the lower price was below cost); Am. Can Co. v. Ladoga Canning Co., 44 F.2d 763 (7th Cir. 1930) (similar).
207. CLARK, supra note 146.
and identified the problem entirely in terms of a firm’s insistence on charging some buyers lower prices than others.\textsuperscript{211}

The statute completely failed to limit vertical integration because of its requirement that both the higher priced and lower priced transactions be “sales.”\textsuperscript{212} The courts consistently held that a “sale” refers to a transfer of goods from one firm to a different firm. The vertical passage of a good from a firm to its wholly owned store or other subsidiary was not a “sale.”\textsuperscript{213} The Act did condemn a few large suppliers, such as Borden, for selling milk to large grocers at a lower price than to small grocers.\textsuperscript{214} Further, because the statute targeted “sales,” it did not effectively reach powerful buyers such as A&P itself. The statute did contain a buyers’ liability provision, almost as an afterthought, which was never very effective.\textsuperscript{215}

During the Progressive Era through the New Deal, the antitrust analysis of price discrimination was spotty and indeterminate. In fact, however, it remains indeterminate to this day. We have never developed good theory for generalizing about the competitive effects of price discrimination. The consensus of economists today is probably not much different from what it was in the 1920s and 1930s—namely, most instances are competitively harmless, particularly if the discrimination tends to increase output.\textsuperscript{216}

G. MONOPOLY POWER AND STRUCTURE: POTENTIAL COMPETITION, BARRIERS TO ENTRY, AND THE RELEVANT MARKET

In 1890, when the Sherman Act was passed, legal doctrine did not have a coherent conception of market power as a measurable phenomenon. Economics was not much further along. Judicial decisions contained plenty of discussions of “monopoly,” virtually always in relation to patents or other grants of exclusive rights. In most cases “monopoly” was simply assumed from the existence of the exclusive grant itself. For example, many nineteenth-century decisions spoke of the “patent monopoly,” as if the relationship between the two terms was automatic.\textsuperscript{217} All of the references

\begin{itemize}
  \item \textsuperscript{211} See Hovenkamp, \textit{supra} note 4.
  \item \textsuperscript{212} See \textit{Hovenkamp}, \textit{supra} note 198, ¶ 2312.
  \item \textsuperscript{213} See \textit{id.} ¶ 2311; see, e.g., Security Tire & Rubber Co. v. Gates Rubber Co., 598 F.2d 962, 966 (5th Cir. 1979), cert. denied, 444 U.S. 942 (1979) (holding “[t]ransfers from a parent corporation to its wholly owned subsidiary” not a “sale” under the Act); Snyder v. Howard Johnson’s Motor Lodges, Inc., 412 F. Supp. 724 (S.D. Ill. 1976) (holding intra-firm transfers not a “sale” under the Robinson-Patman Act).
  \item \textsuperscript{214} FTC v. Borden Co., 383 U.S. 637 (1966) (condemning Borden for selling its name brand and house brand milk at different prices); FTC v. Morton Salt Co., 334 U.S. 37 (1948) (condemning Morton Salt for quantity discount program that was not justified by cost savings).
  \item \textsuperscript{215} \textit{Hovenkamp}, \textit{supra} note 198, ¶ 2361.
  \item \textsuperscript{216} See \textit{Hovenkamp}, \textit{supra} note 196, § 14.5.
  \item \textsuperscript{217} E.g., Boyden Power Brake Co. v. Westinghouse, 170 U.S. 537, 555 (1898); United States v.
to patents in the Chicago Conference used the term this way.218 The law dealing with various aspects of monopoly came essentially from three sources: patent and copyright law, the common law of unfair competition and contracts in restraint of trade, and state corporation law. None contained a market power requirement, and power was generally either assumed or irrelevant.

Estimation of market power by reference to the share of a relevant market, as it is used today in antitrust cases, was a relatively late arrival. Today it has become so conventional that we regard it as routine, and in 2018 a divided Supreme Court mistakenly concluded as a matter of law that it is the only way to assess power in a vertical case.219 Since the existence and measurement of market power present questions of fact, the Court’s conclusion was not only technically incorrect, it was also a dictatorial intrusion of policy into fact finding. Econometric tools for assessing market power, such as the Lerner Index, were actually developed prior to judicial usage of the “relevant market” in antitrust analysis.220 Today econometric methods often produce better results than traditional measurement.221 Further, the use of econometric devices is fundamentally inconsistent with the model of perfect competition. The firms within a perfectly competitive market have no power to price above marginal cost unless they collude. Implicit in the Lerner Index, and later in the development of more sophisticated econometric tools for assessing the power of individual firms, is that the firms are not operating in perfectly competitive markets.222

1. Potential Competition and Barriers to Entry

The belief that trusts both promised lower costs and threatened higher prices at least partly explains the heavy focus in the early antitrust literature on “potential competition” as a disciplinary tool. In 1895, Gunton


218. E.g., Jeremiah W. Jenks, Elements of the Trust Problem, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 27, 27; Azel F. Hatch, Causes, Dangers, and Benefits of Combinations, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 65, 70; Weil, supra note 37, at 86; Benjamin R. Tucker, The Attitude of Anarchism Toward Industrial Combinations, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 253, 257; Henry White, A Period of Doubt and Darkness in a New Industrial Era, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 323, 324; John Bates Clark, The Necessity of Restraining Monopolies While Retaining Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 404, 408.


222. See id. On the use of such methods in antitrust cases, see 2B PHILLIP E. AREEDA, HERBERT HOVENKAMP & JOHN L. SOLOW, ANTITRUST LAW ¶ 521 (5th ed. 2020).
optimistically described potential competition as a force “that is ever waiting to step in where large profits warrant the risk.” Even a dominant trust would not charge monopoly prices if the looming threat of competition was sufficient to keep its prices down. Classical political economists had always assumed that any attempt to charge monopoly prices would invite new competitive entry that would force prices back to the competitive level. About the only things that would prevent this were government restrictions on entry, including patents.

In his 1884 critique of traditional political economy, Ely, who was to become one of the most prominent Progressive economists, caricatured the classical assumptions of easy market entry, which he described as “the absolute lack of friction in economic movements. Not only do capital and labor move with perfect ease from place to place and from employment to employment, but this . . . is accomplished without the slightest loss.”

Under this image of the economy, Ely continued:

The silk manufacturer diverts his capital into another employment like the construction of locomotives with precisely the same facility with which he turns his family carriage horse from an avenue into a cross street, while the Manchester laborer on a moment’s warning finds a suitable purchaser for his immovable effects and without expense or loss of time transfers himself to London where employment is at once offered him at the rate of wages there current. Equality of profits and equality of wages flowed naturally from these assumptions.

By contrast, the emerging discipline of industrial economics began to consider how long this might realistically take, what were the market factors that determined the speed and scope of new entry, and the power of incumbent firms to throw obstacles in the way. As Adams admonished in his book on trusts, “[t]he point at issue is whether the public is justified in placing sole reliance upon potential competition, active competition having disappeared.”

Privately created barriers emerged as a concern of antitrust law early in the Progressive Era. They were undoubtedly heightened by the Progressives’ increased sensitivity to the natural coercive power of markets. The Supreme Court recognized one such barrier already in 1904. In an early private action under the Sherman Act, the Supreme Court condemned a guild

225. Id.
227. See discussion supra text accompanying notes 177–79.
rule that limited membership and effectively prohibited market participation by tile layers who were not members of the defendant organization.\textsuperscript{228} Members of the association were prohibited from dealing with non-members. As Justice Peckham noted in his opinion for a unanimous Court, the association’s rules prohibited dealers from acquiring tile “upon any terms” from members of the guild, and all of the manufacturers in the area were members.\textsuperscript{229}

A few years later, in the\textit{American Tobacco} case, the Court referred to a dominant firm’s vertical integration and market foreclosure as creating “perpetual barriers to the entry of others into the tobacco trade.”\textsuperscript{230} Some lower courts were less concerned. For example, in \textit{United States v. Quaker Oats Co.},\textsuperscript{231} the court rejected the government’s claim of attempt to monopolize, noting that the product at issue, packaged rolled oats, was a commodity produced by many firms, and that the defendant had no reasonable means of excluding them.\textsuperscript{232}

Most of the participants in the multi-disciplinary proceedings of the Chicago Conference on Trusts saw potential competition as crucial to any assessment of the likelihood of monopoly. They disagreed about its effectiveness. The debates reveal that the classical assumption of free entry had become controversial. For example, Jenks was a skeptic. He acknowledged the existence of potential competition as a disciplinary force but doubted that the power of the large trusts to charge high prices would be effectively controlled.\textsuperscript{233}

Attorney A. Leo Weil was less concerned. He observed that the trusts generally reduced costs and prices, but if there were any tendency toward price increases, potential competition from new firms would tamp them down. Further, this new entry could be expected to occur “unless the laws of trade are to be reversed.”\textsuperscript{234} Statistician Joseph Nimmo observed that as a consequence of the revolution in railroad transportation, the range of potential competition was much wider than it had been previously. Economist James R. Weaver from De Pauw University was even less concerned. He suggested that potential competition “rarely fails” to aid the

\begin{itemize}
  \item \textsuperscript{228} Montague & Co. v. Lowry, 193 U.S. 38 (1904).
  \item \textsuperscript{229} \textit{Id.} at 44.
  \item \textsuperscript{230} United States v. Am. Tobacco Co., 221 U.S. 106, 183, 190 (1911).
  \item \textsuperscript{231} United States v. Quaker Oats Co., 232 F. 499 (N.D. Ill. 1916).
  \item \textsuperscript{232} \textit{Id.} at 502.
  \item \textsuperscript{233} Jenks, supra note 218.
  \item \textsuperscript{234} Weil, supra note 37, at 89.
  \item \textsuperscript{235} Joseph Nimmo, Jr., \textit{The Limitation of Competition and Combination as Illustrated in the Regulation of Railroads}, in \textit{CHICAGO CONFERENCE ON TRUSTS}, supra note 9, at 156, 161–62.
\end{itemize}
Accumulations of capital were easily assembled, and those who controlled it stood “ready to enter any specific field of production, whenever the profits of that industry offer sufficient inducement.” Further, it was well known that at the present time entrepreneurs were sitting on “a great mass of idle capital.” As a result, “to avoid this new competition, prices must be lowered or profits shared with the consumer.” Francis B. Thurber, the President of the United States Export Association, believed that the trusts merely moved competition to a higher and more beneficial level:

If a combination of capital in any line temporarily exacts a liberal profit, immediately capital flows into that channel, another combination is formed, and competition ensues on a scale and operates with an intensity far beyond anything that is possible on a smaller scale, resulting in breaking down of the combination and the decline of profits to a minimum.

John Bates Clark, the most prominent economist among the Conference participants, was much more skeptical. In theory, he observed “potential competition . . . is the power that holds trusts in check,” but “[a]t present it is not an adequate regulator.” The “potential competitor encounters unnecessary obstacles when he tries to become an active competitor.” He mentioned patents as one obstacle, but refused to endorse abolition of the patent system. He was also more cynical about the railroads, which he regarded as using manipulation of shipping rates as a device for deterring potential competition. Clark also blamed selective price discrimination— or the power of the trusts to exclude entrants by charging unreasonably low prices in that particular portion of the market where new entry was threatened. A particularly pernicious form of price discrimination was selective predatory pricing:

The ability to make discriminating prices puts a terrible power into the hands of a trust. If . . . it can sell goods at prices that are below the cost of making them, while it sustains itself by charging high prices in a

236. James R. Weaver, Efficacy of Economic Checks in Regulating Competitive Trusts, in CHICAGO CONFERENCE ON TRUSTS, supra note 9, at 293, 297.
237. Id.
238. Id.
239. Id.
240. Thurber, supra note 29, at 130.
241. Clark, supra note 218, at 404 (giving an address on “The Necessity of Suppressing Monopolies While Retaining Trusts”). Clark had developed these ideas previously in John B. Clark, The Limits of Competition, 2 POL. SCI. Q. 45 (1887); see also John B. Clark, Monopolies and the Law, 16 POL. SCI. Q. 463 (1901).
243. Id.
244. Id. at 407–08.
245. Id. at 408.
246. Id.
score of other fields, it can crush me without itself sustaining any injury. If, on the other hand, it were obliged, in order to attack me, to lower the prices of all its goods, wherever they might be sold, it would be in danger of ruining itself in the pursuit of its hostile object. Its losses would be proportionate to the magnitude of its operations.\(^{247}\)

This observation became the theory under which original section 2 of the Clayton Act was passed in 1914—namely to prevent firms from using selective, geographically limited discounts to drive rivals out of business.\(^{248}\)

Finally, Clark opposed tariffs because their higher costs deterred the potential competitor “from becoming an actual one.”\(^{249}\)

Several years later Clark was even more pessimistic.\(^{250}\) At one time potential competition may have been more effective at keeping prices down, he acknowledged, but today that power had largely been eliminated by incumbent firms’ use of selective preferential rates, local discrimination, and exclusionary agreements.\(^{251}\) Clark then gave a strong endorsement to the Sherman Act, although he believed that more was necessary, including a federal law chartering corporations and an “industrial commission” designed to examine the competitiveness of individual large firms. Further, he would impose on them “a burden of proof,” first to show that they do not dominate the entire market and, secondly, to show “that the way is so open for the entrance of more that prices cannot become extortionate.”\(^{252}\)

Adams agreed in a 1903 essay on the trusts,\(^{253}\) as did Boston lawyer Robert L. Raymond.\(^{254}\) Raymond argued what came to be a common position held by Progressives—that potential competition was natural and ordinarily to be expected, but that dominant firms could devise practices that would prevent or limit its operation. He also observed that potential competition did not “instantaneously” become actual competition. Rather, “even with

\(^{247}\) Id.

\(^{248}\) See 15 U.S.C. § 13 (prior to the Robinson-Patman Act amendments); see discussion supra text accompanying notes 197–206.

\(^{249}\) Clark, supra note 218, at 407.

\(^{250}\) John Bates Clark, The Possibility of Competition in Commerce and Industry, 42 ANNALS AM. ACAD. POL. & SOC. SCI. 63 (1912). Largely in agreement was ARTHUR S. DEWING, CORPORATE PROMOTIONS AND REORGANIZATIONS (1914). See also the similar contribution by Clark’s son John Maurice Clark, Clark, supra note 100, and also Robert L. Raymond:

From a theoretical point of view competition, actual or potential, will not permit the existence of monopoly control. What would happen in theory can, I believe, be made to occur in fact. At present it does not represent the usual course of events. Effective in theory, potential competition under actually existing circumstances is impotent.


\(^{251}\) Clark, supra note 250, at 64.

\(^{252}\) Id. at 66.

\(^{253}\) Adams, supra note 226.

\(^{254}\) Robert L. Raymond, A Statement of the Trust Problem, 16 HARV. L. REV. 79 (1902).
abundant capital one cannot erect a steel manufacturing plant or a sugar refinery until considerable time has elapsed.255 This delay, he observed, gave dominant firms an opportunity to behave strategically.256 He also warned, however, that competition policy should not go further; it had to preserve the “true economic value” that they promised while also preserving the power of potential competition to limit their prices.257 Progressive economist Ely, who published his book on monopolies and trusts simultaneously with the Chicago Conference, doubted potential competition as a device for disciplining monopoly. He concluded that “[n]o evidence has been adduced of the sufficient action of potential competition in the case of monopoly.”258

Clark returned to this problem in The Control of Trusts, a book he had had originally published in 1901.259 For subsequent editions he was joined by his son, John Maurice Clark.260 The revised edition was even more pessimistic than John Bates’ original, very likely reflecting John Maurice’s more institutionalist leanings. “When the first edition of this work was issued, so called potential competition had shown its power to control prices,”261 the Clarks lamented, but

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\text{[t]he potentiality of unfair attacks by the trust tended to destroy the potentiality of competition. Under these conditions it was and is clearly necessary to disarm the trusts—to deprive them of the special weapons with which they deal their unfair blows. It is necessary to repress the specific practices referred to and so to enable every competitor who, by reason of productive efficiency, has a right to stay in the field, to retain his place and render his service to the public.}\]262

As a result, they concluded, while experience has shown that “potential competition is a real force, it has also shown that it is a force which can be easily obstructed.”263 A few years later, John Maurice Clark argued that potential competition was an unlikely discipline for monopoly in markets with “heavy permanent investment”—that is, with high fixed costs.264 In such cases, he noted, incumbent firms will be holding excess capacity and be able to expand their own output in response to new entry. Knowing this,
potential competitors will not wish to make a significant investment in entry.\footnote{265} Further, he observed, prospective entrants into such a market would realize that total output would be higher when their own production was added in, and thus prices lower. So what appeared to be profitable entry before might not be so later.\footnote{266}

The Clarks’ work developed the basic model that emerged by mid-century for monopolization cases and that prevails today. That judge-made formulation required a showing of both monopoly power and anticompetitive practices. This model retained faith that in a market that is not restrained by either the government or private action, new entry could be expected to maintain competition. The problem for the antitrust laws was anticompetitive practices that forestalled competitive entry before it could occur or become effective. “A merely possible mill which as yet does not exist may forestall and prevent monopolistic acts,” the Clarks conceded, but only provided that the way is “quite open for it to appear.”\footnote{267}

Writing in 1911 about the ongoing government cases against Standard Oil and American Tobacco, Raymond observed that the firms’ growth had depended on the suppression of potential competition.\footnote{268} In American Tobacco, the district court condemned a trust agreement that involved a group of the same shareholders’ acquiring interests in multiple companies. The court acknowledged the defense that potential competition would discipline any monopoly because the combination itself did not involve any sort of market exclusion.\footnote{269} But entry would take some time, the court observed, and the “objection is to present and not future conditions.”\footnote{270} The court believed that argument to be worthy of “serious consideration.”\footnote{271}

By contrast, in the 1918 United Shoe Machinery (“USM”) merger case the Supreme Court refused to condemn the union of several shoe machinery makers into what became the USM Company.\footnote{272} The government’s argument was that the merged companies were potential competitors who could have turned into actual competitors but for the merger. The case thus invited a tradeoff question that remains to this day: some mergers increase productive efficiency by enabling a firm to do things at lower cost, but in the

\begin{itemize}
\item[265.] \textit{Id.}
\item[266.] \textit{Id. cf.} Oliver E. Williamson, \textit{Predatory Pricing: A Strategic and Welfare Analysis}, 87 Yale L.J. 284 (1977) (adapting this model of post-entry prices to illustrate the possibility of predatory pricing at above cost prices).
\item[267.] \textit{Clark & Clark, supra} note 260, at 121.
\item[268.] Robert L. Raymond, \textit{The Standard Oil and Tobacco Cases}, 25 Harv. L. Rev. 31 (1911).
\item[270.] \textit{Id.}
\item[271.] \textit{Id.}
\end{itemize}
process may harm competition by preventing competition that might have developed had the merger not occurred.

The USM union was a merger of complements, and the district court had concluded that the individual companies were not in competition with one another at the time of the merger. Justice Holmes had actually elaborated on that conclusion several years earlier in a decision that approved the original merger. He also observed that the participating firms had not been competitors but rather were makers of complements. One firm produced lasting machines, another welt-sewing machines, and others outsole-stitching machines and heeling machines. It was not the purpose of the Sherman Act to “reduc[e] all manufacture to isolated units of the lowest degree.” In this case “the combination was simply an effort after greater efficiency.” He compared the merger to a situation in which a single firm was created to make “every part of a steam engine,” rather than using the antitrust laws to force “one to make the boilers and another to make the wheels.”

In the American Can case, which condemned the can-making trust but declined to break it up, the court also cited potential competition as the reason for being cautious about the remedy. The court observed that the American Can Company, given its large size and multiple plants, was highly efficient and made good cans. Further, the record revealed “that there are many ways in which a large and strong can maker can serve the trade, and a small one cannot.” In any event, the defendant’s power to restrain competition was limited by “a large volume of actual competition and to a still greater extent by the potential competition” from which it cannot escape. For example, when the defendant raised its price—perhaps prematurely believing that it had destroyed enough rivals—new competitors quickly re-emerged. It became “apparently profitable for outsiders to start making cans with any antiquated or crude machinery they could find in old

273. See id. at 41–42.
275. Id. at 215.
276. Id. at 202.
277. Id. at 217.
278. Id. at 217–18.
280. Id. at 894 (“Defendant makes good cans. . . The impression produced by the testimony is that it has been more uniformly successful in so doing than perhaps any of its competitors, although the larger and more responsible of these have, in recent years, habitually turned out thoroughly satisfactory packers’ cans.”).
281. Id. at 903.
282. Id.
lumber rooms. At that point the defendant became so desperate that it actually started buying cans from its rivals, even though these were “very badly made.” Many of these were later destroyed.

The language of potential competition evolved into the modern doctrine of “barriers to entry,” a term that came into common use at mid-century. An entry barrier could be either natural or fabricated obstacles that made it more difficult for competition to enter the market. The Supreme Court first used the term in the American Tobacco case, when it referred to the defendant’s acquiring control of numerous “seemingly independent corporations, serving as perpetual barriers to the entry of others into the tobacco trade.” More specifically, the Court referred to the defendant’s acquisition of plants “not for the purpose of utilizing them, but in order to close them up and render them useless,” and also to noncompetition clauses placed on sellers that kept them from re-entering the market. A few years later a district court quoted this language in condemning Eastman Kodak of monopolization by acquiring around twenty companies and assembling all of the components of the photography industry. The phrase did not find much use in the economic literature until the 1940s, followed by significant expansion in the 1950s. It entered the mainstream antitrust literature after Joe S. Bain’s pioneering work on barriers to entry in the 1950s.

2. From Potential Competition to the Relevant Market

As long as confidence was high that potential competition could be trusted to control prices, the precise definition of the market in which firms operated was relatively unimportant. Even monopolists could be kept in check if potential competition was robust. The assumption of robust potential competition explains both why early antitrust decisions involving dominant firms were not particularly fussy about market definition and also why they tended to emphasize detailed litanies of exclusionary practices. Monopolization was all about harmful conduct intended to exclude rivals.

As confidence in the efficacy of potential competition waned, however,

283. Id. at 879.
284. Id. at 880.
285. Id.
287. Id.
289. E.g., R.G. Hawtrey, Competition from Newcomers, 10 ECONOMICA 219 (1943); see also Joe S. Bain, A Note on Pricing in Monopoly and Oligopoly, 39 AM. ECON. REV. 448 (1949) (Bain’s first article on the subject).
290. E.g., JOE S. BAIN, BARRIERS TO NEW COMPETITION: THEIR CHARACTER AND CONSEQUENCES IN MANUFACTURING INDUSTRIES (1956).
it became more important to know the number and robustness of a firm’s actual competitors. Any discipline of monopoly would come primarily from them. As John Maurice Clark observed in 1923, for most markets “it is inherently impossible to have industry effectively governed by potential competition alone.”

Concerns about potential competition are inherently dynamic. They ask about where a market is going, rather than how it may appear at this moment. In fact, accounting for movement and the ability to make useful predictions about it is one of the most challenging questions of antitrust policy. Classical economists assumed markets were competitive unless the government intervened because they focused so completely on the long run. The fact that monopoly might be dissipated by new market entry is certainly reassuring. Eventually such a market may reach an acceptably competitive equilibrium, but how long will that take, and who will be affected along the way? Focusing on macroeconomics in the 1920s, John Maynard Keynes ridiculed the optimistic faith of many economists that eventually the economy would move to a healthier equilibrium. In contrast stood the policy maker’s more immediate concerns about time. He famously concluded that the “long run is a misleading guide to current affairs. In the long run we are all dead.”

The “relevant market” in antitrust analysis emerged as a device for trading off these static and dynamic concerns. First of all, it revealed who was competing with whom in the present instant. If the market was well defined and included consideration of entry barriers, it also estimated what was likely to change over time. The evolving concern was with how rivals and customers would respond to a future price increase above competitive levels.

The idea of a “relevant market” is entirely a creature of partial equilibrium analysis. While that proposition is uncontroversial, it was not commonly acknowledged in the antitrust literature until Oliver Williamson began talking about antitrust policy and welfare tradeoffs in those terms in

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291. CLARK, supra note 146, at 445.
293. JOHN MAYNARD KEYNES, A TRACT ON MONETARY REFORM 80 (1923).
294. Id.
the 1960s. As Marshall had observed, in selecting a market economists should group sales of close substitutes and then make a working assumption that those within the grouping affect one another’s behavior, but that firms outside of the group do not. Marshall also realized that this was a simplifying assumption and not a hard picture of a situation in which the elasticity of substitution between goods in the same market is infinitely high, while the substitution between goods inside and goods outside is zero. Today we commonly say that to the extent a market is “well defined” these two conditions come closer to applying.

Assessing antitrust practices by reference to the “market” in which they occur naturally produced several questions about delineation and measurement. The most obvious one was how to identify the particular grouping of firms to which the analysis should be applied. Marshall himself paid scant attention to the issue. He identified the grouping of sales in a particular market as a “commodity.” His favorite example was tea. In that case, sales of tea constituted the relevant market. He gave only a little thought to questions about whether tea competed with coffee or water, or even the extent to which a coffee producer might switch to tea in response to a higher price. He did conjecture at one point that a failure in the coffee harvest might lead to an increase in demand for tea. He made a similar conjecture about beef and mutton. He also noted that questions about “where the lines of division between different commodities can be drawn must be settled by the convenience of the particular question under


296. See Marshall, supra note 88, at 324 (defining a market as goods that are in “free intercourse” in trading such that their prices move to the same level).

297. See discussion infra text at notes 313–14; cf. Williamson, Economies as an Antitrust Defense: The Welfare Tradeoffs, supra note 295, at 23. Williamson wrote:

Our partial equilibrium analysis suffers from a defect common to all partial equilibrium constructions. By isolating one sector from the rest of the economy it fails to examine interactions between sectors. Certain economic effects may therefore go undetected, and occasionally behavior which appears to yield net economic benefits in a partial equilibrium analysis will result in net losses when investigated in a general equilibrium context.

298. E.g., MARSHALL, supra note 83, at 154, 159.

299. Id. at 160 (describing coffee as something that could be used as a substitute for tea).

300. Id. at 168 n.2 (noting that the price of substitutes might change, thus affecting the demand for the primary good; for example, a fall in the price of beef might cause it to be used in place of mutton).
discussion.\footnote{Id. at 160 n.2.} For some purposes, he acknowledged, we might even acknowledge Chinese and Indian teas as different.\footnote{Id.}

Early Sherman Act cases took roughly the same approach, never putting a fine point on market definition. For example, neither the 1911 \textit{Standard Oil}\footnote{Standard Oil Co. v. United States, 221 U.S. 1 (1911).} nor \textit{American Tobacco} decisions discussed the boundaries of the “market” under consideration. In \textit{Standard Oil}, the Court referred repeatedly to “petroleum and its products,”\footnote{E.g., \textit{Standard Oil}, 221 U.S. at 32.} without saying anything about what that might include. In \textit{American Tobacco}, the Court did observe that the defendant produced a number of products, including “cheroots, smoking tobacco, fine cut tobacco, snuff and plug tobacco.”\footnote{Am. Tobacco, 221 U.S. at 159. A cheroot is an inexpensive, untapered cigar.} The Court did discuss some vertical practices that involved specific products. For example, the defendant also tried to control sales of licorice paste, an essential ingredient in plug tobacco, in order to exclude rivals.\footnote{Id. at 170. In \textit{United States v. Reading Co.}, 253 U.S. 26, 56–57 (1920), the Supreme Court did consider whether one railroad line eliminated competition when it acquired a contiguous line and held that the lines were not competing. \textit{See also} United States v. Lake Shore & M.S. Ry. Co., 203 F. 295 (S.D. Ohio 1912) (similar; some lines competed but others did not).} The Court never spoke of any of these products as relevant markets, or considered whether they were in the same or different markets.

The \textit{American Can} decision a few years later described a large litany of bad practices but said virtually nothing about the scope of the market, other than to refer to it as “cans.”\footnote{United States v. Am. Can Co., 230 F. 859 (D. Md. 1916); \textit{see also} United States v. U.S. Steel Corp., 251 U.S. 417 (1920) (dismissing complaint with no discussion of relevant market). In \textit{United States v. Int’l Harvester Co.}, 214 F. 987, 989, 991 (D. Minn. 1914), \textit{appeal dismissed}, 248 U.S. 587 (1918), the court condemned a voting trust of several companies that formed the defendant. The product was identified as “harvesting machinery,” of which the defendant controlled 85%, but with no dispute or discussion about market boundaries. The court did observe that International Harvester was a New Jersey corporation and that its charter stated that it was formed to manufacture, sell, and deal in harvesting machines, tools, and implements of all kinds, including harvesters, binders, reapers, mowers, rakes, headers, shedders, machinery, engines, wagons, motor vehicles, and vehicles of all kinds; agricultural machinery, tools, and implements of all kinds, binder twine, and all devices, materials, and articles used or intended for use in connection therewith, and all repair parts and other devices, materials, and articles used, or intended for use, in connection with any kind of harvesting or agricultural machines, tools, or implements, or any gasoline, electric, or other vehicles. \textit{Id. at} 989; \textit{see also} United States v. Corn Prod. Refin. Co., 234 F. 964, 974, 976 (S.D.N.Y. 1916), \textit{appeal dismissed}, 249 U.S. 621 (1919) (condemning a trust, but in the process noting that the relevant process included both wet milling and dry milling of corn; the court observed that cost distinctions among them}
as whether glass bottles, which were also widely used for preserving food, were in the same market. Such questions arose regularly after mid-century.

The *International Shoe* case, decided in 1930, included a brief discussion of the proper delineation of a product market. It also reflected the emergence of product differentiation as a factor in market analysis. The FTC challenged a merger of two manufacturers of dress shoes. McElwain made more expensive, attractive, and “modern” shoes entirely of leather. International made cheaper shoes that included some non-leather components. Without discussing the scope of the market, the Court did credit the defendants’ testimony that there was “no real competition” between the two firms.

Estimating market power today by reference to a share of a “relevant market” is not a pure exercise in static partial equilibrium analysis. In Marshall’s model, one examined equilibrium in the market under study on the assumption that the price and output of everything else remained constant. However, he also acknowledged that this assumption often fails to obtain in the real world:

> [T]he demand schedule represents the changes in the price at which a commodity can be sold . . . other things being equal. But in fact other things seldom are equal over periods of time sufficiently long for the collection of full and trustworthy statistics . . . . This difficulty is

were relevant. The Court wrote:

> If the wet process is cheaper than the dry, then, although a monopoly of the wet will be limited by the dry, it is improper to consider the production of the dry millers, when ascertaining the proportion of production controlled by a supposed monopolist of wet milling. If, on the other hand, the dry process is cheaper than the wet, and if, which would be hardly possible, a sustained competition between them existed, then one could not disregard the dry production for all purposes.

*Id.* at 976; accord O’Fallon v. Am. Sea Green Slate Co., 207 F. 187, 193 (N.D.N.Y. 1913), rev’d on other grounds, 229 F. 77 (2d Cir. 1915) (noting that where black and green slate competed for some buyers but the green slate manufacturers had both production and cost disadvantages, their power was limited by price of black slate); cf. Standard Oil Co. v. United States, 283 U.S. 163 (1931) (noting that although gasoline made by traditional refining methods and the defendant’s large scale “cracking” method was fungible, the latter had an advantage in production costs).


312. *Id.* at 299; cf. Appalachian Coals, Inc. v. United States, 288 U.S. 344 (1933) (noting that defendants controlled 74.4% of coal production in their area but only 12% of production east of Mississippi River, and nearly none of the purchasers were in the smaller area); Indiana Farmer’s Guide Pub’g Co. v. Prairie Farmer Pub’g Co., 293 U.S. 268 (1934) (reversing and remanding after noting dispute about whether the area of effective competition for the defendants’ farm publications was limited to the territory in which they operated or should include the entire country).

313. MARSHALL, supra note 83, at 160.
aggravated by the fact that in economics the full effects of a cause seldom come out at once but often spread themselves out . . . .”

A price increase naturally invites other sellers to move into the price increaser’s market territory and customers to defect away. These substitutions upset the equilibrium, and within Marshall’s model, continue to occur until the equilibrium is restored. To the extent the market is more rigorously defined and the market share of the price increaser is higher, the movements would take longer or be less likely to occur.

The 1940s and 1950s saw a significant expansion in antitrust usage of relevant markets to estimate market power. Judge Hand’s discussion in the Second Circuit’s 1945 decision in United States v. Aluminum Co. of America has become well known. The first Supreme Court decision to contain a significant discussion about the scope of a relevant market was United States v. Columbia Steel Co. in 1948. It concluded that the market that the government alleged was too narrow. First, the area of effective competition was larger than the government claimed. Second, the two firms actually made different although somewhat overlapping types of steel. On a 5–4 vote, it dismissed the complaint. Justice Douglas’s dissent (joined by Justices Black, Murphy, and Rutledge) contained almost no discussion of the relevant market except to dispute the fact that the acquired firm’s three percent share of the purchasing market under consideration was insubstantial.

The chronology of these concerns is revealing because of what it says about the declining faith in potential competition to solve monopoly problems. As noted previously, as of 1899 even monopoly was not a matter of concern for some participants in the Chicago Trust Conference because potential competition could be trusted to keep prices down. Subsequently, greater doubts about the disciplinary effects of new entry naturally led to increased concerns about just how competitive the market was when entry is disregarded. By the 1930s most antitrust cases involving large firms were harboring significant doubts about the ameliorating effects of potential competition. That explains the rising importance of market definition in antitrust cases.

314. Id. at 170.
318. Id. at 510–22.
319. Id. at 538 (Douglas, J., dissenting).
320. See discussion supra text accompanying note 37.
3. The Rise of Structuralism and the Diminishing Importance of Conduct

As Chief Justice White observed in the 1911 Standard Oil decision, the monopolization offense required bad conduct and not mere monopoly status. Chief Justice White’s reasoning was that the practices condemned by section 1 of the statute actually forbade “all means of monopolizing trade, that is, unduly restraining it by means of every contract, combination, and so forth.”321 To this, section 2 of the Sherman Act sought, if possible, to make the prohibitions of the act all the more complete and perfect by embracing all attempts to reach the end prohibited by the first section, that is, restraints of trade, by any attempt to monopolize, or monopolization thereof, even although the acts by which such results are attempted to be brought about or are brought about be not embraced within the general enumeration of the first section.322

The lower court had spoken much more clearly: section 2 should require a restraint of trade as embraced by section 1, but the difference was that “[o]ne person or corporation may offend against the second section by monopolizing, but the first section contemplates conduct of two or more.”323 That is in fact the distinction that modern courts have adopted.

What the statute did not do, Chief Justice White continued, was condemn “monopoly in the concrete,” or the mere status of being a monopolist.”324

At that point, however, the Chief Justice cast his entire reasoning and perhaps even his mental acuity into doubt with his infamous argument that because “reason was resorted to” in deciding earlier cases the law reached only unreasonable actions.325 That dubious rationale presaged the more formal recognition of a rule of reason seven years later.326

All of this was in pursuit of a larger point, as the Chief Justice elaborated, which was to shunt aside the argument that a court could not constitutionally divest an innocent firm of its property without compensation simply because it was a monopolist. Property owners had no right to engage in restraints on trade.327 Rather, the statute was directed to “particular acts,” even though these were inferred only “generically” from the statutory

321. Standard Oil Co. v. United States, 221 U.S. 1, 61 (1911).
322. Id.
324. Standard Oil, 221 U.S. at 61–62; see Comment, Efficiency or Restraint of Trade, 27 YALE L.J. 1060, 1064–65 (1918).
325. Standard Oil, 221 U.S. at 64–66.
327. Id. at 69–70.
language. That is, requiring wrongful acts—even though the statute did not explicitly list them—was essential to the statute’s constitutionality. At that point the opinion turned to a detailed summary of Standard Oil’s conduct.

The Clayton Act developed this theme further by its enumeration of specific acts that threatened to create monopoly—namely selective and discriminatory predatory pricing, tying and exclusive dealing contracts, and anticompetitive mergers. Nothing in the Clayton Act even hints of possible condemnation of monopoly without fault; indeed, its added specificity points in the other direction.

It is thus not surprising that Progressive Era monopolization cases often read like tort cases—with an extensive discussion of conduct, accompanied by relatively thin treatment of market structure and power. This period preceded the structuralist revolution that would occur in the late 1930s and 1940s. Indeed, some commentators from the period wrote of the monopolization offense as if it did not contain a market power requirement at all, but only guilty conduct. After World War II antitrust policy as led by industrial economists completely flipped that script.

Already in the 1930s some industrial economists began to study the monopoly problem by looking at the types of structures most likely to produce it. In 1937 Harvard industrial economist Edward S. Mason observed that in “recent years economic thinking on the subject of monopoly has taken a radically different trend.” It began with the observation that “monopoly

328. Id. at 69.
329. Id. at 69–70. The great corporate scholar Victor Morawetz had addressed this issue in 1909, concluding that the statute should not be amended so as to enumerate the specific anticompetitive acts that might constitute monopolization:

No doubt it would be desirable to define what constitutes a monopoly or an attempt to monopolize a part of interstate trade or commerce; but it is very questionable whether a comprehensive and clear statutory definition could be framed. A statutory definition probably would give rise to as much uncertainty and litigation as the word “monopolize,” and judicial decisions would be necessary to define the definition itself. The safer and better course is to let the courts, guided by common understanding of the word “monopolize” and by the principles of the common law, settle the meaning of the statute by determining its application to individual cases as they arise.


331. Id. § 14.
332. Id. § 18.
333. E.g., Edward A. Adler, Monopolizing at Common Law and Under Section Two of the Sherman Act, 31 HARV. L. REV. 246, 261 (1917).
elements" of conduct were apparent in the “practices of almost every firm.”\(^{336}\) As a result, policy makers were increasingly required to make “distinctions between market situations all of which have monopoly elements.”\(^{337}\) For that, conduct alone provided little basis for differentiation. The important differences were not the conduct but rather the markets in which the conduct occurred. He noted an emerging distinction between “restriction of trade” and “control of the market.”\(^{338}\) If economics was to make a contribution to the problem of monopoly, Mason observed, it must move beyond practices and descriptive accounts of anticompetitive behavior and look for structural features that made markets more or less conducive to monopolization.\(^{339}\)

The development of imperfect competition theories in the early 1930s forced a shift in focus toward the particular market structures that made noncompetitive outcomes more likely. Some of the foundational work was done earlier. For example, in the 1920s economist John Maurice Clark looked at the manifold sources of economies of large plant size.\(^{340}\) The economies, which resulted from technology and engineering, were inherent in certain industries. In addition, the presence of high fixed (“overhead”) costs provided an explanation for price discrimination, showing it to be typically but not invariably procompetitive.\(^{341}\) Clark also discussed “economies of combination,” showing how the effect of high fixed costs and large plant size made markets more conducive to both horizontal and vertical control arrangements.\(^{342}\) In such industries “large-scale production, combination, and monopoly or restricted competition are all more or less bound together, and all occur in the same class of industries.”\(^{343}\) Everything in Clark’s book pointed in the direction of assessing competition problems by assessing the particular structural characteristics of each firm, emphasizing the extent and nature of fixed costs.

Clark’s book was too technical to have widespread public appeal, but it did both reflect and lead an important set of developments in the field of industrial economics. Antitrust policy became more interested in the types of market structures that made noncompetitive outcomes more likely. Enforcement policy followed these developments, culminating in massive monopolization cases brought against capital intensive firms in the 1930s.

336. Id. at 35.
337. Id.
338. Id.
339. Id. at 48–49.
341. Id. at 2–3, 32 (“Efficiency requires discrimination . . . .”), 416–33.
342. Id. at 146–47.
343. Id. at 146.
and after, including Alcoa and USM. Both decisions emphasized market structure and market definition and de-emphasized conduct. Indeed, both toyed with but did not ultimately embrace the idea of monopoly “without fault”—or that certain dominant firms should be broken up simply because they are too big. In Alcoa, Judge Learned Hand discussed the possibilities of a presumption that a firm that had acquired a ninety percent market share was behaving unlawfully. It could defeat that presumption, however, by showing that monopoly had been “thrust upon it,” or that it was merely the “passive beneficiary” of monopoly. 344 A few years later in the USM case, Judge Wyzanski characterized Alcoa as suggesting that a firm with an overwhelming market share monopolizes whenever it “does business.” 345 That was as close as American antitrust law ever came to a rule of no fault monopolization.

With those decisions the courts entered the era of antitrust structuralism, which in its strongest form made evidence of bad conduct almost but not quite irrelevant. 346 That largely ended the Progressive Era’s tort theory of monopolization.

III. THE EMERGENCE OF VERTICAL COMPETITION POLICY

A. “COMPETITION,” HORIZONTAL AND VERTICAL

Progressives were the first to examine vertical practices and vertical integration systematically as competition problems. While some law of vertical contracting practices existed prior to that, almost none of it was concerned with competition. The Progressive accomplishment was noteworthy, because vertical business practices have historically been the most poorly understood in antitrust and have provoked the most controversy. Articulate writers have argued that they should be governed by both the extreme rules of per se illegality and per se legality. 347 The Progressives in fact opted for a highly defensible middle ground that has proven to be very durable.

Progressive Era contributions to the law of vertical integration and restraints were formative but also modest. 348 Mainly, they focused on the relationship between vertical integration or vertical contracting and realistic

346. See Hovenkamp, supra note 72, at 206–19.
threats of monopoly. Subsequently the antitrust law of vertical business relationships veered to the left and became very aggressive, condemning many practices where harm to competition was never seriously threatened.\footnote{349}{Id.} Later it changed course again, veering very far to the right and developing rules of virtual nonliability in Chicago School academic writing. The case law never went quite that far.\footnote{350}{E.g., ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 280–309 (1978).} Since 2000 or so it has been moderating once again. The rule of reason that is currently the law for nearly all vertical practices is in between, although somewhat closer to a rule of nonliability.\footnote{351}{See HOVENKAMP, supra note 192, §§9.1–9.3.} This is at least partly because the courts have made it so difficult for plaintiffs to win rule of reason antitrust cases.

The thoroughly conventional distinction that antitrust and economics makes today between “horizontal” and “vertical” practices is actually a fairly recent development. Today most of our antitrust rules of illegality are driven by it: horizontal restraints are more suspicious than vertical ones. Unlike horizontal agreements, vertical agreements do not increase the effective market share of the participants. The means by which horizontal price fixing agreements reduce market output are more obvious and better understood than for vertical price agreements. Vertical arrangements have a greater potential to produce cost savings.

Classical political economists and most lawyers prior to the 1910s or so did not see these distinctions. They tended to see competition as “rivalry,” and the vertical rivalry that might occur between a buyer and a seller, or employer and employee, counted as “competition” just as much as the rivalry between two competitors. For example, in the 1888 edition of his popular text on political economy, MIT economist Francis Walker defined competition as “the operation of individual self-interest among buyers and sellers.”\footnote{352}{FRANCIS A. WALKER, POLITICAL ECONOMY 263 (3d ed. 1888).}

Marshall did only a little better in Principles of Economics. On horizontal competition, he focused almost entirely on the theory of monopoly, or single firms that accounted for all sales in a market. In a footnote he spoke briefly about “partial monopoly,” which he described as a firm whose wares were better known than those of other firms.\footnote{353}{MARSHALL, supra note 83, at 112 n.1.} Marshall’s chapter on “The Theory of Monopolies” largely assumed exclusivity and focused on how the monopolist determines its output and price when there
is no threat of entry.\textsuperscript{354} He did mention that a vulnerable monopolist, such as a railroad threatened by new competition, would very likely charge a lower price in order to protect its trade.\textsuperscript{355} Never once in the 750 pages of the first edition did Marshall mention cartels or price fixing. While he drew his theory of marginalism from Cournot,\textsuperscript{356} he never discussed Cournot’s very influential theory of oligopoly. He did mention the rise of the American trusts in his Eighth Edition in 1920, seeing them largely as an alternative to German cartels\textsuperscript{357} and ultimately describing them as “treacherous.”\textsuperscript{358} He also saw the evil of the trusts as “narrowing . . . the field of industry which is open to the vigorous initiative of smaller businesses.”\textsuperscript{359} None of these discussions mentioned vertical integration or restraints.

Marshall’s relatively infrequent expressions about “competition” seem almost amateurish today—for example: “The strict meaning of competition seems to be the racing of one person against another . . . .”\textsuperscript{360} He complained that the term “competition” has “gathered about it evil savour, and has come to imply a certain selfishness and indifference to the well being of others,”\textsuperscript{361} and that “unrestrained competition” produced suffering.\textsuperscript{362} He spoke of competition as “glorified individualism.”\textsuperscript{363} He also lamented that machine production had led to undesirable competition that, “like a huge untrained monster,” led to weakness and disease.\textsuperscript{364} He blamed this on excessive British protection for liberty of contract.\textsuperscript{365} Marshall made the same complaint about labor, where he saw unfettered competition as driving wages to subsistence levels.\textsuperscript{366}

Marshall also had little to say about vertical integration and vertical

\textsuperscript{354} Id. at 456–72.
\textsuperscript{355} Id. at 465.
\textsuperscript{356} See id. at x.
\textsuperscript{357} Marshall wrote:
The economies of highly organized buying and selling are among the chief causes of the present tendency towards the fusion of many businesses in the same industry or trade into single huge aggregates; and also of trading federations of various kinds, including German cartels and centralized co-operative associations. They have also always promoted the concentration of business risks in the hands of large capitalists who put out the work to be done by smaller men.
\textsuperscript{358} Id. at 495.
\textsuperscript{359} Id. at 304.
\textsuperscript{360} MARSHALL, supra note 89, at 282. On the United States trust as an alternative, see id. at 304.
\textsuperscript{361} Id. at 6.
\textsuperscript{362} Id. at 41.
\textsuperscript{363} Id. at 42–43.
\textsuperscript{364} Id. at 92.
\textsuperscript{365} Id.
\textsuperscript{366} Id. at 226.
relationships, and nothing about their impact on competition. His few mentions focused on labor. For example, he distinguished horizontal movement of workers from one firm to another from vertical movement, or promotion within a firm. Speaking again of labor, he also discussed the "vertical" competition that existed between skilled and unskilled workers who performed the same task. He concluded that for workers competition was both vertical and horizontal. First, they competed vertically for advancement within the firm. Second, they competed horizontally by movement from one employer to another. In Chapter 8, entitled "Industrial Organization," he used the term "integration" a single time, using a biological metaphor. He defined it as "a growing intimacy and firmness of the connections between the separate parts of the industrial organism." Late in his life, in his much less prominent and overly long book on *Industry and Trade* (1919), Marshall began exploring some of the differences between horizontal and vertical expansion.

Prior to 1910 or so, courts also viewed “competition” in terms that did not distinguish the horizontal from the vertical. Often the reference was to the “competition” that exists between the two parties to a bargain, with the seller wishing to receive as much as possible while the buyer wished to pay as little as possible. For example, *John D. Park & Sons Co. v. Hartman*, one of the earliest Sherman Act challenges to resale price maintenance, spoke of the practice as “protecting the seller of property against the competition of the buyer.” The Supreme Court of Oklahoma treated resale price maintenance agreements as a form of noncompetition covenant, used to protect “the seller of the property against the competition of the buyer.” Today, of course, we would characterize the relationship between a buyer and a seller as vertical, at least in most cases.

Even Justice Holmes, whose grasp of economics was better than that of

367. Id. at 277.
368. Id. at 373, 705.
369. Id.
371. ALFRED MARSHALL, *INDUSTRY AND TRADE: A STUDY OF INDUSTRIAL TECHNIQUE AND BUSINESS ORGANIZATION; AND OF THEIR INFLUENCES ON THE CONDITIONS OF VARIOUS CLASSES AND NATIONS* (1919); see discussion infra text accompanying notes 409–12.
373. Id. at 45; see also State v. Duluth Bd. of Trade, 107 Minn. 506 (1909) (noting that a joint venture challenged as a cartel did not undermine ordinary "competition between seller and buyer").

Electronic copy available at: https://ssrn.com/abstract=3995502
most contemporary judges, spoke of competition interchangeably as horizontal or vertical. While a Justice on the Supreme Judicial Court of Massachusetts, he had defined competition in a tort case as “not limited to struggles between persons of the same class” but rather as applying “to all conflicts of temporal interests.” He continued, offering a purely vertical illustration:

One of the eternal conflicts out of which life is made up is that between the effort of every man to get the most he can for his services, and that of society, disguised under the name of capital, to get his services for the least possible return.

In keeping with more modern views, in 1908 the Supreme Court of Illinois rejected that characterization, describing it as “fanciful and far-fetched.” It then concluded that an employer and its unionized employees could not be said to be in “competition” with one another, even though their interests clearly diverged.

Holmes also dissented from the U.S. Supreme Court’s decision condemning resale price maintenance. The Court had reasoned that resale price maintenance was a restraint on alienation that served to eliminate competition among dealers in the sale of Dr. Miles’s brand of medicines. Holmes responded that the competition of “conflicting desires” should be sufficient to do that for most goods that were not essential, and Dr. Miles medicines were not. If a good was not essential (Holmes’s example was “short rations in a shipwreck”), the price would be set by the “competition” between the seller’s wish to charge more and the buyer’s wish to pay less.

In the Northern Securities merger case he dissented from the majority’s condemnation of a merger to monopoly under section 1 of the Sherman Act. The “act says nothing about competition,” he observed. He then described the litany of common law situations characterized as contracts in restraint of trade and concluded that the facts of the present case did not fit into any of them. The idea that elimination of competition between firms

375. Vegelahn v. Gunther, 44 N.E. 1077, 1081 (1896) (Holmes, J., dissenting). Holmes also developed this view in Oliver W. Holmes, Privilege, Malice and Intent, 8 HARV. L. REV. 1 (1894).
376. Vegelahn, 44 N.E. at 1081.
378. Id. at 432–33.
380. Id. at 412.
381. Id.
382. Id.
383. Id. at 403.
384. Id. at 403–04.
that had previously been rivals might result in higher prices did not obviously trouble him.

With one implicit exception, the Sherman Act itself never distinguishes vertical from horizontal practices. The exception is the reference to “contracts . . . in restraint of trade” in section 1 of the Act.\textsuperscript{385} As Justice Holmes pointed out in his Northern Securities dissent, at common law that phrase referred to “contracts with a stranger to the contractor’s business, . . . which wholly or partially restrict the freedom of the contractor in carrying on that business as otherwise he would.”\textsuperscript{386} Justice Holmes gave as an example the British decision in Mitchell v. Reynolds.\textsuperscript{387} The lessor of a building to be used by the plaintiff as a bakery promised not to open a competing bakery in the vicinity. Noncompetition agreements such as these are vertical because they are formally between the seller (lessor) and buyer (lessee) of property or in other situations between an employer and an employee. Nevertheless, the agreement also has a horizontal effect to the extent that its purpose is to limit the competitive choices of the promisor. In Mitchell, the lessor had promised the lessee that he would not enter into business in competition with the lessee.

Even the Clayton Act, passed in 1914, ignored vertical competition issues with one limited exception. That was section 3, which prohibited the sale of commodities on the “condition or understanding” that the buyer not deal in a competitor’s goods.\textsuperscript{388} This of course became the basis for the modern law of tying and exclusive dealing. Even here, however, while the law condemned a vertical agreement, the impact was horizontal. The concern was agreements that limited competition from rivals. Further, its historical focus was on patent license agreements in which it was thought that patentees used ties to extend their patent beyond its lawful scope.\textsuperscript{389} The Clayton Act did not seek to expand the law of purely vertical restraints that limited only the sales of a manufacturer’s own product.

Section 2 of the original Clayton Act prohibited price discrimination directed at rivals, a form of predatory pricing.\textsuperscript{390} That was a purely horizontal practice. The provision was amended in 1936 as the Robinson-Patman Act so as to reach so-called “secondary line” price discrimination, or the charging of two different prices to two different customers, favoring the customer who

\textsuperscript{386} N. Sec. Co., 193 U.S. at 403–04 (Holmes, J., dissenting).
\textsuperscript{389} See discussion infra text accompanying notes 444–49.
paid the lower price. These 1936 amendments effectively turned it into a predominantly vertical statute. Ever since, the Act has distinguished “primary line” (horizontal) and “secondary line” (vertical) violations. However, the first was entirely a creature of the original 1914 Act, while the second was developed by the 1936 amendments.

Likewise, the original Clayton Act provision condemning mergers reached only those that limited competition “between” the merging firms—that is, mergers of competitors. It was amended and extended to vertical mergers in 1950, as it appears today.

In sum, while the Clayton Act greatly expanded upon the Sherman Act and the Supreme Court largely interpreted it that way, it was concerned almost exclusively with horizontal practices. It became “vertical” only through amendments passed in the mid-1930s and after. Outside the law of resale price maintenance, which did not have a well-developed economic rationale other than the concern for restraints on alienation, competitive concerns about vertical integration had not yet emerged. While the Sherman Act’s concern with contracts in restraint of trade and the Clayton Act’s concern with tying were both vertical, today we would characterize both as “interbrand” restraints. That is, they were vertical contracts aimed at limiting horizontal competition.

At the same time, however, section 3 of the Clayton Act and the 1917 Motion Picture Patents case became important vehicles for developing a theory of anticompetitive vertical practices that expanded greatly in the 1930s. Notably, however, the practice in that case was substantially horizontal, directed at insulating the patentee’s films from the films offered by rivals.

B. PROGRESSIVE ECONOMICS AND VERTICAL INTEGRATION

One important chapter in Adam Smith’s Wealth of Nations was entitled “That the Division of Labour is Limited by the Extent of the Market.” Smith’s point was that larger markets permit greater specialization because

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392. See Hovenkamp, supra note 198, ¶ 2332 (primary line); id. ¶ 2333 (secondary line).
393. Original section 7 prohibited mergers “where the effect of such acquisition may be to substantially lessen competition between the corporation whose stock is so acquired and the corporation making the acquisition.” Clayton Act, ch. 323, § 7, 38 Stat. 731 (1914) (current version at 15 U.S.C. § 18).
396. See discussion infra text accompanying notes 464–65.
businesses are able to depend more on exchange rather than internal supply.\textsuperscript{398} In isolated villages in Scotland, “every farmer must be butcher, baker and brewer, for his own family,” and in such towns it is hard even to find a professional carpenter or mason.\textsuperscript{399} From Smith’s insight that larger markets lead firms to rely more on others for certain inputs, Stigler fashioned a theory that small markets provide an impetus for internal vertical integration.\textsuperscript{400} As markets grow larger firms have more opportunities to buy rather than make. But to turn that argument into one that saw Adam Smith as developing a general economic theory of vertical integration was a stretch.

During antitrust’s early years the idea of competitively harmful vertical practices was almost entirely absent in economics as well as law. Very little of that occurred prior to the twentieth century. In the 700 pages of proceedings of the Chicago Conference on Trusts\textsuperscript{401} neither lawyers nor economists ever once discussed vertical integration or vertical practices as a competition problem. A few years later federal courts first began addressing resale price maintenance under the Sherman Act.\textsuperscript{402}

Exploration of vertical business relationships and competition policy began to enter economics literature in the early twentieth century, although somewhat haphazardly. Notwithstanding the heightened Progressive concern about the trusts, they did not see vertical integration or vertical control as a threat. The early discussions spoke of it in very benign terms. In 1901 William F. Willoughby, a political scientist and lawyer who taught at both Harvard and Princeton, concluded that the competitive effects of vertical integration were overwhelmingly positive.\textsuperscript{403} Speaking of Andrew Carnegie’s steel company, he concluded that the “policy of the company” in integrating vertically was “not in attempting to lessen outside competition, but in seeking to bring about a more perfect organization and integration of its own properties.”\textsuperscript{404} Overall, he believed, the principal reason that firms integrated vertically was to ensure themselves of adequate and timely supply in the event of shortages.\textsuperscript{405}

\textsuperscript{398} Id. at 21 (“When the market is very small, no person can have any encouragement to dedicate himself entirely to one employment . . . ”).
\textsuperscript{399} Id.
\textsuperscript{400} George J. Stigler, The Division of Labor is Limited by the Extent of the Market, 59 J. POL. ECON. 185 (1951).
\textsuperscript{401} See discussion supra text accompanying notes 8–61.
\textsuperscript{402} E.g., John D. Park & Sons, Co. v. Hartman, 153 F. 24 (6th Cir. 1907) (finding RPM agreement unenforceable).
\textsuperscript{403} William Franklin Willoughby, The Integration of Industry in the United States, 16 Q.J. ECON. 94 (1901).
\textsuperscript{404} Id. at 102.
\textsuperscript{405} Id. at 114–15.
Progressive economist and President of the University of Wisconsin Charles Van Hise’s 1912 book on the Trust Problem spoke a single time of “vertical combination.” He was referring to vertical integration in the steel industry, but drew no conclusions about vertical integration generally. John Bates and John Maurice Clark’s important 1914 book on The Control of Trusts never discussed vertical practices or vertical integration at all. That omission is significant because at the time the father, John Bates, was one of the most prominent economists in the country and a leading marginalist. More generally, their book was a fierce indictment of the trusts.

In his 1919 book on Industry and Trade, written near the end of his life, Marshall did speak several times about the “vertical expansion” of firms into markets for supply or distribution. He noted, for example, that firms sometimes integrated vertically in order to avoid the effects of upstream cartels. His only sustained discussion of vertical integration was in relation to firms that did so in order to assure sources of supply or distribution, and he spoke of it entirely in benign terms. A few other economists did talk about vertical integration, mainly to emphasize the efficiencies that vertical control made possible.

John Maurice Clark’s 1923 book on fixed (“overhead”) costs did contain a more detailed discussion of vertical integration. He spoke briefly of “vertical combination” in the steel industry and more generally in a chapter entitled “Economies of Combination.” He described it as “the combination under one management of successive stages in a chain of productive operations.”

Clark cast the vertical integration problem as one of managing information and fixed costs: “The employer’s knowledge of his own needs and of the conditions of his own business is an expensive industrial

407. Id.
408. See generally JOHN BATES CLARK & JOHN MAURICE CLARK, THE CONTROL OF TRUSTS (1914).
410. Id. at 381.
411. Id. at 146–50.
412. E.g., HENRY W. MACROSTY, THE TRUST MOVEMENT IN BRITISH INDUSTRY: A STUDY OF BUSINESS ORGANISATION (1907).
413. CLARK, supra note 146.
414. Id. at 81.
415. Id. at 135 n.1.
Further:

Another gain from integration arises, in the shape of great reliability in the supplying of materials. The two concerns adapt their processes to each other, and the supply of materials, both in quality and regularity, can be more carefully suited to the needs of the user than they would be if the two were independent concerns.  

As a result, “[a]nother thing that is saved is all the work of negotiation, bargaining, higgling, stimulating demand (on the part of the seller) . . . and much of the other work of buying and selling, which could be reduced to a matter of routine.” He described this as “an overhead outlay which is capable of being enormously reduced by vertical combination.” Clearly Coase was not the first to observe that internal integration is a way of avoiding the costs of using the market. Clark’s own contribution was mainly to observe that high fixed costs and product differentiation exacerbated problems of market coordination of upstream and downstream levels.

During the Depression the economic treatment of vertical practices did an about face, becoming much more critical, minimizing the role of cost savings or even finding them harmful, and focusing on problems of monopoly. One of the most pessimistic was economist Arthur R. Burns’s 1936 book The Decline of Competition, which was heavily influenced by the theory of monopolistic competition. He presented vertical integration as inherently monopolistic and as strong evidence that competition was in decline.

C. PROGRESSIVES AND THE EMERGING LAW OF VERTICAL INTEGRATION

In distinguishing vertical from horizontal practices, the difficult part was to determine how a firm’s control of a vertically related market affected competition. As previously noted, economists of the day were keenly aware that vertical integration could reduce costs. So were many courts. Already in 1866, a British decision observed that one effect of a railroad’s acquisition of a colliery was to reduce the cost of coal necessary for its operations.

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416. Id. at 137.
417. Id.
418. Id.
419. Id.; see also L. Kotany, A Theory of Profit and Interest, 36 Q.J. Econ. 413 (1922) (noting vertical integration reduces costs).
420. See Coase, supra note 370.
421. See HOVENKAMP, supra note 72, at 220–40; HOVENKAMP, supra note 157, at 331–45.
423. See discussion supra text accompanying note 412.
The courts were also aware of foreclosure threats but did not generally find them decisive. In 1886, the Supreme Court held that a railroad that had integrated into express freight delivery services had no obligation to provide equivalent services for an independent delivery company.\(^{425}\) Justices Miller and Field dissented. Given that the delivery service was a complement to the railroad, they observed, the effect of the refusal would be to exclude competing express companies from the markets served by that railroad. There was no relevant antitrust law or even an Interstate Commerce Act, which was passed a year later.\(^{426}\) Rather, they would have found a duty under the common law of common carriers.\(^{427}\) A few years later the first Justice Harlan wrote the opinion for a unanimous Court declaring that an exclusive dealing contract between a railroad and a provider of sleeping cars was not contrary to public policy or common law.\(^{428}\) The action did not rely on any federal statute.

Speaking of noncompetition covenants, which are a form of vertical exclusive contracting, Judge Taft’s 1898 antitrust opinion in United States v. Addyston Pipe & Steel Co.\(^{429}\) noted that they could sometimes be harmful. They might injure the parties by depriving them of opportunities; or they might deprive the public of services that would be valuable and thus discourage enterprise. In addition, he gave two reasons more directly related to competition policy: they might “prevent competition and enhance prices,” and they “expose the public to all the evils of monopoly.”\(^{430}\) For its part, the common law approved the great majority of vertical agreements with the exception of some noncompete agreements.\(^{431}\) In any event, Judge Taft’s statements in Addyston Pipe were dicta, because the case involved only naked horizontal price fixing.

That analysis still left many questions open. For example, how does one account for the fact that vertical arrangements may simultaneously reduce costs and exclude rivals? One of these things seems beneficial and the other harmful. Further, how much weight should be given to the common law’s traditional strong protection for liberty of contract and the freedom to trade? Those concerns loomed large in cases involving resale price maintenance and other vertical restraints, where the freedom to trade came to be the

\(^{427}\) Memphis, 117 U.S. at 29, 33.
\(^{429}\) United States v. Addyston Pipe & Steel Co., 85 F. 271 (6th Cir. 1898), modified and aff’d, 175 U.S. 211 (1899).
\(^{430}\) Id. at 280 quoting Alger v. Thacher, 19 Pick. 51, 54, 36 Mass. 51 (1837)).
\(^{431}\) See Hovenkamp, supra note 65, at 156–58.
freedom to be free from restrictions on distribution.432 As the Supreme Court reiterated in a 1919 decision declining to find an agreement to engage in resale price maintenance, the purpose of the Sherman Act is to “preserve the right of freedom to trade.”433

Historically the common law did recognize limitations on business firms’ vertical integration by contract, but the concerns did not relate to competition policy. First was the common law policy against restraints on alienation, which courts had used regularly to decline enforcement of certain types of contracts.434 Later on, antitrust decisions cited this policy as a rationale for using the Sherman Act to condemn vertical contractual limitations on resale, including resale price maintenance.435 The Supreme Court cited concerns about restraints on alienation in an antitrust case as recently as 1967, when it declared territorial restraints on dealers to be per se antitrust violations.436

Second, many exclusive dealing and similar contracts were incomplete because they did not specify price or quantity. The common law itself exhibited a strong preference for “one off” contracts that contemplated sales with precise terms covering all important elements. Here, the most frequently challenged practice was requirements contracts, which later came to be called exclusive dealing. Under them, a purchaser promised to purchase its needs for a product from the seller but did not state the quantity. Through the early twentieth century such contracts were routinely struck down, not because of concerns for competition, but because the contracts lacked specificity. As the New York Court of Appeals declared in 1921, while a contract did not necessarily need to specify a precise amount, the quantity must be able to be “determined by an approximately accurate forecast.”437

432. See Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373, 403 (1911) (condemning resale price maintenance agreement: citing the “public interest in maintaining freedom of trade with respect to future sales after the article has been placed on the market and the producer has parted with his title”).
434. E.g., De Peyster v. Michael, 6 N.Y. 467 (1852) (refusing to enforce restraint on alienation covering sale of land); Anderson v. Cary, 36 Ohio St. 506 (1881) (restraint on subsequent resale of land unenforceable). See also the interesting decision in Williams v. Ash, 42 U.S. 1 (1843) (noting devise of slaves subject to condition that if the devisee attempted to sell them, that they should be set free was not an unlawful restraint on alienation).
435. Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373, 403-04 (1911) (“The right of alienation is one of the essential incidents of a right of general property in movables . . . .” (quoting John D. Park & Sons Co. v. Hartman, 153 F. 24, 39 (6th Cir. 1907))); see also John Chipman Gray, RESTRAINTS ON THE ALIENATION OF PROPERTY §§ 27, 28 (2d ed. 1895); 2 SIR EDWARD COKE, COKE UPON LITTLETON § 360 (1628).
436. United States v. Arnold, Schwinn & Co., 388 U.S. 365, 377-78 (1967) (agreeing with government that territorial restraints are “restraints upon alienation which are beyond the power of the manufacturer to impose upon its vendees”).
This rule threatened the early development of business franchising, because franchise agreements were by nature open ended as to price, quantities and even other terms of dealing. 438 Within a few years such open-ended contracts were to become a routine and essential part of franchised dealership networks. 439 This occurred largely as a result of contract law’s developing doctrine of the good faith purchaser. 440

In his influential 1920 treatise on contracts, Harvard’s Samuel Williston approved of the common law’s restrictive interpretation. He also suggested a workaround, however, that revealed that competition policy was not the driving concern. As a general rule, he concluded, a promise to sell a purchaser’s needs without precise specification of the number is “not sufficient consideration” to make an enforceable contract. 441 He then added however, that the contract could be made enforceable if the buyer promised to purchase all of its needs from the seller. Thus “the promise of a seller not to manufacture except for the buyer, or the promises of a buyer not to buy except from a particular seller” was adequately supported. 442 Williston’s statements, amply supported by case law, 443 reflected that the common law around 1920 ran in just the opposite direction as the subsequently emerging antitrust rule: contracts of this kind were enforceable at common law only if they were exclusive. By contrast, under antitrust law exclusive contracts were looked at with ever increasing suspicion.

Another concern that the case law reflected and that did breach the boundary into antitrust policy was when contractual restraints were included in patent or copyright licenses. Initially the courts refused to enforce many such agreements under patent law, using a variety of doctrines intended to


439. For a good brief history, see Joseph Cornwall Palamountain, Jr., The Politics of Distribution (1955).


A promise to buy such a quantity of goods as the buyer may thereafter order, or to take good in such quantities “as may be desired” . . . is not sufficient consideration since the buyer may refrain from buying at his option and without incurring legal detriment himself or benefiting the other party.

Id. at 216–17 (citing numerous decisions); see, e.g., Oscar Schlegel Mfg., 132 N.E. at 149 (contract that did not specify quantity void). Other developments are analyzed in Hovenkamp, supra note 438.

442. Williston, supra note 441, at 218.

limit the power of patentees to impose restrictions on patented articles once they had been sold.\textsuperscript{444} For example, in its influential decision in \textit{Wilson v. Simpson}, forty years prior to the Sherman Act, the Supreme Court held that a patentee could not require purchasers of its wood planing machine to purchase its own unpatented disposable blades.\textsuperscript{445} In \textit{Adams v. Burke}, the Supreme Court refused to enforce a condition imposed by the manufacturer/patentee of coffin lids limiting the geographic area where the lids could be used for a burial.\textsuperscript{446} That restriction, the Court held, was not “within the monopoly of the patent.”\textsuperscript{447} In \textit{Bobbs-Merrill Co. v. Straus},\textsuperscript{448} it refused to enforce a resale price maintenance agreement contained in a book copyright license, three years before the Supreme Court applied the antitrust laws in the \textit{Dr. Miles} decision. The decision did not cite the antitrust laws. Long prior to the passage of the antitrust laws, the Supreme Court was routinely denying enforcement to vertical restrictions contained in patent or copyright licenses. Much of this doctrine eventually found its way into antitrust law.\textsuperscript{449}

These decisions did not consider anything about competition in distribution, but only whether the restrictive license provision fell outside the scope of the intellectual property grant. Eventually, however, the patent decisions did generate some pushback on competition grounds. One example was Judge (later Justice) Horace Lurton’s 1896 opinion in \textit{Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.}\textsuperscript{450} The seller of a patented button-fastening machine prohibited purchasers of the machine from using it with any except its own unpatented fasteners, one of which connected each button to a garment. In modern terms we would characterize this arrangement as a variable proportion tying arrangement.\textsuperscript{451} In addition to a dispute over the reasonable scope of the patent license in which the restriction was placed, the purchaser made an argument “based upon principles of public policy in respect of monopolies and contracts in restraint of trade.”\textsuperscript{452} The gist was that “public policy forbids a patentee from so contracting with reference to his monopoly as to create another monopoly in an unpatented article.”\textsuperscript{453} Judge Lurton responded by noting that the tying

\textsuperscript{444} See Herbert Hovenkamp, \textit{Antitrust and the Design of Production}, 103 CORNELL L. REV. 1155 (2018); see, e.g., \textit{id.} at 1163–65 (unenforceable restraints on alienation).
\textsuperscript{446} Adams v. Burke, 84 U.S. 453, 460 (1873).
\textsuperscript{447} \textit{Id.} at 456.
\textsuperscript{449} Hovenkamp, \textit{supra} note 444.
\textsuperscript{450} Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co., 77 F. 288 (6th Cir. 1896).
\textsuperscript{451} See Hovenkamp, \textit{supra} note 192, § 10.6e.
\textsuperscript{452} \textit{Heaton-Peninsular Button-Fastener}, 77 F. at 292.
\textsuperscript{453} \textit{Id.}
clause served the useful purpose of measuring usage of the machine in order
to determine the royalty.\(^\text{454}\)

In 1912 a divided Supreme Court relied heavily on the *Button-Fastener*
case to hold in *Henry v. A.B. Dick Co.* that the maker of a patented office
copying machine could tie its own unpatented paper, stencils, and ink to the
machine.\(^\text{455}\) By this time Judge Lurton had been elevated to the Supreme
Court and wrote the opinion. The Sherman Act had now been passed, but the
Court rejected the contention that it prohibited this kind of agreement.
Rather, the Court noted the general rule of “absolute freedom in the use or
sale of rights under the patent laws.”\(^\text{456}\)

The *Henry* decision proved to be too much. Congress responded two
years later with section 3 of the Clayton Act, which prohibited ties of goods
“whether patented or unpatented,” provided that harm to competition was
shown.\(^\text{457}\) That is, competition law rather than the appropriate scope of the
patent became the driver. With that statement, the law of tying migrated from
patent law into antitrust law. Section 3 became the first antitrust statute
specifically targeting a vertical restraint. The statute actually went further,
prohibiting not only absolute ties but also discounts or rebates conditioned
on tying.\(^\text{458}\) However, it did not condemn all ties or even all patent ties, but
only those that threatened to “substantially lessen competition or tend to
create a monopoly.” Indeed, it is hardly clear that the Clayton Act would
have condemned the button and office copier ties that had provoked
Congress to act. Both were of common commodities and very likely caused
no harm to competition.

In 1917 the Supreme Court overruled *Henry* in condemning a tying
arrangement involving the Edison motion picture projector. It was sold
subject to a patent license agreement that prohibited users from showing any
films other than the seller’s own.\(^\text{459}\) By the time of the litigation, separate
patents on the film had expired. The Court read the license restriction as
effectively attempting to continue the film patent’s exclusivity by tying the
film to the patented projector.\(^\text{460}\) While the decision generally relied on
patent law, the Court quoted the new Clayton Act provision as confirming

\(^{454}\) Id. at 296 (“The fasteners are thus made the counters by which the royalty proportioned to the
actual use of the machine is determined.” (quoting the complainant’s counsel)).


\(^{456}\) Id. at 29–30.


\(^{458}\) Id. (“It shall be unlawful for any person engaged in commerce, in the course of such commerce,
to . . . discount from, or rebate upon . . . price, on the condition [of tying] . . . ”).

\(^{459}\) Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917).

\(^{460}\) Id. at 518.
its conclusion.\(^{461}\) Unlike *Henry*, the *Motion Picture Patents* case did involve a serious threat of monopoly in the infant motion picture industry.\(^{462}\) After 1930 the tying decisions were not so circumspect and began condemning competitively harmless ties.\(^{463}\)

Decisions such as *Motion Picture Patents* never spoke of vertical practices, but the decision did indicate judicial recognition of downstream control of films as a monopoly problem, at least in the area of patents. The concern in this case was that a patented film projector and control of film could become the lever for control of the motion picture industry. In the 1930s this concern about vertical practices as a tool of monopoly became prominent in the literature of industrial economics.\(^{464}\) In the motion picture industry itself, it eventually led to a near obsession with vertical integration reflected in the 1948 *Paramount* decree.\(^{465}\)

Resale price maintenance—a so-called intrabrand restraint because it does not limit competition with rival products—received the harshest treatment of all. Today we are inclined to think that tying arrangements present greater potential for competitive harm than do resale price maintenance agreements. In 1907 Judge Lurton, still on the Sixth Circuit, held that an agreement between a proprietary medicine manufacturer and its various distributors and resellers stipulating their resale price was not enforceable because it was a contract in restraint of trade.\(^{466}\) There were no antitrust issues.\(^{467}\) The difference between this case and his own previous decision in the *Button-Fastener* case was that the medicines in question may have been protected by a trade secret, but they were not patented.\(^{468}\) Four years later the Supreme Court agreed in *Dr. Miles Medical Co. v. John D. Park & Sons Co.*\(^{469}\) It referenced the Sherman Act only to conclude that

\(\text{\textsuperscript{461}}\) Id. at 517.


\(\text{\textsuperscript{463}}\) E.g., Carbice Corp. v. Am. Pats. Dev. Corp., 283 U.S. 27 (1931); see discussion infra text accompanying notes 504–05.


\(\text{\textsuperscript{466}}\) John D. Park & Sons Co. v. Hartman, 153 F. 24 (6th Cir. 1907).

\(\text{\textsuperscript{467}}\) Judge Lurton did note that a case involving a horizontal agreement to engage in resale price maintenance had proceeded under the antitrust laws. Id. at 35 (discussing Jayne v. Loder, 149 F. 21 (3d Cir. 1907)).

\(\text{\textsuperscript{468}}\) Id. at 27–28.

\(\text{\textsuperscript{469}}\) Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373 (1911). Justice Lurton was
earlier decisions refusing to apply it had all involved patented products.\textsuperscript{470}

Federal antitrust case law did not refer to a practice as “vertical” until the 1930s. In 1934 a district court opinion in the \textit{Sugar Institute} case spoke about the possibility that “vertical organization of distribution agencies” might result in “a lower price to the ultimate consumers.”\textsuperscript{471}

More explicit judicial recognition of a distinction between horizontal and vertical practices emerged a little later, and from an unlikely source. After the \textit{Dr. Miles} decision holding resale price maintenance unlawful, small business interest groups began a “fair trade” movement to permit individual states to opt out of federal law and permit resale price maintenance within their borders.\textsuperscript{472} After some state attempts to do so contrary to federal law, Congress yielded to an intensive campaign of small business groups led by the National Association of Retail Druggists, which had drafted a “model act” for Congress to adopt.\textsuperscript{473} Congress responded with the Miller-Tydings Act in 1937.\textsuperscript{474} President Roosevelt opposed the bill and threatened to veto it, but he caved to political pressure at the last moment.\textsuperscript{475}

Miller-Tydings authorized states to approve resale price maintenance within their borders, but it invited considerable dispute about its scope. While it never used the terms “vertical” or “horizontal,” it did contain a proviso that it did not immunize agreements among manufacturers, producers, and wholesalers.\textsuperscript{476} The scope of this immunity had to be already on the Supreme Court but did not participate.

\textsuperscript{470} \textit{Dr. Miles Med.}, 220 U.S. at 400 (referring to the horizontal price fixing agreement contained in patent license ruled enforceable in \textit{Bement v. Nat’l Harrow Co.}, 186 U.S. 70 (1902)).


\textsuperscript{473} \textit{Palamountain}, supra note 439, at 236.


\textsuperscript{475} \textit{Palamountain}, supra note 439, at 247–49.

\textsuperscript{476} Miller-Tydings Act of 1937, Pub. L. No. 75-314, 50 Stat. 693 (1937). The Act provided that section 1 of the Sherman Act should not render illegal, contracts or agreements prescribing minimum prices for the re-sale of a commodity which bears, or the label or container of which bears, the trade mark, brand, or name of the producer or distributor of such commodity and which is in free and open competition with commodities of the same general class produced or distributed by others, when contracts or agreements of that description are lawful as applied to intrastate transactions, under any statute, law, or public policy now or hereafter in effect in any State . . . in which such resale is to be made, or to which the commodity is to be transported for such resale . . . .
determined judicially. Because the proviso was triggered by state legislation, it was interpreted mainly by state courts, which very largely concluded that the statute exempted "vertical" agreements but not "horizontal" ones. For example, the North Carolina Supreme Court explained in 1939:

The agreements authorized by the law are vertical, between manufacturers or producers of the particular branded commodity and those handling the product in a straight line down to and including the retailer; not horizontal, as between producers and wholesalers or persons and concerns in competition with each other.\textsuperscript{477}

The Supreme Court eventually confirmed this view as a matter of federal antitrust law in \textit{Schwegmann Bros. v. Calvert Distillers Corp.},\textsuperscript{478} concluding that the statute did "not authorize horizontal contracts, that is to say, contracts or agreements between manufacturers, between producers."\textsuperscript{479}

By the early 1930s the law of vertical practices had developed to a place not all that different from where it is today, save for the treatment of resale price maintenance. Tying arrangements were addressable under antitrust, but liability was very largely limited to firms that had dominant market shares or where foreclosure percentages were high. In addition to \textit{Motion Picture Patents}, the IBM tying case of 1936 found a tie of IBM's computation machine and its data cards to be unlawful on a market share that exceeded eighty percent.\textsuperscript{480} By contrast, General Motor's ("GM") tie of car repairs to its original equipment parts was approved when the court concluded that the tie was essential for quality control and that there was plenty of competition

\textit{Id.} However, then the statute provided further


\textsuperscript{477} Ely Lilly & Co. v. Saunders, 4 S.E.2d 528, 535 (N.C. 1939); \textit{see also} Seagram-Distillers Corp. v. Old Dearborn Distrib. Co., 363 Ill. 610, 614 (1936) ("Contracts between plaintiff and wholesale distributors, or between distributors and retailers, are denominated vertical price-fixing contracts. Such contracts are permitted by the statute. Contracts between producers or between wholesalers or between retailers as to sale or re-sale prices are denominated horizontal price-fixing contracts and are not within the terms of the statute because of their character as combinations in restraint of trade."); \textit{see also} Port Chester Wine & Liquor Shop, Inc. v. Miller Bros. Fruterers, 1 N.Y.S.2d 802, 808 (App. Div. 1938) (explicitly distinguishing horizontal and vertical agreements); Joseph Triner Corp. v. McNeil, 363 Ill. 559, 561–62 (1936) (same).


\textsuperscript{479} Id. at 410; \textit{see Comment, Resale Price Maintenance by an Integrated Firm: The McKesson & Robbins Case}, 24 U. CHI. L. REV. 533 (1957).

\textsuperscript{480} Int'l Bus. Machs. Corp. v. United States, 298 U.S. 131, 136 (1936) (IBM made 81% of the tabulating cards while its only rival, Remington-Rand, made 19%).
in any event.\textsuperscript{481} Other decisions also approved ties when the markets in question were competitive.\textsuperscript{482}

The same thing was true of exclusive dealing, which condemned the practice when it realistically threatened to perpetuate market dominance. In a decision applying the Clayton Act to exclusive dealing, the Court noted that the supplier controlled roughly forty percent of the dress pattern outlets in the country and that the exclusive agreement in question threatened to create several local monopolies.\textsuperscript{483} There was no antitrust law of vertical territorial restraints until the Supreme Court addressed the issue in the 1960s in \textit{White Motor Co. v. United States}.\textsuperscript{484} Justice Douglas held for the Court that it was too early to say. Resale price maintenance, which remained unlawful \textit{per se}, was the outlier.

The law of vertical mergers and ownership vertical integration cut a similar path. The courts condemned it when it appeared to create or preserve monopoly, but generally required evidence of market dominance or foreclosure. For example, judicial condemnation of vertical integration in the \textit{American Tobacco},\textsuperscript{485} \textit{Corn Products},\textsuperscript{486} \textit{Kodak},\textsuperscript{487} and \textit{Keystone Watch}\textsuperscript{488} decisions were all predicated on at least an assumption of dominant market shares. On the other hand, the court refused to condemn United States Steel's integration into distribution facilities,\textsuperscript{489} finding that the integration

\textsuperscript{482} United States v. United Shoe Mach. Co., 264 F. 138, 167 (E.D. Mo. 1920), \textit{aff'd}, 258 U.S. 451 (1921) (noting the delicate nature of tied repair parts); FTC v. Sinclair Refining Co., 261 U.S. 463, 475 (1923) (refusing to condemn a gasoline franchisor's tie of its own gasoline; noting that the market was competitive).
\textsuperscript{483} Standard Fashion Co. v. Margrane-Houston Co., 258 U.S. 346, 362–63 (1922); see also Q.R.S. Music Co. v. FTC, 12 F.2d 731, 731 (7th Cir. 1926) (condemning exclusive dealing in player piano rolls under FTC Act, where defendant apparently controlled about 60% of market). \textit{Contra} D.R. Wilder Mfg. Co. v. Corn Prods. Refin. Co., 236 U.S. 165 (1915) (refusing to condemn exclusive dealing, apparently challenged only under the Sherman Act, with no discussion of market shares). A few decisions also condemned exclusive decisions under state antitrust law. \textit{E.g.}, Fred Miller Brewing Co. v. Coonrod, 230 S.W. 1099 (Tex. Civ. App. 1921) (condemning exclusive dealing under Texas Antitrust Act; no discussion of market share).
\textsuperscript{484} White Motor Co. v. United States, 372 U.S. 253, 263 (1963) ("We do not know enough of the economic and business stuff out of which these arrangements emerge to be certain.").
\textsuperscript{486} United States v. Corn Prods. Refin. Co., 234 F. 964 (S.D.N.Y. 1916) (acquiring candy companies and then selling candy below cost; price squeeze on syrup—both efforts were unsuccessful but condemned as attempt to monopolize).
\textsuperscript{487} Eastman Kodak Co. v. S. Photo Materials Co., 273 U.S. 359 (1927).
\textsuperscript{489} United States v. U.S. Steel Corp., 223 F. 55, 103–08 (D. N.J. 1915), \textit{aff'd}, 251 U.S. 417 (1920) (noting it is not unlawful to develop its own warehouses, freight lines, and shipping facilities if these were responsive to ordinary needs of trade).
improved efficiency and reduced costs and uncertainty. In affirming, the Supreme Court cited evidence that it was cheaper for the defendant to combine several operations in a single facility and that this combination would enable it to compete more effectively in the world market.

In its unanimous antitrust decision in *Eastern States Retail Lumber Dealers Ass’n v. United States*, the Court even intervened to protect ownership vertical integration in the lumber industry. The defendants were classic examples of Progressive Era small businesses who relied on the mantle of “fair trade” to protect themselves from larger vertically integrated firms. In this case they organized a boycott, which the Court condemned, agreeing among themselves that they would not purchase lumber at wholesale from anyone who had vertically integrated into retailing. The decision never used the words “vertical” or “integration.” Rather the boycott was cast in terms of wholesalers who sold directly to customers rather than exclusively to the defendant retailers.

**D. Growing Fears of Vertical Control After World War II**

The law of vertical relationships began to go off the rails in the 1940s, and for a confluence of reasons. One of course was the Great Depression and the dramatic rise of small business as an interest group following World War I. Another was President Franklin D. Roosevelt’s appointment of Thurman Arnold to be head of the Department of Justice Antitrust Division, turning it into a potent antitrust and anti-patent tool. The development of influential models of imperfect competition also had considerable influence.

In its *International Salt* tying decision in 1947, the Supreme Court applied both the Sherman and Clayton Acts to condemn a non-foreclosing tie involving a common staple—salt—that was not realistically capable of being monopolized. The case effectively migrated patent act tying policy into antitrust law by holding that the defendant’s patents on its salt injecting machine created a presumption of market power sufficient to condemn that

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490. *Id.* at 124–25, 134.
491. *U.S. Steel*, 251 U.S. at 443–44.
492. *E. States Retail Lumber Dealers’ Ass’n v. United States*, 234 U.S. 600, 611 (1914) (noting that those who refused to participate were branded as “unfair dealers”).
494. See discussion *infra* text accompanying note 514.
tie. It also watered down the Clayton Act requirement that an unlawful tie must “substantially lessen competition”496 by holding that proof of competitive harm did not require foreclosure—something that would have been impossible to show, given that the tied product was ordinary salt.497 Rather it was enough to show that the tying contracts covered a significant amount of salt. In this case that was approximately $500,000 per year.498

From that point tying law was used aggressively to condemn competitively harmless practices that the Court did not understand. Nor did it need to, because the per se rule for tying that the Court adopted created a strong presumption of illegality without competitive analysis.499 The Court relied on Justice Frankfurter’s dicta in the 1949 Standard Stations exclusive dealing case that “[t]ying agreements serve hardly any purpose beyond the suppression of competition.”500 That dicta served to make the Court more hostile toward tying arrangements than it was toward exclusive dealing.

In its 1949 Standard Stations decision, the Supreme Court expanded the rules against exclusive dealing to prohibit Standard Oil of California from engaging in “single-branding,” or insisting that its franchised gasoline stations pump only its own gasoline.501 Standard Oil’s contracts covered 6.7% of the gasoline sold in California.502 The Court’s condemnation of the practice was too much for Justice Douglas, otherwise an aggressive antitrust enforcer, who predicted in his dissent that requiring franchised gasoline stations to sell multiple brands of gasoline would force the refiners to build their own stations, thus eliminating the smaller dealers altogether.503

One effect of these decisions was a long-standing hostility toward tying arrangements, although it never extended quite as far to exclusive dealing.504 That distinction does not make a great deal of sense. While a tie requires a dealer to carry a specific second product as a condition of obtaining the first, exclusive dealing excludes a particular product from the dealer’s entire business. For example, under tying a dealer that sells GM cars might be required to repair them using GM parts.505 By contrast, under exclusive

498. See id. at 395.
501. Id.
502. Id. at 295.
503. Id. at 315–18.
dealing the dealer would be prohibited from selling non-GM cars altogether. While outcomes vary with facts, often the amount of market exclusion produced by exclusive dealing exceeds the amount produced by tying. In any event, the per se rule for tying was not a creature of the Progressive Era, but rather of the late 1940s.

The courts also became more aggressive about vertical integration by merger and even by new entry.\footnote{E.g., United States v. Pullman Co., 50 F. Supp. 123 (E.D. Pa. 1943) (condemning vertical integration and exclusive dealing in sleeping cars).} In fact, vertical integration almost became a suspect category. After the merger law was amended in 1950 so as to reach vertical as well as horizontal mergers, the Court applied it liberally to situations where foreclosures were not in the 40\% and above range that Progressive courts had condemned, but as low as 3\% or 4\% on the Supreme Court,\footnote{E.g., Brown Shoe Co. v. United States, 370 U.S. 294, 302–03, 328 (1962).} or barely over 1\% in the lower courts.\footnote{United States v. Bethlehem Steel Corp., 168 F. Supp. 576, 611–13 (S.D.N.Y. 1958).} Internal vertical expansion earned similar treatment. For example, some decisions condemned automobile makers’ distribution of cars through wholly owned dealerships rather than contracting with independents.\footnote{Mt. Lebanon Motors, Inc. v. Chrysler Motors Corp., 283 F. Supp. 453 (W.D. Pa. 1968), aff’d per curiam, 417 F.2d 622 (3d Cir. 1969).} While the \textit{Mt. Lebanon Motors} decision observed that the law of exclusive dealing required market power, the requirement was met when the court defined the market as “Dodge automobiles [sold] at the retail level in Allegheny County,”\footnote{Id. at 460.} thus guaranteeing that Chrysler’s market share would be 100\%.

Numerous decisions in the 1960s and 1970s prohibited nondominant firms from doing any more than switching to self-distribution rather than relying on independent dealers.\footnote{See generally Hiland Dairy, Inc. v. Kroger Co., 402 F.2d 968 (8th Cir. 1968) (condemning Kroger’s decision to build its own dairy, covering about 20\% of a local market); Photovest Corp. v. Fotomat Corp., 606 F.2d 704 (7th Cir. 1979) (condemning vertical integration on a very narrow market for “drive through” as opposed to general photo-finishing); Indus. Bldg. Materials, Inc. v. Interchemical Corp., 437 F.2d 1336 (9th Cir. 1970) (noting the defendant was the largest among seventy manufacturers of industrial sealants); Poster Exch., Inc. v. Nat’l Screen Serv. Corp., 431 F.2d 334 (5th Cir. 1970) (self-distribution of movie posters); Lessig v. Tidewater Oil Co., 327 F.2d 459 (9th Cir. 1964) (condemning vertical integration by nondominant refiner).} All of these decisions has survived today.

\section*{CONCLUSION}

In 1933, two disruptive books appeared that presented the theories of imperfect and monopolistic competition. One was written by Cambridge University’s Joan Robinson,\footnote{JOAN ROBINSON, THE ECONOMICS OF IMPERFECT COMPETITION (1933).} and the other by Edward Chamberlin from...
Both books reflected the Progressives’ increased skepticism about the benign qualities of markets. In the process they also paved the way for significantly more aggressive enforcement.

The theories of imperfect and monopolistic competition immediately became influential in academic circles. They gradually evolved into a single set of theories that today go by the name of imperfect competition. Whether incidentally or as a result, antitrust policy began to veer left, often past all reasonable boundaries, condemning efficient practices where the creation of monopoly was virtually impossible.

This increased level of antitrust enforcement subsequently provoked a fierce neoliberal reaction, mainly from the Chicago School. It was prominently represented in the writing of George J. Stigler and, a little later, Robert Bork. The Chicago School fought an ultimately losing battle to present imperfect competition models as untestable or incoherent. An empirical renaissance in economics, mainly in the 1970s and after, refuted that critique. Today imperfect competition models clearly dominate the microeconomic literature as well as antitrust law, and their empirical robustness is well established.

The most general result has been a shift back toward the center. Today antitrust policy sits between the aggressiveness of the Roosevelt Court on one side, which often condemned competitively harmless practices, and the decaying remnants of the Chicago School on the other. Against this the Progressive response—aggressive in its own time but quite moderate today—has proven to be surprisingly durable.

515. Id.
516. Id.