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Monopolization, Exclusion, and the Theory of the Firm

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Article

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Alan J. Meese†

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Section 2 of the Sherman Act penalizes those firms that "monopolize" or "attempt to monopolize" any relevant market. Unfortunately, the term "monopolize" does not define itself. In one sense "monopolization" is any conduct that leads to or protects monopoly. Still, the statute does not purport to forbid the mere status of monopoly, and such a definition of "monopolize" would sweep quite broadly. After all, firms may take over a market, or protect a monopoly they already have, in a variety of ways. At one extreme, firms can murder their competitors or destroy their factories. At the other extreme, firms can build a better mousetrap or reduce the cost of building an average mousetrap. Finally, a firm that produces a better mousetrap can devise some method for minimizing the cost of distributing the trap to consumers.

Each of these tactics can create or protect monopoly. In that sense, then, each such tactic "monopolizes" the market in question. Nonetheless, any rational society would want to distinguish between the various tactics that might produce or protect a monopoly. The innovative firm that invents the better mousetrap may harm its rivals, but at the same time, also does society a great service. The injured rival that burns down the innovator’s factory or slanders its product does not. A defensible definition of "monopolize" would presumably distinguish between the two.

For nearly a century, antitrust courts have maintained just such a distinction. In particular, early decisions held that "normal" or "ordinary" conduct does not offend the Sherman Act, including section 2, even if such conduct leads to or protects a monopoly. More recently, courts have relied upon a

3. See United States v. Int'l Harvester Co., 274 U.S. 693, 708 (1927) (stating that section 2 does not make mere size an offense); United States v. United Shoe Mach. Co. of N.J., 247 U.S. 32, 64–66 (1918) (holding that section 2 does not forbid normal conduct that preserves a monopoly); Am. Tobacco,
slightly different formulation, condemning only that conduct which they deem "exclusionary."4

Neither formulation is particularly illuminating on its face. For one thing, business practices do not announce themselves as "normal" or "abnormal." Moreover, an inquiry into whether a practice is "exclusionary" merely restarts the inquiry into the meaning of "monopolize." After all, the firm that invents a better mousetrap "excludes" its competitors from the market just as surely as the firm that employs force or other tortious tactics.

Current law seeks additional precision by drawing a distinction between two different sorts of conduct that can "exclude" rival firms from the marketplace. On the one hand, "internal" conduct, including decisions on product design, marketing strategies, refusals to buy or sell, and pricing and output, are treated as "competition on the merits" and presumed lawful, even if they drive competitors from the marketplace. This presumption is extremely robust: plaintiffs can only rebut it by showing that, for instance, a particular price is below some measure of cost, or that the practice produces no plausible benefits. Thus, the vast majority of internal conduct, including above-cost pricing, is simply lawful per se, even if such conduct has led, or will lead, to a monopoly by excluding rivals. On the other hand, "external" conduct, that is, agreements or other practices that contractually constrain other firms, are presumed unlawful whenever they impair or tend to impair significantly the opportunities of rivals. While this presumption is rebuttable, defendants that seek to do so face a heavy burden. Not only must defendants show that the challenged arrangement produces significant benefits; they must also show that the practice is no broader than necessary to achieve those benefits. Thus, even where such conduct produces more benefits than harm, courts will still condemn it if plaintiffs establish that there is a "less restrictive means" of achiev-

221 U.S. at 178–81 (holding that section 2 only forbids "undue" restraints that lead to or protect monopolies); see also Standard Oil Co. v. United States, 221 U.S. 1, 62 (1911) (holding that the Sherman Act forbids only unreasonable restraints of trade and does not forbid "monopoly in the concrete"); United States v. Joint Traffic Ass'n, 171 U.S. 505, 566–68 (1898) (holding that section 1 of the Sherman Act does not forbid "indirect" restraints of trade or "ordinary contracts and combinations"); infra notes 10–19 and accompanying text.

ing the objective in question. This distinction between "internal" and "contractual" exclusion corresponds roughly to a distinction between property and contract. While conduct that takes place "within" the firm and excludes rivals involves the exercise of a single entity's property rights, contractual exclusion involves agreements with one or more other firms.

This Article offers a critique of antitrust's distinction between "internal" and "contractual" exclusion as well as the preference for property-based "competition on the merits" on which this distinction rests. In particular, the Article shows that antitrust's modern distinction between "competition on the merits" and contractual exclusion reflects the undue influence of neoclassical price theory, the economic paradigm that dominated the study of industrial organization for most of the twentieth century. Price theory, it is shown, produced a theory of the firm and related model of "workable competition" that naturally gave rise to a distinction between "internal" and "contractual" exclusion.

Built on the perfect competition model, price theory treats the business firm as a sort of "black box," an impersonal entity that takes in inputs and transforms them into outputs. In this way, the firm performs a crucial function: the allocation of resources from input markets to output markets. By its nature this process involves the generation of wealth, as firms transform raw materials and other inputs into finished products—property—desired by consumers. The process of transformation, e.g., the amount and type of inputs required to produce a given output, depends upon technology, which determines the firm's production function. According to price theory, after transforming inputs into a finished product, the firm relies upon "the market"—an impersonal, exogenous institution—to transfer the property's title to consumers.

While price theory began with the model of perfect competition, it also recognized certain narrowly defined departures from the model's assumptions. These departures gave rise to the theory of "workable competition," under which activities internal to the firm, such as innovation and replication, alter production technology. Such changes in technology, in turn, lead to improved product quality or productive efficiencies, usually in the form of economies of scale. These improvements manifest themselves by changing the nature or price of the property that the firm could sell to purchasers. Except in extraordinary circumstances, price theory and its workable com-
petition model presume these property-based activities beneficial, even if such practices exclude one or more competitors from the marketplace.

Contractual exclusion fares far worse under price theory's conception of the firm and derivative workable competition model. In the world of workable competition, firms can rely upon costless markets to purchase and sell inputs and outputs. Efficiencies are technological in origin, arising and ending within the boundaries of the firm. Once a firm produces a product and transfers title by selling the item to a consumer or other firm, there is no price-theoretic rationale for the firm to exercise contractual influence over the item or its purchasers by, for instance, forbidding purchasers to buy from others. Within the price-theoretic framework, then, any contract that reaches "beyond" the firm and interferes with the opportunities of rivals is presumed an artificial and unlawful "barrier to entry," obtained through the coercive exercise of market power. Far from furthering workable competition, such conduct actually thwarts "competition on the merits" and is thus presumptively anticompetitive within price theory's workable competition paradigm.

For more than three decades, price theory and its narrow version of "workable competition" exercised significant influence over enforcement agencies and courts, and this influence gave rise to the "inhospitality tradition" of antitrust law. While price theory and the inhospitality tradition it bred had its most noteworthy impact upon antitrust's treatment of "contracts, combinations and conspiracies" analyzed under section 1 of the Sherman Act, monopolization doctrine did not escape this influence.

The most telling manifestation of the influence of the workable competition model on monopolization doctrine was United States v. United Shoe Machinery. There, a district court employed a Harvard economist as a special law clerk, who prepared a lengthy report that doubled as a dissertation. Relying on this report, the court announced a distinction between "competition based on pure merit," on the one hand, and "unnatural" contractual exclusion, on the other. The court recog-

5. See infra note 210 and accompanying text.
7. CARL KAYSEN, UNITED STATES V. UNITED SHOE MACHINERY CORPORATION (1956).
nized that both sorts of conduct made entry by rivals more difficult. Nonetheless, the former conduct was "normal" and "natural" and the result of "inevitable economic laws." The latter was "conscious business policy" and thus raised barriers to entry "unnecessarily." The Supreme Court affirmed the decision, which rested implicitly on a distinction between property and contract, and this distinction still forms the basis for the law of monopolization today.8

Price theory's own monopoly over the subject of industrial organization did not last forever. Just as price theory's influence reached its peak, a competitor emerged in the form of transaction cost economics (TCE). TCE offered a new explanation for the very existence of firms and, thus, a new lens for examining all forms of conduct—internal and external—that might be deemed "exclusionary" for purposes of section 2. In particular, TCE dispensed with price theory's "technological" conception of the firm and instead suggested that the firm is a special form of contract that arises to avoid the cost of transacting, that is, relying upon the market to conduct economic activity. TCE also revealed that "the firm" is not the only sort of contract that can reduce transaction costs and thus overcome market failure. Instead, many contractual practices that price theory deemed inconsistent with workable competition were in fact methods of reducing the cost of relying upon "the market" to conduct economic activity in the same way that reliance on the firm itself reduces such costs. Given its conclusion that "the firm" is just one more nonstandard contract, TCE suggests that any line between "contractual" and property-based forms of exclusion is illusory and based upon a misconception of the economic distinction between firms and markets. In fact, TCE suggests that many nonstandard contracts, including the firm, can create the economic equivalent of property rights by concentrating the costs and benefits of particular activities in a "single owner," even in cases in which the firm does not hold title to its inputs or outputs. By creating such "contractual property," parties can overcome market failures and thus enhance society's welfare by producing a more efficient allocation of resources.

While the Supreme Court has on occasion invoked TCE in litigation under section 1 of the Sherman Act, courts have not

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8. See infra notes 226-90 and accompanying text (examining the United Shoe Machinery decision and its influence on subsequent law).
internalized the lessons of TCE when developing monopolization doctrine. To the contrary, as the recent United States v. Microsoft Corp. case\textsuperscript{9} illustrates, monopolization doctrine has been comparatively impervious to the teachings of TCE, even within expert enforcement agencies. As a result, monopolization doctrine has remained relatively unchanged since the 1950s. Rational administration of the antitrust laws requires courts supervising monopolization litigation to learn the lessons of TCE and apply them when developing antitrust doctrine under section 2.

Part I of this Article reviews the law of monopolization as it has evolved since Congress passed the Sherman Act in 1890 to the present. Using the celebrated recent decision in United States v. Microsoft Corp. as an example, this part shows that modern monopolization law as articulated by courts and the enforcement agencies rests upon a distinction between "competition on the merits" and "internal" exclusion, on the one hand, and contractual exclusion, on the other. This distinction, it is shown, corresponds roughly to a distinction between property and contract. Part II argues that modern law's distinction between "internal" and "contractual" exclusion rests upon neoclassical price theory, its theory of the firm, and the derivative model of "workable competition," the latter of which formed the basis for antitrust policy for several decades after World War II. Part III examines a competing economic paradigm, TCE, which arose in response to price theory in the 1960s. TCE, it is shown, offers a novel theory of the firm that suggests benevolent explanations for exclusionary contracts that price theory deemed "monopolistic." In particular, TCE suggests that many contractual restraints can be characterized as efforts to create the equivalent of property rights that align the interests of otherwise independent trading partners and thus reduce the cost of relying upon market transacting to conduct economic activity. Part IV examines TCE's implications for monopolization doctrine, concluding that courts should abandon their hostility to contractual exclusion and treat such agreements with the same deference they currently accord activities that are "internal" to the firm. In particular, proof that a restraint produces significant benefits by overcoming a market failure should immunize the conduct from antitrust challenge.

\textsuperscript{9} 253 F.3d 34 (D.C. Cir. 2001).
I. DEFINITION OF "MONOPOLIZE" UNDER SECTION 2

A. GENERAL MONOPOLIZATION STANDARDS

Section 1 of the Sherman Act forbids any "contract, combination or conspiracy" that "restrains trade or commerce."\(^\text{10}\) Section 2 of the Act makes it unlawful to "monopolize" or "attempt to monopolize" "any part" of the trade or commerce of the United States.\(^\text{11}\) One could read this second section to ban any conduct that allows a firm to gain or preserve a dominant selling position over some product, regardless of the economic effect of that dominance or the social benefits of the conduct that creates or preserves it. Still, the earliest decisions interpreting this section rejected such a "no fault" approach to the statute.\(^\text{12}\)

Most importantly, in \textit{United States v. American Tobacco Co.}, the Supreme Court reaffirmed the so-called "Rule of Reason" announced in \textit{Standard Oil v. United States} and implicitly applied in earlier decisions under section 1.\(^\text{13}\) Just as section 1 of the Act did not reach "normal" or "ordinary" contracts, so too did section 2 recognize a safe harbor for ordinary and normal conduct that "advanced" or "furthered" trade, even if that conduct might lead to or protect a monopoly.\(^\text{14}\) Thus, in the same


\(^{11}\) See id. § 2.


\(^{13}\) See United States v. Am. Tobacco Co., 221 U.S. 106, 177–81 (1911); see also \textit{Standard Oil Co. v. United States}, 221 U.S. 1, 54–66 (1911) (holding that the Sherman Act forbids only "unreasonable" restraints of trade).

\(^{14}\) See \textit{Am. Tobacco}, 221 U.S. at 177–81; see also \textit{Cline v. Frink Dairy Co.}, 274 U.S. 445, 460–61 (1927) (stating that \textit{Standard Oil} reaffirmed the principles announced in \textit{Joint Traffic and Addyston Pipe}; \textit{Standard Oil}, 221 U.S. at 59–64 (concluding that section 1 of the Sherman Act forbids only unreasonable restraints); Addyston Pipe & Steel Co. v. United States, 175 U.S. 211, 240–42 (1899) (holding that liberty of contract does not protect the sort of direct restraints of interstate trade forbidden by the Sherman Act); \textit{id.} at 235–38 (finding the restraint in question "direct" because it raised prices above the level "competition" would produce); United States v. Joint Traffic Ass'n, 171 U.S. 505, 568 (1898) ("[T]he act of Congress must have a reasonable construction, or else there would scarcely be an agreement or contract among businessmen that could not be said to have, indirectly or remotely, some bearing upon interstate commerce, and possibly to restrain it." (quoting Hopkins v. United States, 171 U.S. 578, 600 (1898))); \textit{id.} at 566–68 (holding that the Sherman Act does not outlaw "ordinary contracts and combinations" protected by liberty
way that section 1 only bars "undue" restraints, section 2 forbids only those restraints or practices that can only be explained by the possession or expectation of market power. A broader proscription, the Court said, would interfere with liberty of contract and the rights of property and at the same time bring commerce to a halt. Put another way, the Court interpreted the statute so as not to forbid what modern scholars call the "efficient monopolist." As William Howard Taft would put things shortly after American Tobacco, the Sherman Act does not protect inefficient firms from rivals that enjoy lower costs or produce better products. Subsequent decisions would reach similar results.

American Tobacco's invocation of the Rule of Reason and its economic criterion for liability implied that courts would employ economic theory to determine whether, in fact, a challenge of contract); Robert H. Bork, The Rule of Reason and the Per Se Concept: Price Fixing and Market Division, 74 YALE L.J. 775, 802-05 (1965) (noting the similarities between the "direct/indirect" test and the "unreasonableness" test); Alan J. Meese, Liberty and Antitrust in the Formative Era, 79 B.U. L. REV. 1, 54-56, 61-67 (1999) (noting that the formative era case law understood "direct" restraints as those which would be deemed "unreasonable" under Standard Oil).


18. See WILLIAM HOWARD TAFT, THE ANTI-TRUST ACT AND THE SUPREME COURT 124 (1914) (stating that the Sherman Act is not designed to "destroy the larger businesses whose capital and large plants enable them to produce goods cheaply, in order that small plants that cannot produce them as cheaply may live").

allenged practice was "undue" or "normal."\textsuperscript{20} This, of course, was the practice of common law courts applying the Rule of Reason to contracts that allegedly restrained trade, and \textit{Standard Oil} had expressly endorsed this approach when announcing its Rule of Reason.\textsuperscript{21} Economic theory is not static, of course, and common law courts applying the Rule of Reason sometimes altered doctrine to reflect changed understandings of the economic impact of challenged restraints.\textsuperscript{22} In the same way, courts applying "reason" when evaluating trade restraints naturally employ the most plausible theory, even if that theory may differ from that in place when the statute was passed.\textsuperscript{23}

\begin{itemize}
  \item[20. \textit{See} Meese, \textit{supra} note 15, at 89–92 (explaining how early Rule of Reason decisions presumed that application of test would require courts to apply evolving economic theory). Judge Bork reached a similar conclusion nearly four decades ago:

  \begin{quote}
    It should be stressed that [\textit{Standard Oil}'s] test was phrased wholly in economic terms, giving no evidence of concern for possibly competing values. A corollary of this value choice is that the law should develop according to the progress of economic thought. The law is, therefore, neither made inflexible by controlling precedent nor required to change only through abrupt shifts of basic doctrine. Thus a court could alter the law without repudiating the theory underlying prior decisions by explaining that those decisions had misconceived the economic effect of particular agreements or practices. This characteristic is, of course, inherent in Peckham's and Taft's statements of the rule of reason, as it is in any law governed by economic analysis.
  \end{quote}

  Bork, \textit{supra} note 14, at 805.

  \item[21. \textit{See} Standard Oil, 221 U.S. at 57–58 (noting that, during the late nineteenth century, American courts and legislatures adjusted common law restrictions in response to changed understandings of the economic effects of various agreements); \textit{id.} at 55–56 (noting that the "development of more accurate economic conceptions and the changes in conditions of society" caused repeal of overbroad English statutes and adjustment in English common law).

  \item[22. \textit{See} Gibbs v. Consol. Gas Co., 130 U.S. 396, 409 (1889) (stating that the original rules governing restraints of trade were "made under a condition of things, and a state of society, different from those which now prevail, [with the result that] the rule laid down is not regarded as inflexible, and has been considerably modified"); Skrainka v. Scharringhausen, 8 Mo. App. 522, 525 (1880) ("It is not that contracts in restraint of trade are any more legal or enforceable now than they were at any former period, but that the courts look differently at the question as to what is a restraint of trade."); Diamond Match Co. v. Roeber, 13 N.E. 419, 420–22 (N.Y. 1887); Kellogg v. Larkin, 3 Pin. 123, 138–41 (Wis. 1851); see also \textit{Standard Oil}, 221 U.S. at 51–58 (describing common law's evolving treatment of trade restraints); United States v. Addyston Pipe & Steel Co., 85 F. 271, 280–82 (6th Cir. 1898) (examining the evolution of doctrine governing restraints of trade).

While the principle animating the Rule of Reason remains constant, applications change, as courts "translate" the principle in light of new information.\textsuperscript{24}

**B. THE EARLY YEARS: THE INTENT TEST**

Courts did not always share current law's strong preference for "competition on the merits" and hostility toward contractual exclusion. Instead, for several decades courts abjured any formalistic distinction between "internal" and contractual exclusion. In *American Tobacco*, for instance, the Court found that the defendant had offended the statute "not alone because of the dominion and control over the tobacco trade which actually exists," but also because the evidence established a "wrongful purpose" behind the acquisition of that dominion.\textsuperscript{25} That evidence included a variety of disparate tactics, including numerous acquisitions and combinations, price wars, the purchase of factories for the purpose of shutting them down, and consistent imposition of covenants not to compete on individuals who sold assets to the firm.\textsuperscript{26} Taken together, the Court said, these tactics exhibited "conscious wrongdoing" and the
"intention... to use the power of the combination as a vantage ground to further monopolize the trade in tobacco." 27

Moreover, in the decades following American Tobacco, courts continued to focus on the "intent" of the alleged monopolizer without evincing any particular hostility toward contractual exclusion. 28 In its first case against the United Shoe Machinery Company, for instance, the Government claimed that the defendant had monopolized the market for shoe machinery, first by merging with several competitors, and then by pursuing a variety of exclusionary practices. 29 These practices included a policy of leasing its machines instead of selling them outright and requiring lessees to purchase repair and maintenance service from the defendant instead of independent firms. 30 The Court's assessment of these restrictions did not rest upon a distinction between "competition on the merits" and contractual exclusion. Instead, the Court approved the restrictions because they were normal practices that did not depend on the possession or acquisition of monopoly power. 31 Other decisions of the era took a similar, intent-driven approach, discerning "intent" from a fact-based inquiry into a defendant's conduct. 32

27. Id. at 182.

28. See, e.g., United States v. Griffith, 334 U.S. 100, 107 (1948) (holding that possession of a monopoly violates section 2 if "coupled with the purpose or intent to exercise that power"); United States v. U.S. Steel Corp., 251 U.S. 417, 450–53 (1920); United States v. United Shoe Mach. Co., 247 U.S. 32, 41–64 (1918) (discerning "intent" from a fact-based inquiry into a defendant's conduct and rejecting the Government's argument that United Shoe had violated section 2 through mergers with several competitors, a policy of leasing its machines instead of selling them outright, and requiring lessees to purchase repair and maintenance from United); United States v. Corn Prods. Ref. Co., 234 F. 964, 978 (S.D.N.Y. 1916); United States v. Int'l Harvester Co., 214 F. 987, 993–99 (D. Minn. 1914); United States v. E.I. du Pont de Nemours, 188 F. 127, 134 (D. Del. 1911). Two scholars summarized the case law of this era as follows: "[These cases] revolved about an intent to monopolize, revealed by mergers, conspiracy, and a wide-ranging variety of practices aimed clearly at driving out competitors, often involving fraud and bad faith and sometimes verging on coercion, as well as by the success of the practices in most of the cases." CARL KAYSEN & DONALD F. TURNER, ANTITRUST POLICY: AN ECONOMIC ANALYSIS 106 (1959).

29. United Shoe Mach., 247 U.S. at 35.

30. Id. at 48–65 (describing and evaluating these practices); see also infra notes 226–90 and accompanying text (describing subsequent litigation against United Shoe Machinery under section 2 of the Sherman Act).

31. See United Shoe Mach., 247 U.S. at 63–64.

32. See supra note 28; see also REPORT OF THE ATTORNEY GENERAL'S COMMITTEE TO STUDY THE ANTITRUST LAWS 43–56 (1955) (concluding that
Reliance on an intent standard naturally begged the question: intent to do what? Given the normative premises embraced in *American Tobacco*, intent simply to obtain or maintain a monopoly could not suffice. Nor, for that matter, would it suffice to show that the defendant possessed the intent to injure or exclude a rival. Instead, the question was whether the defendant had the "intent" to obtain or maintain monopoly power by relying upon practices that were not "ordinary" or "normal." In the end, then, courts applying the intent test generally found the requisite intent based upon an evaluation of the possible justifications—or lack thereof—for the challenged conduct.

C. MODERN LAW

Nearly a century later, courts and scholars still embrace *American Tobacco*’s foundational construction of the Act. Under current law, then, a plaintiff alleging unlawful monopolization must establish two elements: (1) that the defendant possesses monopoly power in a properly defined relevant market, and (2) that the defendant has acquired or maintained that power by means of "exclusionary conduct." By itself, this test is not particularly illuminating; any number of practices can make it more difficult—even impossible—for rivals to enter or remain in the marketplace. Following *American Tobacco* courts have

33. *See supra* notes 12–15 and accompanying text.
34. *See supra* notes 12–15 and accompanying text.
35. *See supra* notes 20–21 and accompanying text.
36. *See* United States v. Reading Co., 226 U.S. 324, 370 (1912) ("Of course, if the necessary result [of a practice] is materially to restrain trade . . . the intent with which the thing was done is of no consequence."); JOEL B. DIRLAM & ALFRED E. KAHN, FAIR COMPETITION: THE LAW AND ECONOMICS OF ANTITRUST POLICY 49–55, 65 (1954) ("The test of intent [in monopolization cases] is not a test of the purity of a company's motives, but an evaluation of its conduct.").
38. *See* 3 PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651(e), at 78–79 (2d ed. 2002); Hovenkamp, *supra* note 17, at 1036–37; Thomas A. Piraino, Jr., *Identifying Monopolists’ Illegal Conduct Under the*
held that it is not enough for a plaintiff to show that a firm has
"excluded" its competitors from the marketplace in the ordinary
sense of that word. Instead, plaintiffs must show that a prac-
tice excludes competitors from the market "on some basis other
than efficiency." Under this test, conduct constitutes "unlaw-
ful exclusion" if it only makes sense if the defendant possesses
or will possess market power. While courts recognize that ef-
ficient conduct may in some cases exclude rivals and result in
monopoly, they tolerate such behavior on the grounds that
more intrusive regulation would chill beneficial behavior, de-
stroy wealth, and slow progress.

Sherman Act, 75 N.Y.U. L. REV. 809, 825 n.82 (2000) ("No market is unlim-
ited, and every business knows that by increasing its market share it is ex-
cluding competitors from a portion of the market.").

(noting that hard competition that injures rivals does not itself offend section
2); Aspen Skiing, 472 U.S. at 605 (noting that mere negative impact on rivals
does not render conduct exclusionary for section 2 purposes); id. at 605–07
(concluding that a court must consider conduct's impact on consumers when
determining whether activity is properly deemed "exclusionary").

40. See, e.g., Aspen Skiing, 472 U.S. at 605 (holding that conduct is exclu-
sionary for section 2 purposes if it "exclude[s] rivals on some basis other than
efficiency" (quoting ROBERT BORK, THE ANTITRUST PARADOX 138 (1978))); see
also Eastman Kodak, 504 U.S. at 482–83 (concluding that a plaintiff must
show the defendant's "use of monopoly power" to exclude rivals from the mar-
ketplace).

41. See Aspen Skiing, 472 U.S. at 605; Eastman Kodak, 504 U.S. at 483.

42. See Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp., 509
U.S. 209, 223 (1993) (finding that pricing at or above cost constitutes "competition
on the merits," which is beyond scrutiny under the antitrust laws); Spec-
trum Sports, 506 U.S. at 458–59 (noting that the Sherman Act tolerates hard
competition unless such tactics interfere with proper workings of the market);
penalizing above-cost pricing by a monopoly would produce a "perverse" result
by depriving consumers of low prices); see also Copperweld Corp. v. Independ-
ence Tube Corp., 467 U.S. 752, 767–68 (1984) (stating that undue scrutiny of
single-firm conduct could "dampen the competitive zeal of a single aggressive
entrepreneur"); id. at 775 ("Subjecting a single firm's every action to judicial
scrutiny for reasonableness would threaten to discourage competitive enthusi-
asism that the antitrust laws seek to promote."); Verizon Communications, 124
S. Ct. at 879 (explaining that the possession of monopoly power is an impor-
tant element of the free enterprise system because the prospect of exercising
such power "attracts 'business acumen' in the first place"); id. at 882–83 (ex-
plaining that overbroad enforcement of section 2 could chill beneficial con-
duct); Hovenkamp, supra note 17, at 1039–41 (noting that competition on the
merits is beyond antitrust scrutiny because it benefits consumers); John E.
Lopatka & William H. Page, Monopolization, Innovation, and Consumer Wel-
fare, 69 GEO. WASH. L. REV. 367, 387–92 (2001) (explaining how overly intru-
sive monopolization standards could chill beneficial conduct); Piraino, supra
note 38, at 824–25 ("To punish a firm simply because it has achieved a monop-
Stated at this level of generality, current law makes perfect sense and constitutes a faithful implementation of American Tobacco's safe harbor for efficient monopolies. Over time, however, courts have developed a series of subsidiary rules that give greater content to this generalization. In particular, courts have drawn a distinction between what are best termed "internal" conduct, and "contractual" conduct. Internal or "unilateral" conduct consists of activity that takes place within the boundaries of a single firm and does not require cooperation with other firms or individuals. Such conduct includes activities like research and development, the creation of new products, realization of economies of scale, acquisition and enforcement of patents, refusal to share technology with rivals, and pricing decisions. Contractual conduct, on the other hand, consists of practices like the negotiation and enforcement of exclusive dealing contracts, tying contracts, and even provisions requiring dealers or distributors merely to prefer a manufacturer's product. It can even include a firm's decision to lease.

Current law reflects a uniquely American, market-affirming response to power: to end dominance when attained in unapproved ways, yet to give dominance wide latitude when it is inevitable or earned by merit. The response assumes that strong incentives promote efficiency, and that power, unless bolstered either by unfairly aggressive conduct or by government support, will erode under the pressure of market developments. Moreover, where supracompetitive pricing accompanies power, erosion of the power is thought to be more likely because high prices signal the need and promise a reward for entry.


43. See Aspen Skiing, 472 U.S. at 600 ("The central message of the Sherman Act is that a business entity must find ... higher profits through internal expansion—that is, by competing successfully rather than arranging treaties with its competitors." (quoting United States v. Citizens & S. Nat'l Bank, 422 U.S. 86, 116 (1975))).

44. See Conwood Co. v. U.S. Tobacco Co., 290 F.3d 768, 783 (6th Cir. 2002) (noting that realization of economies of scale cannot offend section 2); Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 274–75, 281–82 (2d Cir. 1979) (finding that realization of economies of scale or technological innovations cannot violate section 2).

45. See United States v. Grinnell Corp., 384 U.S. 563, 576 (1966) (finding five-year exclusive contracts inconsistent with section 2); Lepage's, Inc. v. 3M, 324 F.3d 141, 154–64 (3d Cir. 2003) (finding exclusive dealing contracts and so-called "bundling discounts" prima facie unlawful under section 2); Conwood, 290 F.3d at 778; United States v. Microsoft, 253 F.3d 34, 68–71 (D.C. Cir. 2001) (holding that contracts requiring America Online and other Internet access providers to prefer Microsoft's Internet browser violated section 2); cf.
its products instead of selling them outright.46

Under existing precedents, courts apply radically different levels of scrutiny to internal and contractual conduct. Internal conduct is presumed lawful, and courts only allow plaintiffs to rebut this presumption in rare instances.47 A firm may, for instance, consistent with section 2, create a better product, invent a more efficient production process, refuse to purchase from a supplier, refuse to sell to rivals, or adopt innovative means of promotion or quality control.48 Courts and the enforcement agencies characterize such behavior as "competition on the merits," even if it creates or preserves a monopoly by excluding competitors.49 Courts have recognized only one sure exception

United States v. Microsoft Corp., 56 F.3d 1448, 1451–52 (D.C. Cir. 1995) (explaining that Microsoft initially obtained its monopoly by lawful means, and thus did not violate section 2 in doing so).

46. See Grinnell, 384 U.S. at 578 (holding that defendant's lease-only policy was "coercive" exclusionary conduct that offended section 2); United States v. United Shoe Mach. Corp., 110 F. Supp. 295, 346 (D. Mass. 1953), aff'd per curiam, 347 U.S. 521 (1954) (finding that defendant's lease-only policy violated section 2); In re Xerox Corp., 86 F.T.C. 364, 367 (1975) (consent decree forbidding defendant's lease-only policy as alleged violation of section 2).

47. Aspen Skiing, 472 U.S. at 600 (explaining that the Sherman Act requires firms to obtain new customers through "competition," defined as internal expansion); Conwood, 290 F.3d at 783 (finding that the realization of economies of scale cannot violate section 2).

48. See, e.g., Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, 124 S. Ct. 872, 879–80 (2004) (holding that, without more, mere refusal to deal does not violate section 2); Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993) (finding that above-cost pricing is "competition on the merits" even if it drives less efficient competitors out of business); Atlantic Richfield Co. v. USA Petroleum Co., 495 U.S. 328, 340 (1990) (holding that above-cost pricing cannot cause "antitrust injury" compensable under the antitrust laws); Aspen Skiing, 472 U.S. at 596–97 (approving jury instruction stating that monopolists may enjoy economies of scale); Berkey Photo, 603 F.2d at 279–88 (noting that introduction and promotion of new product by a monopolist almost never offends section 2); see also NYNEX Corp. v. Discon, Inc., 525 U.S. 128, 137 (1998) ("[F]reedom to switch suppliers lies close to the heart of the competitive process that the antitrust laws seek to encourage."); Microsoft, 56 F.3d at 1452 (noting that Microsoft earned its monopoly by means of perfectly lawful conduct and marketing practices).

49. Brooke Group, 509 U.S. at 223 (holding that above-cost pricing is "competition on the merits" even if it drives less efficient competitors out of business); Aspen Skiing, 472 U.S. at 605 n.32 (noting that section 2 does not forbid "competition on the merits," even if such competition protects or leads to a monopoly); id. at 600 (equating "competing successfully" with "internal expansion"); see also Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 116 (1986) (stating that the antitrust laws encourage even monopolists to engage in vigorous price competition); Berkey Photo, 603 F.2d at 281–82 ("[A] monopolist is permitted, and indeed encouraged, by § 2 to compete aggressively on the merits [and] any success that it may achieve 'through the process of invention
to this safe harbor—prices that are below a firm’s costs, and thus presumptively “predatory.” Even below-cost pricing is not automatically unlawful; courts still allow firms, including monopolists, to justify such conduct and thus avoid liability in many instances. Other forms of unilateral conduct are lawful unless a plaintiff can show that the conduct (1) severely hampers a rival’s ability to compete, and (2) cannot be explained except as an effort to protect or create market power. Under this test, proof that even severely exclusionary conduct produces some modest benefits suffices to insulate the behavior from section 2 liability.

Various forms of contractual exclusion receive much stricter scrutiny. According to courts and the enforcement
agencies, proof that a monopolist has entered an agreement that excludes its rivals from a significant portion of the marketplace gives rise to a prima facie case, regardless of whether the challenged agreement actually drives the aggrieved competitors from the market.\footnote{54} Nor is there any requirement that the plaintiff show that such exclusion has produced or will produce actual consumer harm.\footnote{55} While this presumption is rebuttable, defendants that seek to overcome it face an uphill climb. First, the monopolist must demonstrate to a court's satisfaction that the challenged arrangement produces significant benefits for consumers.\footnote{56} Second, a challenged practice that does, in fact, produce significant benefits is nonetheless unlawful if it is broader than necessary to produce the benefits in question.\footnote{57} 

\footnote{54} See Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 483–84 (1992) (finding tying contract that denied competitors access to certain portion of the copier service market was presumptively unlawful under section 2); Aspen Skiing, 472 U.S. at 600–08 (holding that defendant's creation of travel packages that excluded competitor from consideration were presumptively unlawful); United States v. Grinnell Corp., 384 U.S. 563, 578 (1966) (holding that five-year exclusive contracts and lease-only policies violated section 2); Lepage's, Inc. v. 3M, 324 F.3d 141, 157–59 (3d Cir. 2003) (finding exclusive dealing arrangements presumptively unlawful even though "victim" of such contracts remained a significant force in the marketplace); Microsoft, 253 F.3d at 70–71 (holding that primary dealing contracts that deprived rival of access to part of "one of the two major [distribution] channels" were presumptively unlawful even though aggrieved rival retained part of the relevant market and had access to market through numerous alternative channels of distribution); Intel Corp., 1999 FTC LEXIS 145, at *8 (approving consent decree that voided agreements between Intel and its customers that purportedly raised customers' costs of producing competing product); cf. John E. Lopatka & William H. Page, Antitrust on Internet Time: Microsoft and the Law and Economics of Exclusion, 7 SUP. CT. ECON. REV. 157, 211–13 (1999) (outlining numerous alternate channels of distribution that were open to Netscape despite Microsoft's tactics).

\footnote{55} See Jonathan B. Baker, Promoting Innovation Competition Through The Aspen/Kodak Rule, 7 GEO. MASON L. REV. 495, 502–03 (1999) (concluding that Supreme Court precedent does "not consider effect on competition in determining whether the monopolization offense [can] be found," but instead relies on impact of conduct on rivals); see also infra notes 113–16 and accompanying text (explaining that the Microsoft decision did not require proof of actual harm to consumers).

\footnote{56} See Eastman Kodak, 504 U.S. at 483–84; Microsoft, 253 F.3d at 58–59 (outlining standards governing a defendant's attempt to justify a prima facie unlawful practice).

\footnote{57} See Eastman Kodak, 504 U.S. at 484–86 (holding that proffered justification for contractual exclusion did not entitle it to summary judgment where defendant could purportedly achieve legitimate objectives via less restrictive means); Aspen Skiing, 472 U.S. at 605 n.32 (explaining that conduct excluding rivals from a portion of the market is unlawful if it is broader than necessary); Microsoft, 253 F.3d at 67–74 (finding agreements that interfered
Under this approach, such conduct is unlawful if a court determines that the defendant could have achieved the benefits in question in a different manner. Application of such a "less restrictive alternative" test rests upon the implicit assumption that the benefits produced by such restraints necessarily coexist with the anticompetitive harm presumed once a plaintiff has made out a prima facie case. Practices that fail this test, it is said, constitute an exercise of monopoly power, raise barriers to entry, interfere with "competition on the merits" and thus "monopolize" in violation of section 2.

The distinction between "internal" and "contractual" exclusion corresponds roughly to the distinction between property and contract. On one hand, conduct is "internal" for purposes of section 2 if it involves the monopolist's creation or disposition of its own property, which is at that point "within" the boundaries of the firm, before the passage of title. On the other hand, conduct is "contractual," and thus subject to more severe scrutiny, if, before it has taken title, or after title has passed, the monopolist is attempting to influence the manner in which a supplier or customer disposes of its property. Thus, a firm that

with rival's access to the market unlawful where defendant failed to proffer a justification that explained the full extent of the exclusion).

58. See Meese, supra note 15, at 112-13 (explaining that application of the less restrictive alternative test under section 1 of the Sherman Act requires courts to ban some restraints because they do not sufficiently enhance society's welfare).

59. See Microsoft, 253 F.3d at 59 (assuming that benefits and harms of restraints coexist); 3 AREEDA & HOVENKAMP, supra note 38, ¶ 655(f), at 135-36 (same); see also Meese, supra note 15, at 167-69 (showing that application of the less restrictive alternative test in Rule of Reason litigation rests on assumption that a restraint's benefits coexist with harms); 7 PHILLIP E. AREEDA, ANTITRUST LAW ¶ 1502 (1986) (same).

60. See Microsoft, 253 F.3d at 62 (finding that unjustified licensing restriction that prevented original equipment manufacturers from encouraging consumers to use competing browsers interfered with "competition on the merits"); Eastman Kodak, 504 U.S. at 482-83 (finding that tying contracts and related practices constituted a "use of monopoly power" to foreclose competition); Aspen Skiing, 472 U.S. at 605 n.32 (finding that practices that are more restrictive than necessary to produce benefits are "exclusionary" and unlawful under section 2); see also Piraino, supra note 38, at 827-28 (noting that the Sherman Act distinguishes between "lowering prices, developing new products, and expanding output," and the use of monopoly power to interfere with competition).

creates intellectual or other property is presumptively engaged in "internal" competition on the merits. So is a firm that offers to sell its property at a particular price or refuses to buy or sell at all. By contrast, a firm that enters a contract prohibiting another from selling its property to the firm's competitors is seeking to influence the disposition of someone else's property and is thus engaged in contractual exclusion.

D. APPLICATION: THE MICROSOFT CASE

The distinction between contractual exclusion and "competition on the merits" recently received a ringing endorsement in United States v. Microsoft Corp. Consideration of this decision will illustrate the distinction between internal and contractual exclusion as well as the disparate treatment that these two categories of conduct currently receive.

Microsoft did not obtain its monopoly by chance. For one thing, the firm continually upgraded the quality of its operating system. In addition, the firm partnered with a personal computer (PC) maker—IBM—that had the good sense to allow other firms to clone its version of the PC. The firm also invested hundreds of millions of dollars annually to encourage independent software vendors (ISVs) to produce software applications compatible with Windows. Finally, and perhaps most importantly, the consumption of operating systems is characterized by so-called "network effects." In particular, as more


63. See NYNEX Corp. v. Discon, Inc., 525 U.S. 128, 137 (1998) (noting that the refusal to purchase from a particular supplier is a fundamental aspect of a free market).


67. See Microsoft, 84 F. Supp. 2d at 13.

68. See id. at 21 (finding that Microsoft invests "hundreds of millions of dollars each year ... inducing ISVs to write applications for Windows").

69. David S. Evans & Richard Schmalensee, A Guide to the Antitrust Eco-
consumers employ a particular operating system, ISVs are more likely to write applications that are compatible with the operating system in question.\textsuperscript{70} Microsoft realized the full benefits of these so-called network effects, as consumers increasingly turned to Windows because of the large pool of applications compatible with it.\textsuperscript{71} Ultimately, Microsoft obtained its monopoly because it provided consumers with a product they preferred.\textsuperscript{72}

By the mid-1990s, Microsoft faced a potential challenge to its dominance of the operating system market in the form of Netscape and its Navigator Web browser.\textsuperscript{73} Not content to serve as the world's leading browser, with an 80% share of the market,\textsuperscript{74} Netscape resolved to transform its browser into so-called "middleware," capable of performing some functions normally performed by operating systems.\textsuperscript{75} Had Netscape been successful, it is said, an ISV would have been able to write one, Netscape-compatible version of its application, which would then run on any PC that contained Netscape.\textsuperscript{76} In such an environment, consumers could theoretically have chosen an operating system without regard to the number of applications compatible with it, thereby undermining the chief basis for Windows' dominance.\textsuperscript{77}

In 1995, Microsoft introduced its own Internet browser, Internet Explorer (IE), investing substantial resources in enhancing IE's quality.\textsuperscript{78} At one time, the firm employed over a
thousand programmers in its effort to improve the browser. These investments soon paid off; by 1997 most independent reviewers opined that IE was equal to or superior to Netscape's Navigator. At the same time, Microsoft took steps to physically integrate its browser and operating system, ultimately creating an environment in which "browser functionality" was simply one of the many features of the Windows operating system.

Microsoft adopted several other aggressive strategies to promote IE. First, it engaged in vigorous price competition, giving IE away for free. Second, the firm expended massive sums in advertising and promotion, even going so far as to pay some Internet service providers (ISPs) a bounty for each new customer they enrolled. Finally, the firm also paid numerous PC makers—also known as original equipment manufacturers (OEMs)—to promote IE.

In addition to these "internal" or "unilateral" tactics, Microsoft also entered a variety of contractual arrangements with firms that distributed Internet browsers to ultimate consumers. For instance, the firm entered contracts that required OEMs that purchased Windows also to purchase IE, and to install it on PCs shipped to consumers. These contracts did not preclude OEMs from also installing other browsers, however, and some OEMs felt perfectly free to do so. The firm also entered exclusive or primary dealing arrangements with Internet access providers (IAPs) like America Online (AOL), and a handful of ISPs like MindSpring. These contracts either prevented these firms from distributing Netscape and other browsers, or placed a ceiling on the proportion of such browsers that IAPs or

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79. See id. (noting that Microsoft increased the number of developers working on IE from "five or six in early 1995 to more than one thousand in 1999").
80. See id. at 43–44.
81. See id. at 50–53.
82. See id. at 49.
83. See id. at 45 (noting Microsoft spent $30 million per year marketing IE and describing Microsoft's agreement to pay AOL a bounty for each customer the firm converted to IE).
84. See id.
85. See id. at 49–50.
86. See infra notes 108–12 and accompanying text.
87. See Microsoft, 84 F. Supp. 2d at 45–48 (explaining the distinction between IAPs and ISPs).
ISPs could distribute. At the same time, however, the contracts left Netscape free to rely upon thousands of other ISPs to distribute its browser.

In 1998, the Government claimed that Microsoft had monopolized the market for PC operating systems based on Intel chip technology. In so doing, the Government relied heavily upon the distinction between internal exclusion, on the one hand, and contractual exclusion, on the other. Thus, the Government made no attempt to challenge Microsoft's initial acquisition of a 95% share of the relevant market. Instead, the Government focused its fire on the claim that Microsoft had "maintained" its monopoly by entering into various contracts the Government deemed "exclusionary." None of these contracts, either alone or in conjunction with others, completely excluded alternative browsers from the relevant market. On the contrary, the agreements left Netscape free to distribute its product through any number of alternative channels. Indeed, the

88. See id. at 49–50.
89. See Lopatka & Page, supra note 54, at 222–25.
90. See id. at 176–83 (describing theory of Government's complaint).
92. See, e.g., Alan J. Meese, Don't Disintegrate Microsoft (Yet), 9 GEO. MASON L. REV. 761, 772–75 (2001) (summarizing the Government's case against Microsoft). It should be noted that, early in the litigation, the Government also claimed that Microsoft's practice of giving its Internet browser away for free was predatory, since it represented below-cost pricing. See Plaintiffs' Joint Response to Microsoft's Motion for Summary Judgment and Reply in Support of Motion for Preliminary Injunction at 7–8, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (No. 98-1232). The district court rejected this argument, holding that Microsoft's inclusion of its browser in Windows at no extra charge enhanced competition in the browser market and thus produced significant consumer benefits. See Microsoft, 84 F. Supp. 2d at 110–11. The Government abandoned this argument on appeal, and the court of appeals went out of its way to conclude that such below-cost pricing was not "exclusionary" for section 2 purposes. See Microsoft, 253 F.3d at 68 ("The rare case of price predation aside, the antitrust laws do not condemn even a monopolist for offering its product at an attractive price, and we therefore have no warrant to condemn Microsoft for offering... [IE] free of charge or even at a negative price.").
93. See Lopatka & Page, supra note 54, at 211–13, 222–27 (outlining various distribution channels that remained open to Netscape despite Microsoft's
Government did not even argue that the agreements would have this effect, as Netscape was still a significant force in the market several years after Microsoft had introduced its own browser. Nor did the Government attempt to establish just how much such practices raised Netscape’s costs of distribution. Finally, the Government did not attempt to establish the extent to which Netscape’s downfall was the result of the purportedly exclusionary agreements that it challenged, as opposed to Microsoft’s admittedly procompetitive, “internal” conduct.

Nonetheless, in various briefs filed in the district and appellate courts, the Government took the position that the agreements were presumptively unlawful, simply because they “tend[ed] to impair rivals’ opportunities.” In so doing, the Government drew a distinction between “competition on the practices and arguing that Microsoft’s various agreements with firms that distributed Internet browsers did not significantly impact Netscape’s costs of distribution).

94. See Kenneth G. Elzinga et al., United States v. Microsoft: Remedy or Malady?, 9 GEO. MASON L. REV. 633, 673 (reporting that Netscape possessed a 29% share of the browser market in 2000).

95. See Lopatka & Page, supra note 54, at 210–13, 222–27 (arguing that challenged provisions resulted in “trivial” increase in Netscape’s marginal costs of distribution).

96. See Meese, supra note 92, at 790–92 (concluding that the trial court failed to delineate the effect that anticompetitive tactics had on Netscape’s market share); see also Microsoft, 253 F.3d at 67–68 (finding that Microsoft’s tactic of giving its browser away for free and providing bounties to IAPs that convinced consumers to use the firm’s browser were procompetitive promotional tactics). The district court expressly found that several of Microsoft’s tactics improved IE vis-à-vis Netscape’s browser, making the former more attractive to consumers:

The debut of Internet Explorer and its rapid improvement gave Netscape an incentive to improve Navigator’s quality at a competitive rate. The inclusion of Internet Explorer with Windows at no separate charge increased general familiarity with the Internet and reduced the cost to the public of gaining access to it, at least in part because it compelled Netscape to stop charging for Navigator. These actions thus contributed to improving the quality of Web browsing software, lowering its cost, and increasing its availability, thereby benefiting consumers.

Microsoft, 84 F. Supp. 2d at 110–11; see also id. at 102 (stating that, by 1998, IE was comparable in quality to Netscape’s Navigator and that Netscape’s share of the browser market would have declined even in the absence of Microsoft’s unlawful tactics, but that the unlawful tactics accelerated the decline).

merits" and "exclusionary conduct." Competition on the merits, the Government argued, took the form of internal activities, such as efforts to reduce production costs and improve product quality, which were lawful per se. By contrast, Microsoft's various contracts with OEMs, IAPs, ISPs, and ICPs limited consumer choice and the discretion of these firms, and thus, the Government said, were presumptively unlawful because they raised barriers to entry and tended to inhibit merits-based competition.

The Government did not, it should be noted, claim that the challenged contracts were ipso facto unlawful. Instead, it acknowledged the possibility that Microsoft could overcome the

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98. See Brief for Appellees United States and the State Plaintiffs at 47–51, United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001) (No. 00-5212); Plaintiffs' Joint Proposed Conclusions of Law at 2, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (No. 98-1232) ("Section 2 of the Sherman Act prohibits a firm with monopoly power from maintaining that monopoly power through means that go beyond competition on the merits."); id. at 15 ("The Court has used the language of 'exclusionary' or 'anticompetitive' or 'predatory' to label the unlawful conduct and to distinguish it from the competition on the merits reflected in Grinnell's reference to 'superior product, business acumen, or historic accident.'" (quoting United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966))).

99. See Plaintiffs' Joint Proposed Conclusions of Law, at 15, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (No. 98-1232) (referring to "competition on the merits" as involving "superior product, business acumen, or historic accident" (quoting Grinnell, 384 U.S. at 570–71)). The Government contended that apparently exclusionary conduct can only be justified "as necessary to further legitimate goals of lowering prices, improving quality, or in other ways promoting or expanding consumer choice."). Id. at 17. The Government further asserted that any act that limits consumer choice is "telling evidence" that the defendant is not engaged in "competition on the merits." Id. at 19.

100. Id. at 22–23; see also id. at 19 (arguing that any act that contractually limits consumer choice is "telling evidence" that the defendant is not engaged in "competition on the merits"); Plaintiffs' Joint Response to Microsoft's Motion for Summary Judgment and Reply in Support of Motions for Preliminary Injunction at 21, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (No. 98-1232) at 10–11 (contending that "Microsoft's exclusionary agreements with PC manufacturers, ISPs, and ICPs have raised barriers to competition and effectively foreclosed competitors from significant distribution channels").

presumption against them. Still, this possibility was, under the standard the Government propounded, more illusory than real. In particular, the Government argued that Microsoft could only prevail if it demonstrated that each of the challenged exclusionary agreements furthered "competition on the merits" and was no broader than necessary to achieve tangible competitive benefits.

The Government's position had substantial basis in Supreme Court decisions, and, more importantly, both the district court and the D.C. Circuit completely endorsed the Government's account of the law of monopolization and its application of that law to the facts of the case. For instance, both courts held that Microsoft's primary dealing arrangements with IAPs and ISPs were presumptively unlawful because they foreclosed rivals from one of the two most important channels for distributing Internet browsers. This was so, the courts said, despite the fact that Netscape remained free to rely upon thousands of other ISPs to distribute its browser. Neither the D.C. Circuit nor the district court explained how (partial) exclusion from


103. See id. at 21–22

104. See, e.g., United States v. Microsoft Corp., 253 F.3d 34, 58–59 (D.C. Cir. 2001), aff’d in part, rev’d in part 87 F. Supp. 2d 30 (D.D.C. 2000) (endorsing general standards applied by the district court in evaluating section 2 claims); id. at 68–71 (finding that primary dealing contracts were prima facie unlawful under section 2 because they foreclosed rivals from a "significant" portion of the market); id. at 69 (holding that primary dealing contracts are prima facie unlawful where they "significantly limit ... the opportunities for other traders to enter"); United States v. Microsoft Corp., 87 F. Supp. 2d 30, 38 (D.D.C. 2000), aff’d in part, rev’d in part, 253 F. 3d 34 (D.C. Cir. 2001) ("If the evidence reveals a significant exclusionary impact in the relevant market, the defendant’s conduct will be labeled ‘anticompetitive’—and liability will attach—unless the defendant comes forward with specific procompetitive business motivations that explain the full extent of its exclusionary conduct."); see also Hovenkamp, supra note 17, at 1047–49 (concluding that the court in Microsoft properly articulated and applied monopolization law).

105. See Microsoft, 253 F.3d at 70–71; Microsoft, 87 F. Supp. 2d at 41–42; see also United States v. Microsoft Corp., 84 F. Supp. 2d 9, 47 (D.D.C. 1999) (finding that the OEM and IAP distribution channels were the most efficient channels for distributing Internet browsers). It should be noted that the district court did not attempt to calculate the relative costs of relying upon different distribution channels. Cf. Thomas G. Krattenmaker & Steven C. Salop, Anticompetitive Exclusion: Raising Rivals, Costs to Achieve Power Over Price, 96 YALE L.J. 209, 254–62 (1986) (arguing that proof that restraint produces significantly higher costs for rivals is a necessary but not sufficient condition for such restraints to be anticompetitive).

106. See Lopatka & Page, supra note 54, at 222–25.
one such channel could harm consumers to such an extent that it should suffice to establish a prima facie case. Moreover, both courts held that Microsoft’s contractual requirement that OEMs install IE and display the IE icon on the PC desktop were themselves prima facie unlawful, even though the restrictions left OEMs contractually free to install and display competing browsers as well. Indeed, OEMs Apple and IBM testified at trial that they felt perfectly free to install competing browsers. Here again, neither court explained how this restriction could, by itself, raise Netscape’s costs to such an extent as to harm competition. Instead, the D.C. Circuit simply held that OEMs were one of two important channels for browser distribution, and that the restriction effectively prevented “many” OEMs from preinstalling a second browser. The court did not say “how many” OEMs were restricted in this way, or whether they were sufficiently important market participants to affect Netscape’s browser share in a meaningful way.

Perhaps most importantly, the district court found that Microsoft’s quality improvements and low prices themselves might have eroded Netscape’s market share. Yet it declined to find that Microsoft’s contractual tactics, and not these improvements in IE’s quality and low prices, had reduced Net-

107. To be sure, the court went on to find that Microsoft’s technological integration of IE with Windows, combined with certain licensing restrictions, effectively excluded Netscape from the other important distribution channel, namely, OEM PC manufacturers. See Microsoft, 253 F.3d at 60–67. However, the court’s analysis of the exclusive and primary dealing arrangements does not mention this finding and instead treated the exclusion of rivals from one important channel as sufficient to give rise to a prima facie case. See Microsoft, 253 F.3d at 70–71; cf. id. at 72 (finding that relatively small foreclosure worked by agreements with ISVs established a prima facie case because other arrangements had blocked larger distribution channels).

108. See Microsoft, 253 F.3d at 60–61.

109. See id. at 61; Lopatka & Page, supra note 54, at 210–14 (questioning the claim that a requirement that OEMs install IE would preclude OEMs from installing Netscape).

110. See Microsoft, 253 F.3d at 61 (finding that these restrictions were “anticompetitive” because the OEM channel is “one of the two primary channels for distribution of browsers”).

111. See id.

112. See id. (conceding that IBM and Apple, for instance, felt free to install second browsers despite these provisions).

113. See United States v. Microsoft Corp., 84 F. Supp. 2d 9, 112 (D.D.C. 1999) (“There is insufficient evidence to find that, absent Microsoft’s actions, Navigator and Java already would have ignited genuine competition in the market for Intel-compatible PC operating systems.”).
scape's market share enough to thwart its middleware strategy. On appeal, the D.C. Circuit held that no such finding was necessary. In particular, relying upon the leading treatise in antitrust law, the court held that the Government did not have to show that Netscape would have evolved into a bona fide competitor to Microsoft but for the challenged agreements because it was appropriate that "the defendant is made to suffer the consequences of its own undesirable conduct." This argument was entirely circular, however, as it begged the question of whether the contracts should be deemed "undesirable" simply because they "foreclosed" Netscape from portions of particular market channels. In short, the most important antitrust decision of the past decade embraced the distinction between internal exclusion, or "competition on the merits," and contractual exclusion. Several scholars have endorsed the

114. See generally Elzinga et al., supra note 94, at 672–79 (arguing that "[t]o whatever extent Netscape and Java were ever potential platform competitors of Microsoft, they remain so today"); Meese, supra note 92, at 790–94.

115. Microsoft, 253 F.3d at 80 ("[C]ausation affords Microsoft no defense to liability for its unlawful actions undertaken to maintain its monopoly in the operating system market.").

116. See id. at 79 (quoting 3 PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651(c), at 78 (1996)); see also 3 AREEDA & HOVENKAMP, supra note 38, ¶ 651(d)(2) (contending that conduct that "clearly injures rivals and has no business justification" presumptively harms consumers); infra notes 308–09 and accompanying text (documenting Professor Areeda's significant influence in the federal courts). It should be noted in this connection that the district court fastidiously avoided any finding that Netscape's middleware strategy in fact posed a significant competitive threat to Microsoft. Microsoft, 84 F. Supp. 2d at 17–18. Thus the record in the case contains no finding that Microsoft's conduct had an actual anticompetitive effect. See Lopatka & Page, supra note 42, at 369 ("The court did not find that Microsoft's monopoly would have vanished before trial but for Microsoft's exclusionary practices. Rather, it held that Microsoft's practices delayed the emergence of competing platform technologies that might eventually have threatened Microsoft's dominance.").


118. See Microsoft, 253 F.3d at 56 ("[T]his case is... about Microsoft's efforts to maintain this [monopoly] position through means other than competition on the merits."); id. at 62 (finding that contractual limitations on OEMs' ability to promote competing browsers "ha[ve] a substantial effect in protecting Microsoft's market power, and do so through a means other than competition on the merits," and are thus "anticompetitive"); see also Eleanor M. Fox, What Is Harm to Competition? Exclusionary Practices and Anticompetitive Ef-
Indeed, in one sense the test announced by the D.C. Circuit was *more* hostile to Microsoft than that advanced by the Government. Recall that the Government had assumed that Microsoft could justify arrangements deemed prima facie unlawful by showing that the restrictions were no broader than necessary to achieve significant competitive objectives. While a showing of benefits was *necessary* to avoid liability under the test propounded by the D.C. Circuit, it was not sufficient. According to this court, proof that a restriction produced benefits did not undermine the initial conclusion that it was "anticompetitive," with the result that the court should balance the restraint's benefits against its harms. Thus, even if a restraint was the least restrictive means of producing significant benefits, the plaintiff would still be free to show that the benefits of such a restraint were outweighed by the harms.

II. PRICE THEORY, COMPETITION ON THE MERITS, AND CONTRACTUAL EXCLUSION

As explained above, courts applying section 2 of the Sherman Act initially employed a fact-based inquiry into a defendant's "intent." This test, on its best days, ultimately in-

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120. See *supra* notes 101–03 and accompanying text.

121. See *Microsoft*, 253 F.3d at 59, 61 (noting that the court should "balance" anticompetitive effects against procompetitive benefits and finding that the license restrictions were "anti-competitive").

122. See id. at 59 (stating that a plaintiff could prevail by establishing that "the anticompetitive harm of the conduct outweighs the procompetitive benefit" and characterizing analysis under section 2 as a "balancing approach" under the rubric of the Rule of Reason). See generally Capital Imaging Assocs., P.C. v. Mohawk Valley Med. Assocs., Inc., 996 P.2d 537, 543 (2d Cir. 1999) (articulating Rule of Reason balancing test); Meese, *supra* note 15, 108–13 (examining similar approach to the evaluation of asserted benefits under section 1's Rule of Reason).
volved an assessment of the welfare implications of the practices under review. Yet the intent test is dead and buried, replaced by a standard that distinguishes between “internal” conduct, or “competition on the merits,” on the one hand, and “contractual” exclusion, on the other. The demise of the intent test begs an obvious question: what accounts for that demise and, more importantly, the test that resulted? This section argues that modern monopolization law, particularly the distinction between “internal” and “contractual” exclusion, derives from neoclassical price theory, the economic paradigm that dominated the study of industrial organization during the second half of the twentieth century. Part A of this section examines price theory, its theory of the firm, and the “workable competition” model that it spawned. Part B explains how this conception of the firm and the workable competition model came to influence monopolization law during the 1950s and continues to do so today.

A. WORKABLE COMPETITION, EXCLUSION, AND THE THEORY OF THE FIRM

For decades economists embraced a uniform approach to analyzing microeconomic problems: neoclassical price theory. Not surprisingly, price theory and its assumptions dominated the subject of industrial organization, that is, the study of how firms organize themselves and conduct their activities. Indeed, during this period industrial organization was not so much a separate subject as it was applied price theory. Price theory

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123. See supra notes 33–36 and accompanying text.
124. See United States v. Aluminum Co. of Am., 148 F.2d 416, 431 (2d Cir. 1945) (rejecting intent test); supra notes 43–60 and accompanying text.
125. See Oliver E. Williamson, The Economic Institutions of Capitalism 7 (1985) (describing dominance of price theory from 1940 into the 1970s).
126. See R.H. Coase, Industrial Organization: A Proposal for Research, in Policy Issues and Research Opportunities in Industrial Organization 59, 61–63 (V. Fuchs ed., 1972) (arguing that, as of 1972, the study of industrial organization consisted simply of applied price theory). Indeed, after reviewing two of the period’s leading industrial organization texts, Professor Ronald Coase concluded that “[e]ssentially, [both authors] consider the subject of industrial organization as applied price theory.” Id. at 62; see also Joe S. Bain, Industrial Organization 25–27 (1968) (portraying industrial organization as price or resource allocation theory); Richard Caves, American Industry: Structure, Conduct, Performance 14 (1967) (“The subject of ‘industrial organization’ applies the economist’s models of price theory to the industries in the world around us.”); George J. Stigler, The Organization Of
and the industrial organization paradigm that it produced offered a unified, coherent methodology for analyzing the causes and consequences of commercial activities, including trade practices pursued by actual or potential monopolists.

Like physicists who imagine a world without friction, price theorists began with the model of “perfect competition,” an atomistic world in which numerous firms sold homogenous products and no individual or firm could unilaterally influence prices, output, or any other terms of trade. First formalized in the 1920s, this model had antecedents dating from the late nineteenth century. The model rested upon several interrelated assumptions that combined to portray a world in which firms and individuals could costlessly rely upon the market to conduct economic activity. For one thing, the perfect competition model assumed that purchasers had perfect information about the items they bought, or that firms could convey such

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127. See, e.g., JOE S. BAIN, PRICING, DISTRIBUTION, AND EMPLOYMENT: ECONOMICS OF AN ENTERPRISE SYSTEM, 95–135 (1948); FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT 3–5 (1921) (analogizing unrealistic assumptions in economics to “simplified conditions” assumed in theoretical physics); TIBOR SCITOVSKY, WELFARE AND COMPETITION 16–19, 229–46 (1951) (employing perfect competition model to analyze behavior of consumers and firms); GEORGE J. STIGLER, THE THEORY OF COMPETITIVE PRICE 24 (1942) (analogizing assumptions of the perfect competition model to physicists’ assumption of a world without friction); see also Louis Makowski & Joseph M. Ostroy, Perfect Competition and the Creativity of the Market, 39 J. ECON. LITERATURE 479 (2001) (detailing historical development of the perfect competition model and contending that the model ultimately rested on core assumption that all firms are price takers).

128. See, e.g., JOHN BATES CLARK, THE DISTRIBUTION OF WEALTH, at v (1931) (arguing that “the distribution of the income of society is controlled by a natural law, and that this law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates”); ALFRED MARSHALL, PRINCIPLES OF ECONOMICS 113 (1898) (arguing that economics’ “chief work is connected with the measurement of motives by the price which, as a ‘normal’ or general rule, is sufficient to induce a person of a particular class under given conditions to undertake a certain task”); A.C. PIGOU, WEALTH AND WELFARE 172–79 (1912) (describing the market behavior of firms in “simple competition”); see also FRANK M. MACHOVEC, PERFECT COMPETITION AND THE TRANSFORMATION OF ECONOMICS 159–81, 268–76 (1995) (describing the historical development of the perfect competition model and its assumptions); Makowski & Ostroy, supra note 127, at 482–96 (same); George J. Stigler, Perfect Competition, Historically Contemplated, 65 J. POL. ECON. 1, 11 (1957) (concluding that Professor Knight was the first to completely formulate the theory of perfect competition).

129. See KNIGHT, supra note 127, at 76–86 (detailing various assumptions of the perfect competition model).
information, and buyers could absorb it, without cost.\textsuperscript{130} Moreover, perfect competition assumed that bargaining and enforcement costs were nonexistent, with the result that trading partners could negotiate complete contracts governing every aspect of their relationship—contracts that courts would easily enforce.\textsuperscript{131}

The perfect competition model also assumed away a common economic phenomenon, namely, opportunism directed against consumers or trading partners.\textsuperscript{132} Thus, a firm could rely upon trading partners to perform economic activities as though they had the firm’s own interests at heart. Some scholars simply assumed away opportunism by fiat.\textsuperscript{133} Others were

\begin{itemize}
\item \textsuperscript{130} See Stigler, supra note 127, at 21–23; Knight, supra note 127, at 77–78 (assuming perfect knowledge by rational economic actors and “perfect, costless intercommunication” between economic actors); see also Machovec, supra note 128, at 241–49 (detailing the development of perfect competition’s assumptions); Stigler, supra note 128, passim (same).
\item \textsuperscript{131} See Williamson, supra note 125, at 7 (noting that, in the perfect competition model, “disputes were disregarded because of the presumed efficacy of court adjudication”); Kenneth J. Arrow, The Organization of Economic Activity: Issues Pertinent to the Choice of Market Versus Nonmarket Allocation, in PUBLIC EXPENDITURES AND POLICY ANALYSIS 59, 60 (Robert H. Haveman & Julius Margolis eds., 1970) (“[T]he existence of vertical integration may suggest that the costs of operating competitive markets are not zero, as is usually assumed in our theoretical analysis.”) (emphasis added); Richard N. Langlois, Contract, Competition, and Efficiency, 55 Brook. L. Rev. 831, 834–35 (1989) (“The traditional economic theory of the firm feeds off of . . . the ‘classical’ theory of contract. Briefly put, classical contracting involves homogenous goods traded among anonymous transactors with all the (possibly contingent) terms explicitly spelled out in advance.”).
\end{itemize}

Frank Knight, writing about the perfect competition model, observed:

We must also assume complete absence of physical obstacles to the making, execution, and changing of plans at will; that is, there must be ‘perfect mobility’ in all economic adjustments, no cost involved in movements or changes. To realize this ideal all the elements entering into economic calculations—effort, commodities, etc.—must be continuously variable, divisible without limit . . . . The exchange of commodities must be virtually instantaneous and costless.

Williamson, supra note 125, at 77–78; see also Stigler, supra note 127, at 22 (explaining that absent perfect knowledge, “perfect competition” depends upon enforcement of contracts, protection of private property, and prevention of fraud).

\begin{itemize}
\item \textsuperscript{132} See Williamson, supra note 125, at 30 (defining opportunism as a condition of “self-interest seeking with guile”).
\item \textsuperscript{133} See Samuel Bowles & Herbert Gintis, The Revenge of Homo Economicus: Contested Exchange and the Revival of Political Economy, 7 J. Econ. Persp. 83, 83 (1993) (contending that price theory and the perfect competition model rested upon assumption that all market actors behaved as “Victorian gentlemen”); Makowski & Ostroy, supra note 127, at 490–91 (detailing tendency of some devotees of perfect competition to assume away possibility of
\end{itemize}
more precise, arguing that the combination of perfect information and perfect contracting would prevent opportunism.\textsuperscript{134} Still others assumed that firms could combat opportunism by adopting "less restrictive" provisions that did not limit rivalry.\textsuperscript{135} Taken together, these various assumptions ensured that reliance upon the market to conduct economic activity—transacting—was costless.\textsuperscript{136}

For perfect competition, "the market" was a collection of firms, each of which interacted by means of spot market contracting. Within this milieu, "the firm" was the basic, fundamental unit of analysis; economists did not concern themselves with how firms organized themselves or what occurred within them.\textsuperscript{137} Thus, scholars employing the perfect competition

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  \item \textsuperscript{134} See \textsc{Knight}, supra note 127, at 78–79 (noting that when we assume rationality and perfect information, "[w]e formally exclude all preying of individuals upon each other. . . . [w]e exclude fraud or deceit and theft or brigandage"); \textit{see also} \textsc{Stigler}, supra note 127, at 23 (explaining that the complete knowledge assumption of the perfect competition model ensured that fraud would not occur and that parties would know whether trading partners would perform obligations). \textit{See generally} \textsc{Williamson}, supra note 125, at 7 (noting that price theorists assumed that courts could costlessly resolve disputes).
  \item \textsuperscript{135} See \textsc{Dirlam} & \textsc{Kahn}, supra note 36, at 185–86 (contending that manufacturers can achieve benefits of exclusive dealing by other means); \textsc{Kayser} & \textsc{Turner}, supra note 28, at 158–59 (arguing that less restrictive means will serve the same legitimate objectives as tying contracts); Donald F. Turner, \textit{The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal}, \textsc{75 Harv. L. Rev.} 655, 699 (1962) (arguing that a requirement that dealer use its best efforts within an area of "primary responsibility" will assure effective promotion by dealers).
  \item \textsuperscript{136} See \textsc{R.H. Coase}, \textit{The Firm, the Market and the Law} 6 (1988) (noting that "the concept of transaction costs . . . is largely absent from [price theory"); \textit{see also} Stigler, supra note 128, at 5–6 (explaining that perfect competition equates "competition" with "the market").
  \item \textsuperscript{137} See, e.g., \textsc{Bain}, supra note 127, at 10–94 (describing various attributes and types of firms, without considering why firms exist in the first place); \textsc{Scitovsky}, supra note 127, at 109–80 (discussing behavior of the firm without examining rationale for its existence); \textsc{Stigler}, supra note 127, at 102–15; Alfred R. \textsc{Oxenfeldt}, \textit{Industrial Pricing and Market Practices} 7–35 (1951); \textit{see also} Ronald H. Coase, \textit{The Institutional Structure of Production}, \textsc{82 Am. Econ. Rev.} 713, 714 (1992) (arguing that, in the realm of price theory, the "economist does not interest himself in the internal arrangements within organizations but only in what happens on the market, [that is] the purchase of factors of production, and the sale of the goods that these factors produce"); Harold \textsc{Demsetz}, \textit{The Structure of Ownership and the Theory of the Firm}, \textsc{26 J.L. & Econ.} 375, 377 (1983) ("It is a mistake to confuse the firm of economic theory with its real-world namesake. The chief mission of neoclassical economics [i.e., price theory] is to understand how the price system coordinates the use of resources, not to understand the inner workings of real firms."); Harold
model generally took the firm for granted, treating the entity as a black box, an indivisible unit that performed unique technological and allocational functions. To this end, the firm purchased inputs on impersonal markets and transformed them into a product, which it sold in impersonal markets. How much a firm produced and at what cost was determined by the firm’s “production function,” a mathematical representation of the relationship between input costs and the firm’s output. This relationship, in turn, was solely a function of production technology, exogenous to the market or related institutions, which determined the number and combination of inputs—including labor—required to produce a given quantum of out-


138. In 1948, Professor Joe S. Bain described the business firm as follows, with no elaboration on its purposes: “[i]n a money exchange economy, such an enterprise operates by buying and selling. It purchases materials, equipment, land, and labor, combines them in a finished product, and sells them to a buyer.” BAIN, supra note 127, at 10. In 1942, Stigler discussed “the nature of costs and the production function” without explaining why firms exist. See STIGLER, supra note 127, at 102–15; see also SCITOVSKY, supra note 127, at 109–21 (devoting entire chapter to description of the activities of “the firm” without explaining why entity arises in the first place).

139. See Coase, supra note 137, at 714 (noting that price theory treated the firm as a black box); Langlois, supra note 131, at 834 (“[T]he economist’s firm—at least until recently—was a black box, a production function that took in inputs and transformed them into outputs.”); see also R.H. Coase, The Nature of the Firm, 4 ECONOMICA 386, 388 (1937) [hereinafter Coase, Nature of the Firm] (stating that one view treats firms within the economic system as “islands of conscious power in this ocean of unconscious [market] co-operation like lumps of butter coagulating in a pail of buttermilk”).

140. See Richard N. Langlois, Transaction Costs, Production Costs, and the Passage of Time, in COSEAN ECONOMICS: LAW AND ECONOMICS AND THE NEW INSTITUTIONAL ECONOMICS 2–4 (Steven G. Medema ed., 1998) (describing technological focus of so-called “Pigouvian Price Theory”); WILLIAMSON, supra note 125, at 7–8; see also KELVIN LANCASTER, MODERN MICROECONOMICS 73 (1969) (“A general statement of all outputs that can be obtained from all efficient input combinations is called the production function.”); SCITOVSKY, supra note 127, at 113–21 (explaining the concept of the production function); STIGLER, supra note 127, at 109–12 (same).
In essence, then, the firm of price theory was a sort of calculating machine. This machine observed the price set by "the market" for its product, observed the price set by "the market" for its inputs (including labor), and set its own level of output accordingly. Where the other assumptions of perfect competition obtained, this process would lead to consumption and production decisions that maximized the welfare society could realize from its limited resources.

141. LANCASTER, supra note 140, at 61–62 (stating that the nature of available production processes is determined by technology); SCITOVSKY, supra note 127, at 113 (“The production function represents the scope and limitations of production as determined by technical conditions, which the economist cannot change and must accept as given.”); STIGLER, supra note 127, at 109–10 (“Production functions are descriptive of techniques or systems of organization of productive services, and they are therefore taken from disciplines such as engineering and industrial chemistry: to the economic theorist they are data of analysis.”); Oliver E. Williamson, Technology and Transaction Cost Economics: A Reply, 10 J. ECON. BEHAV. & ORG. 355 (1988).

142. One Nobel laureate characterized the production function as follows:

Underlying economics is technology. As far as we are concerned, the technical expert has completed his job when he has handed on to the economist, accountant, or cost engineer the physical relationship between output and various inputs. This relationship is called the "production function." The production function tells us how much output we can hope to get if we have so much labor and so much capital and so much land, etc.

PAUL A. SAMUELSON, ECONOMICS: AN INTRODUCTORY ANALYSIS 546 (2d ed. 1951). See COASE, supra note 136, at 3 (“The firm to an economist... is 'effectively defined as a cost curve and a demand curve, and the theory [of the firm] is simply the logic of optimal pricing and input combination.'” (quoting Martin Slater, Foreword to EDITH T. PENROSE, THE THEORY OF THE GROWTH OF THE FIRM, at ix (2d ed. 1980))); MACHOVEC, supra note 128, at 16 (explaining that under price theory's model of perfect competition, "the only acceptable behavior of firms is to mechanically reallocate capital in response to a new set of perfect information emissions—provided like manna from heaven, indiscriminately and simultaneously—to the roboticized helmsmen of each firm"); Demsetz, supra note 137, at 143 (stating that under conventional price theory, “[t]asks normally to be expected of management... are performed without error and costlessly, as if by a free and perfect computer.”); see also BAIN, supra note 127, at 10 (describing behavior of "the firm" in this manner); SCITOVSKY, supra note 127, at 109–42 (same). See generally FREIDRICH A. HAYEK, The Meaning of Competition, in INDIVIDUALISM AND ECONOMIC ORDER 92–94 (1948).

143. See F.M. SCHERER, INDUSTRIAL STRUCTURE AND ECONOMIC PERFORMANCE, 12–19 (1970) (describing the theory of general competitive equilibrium and its allocative consequences); SCITOVSKY, supra note 127, at 339–70 (explaining that perfect competition results in allocative and productive efficiency that maximizes social welfare); see also Edward S. Mason, The Current Status of the Monopoly Problem in the United States, 62 HARV. L. REV. 1265, 1266–67 (1949) (stating that perfect competition was only desirable because it produced a certain end—the maximization of economic welfare).
Perfect competition's conception of the firm implied a particular theory of firm scope. This theory purported to explain a given firm's choice between purchasing an item or service "on the market" or producing the item itself (i.e., vertical integration). According to the model, firms made each "make or buy" decision by comparing the cost of internal (self) production to the price the firm would have to pay for the same item on the "open market." These relative costs, in turn, depended upon production technology. So, for instance, a firm would choose to "buy" a particular item from an outside supplier if (1) the firm's own needs were relatively modest; and (2) technology and market demand were such that outside suppliers could realize significant economies of scale in producing the item. If, by contrast, there were no economies of scale, and if technology were such that locating two physical activities "under the same roof" reduced the cost of production, a firm would choose to conduct both activities itself. The classic example given by price theorists was the integration of iron and steel manufacturing to reduce fuel costs associated with reheating iron to transform it into steel. Given the assumptions of the model, there was no other legitimate rationale for vertical integration. Absent some explanation rooted in technological efficiencies, vertical integration was presumed to be an attempt to acquire or protect market power.

144. See George J. Stigler, *The Division of Labor Is Limited by the Extent of the Market*, 59 J. Pol. Econ. at 185, 187–89 (1951); see also BAIN, supra note 126, at 177–80 (arguing that rivalry will cause firms to choose an efficient level of vertical integration based upon relative costs of internal production and reliance upon the market).

145. See Stigler, supra note 144, passim (arguing that vertical integration depends upon the extent of the market and the resulting opportunities for specialization by firms and their suppliers). Similarly, a future disciple of Stigler's concluded that there were two beneficial purposes of vertical integration: "enabling the firm so organized to bypass a monopoly at one level, or . . . enabling the achievement of internal efficiencies." Robert H. Bork, *Vertical Integration and the Sherman Act: The Legal History of an Economic Misconception*, 22 U. Chi. L. Rev. 157, 200 (1954).

146. Several leading texts of the price-theoretic era employed this example to illustrate the sort of technological economies that vertical integration might produce. See, e.g., BAIN, supra note 126, at 381; DIRLAM & KAHN, supra note 36, at 23; KAYSEN & TURNER, supra note 28, at 120; SCHERER, supra note 143, at 70; GEORGE W. STOCKING & MYRON W. WATKINS, *MONOPOLY AND FREE ENTERPRISE* 64–65 (1961).

147. See, e.g., WILLIAM G. SHEPHERD, *MARKET POWER AND ECONOMIC WELFARE: AN INTRODUCTION* 37 (1970) ("The cost advantages in a firm may be of two types: technical and pecuniary. Only technical economies represent a genuine improvement in social efficiencies."); WILLIAMSON, supra note 125, at
To be sure, price theorists neither believed that the real world mimicked the world imagined by perfect competition nor that perfect competition was in fact desirable in all respects. For instance, economists recognized the existence of negative and positive externalities that might cause markets to fail to achieve the optimum allocation of resources. Moreover, economists recognized that consumers in any given market possessed heterogeneous preferences, and that firms might seek to satisfy these preferences by producing differentiated products. Such differentiation, in turn, could confer a small degree of market power on the firm that catered to consumer preferences. Finally, economists recognized that firms often strove to improve their products or discover new (technological) methods of production, thus altering the production function.

366 (demonstrating that according to neoclassical price theory, “efforts to reconfigure firm and market structures that violated ‘natural’ boundaries were believed to have market power origins”); Meese, supra note 15, at 115–19 (explaining how neoclassical price theory treated integration as monopolistic absent a showing that such integration produced technological efficiencies). A leading price theorist concluded that most vertical integration was designed to increase market power:

[T]he trained observer tends to form a considerable suspicion from casual observation that there is a good deal of vertical integration which, although not actually uneconomical, is also not justified on the basis of any cost savings. This is apparently true in particular of the integration of distributive facilities by manufacturing firms. In most cases the rationale of the integration is evidently the increase of the market power of the firms involved rather than a reduction in cost.

BAIN, supra note 126, at 381.

148. See Mason, supra note 143, at 1267 (“None of the markets encountered [in antitrust litigation] meet the tests of pure competition . . . .”); Edward S. Mason, Monopoly in Law and Economics, 47 YALE L.J. 34, 35 (1937) (acknowledging that economic theory properly recognizes the existence of “monopoly elements in the practices of almost every firm”); see also KNIGHT, supra note 127, at 9 (remarking that the real world economy “is obviously not at all completely or perfectly competitive”).

149. See Kaysen & Turner, supra note 28, at 13 n.12; Samuelson, supra note 142, at 743–44; Scitovsky, supra note 127, at 181–87; Shepherd, supra note 147, at 27–28; see also K. William Kapp, The Social Costs of Private Enterprise 13 (1950); A.C. Pigou, The Economics of Welfare 11–20 (1932).

150. See Bain, supra note 127, at 15–16; John Perry Miller, Unfair Competition 114–15 (1941).

151. See Bain, supra note 127, at 246–47 (concluding that monopolistic competition created by product differentiation confers a relatively small degree of market power on firms producing such products); Edward Hastings Chamberlin, The Theory of Monopolistic Competition 56–57, 71–73 (1962); Frank H. Knight, The Economic Organization 90–92 (1951); Samuelson, supra note 142, at 495–97.
and lowering costs.\textsuperscript{152} These efforts could lead firms to expand significantly, sometimes by merger, taking advantage of (technological) economies of scale.\textsuperscript{153} Some industries were thus populated by only a few sellers, with the result that firms in these industries could often exercise some power over price.\textsuperscript{154}

The market power associated with product differentiation and economies of scale resulted in a misallocation of society's resources, as firms with such power reduced output below the optimal level.\textsuperscript{155} Despite this power, however, economists believed that such practices were often beneficial on balance. For instance, product differentiation often catered to true distinctions in consumer preferences and thus produced significant benefits that could outweigh any losses occasioned by the exercise of market power.\textsuperscript{156} Moreover, price theorists recognized

\textsuperscript{152} See BAIN, supra note 127, at 84–85 ("In most industries, a very small firm is quite inefficient; as the firm becomes larger it tends to become more efficient, reaching a minimum cost per unit of output at some particular scale."); MILLER, supra note 150, at 8 (explaining that real world competition "may consist in an endeavor to organize and utilize factors more effectively in producing goods and services, this involving a rivalry in technological processes as well as in economy in the use and organization of men and materials"); SCITOVSKY, supra note 127, at 331–33; STIGLER, supra note 127, at 132–42; STOCKING & WATKINS, supra note 146, at 54–61. It should be noted that Professor John Miller's fulsome definition of competition did not include non-standard contracts. See MILLER, supra note 150, at 199 (asserting that tying contracts are only useful where a seller has a "strong monopoly position"); id. at 210 (asserting that exclusive dealing arrangements are only useful where there are "some elements of monopoly control"). See generally WILLIAM H.S. STEVENS, UNFAIR COMPETITION 5–8 (1917) (contending that legitimate competition included efforts to improve processes and lower costs).

\textsuperscript{153} KAYSEN & TURNER, supra note 28, at 128 ("From the standpoint of both buyers and sellers, mergers may promote efficiency. Where the appropriate scale of operations or degree of integration of the firm changes, mergers may provide the most economical method of reshaping the structures of existing firms to the new cost conditions.").

\textsuperscript{154} See George J. Stigler, The Extent and Bases of Monopoly, 32 AM. ECON. REV. 1, 8–13 (Supp. II 1942) (examining the extent to which such economies do require market power). Stigler further notes a possible "incompatibility of competition and continuing economies of scale." Id. at 8.

\textsuperscript{155} See, e.g., BAIN, supra note 127, at 152–57.

\textsuperscript{156} See DIRLAM & KAHN, supra note 36, at 32 ("Product differentiation, for example, is often a means of competition that serves the public by providing minimum assurances of quality and by catering to a real consumer desire for product improvement or variation."); MILLER, supra note 150, at 117; OXENFELDT, supra note 137, at 88 (acknowledging that perfect competition may not give desirable results in a world with "rapidly changing consumer tastes [and] a strong desire for diversity of products"); SCHERER, supra note 143, at 22 (describing existence of product differentiation as a potentially beneficial departure from perfect competition); Mason, supra note 148, at 36
that gains associated with economies of scale and the accompanying reduction in production costs would often outweigh any allocative losses produced by any resulting market power, with the result that some such departure from perfect competition was necessary to realize net efficiencies and maximize social welfare. In these circumstances, it was said, "workable competition" was the best society could hope for, since any attempt to impose perfect competition by regulatory fiat would deprive society of significant efficiencies of production and the benefits of product differentiation. Indeed, many economists who rec-

(ending that economists should not criticize market power that is a result of legitimate economic activity such as product differentiation); see also BAIN, supra note 127, at 247 n.2 (concluding that welfare consequences of market power produced by product differentiation are minor and outweighed at least in part by the "advantages of variety to consumers"); E.H. Chamberlin, Product Heterogeneity and Public Policy, 40 AM. ECON. REV. 85 (1950); Knight, supra note 151, at 91–92 (explaining that a seller's "monopoly" over its own brand is constrained by competition from other branded goods).

157. See, e.g., DIRLAM & KAHN, supra note 36, at 33 ("Rarely does the cause of effective competition demand an attack on an industry because of the fewness of the firms that make it up."); KAYSEN & TURNER, supra note 28, at 5–8; MILLER, supra note 150, at 411 ("[I]t would not be feasible to pulverize industry sufficiently to approximate pure competition" because doing so would "interfer[e] with the attainment of the optimum scale of plant and rate of operation."); OXENFELDT, supra note 137, at 88 ("[Pure and perfect competition] may not give desirable results in a world characterized by .... rapid technological change [and] important economies of large-scale production ...."); STOCKING & WATKINS, supra note 146, at 53–61; id. at 13 ("Pure competition can scarcely be realized in a machine age."); Edward S. Mason, Workable Competition Versus Workable Monopoly, in ECONOMIC CONCENTRATION AND THE MONOPOLY PROBLEM 387 (1957) ("Some power there has to be, both because of inescapable limitations to the process of atomization and because power is needed to do the job the American public expects of its industrial machine."); see also BAIN, supra note 127, at 84 (stating that "[i]n most industries a small firm is quite inefficient"); id. at 153 (concluding that comparison of output levels in monopolized and competitive industries is "idle" because monopolized industries often realize economies of scale and thus may produce more output than a competitive industry).

In 1968, Professor Oliver E. Williamson formalized this insight, by showing that a merger to monopoly that produced a slight reduction in production costs could result in a net improvement in social welfare. In particular, Williamson showed that such a firm would realize efficiencies on each unit of its output, while any allocative losses would only impact output at the margin. See Oliver E. Williamson, Economics as an Antitrust Defense: The Welfare Tradeoffs, 58 AM. ECON. REV. 18 (1968).

158. See BAIN, supra note 126, at 13–17 (defining concept of workable competition and endorsing use of this standard as guide to public policy toward industry); MILLER, supra note 150, at 404–22 (detailing author's call for policies that furthered "workable competition"); J.M. Clark, Toward A Concept of Workable Competition, 30 AM. ECON. REV. 241 (1940); Mason, supra note 157,
ommended a policy of breaking up large firms to combat market power recognized an exception for those industries in which such deconcentration would eliminate significant economies of scale. For most price theorists, then, "workable competition," and not "perfect competition," was the chief desideratum of public policy toward industry.

Still, while economists who embraced "workable competition" recognized and even endorsed certain departures from perfect competition, these same scholars nonetheless embraced the other assumptions of the perfect competition model when addressing industrial organization problems. For instance,

passim. Another scholar has suggested an alternative to workable competition:

An industry may be judged to be workably competitive when, after the structural characteristics of its market and the dynamic forces that shaped them have been thoroughly examined, there is no clearly indicated change that can be effected through public policy measures that would result in greater social gains than social losses.

Jesse Markham, An Alternative Approach to the Concept of Workable Competition, 40 AM. ECON. REV. 349, 361 (1950). See generally OXENFELDT, supra note 137, at 88-90 (contending that the concept of "workable competition" was a more useful benchmark for public policy than perfect competition, while at the same time seeking more useful mechanisms for identifying such markets); GEORGE W. STOCKING, WORKABLE COMPETITION AND ANTITRUST POLICY (1961) (applying the workable competition model to various antitrust questions).

159. See KAYSEN & TURNER, supra note 28, at 113; MILLER, supra note 150, at 411–12; STOCKING & WATKINS, supra note 146, at 552–53; Mason, supra note 157, at 387 ("There is no reason, however, to tolerate positions of market power that can be lessened by appropriate antitrust action unless it can be shown that this lessening substantially interferes with the job to be done [by the firm].").

160. See BAIN, supra note 126, at 15–17 (endorsing workable competition as a standard to guide public policy); MILLER, supra note 150, at 411–15; Clark, supra note 158, passim; Mason, supra note 157, at 382–88 (embracing workable competition as appropriate antitrust benchmark); George Stocking, On the Concept of Workable Competition as an Antitrust Guide, 2 ANTITRUST BULL. 3, 5–21 (1956) (describing the rise of the workable competition model and its widespread acceptance by economists interested in antitrust policy).

161. See HAYEK, supra note 142, at 94 (asserting that most assumptions of the perfect competition model "are equally assumed in the discussion of the various imperfect or 'monopolistic' markets, which throughout assume certain unrealistic 'perfections'"); KNIGHT, supra note 127, at 10–11 (describing "evil results" that flow from the failure of economists to always recognize real world departures from the various assumptions of the perfect competition model); Langlois, supra note 140, at 2 (noting that Joan Robinson and Edward Chamberlin, who pioneered the theory of "the firm," relied upon various other assumptions of the perfect competition model); see also KAYSEN & TURNER, supra note 28, at 7 ("[T]he rigorous model of the perfectly competitive market is the appropriate starting point of any definition of competition relevant to antitrust policy."); id. at 8 ("[T]hough the model of [perfectly] competitive mar-
the concept of workable competition added nothing to perfect competition's theory of the firm.\textsuperscript{162} If anything, workable competition's recognition of technology as a source of firm growth served to bolster perfect competition's technological conception of the firm. Moreover, economists working within the workable competition tradition continued to embrace perfect competition's assumptions that knowledge flowed freely between firms and consumers, bargaining costs were nonexistent, and opportu-

In this frictionless world, firms could costlessly identify and transact with suppliers or customers.

Modified in this way, price theory implied a particular model of legitimate "competition," a model that helped economists interpret the causes and origins of various business practices employed by monopolists and other firms.\textsuperscript{164} In particular,
price theory and the workable competition model implied a distinction between activity that took place "within" a firm's boundaries, on the one hand, and a firm's contractual relations with other market actors, on the other. As noted above, the firm hypothesized by price theory—whether in perfect or workable competition—performed one function: allocating resources by purchasing inputs and transforming them into outputs.\textsuperscript{165} As such, the firm realized all possible (technological) efficiencies internally, in the process of transforming inputs to outputs.\textsuperscript{166}

Given the assumptions of price theory and its model of workable competition, the process of allocation and transformation performed by firms was "efficient" or beneficial in an almost tautological sense.\textsuperscript{167} Similarly, the workable competition model recognized as "efficient" a firm's efforts to alter its production technology or product quality through research and development. These efforts to alter the firm's production function, as well as the realization of economies of scale implied by existing technology, all took place "within" the firm, and involved the firm's disposition of its own property.\textsuperscript{168} Moreover, the

\textsuperscript{165.} See supra notes 138–43 and accompanying text (explaining perfect competition's theory of the firm); see also supra notes 162–63 and accompanying text (explaining that the workable competition model did not alter perfect competition's theory of the firm).

\textsuperscript{166.} See supra note 139 and accompanying text; see also R.H. COASE, supra note 136, at 1, 3 ("The firm to an economist . . . is effectively defined as a cost curve and a demand curve, and the theory [of the firm] is simply the logic of optimal pricing and input combination.") (quoting Slater, supra note 142, at ix)); SCITOVSKY, supra note 127, at 148–49 (describing "efficiency of the firm" as involving use of available technology to combine inputs into outputs at the lowest possible cost); WILLIAMSON, supra note 125, at 371 (describing the price-theoretic view that "true economies take a technological form, [and] hence are fully realized within firms. [Therefore, according to the price-theoretic paradigm,] there [was] nothing to be gained by introducing nonstandard terms into market-mediated exchange."); Oliver E. Williamson, Delimiting Antitrust, 76 GEO. L.J. 271, 272 (1987) (noting the "prevailing practice [under price theory] of describing the firm as a production function whose natural boundaries were defined by technology. Economic inputs were thus transformed by the production technology into economic outputs; organizational considerations [that might explain the boundaries of firms] were effectively suppressed.").

\textsuperscript{167.} See SCITOVSKY, supra note 127, at 148–80 (examining the general efficiency of firms and industry, as well as the resulting economic activity in a perfect competition model).

\textsuperscript{168.} Cf. supra notes 61–63 and accompanying text (explaining how distinction between "internal" and "contractual" exclusion corresponds to the distinction between property and contract).
workable competition model treated these as legitimate competitive activities, likely to enhance social welfare. From the perspective of the world outside the firm, these actions manifested themselves in two ways, enhanced product quality and/or lower production costs, both of which were determined by the time of purchase and sale. Thus, the firm realized all efficiencies within its boundaries, before purchasers took title to its product. While such activities could in some cases create a monopoly, the benefits of these efforts would more than outweigh the social costs of any resulting market power and resulting marginal misallocation of resources. Public policy should therefore take a "hands off" attitude toward such practices.

The price-theoretic assumptions that solidified workable competition's property-based, technological conception of the firm gave rise to a concomitant suspicion of contracts that reached beyond it. In the frictionless world of price theory, where information costs, bargaining costs, and opportunism were nonexistent, there was simply no reason for a firm to influence the disposition or use of a product once it left the firm's boundaries.

169. See supra notes 156–60 and accompanying text; see also BAIN, supra note 127, at 84–87 (treating the realization of economies of scale as a social benefit); DIRLAM & KAHN, supra note 36, at 32 (arguing that product differentiation is generally beneficial); MILLER, supra note 150, at 8 (explaining that "competition is a very complex phenomenon... as it may take the form of... price competition, by informative or competitive advertising, by differentiation of product or of the many ancillary terms and conditions of sale, or finally by effective choice and control of the channels of distribution"); STEVENS, supra note 152, at 5 ("In an economic sense fair competition signifies a competition of economic or productive efficiency. In other words, an organization is entitled to remain in business as long as its production and/or selling costs enable it to compete in a free and open market."); id. at 5 ("Efficient concerns have by no means always survived. All too frequently they have been destroyed, not by superior efficiency, but by methods against which their own efficiency afforded little or no protection.... Such artificial arrangements are clearly unjustifiable from an economic standpoint."); Mason, supra note 157, at 384 ("The pure competition of the economic theorists is a concept divorced from time and space and independent of technological and other considerations."); id. at 387–88 (suggesting that competition policy should encourage innovations that lead to economic growth); see also, e.g., KAYSEN & TURNER, supra note 28, at 83–86 (treating entrepreneurial innovation and related technological progress as an unalloyed good).

170. See supra note 166 (collecting authorities treating "efficiencies" as arising within a firm's boundaries).

171. See supra notes 156–60 and accompanying text; see also, e.g., Mason, supra note 157, at 387–88 (saying that such activities can promote economic growth).
boundaries and became someone else's property.\textsuperscript{172} Nor was there any reason for a firm to place any contractual limitations on the activities of its suppliers. As a result, price theory and the workable competition model recognized only "standard contracts," that is, (spot) agreements of purchase and sale that simply mediated passage of title from supplier to manufacturer or manufacturer to consumer (or dealer).\textsuperscript{173} By contrast, price theorists saw no beneficial purpose for so-called "nonstandard" contracts, agreements that reached "beyond" the boundaries of the firm and controlled the discretion of suppliers before the firm took title to its inputs or the discretion of customers after the firm parted with title to the product it sold.\textsuperscript{174} Such contracts, including complete vertical integration, were viewed as a departure from the sort of moment-to-moment atomistic rivalry implied by the perfect competition model and its descendant, workable competition.\textsuperscript{175} Because these nonstandard agreements had no apparent efficiency purposes, price theorists presumed that such arrangements reflected a firm's use of market power to acquire more power or to protect the power it already possessed, usually by raising barriers to entry.\textsuperscript{176} These

\begin{itemize}
\item \textsuperscript{172} See generally \textit{supra} notes 130–36 and accompanying text (explaining how the perfect competition and workable competition models assumed away bargaining costs, information costs, and opportunism).
\item \textsuperscript{173} See \textit{Williamson, supra} note 125, at 23 (defining "classical market exchange—whereby a product is sold at a uniform price to all consumers without restriction"); Langlois, \textit{supra} note 131, at 834–35 (discussing classical market exchange); see also \textit{Scitovsky, supra} note 127, at 109–88 (discussing behavior and market activities of firms without mentioning nonstandard contracts).
\item \textsuperscript{174} See \textit{Williamson, supra} note 125, at 23–25 (distinguishing between "classical market exchange" and "nonstandard contracting"); Langlois, \textit{supra} note 131, at 835 (discussing classical and nonstandard contracts).
\item \textsuperscript{175} See \textit{supra} notes 144–47 and accompanying text.
\item \textsuperscript{176} See \textit{Williamson, supra} note 125, at 370–71; Meese, \textit{supra} note 15, at 115–23 (examining price theory's interpretation of nonstandard contracts as expression of monopoly power); Williamson, \textit{supra} note 166, at 272 (explaining that applied price theory tradition of industrial organization took boundaries of the firm as a "natural" given and viewed any attempt to change those boundaries by partial or complete vertical integration as suspect). One economist summarized price theory's interpretation of these agreements as follows:

[Price theory] has only two categories, competitive and "other," and anything that does not fit into the competitive box must be \textit{ipso facto} anticompetitive. As a result, economists had, at least until recently, a tendency to brand as undesirable any nonstandard forms of contract. We can see this tendency at work in the area of vertical arrangements. . . . From the perspective of the classical theory of contract, all these arrangements are very much nonstandard; and, through the lens of the theory of perfect competition, all these arrangements are inexplicable. It is thus an easy leap to categorize these nonstandard
\end{itemize}
price-theoretic assumptions formed the basis for hostility to any number of nonstandard contracts, each of which, it was said, was inconsistent with workable competition. The end contracts as inefficient and reflective of "monopoly power."

Langlois, supra note 131, at 835 (footnote omitted); see also Christopher S. Yoo, Vertical Integration and Media Regulation in the New Economy, 19 YALE J. ON REG. 171, 186-87 (2002) (discussing the Harvard school's hostility toward complete vertical integration). Professor R.H. Coase summarized this price-theoretic milieu as follows:

[I]f an economist finds something—a business practice of one sort or other—that he does not understand, he looks for a monopoly explanation. And as we are very ignorant in this field, the number of ununderstandable practices tends to be rather large, and the reliance on monopoly explanation is frequent.

R.H. COASE, Industrial Organization: A Proposal for Research, in COASE, supra note 136, at 57, 67; see also BAIN, supra note 126, at 332 (concluding that concentrated "[m]arket structure . . . is to some extent created by conduct, although the conduct in question generally is feasible because of certain basic environmental and structural characteristics of industries that various sellers can exploit to their advantage"). Despite the qualification "generally," Professor Bain offered no account of how or why such contracts would arise absent an already concentrated market structure. Id. at 357 ("[A] good deal of vertical integration . . . although not actually uneconomical, is also not justified on the basis of any cost savings . . . . [I]n most cases the rationale of the integration is evidently the increase of the market power of the firms rather than a reduction in cost.") (emphasis added). Another scholar educated at Harvard assumed that any practice other than the "efficient organization of production" reflected the exercise of market power. See MILLER, supra note 150, at 8 ("In a purely competitive market competition becomes simply a matter of efficiency in organization of production and the correct determination of the quantity to be produced . . . . [T]here is [rarely a] market in which neither the demand nor the supply is significantly affected by . . . monopolistic . . . forces."); id. at 200 (suggesting that tying contracts are necessarily the result of market power); id. at 210 (arguing that exclusive dealing contracts are necessarily the result of market control); see also OXENFELDT, supra note 137, at 210-14 (describing various nonstandard contracts, including tying, exclusive dealing, and full-line forcing, and concluding that such agreements were necessarily the result of unequal "bargaining power"); MYRON W. WATKINS, PUBLIC REGULATION OF COMPETITIVE PRACTICES IN BUSINESS ENTERPRISES 220-22 (1940) (noting that tying implies market power by the seller); George J. Stigler, Mergers and Preventative Antitrust Policy, 104 U. PA. L. REV. 176 (1955) (opining that ties are necessarily the result of monopoly power).

177. See, e.g., BAIN, supra note 126, at 330-31 (describing tying, exclusive dealing, and other contracts as "predatory" practices that thwart effective competition); MILLER, supra note 150, at 199 (describing tying); id. at 210 (describing exclusive dealing); Alfred E. Kahn, A Legal and Economic Appraisal of the "New" Sherman and Clayton Acts, 63 YALE L.J. 293, 324 n.180 (1954) (suggesting that tying contracts imply market power by seller); W. Arthur Lewis, Notes on the Economics of Loyalty, 9 ECONOMICA 333 (1942); see also DIRLAM & KAHN, supra note 36, at 181-87 (suggesting that exclusive dealing contracts are generally anticompetitive); STEVENS, supra note 152, at 75 (suggesting that tying contracts are necessarily expressions of monopoly power); id. at 90-91 (showing that exclusive dealing contracts are a result of economic
result was an economic interpretation of firm behavior that privileged property-based conduct over conduct involving the negotiation and enforcement of nonstandard contracts.

Price theory, its theory of the firm, and the workable competition model were not the exclusive province of economists in ivory towers. This model also influenced the policy prescriptions of legal scholars and policymakers interested in antitrust regulation.178 In particular, workable competition's account of legitimate "competition" provided a benchmark against which economists and others evaluated the causes and consequences of nonstandard contracts when determining whether such agreements offended the antitrust laws.

The classic articulation of this approach can be found in the work of two Harvard scholars, Carl Kaysen and Donald Turner. Both were economists, and one, Turner, was on the faculty at Harvard Law School.179 Both studied economics under Edward Mason, an economist and dean of Harvard's School of Public Administration, during the late 1940s and early 1950s.180 A leading price theorist, Dean Mason had authored several articles on antitrust policy beginning in the 1930s, articles that reflected and helped articulate price theory's workable competition approach.
Together Turner and Kaysen coauthored the generation's definitive text on the economics of antitrust policy. Supported by the Merrill Foundation, the book grew out of several years of discussions in Mason's working group, and Mason even went so far as to claim that the book was in fact the result of a group effort. The book, which began with a thirteen-page preface by Mason, expressly invoked price theory's perfect competition model as both a normative and a descriptive benchmark. As a result, the authors advocated only the elimination of those practices that distorted the allocation of resources and destroyed wealth, without creating any overriding benefits. Such practices were, they said, market failures properly subject to regulation under the neoclassical paradigm. At the same time, the authors recognized two desirable departures from perfect competition: economies of scale and product differentiation. While both could lead to market power, each also produced benefits that would offset the harm associated with such power. The authors proposed a straightforward test to implement their policy of wealth maximization: any business practice that would not be adopted by a similar firm operating in a perfectly competitive market necessarily reflected the possession and exercise of market power. Unless the practice


183. See Kaysen & Turner, supra note 28, at v–vi (describing influence of working group discussions on authors' conclusions); Edward S. Mason, Preface to Kaysen & Turner, supra note 28, at xix (“Although this volume has been written by the two authors whose names are appended, the study is, in an important sense, the product of the discussion of a group of lawyers and economists extending over several years. The authors would be the first to admit that the contribution of the group to the formulation of the ideas here presented has been large.”).

184. See Kaysen & Turner, supra note 28, at 7.

185. See id. at 11–13; see also Donald F. Turner, The Scope of Antitrust and Other Economic Regulatory Policies, 82 Harv. L. Rev. 1207, 1207–08 (1969) (discussing the misallocation of resources).

186. See Kaysen & Turner, supra note 28, at 12 (characterizing antitrust regulation as involving the elimination of externalities (citing Pigou, supra note 149)).

187. See id. at 7–8 (invoking perfect competition as a regulatory benchmark but recognizing exceptions for economies of scale and product differentiation); id. at 8 (“[T]hough the model of [perfectly] competitive market structure is not usable as such in our definition of competition, other concepts of the model are.”).

188. See id. at 7–8.

189. See id. at 8 (“Where firms can persistently behave over substantial
merely enhanced product differentiation or created economies of scale, the arrangement should fall to antitrust regulation.\footnote{190}{See \textit{id.} at 75–82 (outlining policy directed at prohibiting “unreasonable market power” not derived from economies of scale or product differentiation).} While Kaysen and Turner provided a systematic view of the antitrust field, their reliance on the perfect competition baseline, altered uniquely to recognize economies of scale and product differentiation, was nothing new. Instead, this test reflected the principles of workable competition previously laid down by other scholars, including Mason, to whom both scholars acknowledged a significant intellectual debt.\footnote{191}{See supra notes 158–61, 181, and accompanying text.} Indeed, nineteen years earlier, another of Mason’s former students had opined, in a project that began as a Ph.D. thesis, that any practice other than the “efficient organization of production” reflected an exercise of market power and should be banned so as to further workable competition.\footnote{192}{See \textit{MILLER}, supra note 150, at xii, 8.}

For Kaysen and Turner, invocation of this modified perfect competition heuristic spelled doom for nonstandard contracts, which limited rivalry, raised barriers to entry, produced no cognizable benefits, and thus, it was said, exercised or created market power to the detriment of consumers.\footnote{193}{See \textit{KAYSEN \\& TURNER}, supra note 28, at 157–59 (arguing that tying contracts necessarily reflect an exercise of market power); \textit{id.} at 156–57 (arguing that concerted refusals to deal are nearly always anticompetitive and thus should be unlawful per se). It should be noted that Professors Kaysen and Turner made no attempt to explain those tying contracts imposed in apparently competitive markets. Such arrangements, they said were, “random small transactions of no consequence.” See \textit{id.} at 159; cf. \textit{KUHN}, supra note 164, at 52–65 (noting that scientists treat phenomena inexplicable under current models as “anomalies”).} Antitrust policy should intervene in the market to eradicate such “anticompetitive” practices when feasible, and such intervention would eliminate market imperfections, render each industry as “competitive” as possible, and assure optimal prices, output, and quality.\footnote{194}{See supra notes 144–47 and accompanying text.} Many economists had previously expressed similar views, and other antitrust scholars would follow suit, arguing that courts should condemn various nonstandard contracts as “anticompetitive” attempts to create, protect, or exercise market power in a manner which differs from the behavior that the competitive market would impose on competitive firms facing similar cost and demand conditions, they can be identified as possessing market power.”; \textit{id.} at 75 (defining market power more extensively).
Instead of imposing such agreements, it was said, manufacturers should rely upon an unrestricted market to purchase and distribute their products.196

Like the workable competition model, Kaysen and Turner's approach did more than justify the condemnation of nonstandard agreements. The modified perfect competition heuristic also created a safe harbor for any number of internal or unilateral practices, even those that might lead to the acquisition of

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195. See supra note 147 (collecting authorities predating Kaysen and Turner). There are a number of classic exemplars of this approach. See BAIN, supra note 126; DIRLAM & KAHN, supra note 36; EARL W. KINTNER, AN ANTITRUST PRIMER (1964); MILLER, supra note 150; LOUIS B. SCHWARTZ & JOHN J. FLYNN, ANTITRUST AND REGULATORY ALTERNATIVES: FREE ENTERPRISE AND ECONOMIC ORGANIZATION (1977); STOCKING & WATKINS, supra note 146; LAWRENCE SULLIVAN, ANTITRUST (1977); Comanor, supra note 163. See generally Jacobs, supra note 23, at 226–27 (contending that Harvard school of industrial organization dominated antitrust thought in the 1960s).

Indeed, even Professor John M. Clark, praised by Professor Freidrich Hayek for embracing an expansive definition of "competition," defined competition in a manner that seemed to exclude contractual limits on the discretion of firms, i.e., nonstandard contracts: "Competition between business units in the production and sale of goods is the effort of such units, acting independently of one another (without concerted action), each trying to make a profitable volume of sales in the face of the offers of other sellers of identical or closely similar products." JOHN MAURICE CLARK, COMPETITION AS A DYNAMIC PROCESS 13 (1961); see also Clark, supra note 158, at 241 (arguing that the perfect competition model did not provide a useful benchmark for judging the efficacy of competition in actual markets); HAYEK, supra note 142, at 92 (same).

196. See DIRLAM & KAHN, supra note 36, at 181–87 ("[I]t is difficult to see why many of the mutual benefits and socially beneficent consequences of exclusive dealing require coercion [i.e., contractual requirement] for their achievement."); Bok, supra note 177, at 307–08 ("[I]t is strange that dealers will not follow this policy without being compelled to do so by contract, for the advantages that result should benefit them as well as the firms from which they buy."). Others argued that purchasers were capable of deciding for themselves whether to purchase a product that a seller wished to "tie" to a main product. See, e.g., Ferguson, supra note 177, at 558–64; Kahn, supra note 177, at 324 & n.160; William B. Lockhart & Howard R. Sacks, The Relevance of Economic Factors in Determining Whether Exclusive Arrangements Violate Section 3 of the Clayton Act, 65 HARV. L. REV. 913, 946 (1952); Louis B. Schwartz, Potential Impairment of Competition—The Impact of Standard Oil Co. of California v. United States on the Standard of Legality Under the Clayton Act, 98 U. PA. L. REV. 10, 27 (1949) ("[T]he efficiency of uniting two products in use [should] be judged by the end user."); Turner, supra note 163, at 66–67. Still others assumed that dealers would provide optimal levels of advertising and promotional services absent any vertical restraints. See, e.g., Comanor, supra note 163, at 1430 (recognizing free rider problem but asserting that an "unrestricted market" would provide sufficient presale promotional services by dealers).
market power. So, for instance, the authors argued that a monopoly achieved through internal expansion that realized economies of scale should be beyond the reach of antitrust regulation, even though some market power would result. Similarly, the authors argued that mergers between firms with a combined 20% share of a relevant market should be unlawful, unless the merging parties could show that the transaction created efficiencies, in the form of economies of scale, that could not be achieved through other means. Finally, while the authors advocated the dissolution of firms in concentrated industries characterized by oligopolistic interdependence, they recognized an exception for those industries where high concentration was necessary to realize economies of scale. Like the workable competition model and previous scholars before them, Kaysen and Turner drew a clear line between property-based "internal" conduct, on the one hand, and contracts that extended the firm's reach beyond its own boundaries, on the other.

Many have attributed the "workable competition" model to a Harvard school of industrial organization. It is certainly true that Harvard economists played a prominent role in developing, articulating, and applying the workable competition model. Still, Harvard scholars were not the exclusive practitioners of price theory and "workable competition"; other scholars also embraced price theory and applied it to industrial organization. For instance, it was Frank Knight of the University of Chicago who first formalized the perfect competition model.

197. See Kaysen & Turner, supra note 28, at 58 ("We would therefore make no direct attempt to eliminate market power derived from economies of scale, valid patents, or the introduction of new processes, products, or marketing techniques . . . "); see also supra notes 167-71 and accompanying text (explaining how workable competition model counseled a "hands off" approach to such practices).

198. See Kaysen & Turner, supra note 28, at 113; see also Turner, supra note 185, at 1217-25 (commenting that a monopoly obtained and maintained through economies of scale should be beyond antitrust attack).

199. See Kaysen & Turner, supra note 28, at 133-34.

200. See id. at 113-14; see also Turner, supra note 185, at 1228-31 (explaining how efficiency could justify a monopoly).

201. See supra notes 164-66 and accompanying text (explaining how model of workable competition drew this distinction).

202. See Jacobs, supra note 23, at 227; Posner, supra note 180, at 928-32 (arguing that the hospitable "Chicago" approach to antitrust rests upon rigorous application of price theory); Yoo, supra note 176, at 186.

203. See Knight, supra note 127, at 76-86.
Also, Knight's student, George Stigler, would author a text on price theory that embraced the technological conception of the firm.\textsuperscript{204} Later, he would opine that a firm could only obtain agreement to a tying contract by exercising market power.\textsuperscript{205} Even Robert Bork, who would lead the charge against antitrust's inhospitality tradition, fell prey to price theory. In 1954, for instance, he would argue that vertical integration could achieve two purposes: the evasion of taxes or other regulations, or the realization of "internal efficiencies."\textsuperscript{206} Thus, price theory's influence on industrial organization and antitrust policy was more pervasive than sometimes portrayed.

B. PRICE THEORY AND WORKABLE COMPETITION IN THE COURTS

1. Early Influence

As explained earlier, courts have implemented section 2's ban on monopolization by drawing a distinction between "normal" competitive practices, on the one hand, and "undue" or "unreasonable" restrictions, on the other.\textsuperscript{207} More precisely, modern monopolization doctrine requires courts to determine whether a practice that excludes rivals from the marketplace does so on "some basis other than efficiency."\textsuperscript{208} Finally, this "Rule of Reason" implies that courts would look to economic theory to determine whether a contract or other practice was "undue," on the one hand, or "normal," on the other.\textsuperscript{209}

Given these doctrinal premises, it should come as no surprise that price theory's conception of legitimate competition came to influence antitrust jurisprudence. By the 1930s, even before the full articulation of the workable competition model,

\textsuperscript{204} See Stigler, supra note 127, at 109–10.

\textsuperscript{205} See George J. Stigler, Mergers and Preventive Antitrust Policy, 104 U. Pa. L. Rev. 176, 176 (1955). At the time, Stigler was teaching at Columbia. After moving to Chicago, Stigler would opine that ties were likely efforts to engage in price discrimination. Such discrimination, of course, depended on the assumption that the firm inducing the tie had market power. See George J. Stigler, United States v. Loew's Inc.: A Note on Block Booking, 1963 Sup. Ct. Rev. 152, 152–54.

\textsuperscript{206} See Bork, supra note 145, at 200 (describing the benefits of vertical integration as "bypass[ing] a monopoly at one level, or... enabling the achievement of internal efficiencies").

\textsuperscript{207} See supra notes 43–60 and accompanying text.


\textsuperscript{209} See supra notes 13–19 and accompanying text.
courts began to reach results consistent with the price-theoretic paradigm, ultimately producing the so-called inhospitality tradition of antitrust.\textsuperscript{210} A prime exemplar of such influence can be found in the Court's treatment of tying contracts, in cases not arising under section 2. The Court initially subjected such agreements to friendly Rule of Reason treatment.\textsuperscript{211} In the 1930s, however, the Court abruptly changed course, holding that such agreements were unlawful per se whenever obtained by a firm with market power.\textsuperscript{212} Indeed, as early as 1949, the Court cited the work of a former student of Edward Mason for the proposition that firms could only obtain agreement to such a contract by exercising preexisting market power to coerce customers to accept it.\textsuperscript{213} While the nominal requirement of market power could have screened out a meaningful subset of cases, courts found such power whenever the market for the tying product departed from perfect competition, rendering the requirement barely relevant.\textsuperscript{214} The Court showed similar hos-


\textsuperscript{212} See Int'l Salt Co. v. United States, 332 U.S. 392, 399 (1947); Int'l Bus. Mach., Inc. v. United States, 298 U.S. 131, 139-40 (1936); see also MACHOVEC, supra note 128, at 268-76 (explaining that economists did not articulate and embrace the perfect competition model until the early 1920s).

\textsuperscript{213} See Standard Oil of Cal. v. United States, 337 U.S. 293, 306 (1949) (citing MILLER, supra note 150, at 199); see also Times-Picayune Publ'g Co. v. United States, 345 U.S. 594, 605 (1953) (same) (citing MILLER, supra note 150, at 199).

\textsuperscript{214} So, for instance, courts held that sellers had sufficient economic power whenever they possessed a product with "unique attributes" that was "attractive to consumers," i.e., whenever the market in question was characterized by product differentiation. See United States v. Loew's, Inc., 371 U.S. 38, 46-48 (1962) (holding that the possession of a copyright creates presumption of economic power); United States v. Paramount Pictures, Inc., 334 U.S. 131, 143-44 (1948) (same); Siegel v. Chicken Delight, Inc., 448 F.2d 43, 49-50 (9th Cir. 1971). Indeed, as suggested in the text, courts even went so far as to find that the existence of such contracts alone implied the "power" to impose them. See Fortner Enters. v. U. S. Steel Corp., 394 U.S. 495, 504 (1969); Loew's, 371 U.S. at 49 (finding that the fact of market foreclosure confirmed presumption that copyright conferred economic power); N. Pac. R.R. v. United States, 356 U.S. 1,
tility toward exclusive dealing contracts, voiding any such
agreement that foreclosed competing manufacturers from a
"substantial" portion of the market, which the Court defined as
7% or more.\textsuperscript{215} According to the Court, such contracts placed a
"clog on competition," as they tempered moment-to-moment in-
tradealer rivalry and gave rise to barriers to entry.\textsuperscript{216} In short,
judicial characterization of nonstandard contracts mimicked
workable competition's theory of legitimate competition.\textsuperscript{217}

While price theory exercised significant influence over doc-
trines governing concerted action, monopoly law remained rela-
tively impervious to price-theoretic influences, at least as a rhe-
torical matter. Even after section 1 doctrine had come to reflect
workable competition logic, many courts continued to invoke
the metaphor of "intent" or "deliberateness" when determining
whether a firm had "monopolized" in violation of section 2.\textsuperscript{218}
Others, however, rejected "intent" as a relevant standard, with-
out offering any coherent substitute. Indeed, the most impor-

\textsuperscript{7-8} (1957) ("The very existence of this host of tying arrangements is itself
compelling evidence of the defendant's great power . . . ."); cf. \textit{id}. at 6-7 (stat-
ing that no "economic power" would be present if "one of a dozen food stores in
a community were to refuse to sell flour unless the buyer also took sugar"). In
short, any departure from perfect competition—including the very existence of
tyng contracts—was deemed evidence of economic power. \textit{See} Meese, \textit{supra}
ote 24, at 34–35 (recounting Court's very relaxed definition of "economic
power" during this period).

\textsuperscript{215}. \textit{See} Standard Oil, 337 U.S. \textit{passim} (holding that exclusive dealing
contracts necessarily "substantially lessen[ed] competition" where manufac-
turer bound 6.7% of region's dealers); United States v. Richfield Oil Corp., 99
dealing contract that bound 6% of region's dealers unlawful). It should be
noted that each of these decisions arose under section 3 of the Clayton Act,
which forbids exclusive dealing contracts that "substantially lessen com-

\textsuperscript{216}. \textit{See} Standard Oil, 337 U.S. at 314.

\textsuperscript{217}. \textit{See} Meese, \textit{supra} note 15, at 124–34. Lower courts also embraced
price-theoretic rhetoric to justify hostility toward nonstandard contracts. For
instance, one court voided tying contracts because they purportedly interfered
with an open competitive market:

The economic merit in tying rivets to machines and an economic
justification for such tying will not suffice to prevent the operation of
the statute. The Clayton Act is intended to preserve competitive condi-
tions. The
\textit{open market} not the court should be the forum for the presen-
tation of claims as to the merits of tied articles. The lessees are
quite capable of judging for themselves \textit{in an atmosphere of competi-
tion} whether or not the rivets of one manufacturer will work in the
machines of another.

\textit{Judson L. Thompson MFG. Co. v. Fed. Trade Comm'n}, 150 F.2d 952, 958 (1st
Cir. 1945) (emphasis added).

\textsuperscript{218}. \textit{See} \textit{supra} note 28 and accompanying text.
tant decision of the time, *United States v. Aluminum Company of America* (Alcoa), which rejected an intent-based standard, was *internally* incoherent.219 There, the United States alleged that Alcoa had monopolized the market for aluminum ingot in contravention of section 2. The Government focused its efforts on showing that Alcoa "intended" to maintain its monopoly.220 Acting on behalf of the Supreme Court, a Second Circuit panel reversed the trial court and found that Alcoa had, in fact, maintained its monopoly power in an unlawful manner by continually expanding to meet the needs of prospective customers.221 In so doing, the Court dispensed with any requirement that the Government establish nefarious intent, stating that the only "intent" that was relevant was the intent to perform forbidden acts.222 Unfortunately, the decision left potential defendants to guess which acts were, in fact "forbidden."223

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219. See 148 F.2d 416, 431 (2d Cir. 1945).

220. See Aluminum Co. of Am., 148 F.2d at 432 (“By far the greatest part of the fabulous record piled up in the case at bar, was concerned with proving such an intent.”).

221. See id. at 430 (“It would completely misconstrue ‘Alcoa’s’ position in 1940 to hold that it was the passive beneficiary of a monopoly, following an involuntary elimination of competitors by automatically operative economic forces.”); id. at 431 (“It was not inevitable that [Alcoa] should always anticipate increases in the demand for ingot and be prepared to supply them. Nothing compelled it to keep doubling and redoubling its capacity before others entered the field.”).

222. See id. at 431–32 (“We disregard any question of intent. . . . [N]o intent is relevant except that which is relevant to any liability, criminal or civil: i.e., an intent to bring about the forbidden act.”).

223. See 3 AREEDA & HOVENKAMP, supra note 38, ¶ 611(b), at 21 (arguing that there is “an internal inconsistency” in Alcoa’s definition of exclusionary conduct); id. ¶ 613(d), at 23 (concluding that the rationale of Alcoa is unclear and that the decision can be read any number of ways); Mason, supra note 143, at 1273 (“Although [the Alcoa] decision broke new legal ground, it is, from an economist’s point of view, marred by what is at best some very dubious economics . . . the evidence concerning intent to exclude others is difficult to distinguish from ordinary, intelligent competitive action.”); id. at 1275 (“[I]t would appear extremely difficult to distinguish between a progressive embracing ‘of each new opportunity’ and what would ordinarily be considered desirable competitive performance.”); Stanley D. Robinson, Recent Antitrust Developments—1979, 80 COLUM. L. REV. 1, 3 (1980) (“[A] literal application of [Alcoa’s] language would, ironically enough, jeopardize any efforts by a monopolist, no matter how pure the origin of its power, to engage in competitive activity.”); see also Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 273 (2d Cir. 1979) (“[T]he cryptic Alcoa opinion [is] a litigant’s wishing well, into which, it sometimes seems, one may peer and find nearly anything he wishes.”).
Shortly after *Alcoa*, the Supreme Court also suggested that a plaintiff could prevail in monopolization litigation without showing nefarious intent.\(^{224}\) At the same time, the Court avoided any endorsement of the actual result in that decision, holding simply that a monopolist could not "use ... monopoly power, however lawfully acquired, to foreclose competition, to gain a competitive advantage, or to destroy a competitor."\(^{225}\) The Court did not, however, suggest any overarching framework for discerning whether, in fact, a monopoly was abusing its power. That task would befall a Harvard economist.

2. *United Shoe Machinery* and "Competition on the Merits"

Monopolization doctrine did not remain immune from price-theoretic influences for long. In a case that would remake monopolization doctrine, the United States brought suit in 1949 against the United Shoe Machinery Corporation, claiming that the firm had "monopolized" the market for shoe machinery. In what the trial court termed a "scattershot" case, the Government challenged any number of United Shoe’s practices, including its large research operation, acquisitions of minor competitors and patents, price discrimination, refusal to share technology with rivals, and the practice of introducing new products in response to competitive challenges.\(^{226}\) The Government also challenged the firm’s practice of leasing many of its machines instead of selling them outright, as well as various lease terms. In particular, the Government objected to provisions requiring lessees to pay cancellation fees if they returned the machines before the end of the lease term, as well as so-called "full capacity clauses," which required lessees to employ United Shoe’s machines ahead of others when there was not work sufficient to occupy both machines.\(^{227}\) Finally, the Government challenged the firm’s practice of requiring lessees to purchase replacement parts as well as repair and maintenance services from United Shoe.\(^{228}\)

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225. *Id.* at 107.
227. *See id.* at 319.
228. *See* Complaint ¶ 89, United States v. United Shoe Mach. Corp., 110 F. Supp. 295 (D. Mass. 1953) (No. 7198), *reprinted in* KAYSEN, supra note 7, at app. A, at 373 (describing the requirement that lessees also purchase replacement parts from United); *id.* at ¶ 22, *reprinted in* KAYSEN, supra note 7, at
The next year, in an unprecedented move, the trial judge contacted a Harvard economist—Edward Mason—in search of a law clerk to help sort through the Government’s case. Mason recommended Carl Kaysen, a former student and assistant professor at Harvard who had not yet written his dissertation. Judge Charles Wyzanski treated Kaysen as a sort of special master and tasked him with preparing a report containing both factual findings and recommendations on liability and remedy.

Kaysen, it should be noted, was the consummate price theorist. While some students rebel against their teachers, Kaysen swallowed Mason’s ideas hook, line, and sinker. Indeed, while serving as Wyzanski’s clerk, Kaysen continued to lecture at Harvard and participate in Mason’s discussion group, which sought to develop a useful standard for implementing the concept of workable competition. In addition to Mason, the group included other price theorists like Joe Bain, Robert Bishop, and Morris Adelman, as well as Kingman Brewster, who taught Antitrust at Harvard at the time. While Kaysen

app. A, at 350 (describing the requirement that lessees also purchase maintenance service from United).


230. See Kaysen, supra note 229, at 714.

231. See id. at 714–15; see also Carl Kaysen, An Economist as the Judge’s Law Clerk in Sherman Act Cases, 12 A.B.A. ANTITRUST L. PROC. 43 (1958).

232. See KAYSEN, supra note 7, at viii (“My debt to Dean Mason has been growing over ten years of association with him as a student and colleague, and continues to grow. Whatever there is of value in the analytical scheme used here, and in my conception of applying economic analysis to the determination of the issues in an anti-trust suit, I owe chiefly to his teaching.”).

233. See KAYSEN, supra note 7, at viii; see also Edward S. Mason, Market Power and Business Conduct: Some Comments, 46 AM. ECON. REV. 471, at 471 n.* (May 1956) (describing “collaborative work with a group of economists and lawyers in Cambridge, Massachusetts, on a study of monopoly and competition financed by the Merrill Foundation for the Advancement of Financial Knowledge”). It should be noted that the Merrill Foundation also subsidized Professor Kaysen’s subsequent text on antitrust law. See KAYSEN & TURNER, supra note 28, at vi.

234. See KAYSEN, supra note 7, at viii (describing various participants in the working group). The group would later include Donald Turner. See KAYSEN & TURNER, supra note 28, at xix. Professor Bain, it should be noted, is often described as the leader of the Harvard school of industrial organization. See BAIN, supra note 126; see also Kenneth G. Elzinga, Industrial Organization and Human Action, 19 CATO J. 233, 234 (1999) (calling Bain’s work the most influential textbook on industrial organization during the 1950s and
did not discuss the case in the working group, he did benefit greatly from the "general discussions" that took place there.\textsuperscript{235} Less than a decade later, he would coauthor a text that reified the group's conclusions.\textsuperscript{236}

Kaysen applied a price theorist's model to the \textit{United Shoe} case with a vengeance, relying upon price theory's conception of the firm and the concomitant workable competition model to sort through the Government's scattershot case.\textsuperscript{237} The result was a lengthy report, a case study of the shoe machinery market in general, and United Shoe's position and conduct in it, in particular. Indeed, chapters 2--8 of the report doubled as Kaysen's Ph.D. thesis, under Mason's supervision.\textsuperscript{238} The episode seemed to confirm the quip of one Nobel laureate, that if an economist wanted to determine whether a market was workably competitive, he or she hired a smart and diligent graduate student to author a dissertation about the industry.\textsuperscript{239}

Kaysen began by rejecting wholesale the Government's intent-based template for evaluating the firm's conduct.\textsuperscript{240} To

\textsuperscript{235} See KAYSEN, supra note 7, at viii ("The nature of my responsibilities to the Court precluded my discussion with [the members of the working group] the specific issues of the case, but our general discussions contributed greatly to my legal and economic education.").

\textsuperscript{236} See supra notes 182--84 and accompanying text.

\textsuperscript{237} See John Shepard Wiley, Jr. et al., \textit{The Leasing Monopolist}, 37 UCLA L. REV. 693, 703 (1990) ("One cannot fault Judge Wyzanski for 'ignoring economics' because in deciding the \textit{Shoe} case he had the very latest advice from the Harvard Department of Economics."); cf. Mason, supra note 164, at 475--76 (arguing that useful antitrust analysis requires the application of economic models to interpret causes and consequences of particular trade practices).

\textsuperscript{238} See KAYSEN, supra note 7, at viii.

\textsuperscript{239} According to Stigler, "To determine whether any industry is workably competitive, therefore, simply have a good graduate student write his dissertation on the industry and render a verdict. It is crucial to this test, of course, that no second graduate student be allowed to study the industry." See George W. Stocking, \textit{Discussion on the Attorney General Report}, 46 AM. ECON. REV. 496, 505 (1956); see also Elzinga, supra note 234, at 237 ("Edward Mason's graduate students at Harvard marked their entrance to the field of Industrial Organization by doing a doctoral dissertation on the structure-conduct-performance of particular industries.").

\textsuperscript{240} See KAYSEN, supra note 7, at 16 ("The analysis of the present record in this [case] study does not follow the organization of the Complaint."); id. at 335 ("Indeed, it is no exaggeration to say that an overall view of the market and United's position in it hardly emerged from the Government's presentation of its case at all, so heavily was it pointed toward 'intent.'"); id. at 343 ("In part, the poor preparation of the Government [at the remedy stage] arose from the fact that intent and conduct were uppermost in the minds of the lawyers who tried the Government case.").
him, the relevant question was quite simple: (1) did United Shoe have monopoly power and if so, (2) did the firm's performance and conduct reflect efforts to use or maintain that power. In applying this second prong, he sought to distinguish between internal, technological activities, on the one hand, and external, contractual activities, on the other. In so doing, Kaysen rejected the claim by the United States that United Shoe had improperly acquired or enforced its patents. He also rejected the Government's claim that United Shoe's acquisitions reflected predatory conduct toward the acquired firms. At the same time, however, Kaysen found that United Shoe's size and 75% share of the market were not compelled by technological considerations leading to economies of scale. Moreover, following price theory's conception of the firm and the workable competition model to their conclusion, Kaysen opined that United Shoe's lease-only policy, the content of its leases, and tying clauses were "coercive" devices that created barriers to entry and thus protected United Shoe's monopoly position. In short, Kaysen found no redeeming virtues whatsoever in such agreements. Because United Shoe's monopoly was not the result of economies of scale, superior research or other such attributes, Kaysen said, the court should declare the firm in violation of the Act.

241. See id. at 16–17.
242. See id. at 100–06.
243. See id. at 16–19 (drawing a general distinction between a monopoly based upon technical efficiency, on the one hand, and the "policy of firms in the market," such as exclusive dealing, on the other).
244. See id. at 92–99 (rejecting the argument that United Shoe was a natural monopoly). Kaysen did not dismiss the existence of any economies of scale in the industry. Instead, he found that United Shoe was operating at well over the minimum efficient scale, with the result that there was room in the market for at least one other firm operating at minimum efficient scale. See id. at 97 ("In sum, then, the evidence on scale and efficiency in the provision of service, such as it is, suggests that a company of United Shoe's size may have advantages over smaller companies, but that these advantages are likely to be small and with respect to companies of, say, half United's size, non-existent.").
245. See id. at 64–73, 100–12, 265–66, 275–78; see also id. at 275 (finding that the elimination of United Shoe's leasing practices would be the "most important single alteration in the operation of the shoe machinery market leading to an increase in the degree of competition therein... [together with other remedies], this change may be expected to lower significantly the existing barriers to competition").
246. See id. at 207–08 (summarizing the conclusion that United Shoe's monopoly was not the result of superior performance or economies of scale); id. at 265–66 (summarizing the conclusion that United Shoe's activities in the supplies market contributed to the firm's market power without producing any
Judge Wyzanski's opinion hewed closely to Kaysen's analysis on the question of liability. Like Kaysen, he found that United Shoe possessed a monopoly in the market for shoe machinery. Again like Kaysen, he rejected the longstanding "intent" standard in favor of a more objective approach, invoking Judge Learned Hand's *Alcoa* opinion on this score. Mere monopoly power, however, did not suffice to establish liability, and the court discerned three possible tests for liability from the case law. Under the first test, the Government could prevail only if it showed that United Shoe had engaged in a practice independently unreasonable under section 1 of the Sherman Act. According to the second, the Government could prevail by showing that United Shoe had maintained its monopoly by means of an "exclusionary practice," regardless whether the practice was independently unlawful under section 1. The third standard was even more hostile to United Shoe, at least rhetorically, as it would have allowed the Government to prevail unless United Shoe could affirmatively prove that it owed its monopoly "solely" to:

superior skill, superior products, natural advantages, (including accessibility to raw materials or markets), economic or technological efficiency, (including scientific research), low margins of profit maintained permanently and without discrimination, or licenses conferred by, and used within, the limits of law, (including patents on one's own inventions, or franchises granted directly to the enterprise by a public authority).

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247. See Kaysen, supra note 229, at 714 n.2 ("The opinion follows my analysis fairly closely in the matter of liability."); Charles E. Wyzanski, Jr., *The Judicial View of Section 2 Litigation*, 10 SW. U. L. REV. 45, 49 (1978) ("I have often said, what is true, that Carl Kaysen wrote the music and I wrote the words. . . .").


249. Id. at 346.

250. See id. at 342 (opining that, under the first approach, "[a]n enterprise has monopolized in violation of section 2 of the Sherman Act if it has acquired or maintained a power to exclude others as a result of using an unreasonable 'restraint of trade' in violation of Section 1 of the Sherman Act" (citing United States v. Columbia Steel Co., 334 U.S. 495, 525 (1948))).

251. See id. at 342 (citing United States v. Griffith, 334 U.S. 100, 106 (1947)).

252. See id.
The court expressed a preference for the first standard, and opined that United Shoe had offended it.\textsuperscript{253} Nonetheless, the court could not stop there, given what it viewed as binding authority: the Supreme Court’s earlier decision holding that United Shoe’s leasing and tying practices did not offend section 1.\textsuperscript{254} At the same time, the court held that United Shoe had offended each of the second two standards. In particular, the court held that United Shoe possessed monopoly power and that its continued power was not attributable “solely to defendant’s ability, economies of scale, research, natural advantages, and adaptation to inevitable economic laws,” but also to its leasing practices and tying agreements: \textsuperscript{255}

In one sense, the leasing system and the miscellaneous activities just referred to . . . were natural and normal, for they were, in Judge Hand’s words, “honestly industrial.” They are the sort of activities that would be engaged in by other honorable firms. And, to a large extent, the leasing practices conform to long-standing traditions in the shoe machinery business. Yet, they are not practices which can be properly described as the inevitable consequences of ability, natural forces, or law. They represent something more than the use of accessible resources, the process of invention and innovation, and the employment of those techniques of employment, financing, production, and distribution, which a competitive society must foster. They are contracts, arrangements, and policies which, instead of encouraging competition based on pure merit, further the dominance of a particular firm. In this sense, they are unnatural barriers; they unnecessarily exclude actual and potential competition; they restrict a free market.\textsuperscript{256}

The tying and leasing clauses, then, while “honestly industrial,” went beyond “competition based on pure merit” and were “unnatural barriers” that excluded competitors “unnecessarily.”\textsuperscript{257}

\begin{itemize}
\item \textsuperscript{253} See id. at 343 (“If the matter were res integra, this Court would adopt the first approach . . . .”).
\item \textsuperscript{254} See id.; see also United Shoe Mach. Co. v. United States, 258 U.S. 451 (1922) (finding that the lease provisions violated section 3 of the Clayton Act, but not section 1 of the Sherman Act); United States v. United Shoe Mach. Co., 247 U.S. 32 (1918) (finding that lease provisions did not offend section 1 of the Sherman Act).
\item \textsuperscript{255} See United Shoe Mach., 110 F. Supp. at 343.
\item \textsuperscript{256} See id. at 344–45 (emphasis added); see also id. at 344 (finding that tying contracts made entry by competitors more difficult by depriving the market of independent service providers).
\item \textsuperscript{257} Id. at 344–45; cf. Lorain Journal Co. v. United States, 342 U.S. 143 (1951) (finding that forcing advertisers to boycott competitor violated section 2); United States v. Griffith, 334 U.S. 100, 107–10 (1947) (holding that exclusive supply agreement was a “use” of monopoly power to foreclose competi-
Kaysen's report and the opinion that followed both marked significant departures from then-extant monopolization standards. Both were also quintessential manifestations of price theory and its workable competition paradigm. Each drew a distinction between property-based "internal" activities and "contractual" activities. Internal activities included "efficient design and improvement of machines," "prompt and knowledgeable service," "research and development," refusal to share the fruits of that research, and "economies of scale." The court expressly found that such tactics made entry by competitors more difficult. Nonetheless, they were "beyond criticism," as they constituted "superior skill, foresight, and industry." By contrast, United Shoe's leases and tying contracts were conscious "business policies," "contracts, arrangements, and policies" which, instead of encouraging "competition based on pure merit," erected "unnatural" barriers to competition.

In sum, then, United Shoe essentially announced a rule of per se liability for monopolists that engaged in contractual practices that impaired the competitive opportunities of rivals. In contrast, purely internal activities were per se lawful. While other decisions of the era rested upon hostility toward nonstandard contracts, none invoked the concept of "competition on the merits" or suggested the existence of a safe

259. See United Shoe Mach., 110 F. Supp. at 344; see also id. at 333 (finding that United Shoe had "never offered to license all, or its principal, shoe machinery patents").
260. See id. at 344 ("To combat United's market control, a competitor must be prepared with knowledge of shoemaking, engineering skill, capacity to invent around patents, and financial resources sufficient to bear the expense of long developmental and experimental processes."). See generally supra notes 38-39 and accompanying text (explaining that production of high-quality products at low prices will exclude less efficient rivals).
261. See United Shoe Mach., 110 F. Supp. at 344; see also KAYSEN, supra note 7, at 16-19 (asserting that a monopoly maintained by means of economies of scale is unobjectionable).
262. See United Shoe Mach., 110 F. Supp. at 344-45; see also KAYSEN, supra note 7, at 16-17 (asserting that courts should condemn a monopoly that "arises because of the policy of firms in the market, e.g., the acquisition of competitors, or the use of exclusive-distribution agreements in situations in which distribution channels are limited").
264. See id.
harbor for such activities. Just as nineteenth-century economists saw nature, even God himself, in the competitive market, so too did Judge Wyzanski rely upon a naturalistic conception of industrial practice to distinguish among various forms of conduct that might "exclude" a firm's rivals from the marketplace. Thus, while both internal, property-based conduct and contractual conduct gave rise to barriers to entry that had an exclusionary impact, the latter barriers were "unnatural" and unnecessary, because they arose from contracts or agreements that reflected an exercise of market power. The former, by contrast, were natural competitive methods, even the result of "inevitable economic laws" to which United Shoe, a passive entity, merely "adapted." Price theory, its theory of the firm, and the workable competition model were so taken for granted that some conduct appeared natural; only departures from this baseline were inherently suspect.

To the modern eye, the paradigm announced in United Shoe may seem inevitably hostile to defendants. In the context of the times, however, the decision was not so one-sided. Recall that decisions like Alcoa seemed to suggest that liability arose whenever a monopolist aggressively embraced new opportunities, if only through property-based, internal expansion and above-cost pricing. Indeed, the Government condemned

266. See Meese, supra note 14, at 15–16 (explaining how some nineteenth-century political economists believed that God ordained economic laws associated with the classical paradigm).
268. See id. at 343. Judge Wyzanski drew a similar distinction in a subsequent passage. Speaking of United Shoe's leasing policies and tying arrangements, he wrote:

Yet, they are not practices which can be properly described as the inevitable consequences of ability, natural forces, or law. They represent something more than the use of accessible resources, the process of invention and innovation, and the employment of those techniques of employment, financing, production, and distribution, which a competitive society must foster.

Id. at 344; see also id. at 345 ("United is [only] denied the right to exercise effective control of the market by business policies that are not the inevitable consequences of its capacities or its natural advantages."); id. ("[T]he law does not allow an enterprise that maintains control of a market through practices not economically inevitable, to justify that control because of its supposed social advantage.").
269. See supra notes 219–23 and accompanying text; see also Griffith, 334 U.S. at 105–06 (embracing Alcoa's rejection of intent standard without endorsing a particular result).
United Shoe on exactly these grounds, invoking Alcoa to argue that United Shoe's consistent embrace of new opportunities was indicative of an intent to monopolize.\(^{270}\) Moreover, the Government challenged a number of practices, including internal activities such as the introduction of new machines in response to competitive challenges and aggressive research, development, and patenting.\(^{271}\) At the same time, some scholars advocated a policy of active deconcentration, giving little or no regard for the efficiencies that such a policy would destroy.\(^{272}\) United Shoe rejected these challenges, making it absolutely plain that activities taking place within the firm are presumptively lawful, even if they should raise barriers to entry.\(^{273}\) Thus, while United Shoe announced a rule of per se condemnation for certain forms of contractual exclusion, it simultaneously created a safe harbor for property-based, internal activities, a result consistent with the views of numerous price theorists.\(^{274}\)

The Supreme Court affirmed Judge Wyzanski's opinion, which set the tone for the way in which courts, enforcers, and various scholars would approach monopolization law to this very day.\(^{275}\) Lower courts relied on the distinction between (in-

\(^{270}\) See United Shoe Mach., 110 F. Supp. at 329.

\(^{271}\) See supra notes 226–28 and accompanying text (detailing the Government's allegations in United Shoe).


\(^{273}\) See Robinson, supra note 223, at 3–4 (pointing out that the United Shoe opinion departed from Alcoa in a manner favorable to monopolists).

\(^{274}\) See Dirlam & Kahn, supra note 36, at 63 (endorsing the approach of United Shoe); Kayser & Turner, supra note 28, at 268 (same); Stocking, supra note 158, at 379–81 (praising Judge Wyzanski's opinion in United Shoe); Turner, supra note 185, at 1217–21 (noting that a monopoly based on unexpired patents or economies of scale should be unassailable). Even before United Shoe, some scholars had advocated such a safe harbor for purely internal conduct. See Mason, supra note 143, at 1273–75 (criticizing Alcoa's definition of exclusion as overbroad and unduly vague); see also Mason, supra note 157, at 387–88 (arguing that courts should tolerate market power where such concentration is dictated by economies of scale); cf. Miller, supra note 150, at 411 (noting that active deconcentration policy might interfere with economies of scale).

\(^{275}\) See United Shoe Mach. Corp. v. United States, 347 U.S. 521 (1954)
ternal) legitimate or "fair" competition, on the one hand, and "exclusionary" (contractual) conduct on the other.\textsuperscript{276} In 1966, the Supreme Court reaffirmed this distinction in \textit{United States v. Grinnell Corp.}\textsuperscript{277} There, the defendant had allegedly monopolized the market for so-called "central station security services," whereby firms installed security alarms in private homes and then monitored the alarms from a central location.\textsuperscript{278} In language reminiscent of \textit{United Shoe}, the Court held that a monopoly would not offend section 2 if obtained by "superior product, business acumen, or historic accident."\textsuperscript{279} The Court said the defendant's conduct fell well outside this safe harbor.\textsuperscript{280} In particular, the defendant had acquired and maintained its monopoly by, among other things, inducing subscribers to enter five-year, exclusive contracts and retaining title, i.e., leasing, the alarm systems installed in subscribers' homes.\textsuperscript{281} These contractual devices, the Court said, were "substantial barriers

\begin{itemize}
\item \textsuperscript{276} See, e.g., Cal. Computer Prods. v. IBM Corp., 613 F.2d 727, 742–43 (9th Cir. 1979); Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 274–75 (2d Cir. 1979); Telex Corp. v. IBM Corp., 510 F.2d 894, 926–27 (10th Cir. 1975) (holding that section 2 only forbids practices that constitute a "use" of monopoly power and thus does not reach internal conduct like innovation); Am. Football League v. Nat'l Football League, 323 F.2d 124, 131 (4th Cir. 1963) ("When one has acquired a natural monopoly by means which are neither exclusionary, unfair, nor predatory, he is not disempowered to defend his position fairly."). Just after \textit{United Shoe}, one court of appeals summarized the law under section 2 as follows:

\begin{quote}
The Sherman Act was not directed against one "who happens by his skill and energy to command an innocent and legitimate monopoly of a business." One who gains a large portion of a market by manufacturing a better product and by furnishing better service to his customers, which constitutes legitimate competition, is not denounced by the Sherman Act.
\end{quote}

Cole v. Hughes Tool Co., 215 F.2d 924, 938 (10th Cir. 1954) (en banc) (citation omitted); see also id. at 932–33 (distinguishing leases from those involved in \textit{United Shoe} on the ground that only the latter deterred lessees from using competitors' products).

\item \textsuperscript{277} 384 U.S. 563 (1966).

\item \textsuperscript{278} See \textit{Grinnell}, 384 U.S. at 566–67 (describing central station security services).

\item \textsuperscript{279} See id. at 570–71; cf. United States v. United Shoe Mach. Co., 110 F. Supp. 295, 344 (D. Mass. 1953) (holding that various activities internal to the firm constituted "superior skill, foresight and industry" and thus did not violate section 2 (quoting United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945))), aff'd per curiam, 347 U.S. 521 (1954).

\item \textsuperscript{280} See \textit{Grinnell}, 384 U.S. at 578.

\item \textsuperscript{281} See id.
to competition” as well as a manifestation of “coercive power” on the part of the defendant. Like Judge Wyzanski, the Grinnell Court embraced a price-theoretic model of legitimate “competition,” which involved moment-by-moment rivalry, without the mitigating influence of contract. While the Court conceded that the agreements may have produced some benefits, it declined to allow the defendants to justify the arrangements, choosing instead to relegate such an analysis to the remedy stage. Lower courts would draw a similar distinction between “competition on the merits” and other forms of exclusion. Indeed, the Second Circuit Court of Appeals went so far as to reject the result in Judge Hand’s Alcoa decision, holding that internal expansion and the realization of economies of scale could not violate section 2 of the Sherman Act.

The enforcement agencies also agreed with this approach. The Federal Trade Commission (FTC), for instance, embraced United Shoe’s distinction between conduct that was “economically inevitable,” on the one hand, and that which consisted of conscious “business policies” that excluded competitors, on the

282. See id.

283. See supra notes 174–76 and accompanying text (explaining that price theory equated “competition” with moment-to-moment rivalry unconstrained by nonstandard contracts).

284. See Grinnell, 384 U.S. at 578. The Court explained:

On this record it appears that these practices constitute substantial barriers to competition and that relief against them is appropriate. The pros and cons are argued with considerable vehemence here. Again, we cannot resolve them on this record. The various aspects of this controversy must be explored by the District Court and suitable protective provisions included in the decree that deprives these two devices of the coercive power that they apparently have had towards restraining competition and creating a monopoly.

Id.

285. See, e.g., Cal. Computer Prods. v. IBM Corp., 613 F.2d 727, 742–43 (9th Cir. 1979); Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 273–75 (2d Cir. 1979) (distinguishing between taking advantage of economies of scale and the “use of power” to impair competition on the merits); see also Hayes v. Solomon, 597 F.2d 958, 985 (5th Cir. 1979) (“[A]n entrepreneur is not protected from 'competition on the merits'—the 'summum bonum of the Sherman Act.'”); Sargent-Welch Scientific Co. v. Ventron Corp., 567 F.2d 701, 709 (7th Cir. 1977) (noting that proof that the monopolist “misused” its power is necessary for liability under section 2); Telex Corp. v. IBM Corp., 510 F.2d 894, 926–27 (10th Cir. 1975) (same); Cole v. Hughes Tool Co., 215 F.2d 924, 938 (10th Cir. 1954) (noting that section 2 does not forbid “gain[ing] a large portion of a market by manufacturing a better product and by furnishing better service to customers”).

286. See Berkey Photo, 603 F.2d at 273–75; see also Robinson, supra note 223, at 5–13 (discussing Berkey Photo’s rejection of Alcoa).
other. So, for instance, requirements contracts entered by a monopolist were inherently suspect, and thus unlawful, absent a strong showing of justification. In contrast, so-called internal conduct, including output decisions and refusals to share technology with rivals, was presumed lawful, even if it injured or excluded competitors. Moreover, as explained earlier, the Department of Justice relied wholeheartedly upon this distinction when litigating the Microsoft case.

C. PRICE THEORY'S CONTINUING INFLUENCE ON MONOPOLIZATION DOCTRINE

Modern section 2 precedents still draw a strong distinction between property-based "competition on the merits" and various forms of contractual exclusion. The continued adherence by courts and the enforcement agencies to this distinction is not surprising in light of the continued scholarly support for it. As explained earlier, economic theory has always exercised some influence over antitrust doctrine. Still, courts rarely absorb that theory directly from its source, as Judge Wyzanski did in United Shoe, but instead rely upon intermediaries, such as legal scholars and members of the practicing bar. For instance, when the Supreme Court relied upon transaction cost reasoning to repudiate the per se rule against nonprice vertical restraints, it did not cite the seminal work of economist Lester

287. See In re Balfour, 74 F.T.C. 345, 498–99 (1968) (relying upon United Shoe for the distinction between conduct that was "economically inevitable," and that which was the result of the firm's "free choice of business policies"); id. at 499–502 (finding that exclusive supply contracts and exclusive dealing arrangements violated this standard); see also In re Borden, Inc., 92 F.T.C. 669, 768–73 (1978) (relying on United Shoe and Grinnell to find a monopoly unlawful).

288. See In re Koppers Co., 77 F.T.C. 1675, 1684 (1970) (holding that requirements contracts "are particularly suspect when used by a monopolist" and that such agreements were unlawful absent a 'very strong justification'").

289. See In re E.I. DuPont de Nemours & Co., 96 F.T.C. 653, 745–46 (1980) (invoking United Shoe's distinction between "contracts, arrangements, and policies which instead of encouraging competition based on pure merit, further the dominance of a particular firm. In this sense, they are unnatural barriers; they unnecessarily exclude actual and potential competition; they restrict a free market." (quoting United Shoe Mach. Corp. v. United States, 110 F. Supp. 295, 344–45) (D. Mass. 1953))); see also id. at 746–48 (finding that the defendant's continued expansion and refusal to license technology to competitors was not exclusionary conduct).

290. See supra notes 90–119 and accompanying text.

291. See supra notes 43–60 and accompanying text.

292. See supra notes 20–24 and accompanying text.
Instead, the Court chose to rely upon the work of academic lawyers that applied these principles in scholarly articles directed at noneconomists.

The antitrust scholars with the most influence over courts and the enforcement agencies have repeatedly embraced price theory's conception of the firm and the distinction between "competition on the merits" and contractual exclusion. In their 1959 work on the economics of antitrust policy, Professors Kaysen and Turner endorsed the United Shoe formulation and condemned efforts to forbid efficient expansion through competition on the merits. Almost two decades later, Professors Turner and Philip Areeda would author their monumental and influential treatise on antitrust law. The two had this to say about the definition of "exclusion" appropriate for litigation under section 2:

[T]he first step in defining "exclusionary" conduct is to state what it clearly is not. Our concern about monopoly and the opportunities of rivals must not be allowed to obscure the objective of antitrust law which seeks to protect the process of competition on the merits and the economic results associated with workable competition. Accordingly, non-exploitative pricing, higher output, improved product quality, energetic market penetration, successful research and development, cost-reducing innovations, and the like are welcomed by the Sherman Act and are not therefore to be considered "exclusionary" for §2 purposes even if monopoly results. We attempt no further catalogue of desirable behavior at this point, but rest for the moment on the desirability of behavior constituting competition on the merits—the superior skill, foresight, and industry of which Judge Hand spoke. Antitrust law should not base the imposition of sanctions on the very conduct it would encourage. Behavior that is no more restrictive of ri-


295. See KAYSEN & TURNER, supra note 28, at 268; id. at 22 ("[T]he Sherman Act has been interpreted—and properly, we think—to leave room for legal monopolies, that is, for monopolies acquired solely by competitive merit . . . .") (emphasis added).

296. See 3 PHILLIP AREEDA & DONALD F. TURNER, ANTITRUST LAW (1978); infra notes 308–09 and accompanying text (documenting the significant influence of this treatise on the Supreme Court).
vals' opportunities than is reasonably necessary to effect competition on the merits is and should be approved by Sherman Act §2. Such behavior is, after all, indispensable if the antitrust laws are to achieve their objective. Thus, "exclusionary" comprehends at the most behavior that not only (1) tends to impair the opportunities of rivals, but also (2) either does not further competition on the merits or does so in an unnecessarily restrictive way.297

This paragraph, with its repeated invocation of "competition on the merits" and reference to the "opportunities of rivals" and "workable competition" exemplifies the remarkable staying power of price theory's workable competition paradigm and, with it, the distinction between (internal) property-based "competition on the merits," on the one hand, and contractual "exclusion" on the other.298 Indeed, the authors expressly noted that their formulation was consistent with that embraced by Carl Kaysen, announced by Judge Wyzanski, and affirmed by the Supreme Court in United Shoe a quarter century earlier.299 At the same time, however, the passage suggests a slight departure from United Shoe's apparent per se condemnation of exclusionary agreements.300 To be precise, the passage does not condemn any and all conduct that is not "competition on the merits" so defined. Instead, the passage apparently recognizes that some (undefined) conduct not deemed "competition on the merits" that "impairs the opportunities of rivals" might somehow "further" competition on the merits.301 Still, the authors do not explain what sort of conduct that is not "competition on the merits" can nonetheless further this process. At any rate, the authors do not give carte blanche to this undefined conduct, concluding instead that such tactics should only be lawful if they are the least restrictive means of furthering such competition—scrutiny they would not apply to above-cost pricing decisions.302 Other influential scholars agreed with this approach,

297. 3 AREEDA & TURNER, supra note 296, ¶ 626(b), at 77–78 (emphasis added) (footnotes omitted).
299. See 3 AREEDA & TURNER, supra note 296, ¶ 626(b), at 78 n.14 (endorsing the United Shoe formulation).
301. See 3 AREEDA & TURNER, supra note 296, ¶ 626(b), at 78.
302. See id. (approving of such conduct only if it does not limit rivalry "in an unnecessarily restrictive way"); Areeda & Turner, supra note 298, at 704–09 (arguing that courts should treat above-cost pricing as lawful); see also 3
adopting similar formulations during the same era.\textsuperscript{303} Less than ten years later, the Supreme Court would quote the last two sentences of this paragraph as stating the appropriate definition of “exclusionary conduct” under section 2.\textsuperscript{304} Like the authors, the Court did not explain what it meant to “further” competition on the merits.

This passage is not simply a historical artifact.\textsuperscript{305} Indeed, just recently, Harvard University issued a revised version of the treatise, now coauthored by Professor Herbert Hovenkamp—Professor Areeda’s coauthor until the latter’s untimely passing in 1992. The new treatise repeats the 1978 passage verbatim, as Professor Hovenkamp’s considered judgment regarding the definition of “exclusionary conduct” applicable under section 2 of the Sherman Act.\textsuperscript{306} Many other scholars continue to embrace this formulation, although the agreement is by no means universal.\textsuperscript{307}

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\item \textsuperscript{303} \textit{Areeda & Turner, supra note 38, ¶ 651(c)–(d), at 79–81 (stating that absent a business justification, proof that conduct injures rivals should establish a violation of section 2).}
\item \textsuperscript{304} \textit{See Earl W. Kintner, An Antitrust Primer: A Guide to Antitrust and Trade Regulation Laws For Businessmen 104–05 (2d ed. 1973); Sullivan, supra note 195, at 99–105; see also id. at 101–02 (treating a monopolist that gains its position because of patents, early entry, or economies of scale as a “passive beneficiary of market conditions”); Robinson, supra note 223, at 10–13 (endorsing Berkey Photo’s distinction between “competition on the merits” and the use of “monopoly power” to exclude competition).}
\item \textsuperscript{305} \textit{See Richard S. Markovits, The Limits to Simplifying Antitrust: A Reply to Professor Easterbrook, 63 Tex. L. Rev. 41, 51 (1984) (claiming, incorrectly as it has turned out, that “[t]he inhospitality tradition is dead, or at least dying”).}
\item \textsuperscript{306} \textit{See 3 Areeda & Hovenkamp, supra note 38, ¶ 651(c), at 78–79; see also Hovenkamp, supra note 17 at 1040 (providing a virtually identical definition of “exclusionary” conduct). It should be noted that Professor Hovenkamp felt free to express his disagreement with other conclusions contained in the previous version of the treatise. E.g., 3 Areeda & Hovenkamp, supra note 38, ¶ 630(a), at 44–46 (expressing disagreement with the treatise’s 1978 treatment of proposals to break up inefficient monopolies).}
\item \textsuperscript{307} \textit{See, e.g., Sullivan & Grimes, supra note 42, at 100–03; Baker, supra note 55, at 502–08; Piraino, supra note 38, at 844–48; Salop & Romainé, supra note 119, 649–53; see also Elhauge, supra note 62, at 320–30 (advocating enhanced scrutiny of exclusionary contracts). Other scholars seek a more relaxed approach to such conduct. See, e.g., Lopatka & Page, supra note 42, at 386–92; Timothy J. Muris, The FTC and the Law of Monopolization, 67 Antitrust L.J. 693 (2000) (criticizing the FTC’s approach to monopolization law as unduly hostile to conduct that is potentially procompetitive).}
\end{itemize}
\end{footnotesize}
Given this treatise's acceptance of the *United Shoe* formulation, it is no surprise that courts continue to embrace the distinction between "competition on the merits" and contractual exclusion. By all discernible measures, Professor Areeda was the most influential antitrust scholar of his generation, and his influence continues to this day. Fifty different Supreme Court opinions cite his treatise or other work with approval; over one thousand decisions in the lower federal courts do the same. Justice Stephen Breyer was on the mark when he quipped that most advocates would prefer to cite two paragraphs of Areeda on Antitrust in a Supreme Court brief instead of four courts of appeals and three Supreme Court Justices.

III. TRANSACTION COST ECONOMICS AND THE THEORY OF THE FIRM

A. A REVOLUTION IN ECONOMIC THEORY

If price theory and its workable competition model were the only lens available for examining industrial behavior, then modern monopolization law would make perfect sense, resting, as it would, on economic science's best theory of the firm and the practices in which firms engage. Price theory, however, is not the only economic paradigm relevant to questions of industrial organization and antitrust policy. Indeed, just as price theory and its workable competition model had solidified their grip on antitrust policy, a competing economic paradigm began to emerge in the form of transaction cost economics (TCE). Price theory, it will be recalled, had treated "the firm" as the basic building block of the market and assumed that the main function of the firm was technological. According to price theory, firms performed a unique role of allocation, calculation, and production within a market economy. At the same time, price theory saw no rationale for a firm to employ contracts that reached beyond its boundaries and influenced the behavior of its trading partners before or after the firm held title to the product in question.

308. By contrast, the Supreme Court has cited the work of Judge Bork seventeen times.


310. See *supra* notes 137–38 and accompanying text.

311. See *supra* notes 139–43 and accompanying text.
While price theory took the existence of firms as a given and then asked what they did, TCE began with a surprising question: why do firms exist in the first place? In particular, Professor Ronald Coase, the founder of TCE, performed a unique thought experiment, imagining that all activities that take place within firms (such as allocation, calculation, and production) instead take place on the market through a series of costless transactions between independent individuals. This experiment seemed to follow naturally, and ironically, from price theory's own tendency to assume away the costs of such transactions. Given this hypothetical possibility, economists could no longer characterize firms as unique vehicles for allocation, calculation, or production. To be sure, technology might be such that cost-minimizing production required individuals to employ particular assets in proximity—or even "under the same roof." The classic example of such technology-based integration given by price theorists had been the combination of iron manufacture with steel production to reduce fuel costs associated with reheating iron before converting it into steel. Still, practitioners of TCE realized that even where two or more activities took place in close proximity, no law of na-

312. See Coase, supra note 139, at 390 ("Our task is to discover . . . why a firm emerges at all in a specialized exchange economy.").

313. Fifty years after the fact, Professor Coase described this experiment as follows:

Let us start by assuming that we have an economic system without firms, difficult though it may be to conceive of such a thing. All transactions are carried out as a result of contracts between factors, with the services to be provided to each other specified in the contract and without any direction involved . . . . In such a system, the allocation of resources would respond directly to the structure of prices. . . .

R.H. Coase, Nature of the Firm: Influence, 4 J.L. ECON. & ORG. 33, 38 (1988); see also Steven N.S. Cheung, The Contractual Nature of the Firm, 26 J.L. & ECON. 1, 4 (1983) ("If all costs of transaction were zero, a customer buying [a part] would make a separate payment to each of the many contributing to its production."); Coase, supra note 139, at 388 ("Having regard to the fact that if production is regulated by price movements, production could be carried on without any organization at all, well might we ask, why is there any organization?"); Demsetz, supra note 137, at 145 ("Why do firms emerge as viable institutions when the perfect decentralization model amply demonstrates the allocative proficiency of the prices that emerge from impersonal markets?"). See generally Thomas S. Kuhn, A Function for Thought Experiments, in THE ESSENTIAL TENSION, supra note 182, at 240–65 (examining the role of thought experiments in challenging assumptions behind existing models).

314. See supra notes 130–31 and accompanying text (documenting price theory's tendency to assume away these costs).

315. See supra note 146 and accompanying text.
ture or technology required that the same individual or entity own all the assets related to the activities or employ all of those individuals who preformed them. Instead, TCE's thought experiment revealed that one individual could, for example, own a blast furnace and produce iron while another owned the converter and other equipment necessary to transform the iron into steel.\textsuperscript{316} Such separate ownership, of course, would not preclude the owners from agreeing to locate the assets in close proximity, even under the same roof.\textsuperscript{317} Given this realization, the existence of the firm that owned and directed all such assets suddenly became a mystery instead of an obvious manifestation of technological necessity.\textsuperscript{318}

As its name suggests, TCE found the answer to this conundrum in the concept of transaction costs.\textsuperscript{319} Unlike price

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\item \textsuperscript{316} See Oliver E. Williamson, Markets and Hierarchies, Analysis and Antitrust Implications 83–84 (1975) (concluding that technological considerations cannot explain vertical integration in the steel industry); Coase, Nature of the Firm, supra note 139, at 388 (explaining that individuals could theoretically rely on continuous market contracting to direct production); Victor P. Goldberg, Production Functions, Transactions Costs and the New Institutionalism, in Issues in Contemporary Microeconomics & Welfare 395, 396–97 (George R. Feiwel ed., 1985) (explaining that technical economies cannot explain boundaries of the firm because, absent transaction costs, such economies can “be achieved equally well if the factors of production are owned by independent individuals”); see also Polk Bros., Inc. v. Forest City Enters. Inc., 776 F.2d 185, 189–91 (7th Cir. 1985) (describing an arrangement whereby separate firms operated stores in the same building); Coase, Nature of the Firm, supra note 139, at 388 (“In a department store, the allocation of . . . sections to . . . various building locations . . . may be done by the controlling authority or the result of competitive price bidding for space. In the Lancashire cotton industry, a weaver can rent power and shop-room and can obtain looms and yarn on credit.”). Similarly, two or more airlines might operate from the same terminal, employ the same ground crew, display similar trademarks, and operate under the same “code” for reservation purposes, even though both remain legally separate and have different owners. See Michael E. Levine, Airline Competition in Deregulated Markets: Theory, Firm Strategy, and Public Policy, 4 Yale J. on Reg. 393, 437–41 (1987) (describing such partial contractual integration between otherwise independent firms).
\item \textsuperscript{317} See supra note 146 and accompanying text.
\item \textsuperscript{318} See Coase, Nature of the Firm, supra note 139, at 388 (“[H]aving regard to the fact that if production is regulated by price movements, production could be carried on without any organization at all, well might we ask, why is there any organization?”).
\item \textsuperscript{319} See id. at 390 (“The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism.”); see also R.H. Coase, The Nature of the Firm: Origin, 4 J.L. Econ. & Org. 3, 17 (1988) (“The solution was to realize that there were costs of making transactions in a market economy and . . . to incorporate them into the analysis. This was not done in economics at that time—nor, may I add, is it in most present-
theory, which ignored or assumed away information costs, bar-
gaining costs, and opportunism, TCE recognized these costs as
important determinants of the content of economic activity.320
To be sure, individuals could, theoretically, rely upon market
contracting to replicate the activities that take place within
firms. In the real world, however, such contracting is not with-
out its costs.321 Individuals must identify potential trading
partners, determine the price and quality of the products or
services they are offering, and negotiate agreements governing
each transaction.322 Moreover, when negotiating such agree-
ments, individuals must anticipate and guard against the pos-
sibility that their trading partners will behave in an opportun-
istic fashion, thereby extracting an inordinate share of the
fruits of the joint activity in question.323 While price theory as-
sumed that individuals could costlessly anticipate and defeat
such behavior through perfect contracting, TCE’s recognition of
bargaining and information costs implied the existence of op-
portunism in the “real world.”324

According to TCE, individuals could avoid some of these
costs by relying upon “the firm” to conduct economic activity.325
So, for instance, a manufacturer could avoid the cost of con-
tinually bargaining with its independent suppliers of labor by
hiring such individuals as employees, subject to the direction

320. See supra notes 130–31 and accompanying text (explaining that price
theory assumed away these costs of relying upon the market).
322. See id.; Coase, supra note 313, at 38–42 (emphasizing these types of
transaction costs); see also COASE, supra note 136, at 6 (describing the costs of
contracting).
323. See WILLIAMSON, supra note 125, at 7 (discussing role of opportunism
in TCE); see also Carl J. Dahlman, The Problem of Externality, 22 J.L. &
ECON. 141, 144–48 (1979) (“Policing and enforcement costs are incurred be-
cause there is a lack of knowledge as to whether one (or both) of the parties
involved in the agreement will violate his part of the bargain: if there were
adequate foreknowledge . . . these costs could be avoided . . . ”).
324. See supra notes 133–36 and accompanying text (explaining that price
theory’s propensity to assume away opportunism flowed naturally from its as-
sumption that bargaining and information costs were zero); see also Dahlman,
supra note 323, at 148; cf. KNIGHT, supra note 127, at 78–79 (noting that the
perfect competition model assumes away information costs and thus fraud and
opportunism).
325. See Coase, Nature of the Firm, supra note 139, at 390 (“The main rea-
son why it is profitable to establish a firm would seem to be that there is a cost
of using the price mechanism.”).
(within limits) of the employer.\textsuperscript{326} Similarly, the firm could avoid the cost of negotiating over the use of a specialized piece of property by simply purchasing the item, owning it, and directing employees to use it in a manner that maximizes the firm's profits.\textsuperscript{327} Finally, a manufacturer or other business entity could avoid the risk that independent contractors or property owners would behave in an opportunistic fashion by hiring employees and/or purchasing specialized assets, thereby reducing the costs that individuals would otherwise incur by relying upon market contracting to conduct all economic activity.\textsuperscript{328}

TCE's new paradigm entirely undermined price theory's account of the firm and its concomitant distinction between "the firm" and "the market." According to price theory, firms perform a unique technological function: the transformation of inputs purchased on the market into outputs sold there.\textsuperscript{329} In this world, the only benign rationale for complete vertical integration was the ability to realize property-based technological efficiencies. TCE exploded this notion by showing that individuals could realize technological efficiencies resulting from the use of related assets just as well through market contracting.\textsuperscript{330} Consider, for instance, the classic example of the integration of iron making and steel manufacturing to realize thermal economies.\textsuperscript{331} According to TCE, technological considerations simply cannot explain a steel company's decision to in-

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  \item \textsuperscript{326} See id. at 391 (describing the firm's contract as one in which an employee "agrees to obey the direction of an entrepreneur within certain limits"); id. (assuming that "the firm" is characterized by a single contract empowering the owner to "direct" the activity of a given factor of production); see also Cheung, supra note 313, at 10 (remarking that reliance upon "the firm" to conduct economic activity involves "direct[ion] by a visible hand"); Scott E. Masten, A Legal Basis for the Firm, 4 J.L. ECON. & ORG. 181, 185–97 (1988) (describing various ways in which organization of activity within a firm results in superior ability to control employees).
  \item \textsuperscript{328} See id. at 308–10 (contending that General Motors purchased its supplier of automobile bodies to avoid threats of opportunism by the supplier).
  \item \textsuperscript{329} See supra notes 138–39 and accompanying text.
  \item \textsuperscript{330} See WILLIAMSON, supra note 125, at 86–89; Goldberg, supra note 316, at 396–97; see also Coase, Nature of the Firm, supra note 139, at 388 (explaining that individuals could theoretically rely on continuous market contracting to direct production).
  \item \textsuperscript{331} See supra note 146 and accompanying text; see also, e.g., BAIN, supra note 126, at 381 (discussing an example of the integration of iron-making with steel-making).
\end{itemize}
tegrate backwards into iron production. Instead, TCE views the vertical integration of these two technologically separate processes within a single firm as a method of reducing the transaction costs that would result from continuous contracting between two owners of technologically separate and specialized processes.

Practitioners of TCE, then, put on a “different thinking cap” and thus saw the firm and complete vertical integration in an entirely new way. For these scholars, the firm was anything but a technologically-determined production function. TCE recharacterized the firm as a governance structure designed for economic relationships otherwise beset by high transaction costs. Moreover, while price theorists saw the firm as a single, monolithic entity, TCE recognized the firm as a collection of individuals who voluntarily associate by contract with the party or parties that hold title to “the firm’s” property and own the right to receive the revenues generated thereby.

To be sure, practitioners of TCE occasionally appear to posit a distinction between “market contracting” and the “direction” of activity “within” the firm. Indeed, Professor Coase himself

332. See WILLIAMSON, supra note 125, at 86–89 (concluding that most production processes are consistent with a variety of governance structures so that technological considerations cannot generally explain vertical integration); WILLIAMSON, supra note 316, at 83–84 (contending that technological considerations do not explain vertical integration of iron and steel production). See generally Coase, Nature of the Firm, supra note 139, passim.

333. See WILLIAMSON, supra note 125, at 86–89; WILLIAMSON, supra note 316, at 83–84.

334. HERBERT BUTTERFIELD, THE ORIGINS OF MODERN SCIENCE 1300–1800, 13 (rev. ed., Free Press 1957) (explaining that scientific revolutions involve “the art of handling the same bundle of data as before, but placing them in a new system of relations with one another by giving them a different framework, all of which virtually means putting on a different kind of thinking-cap for the moment”).

335. See WILLIAMSON, supra note 125, at 13 (“Rather than characterize the firm as a production function, transaction cost economics maintains that the firm is (for many purposes at least) more usefully regarded as a governance structure.”).


337. See supra note 326 and accompanying text. It is noteworthy in this regard that Professor Areeda, a proponent of distinct treatment for unilateral and concerted intrabrand restraints, asserts that Professor Coase drew a distinction between “managing” activity within a firm, “as opposed to contract or market.” See 7 PHILLIP E. AREEDA, ANTITRUST LAW ¶ 1467(l) & n.47, at 266–70 (citing Coase, Nature of the Firm, supra note 139, at 386). Professor Areeda’s apparent mischaracterization of Coase’s analysis reflects the sort of
likened the “direction” of economic activity within the firm to central planning. Nonetheless, more discriminating analysis reveals that there is no such distinction. The power to “direct” economic activity “within” a firm, including the practical ability to dispose of firm property, is a creature of contracts that parties negotiate and enforce in “the market.” While employers do “direct” employees in some sense, they do so pursuant to contracts that empower them to do so. Indeed, Professor Coase equated “the firm” with a particular type of contract, namely, one in which an employee or other factor of production “agrees to obey the directions of an entrepreneur within certain limits.” Thus, the employee follows the directions of her superior because she has agreed to do so—at least until she resigns.

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price-theoretic mind-set that drives antitrust’s current distinction between “unilateral” and “concerted” action. See id. ¶ 1462(c), at 223–24 (concluding that intrafirm activity does not constitute concerted action because it involves the employer’s “direction” of employees).

338. See Coase, Nature of the Firm, supra note 139, at 389 n.3.

339. See WILLIAMSON, supra note 125, at 78 (equating internal organization with “unified contracting”); Coase, Nature of the Firm, supra note 139, at 389 & n.3 (noting that “planning” that takes place within the firm is voluntary and pursuant to contract); see also Masten, supra note 326, at 195 (observing that parties could replicate the various control properties associated with the firm by contract).

340. Coase, Nature of the Firm, supra note 139, at 391. Coase further notes:

A factor of production (or the owner thereof) does not have to make a series of contracts with the factors with whom he is co-operating within the firm, as would be necessary, of course, if this co-operation were as a direct result of the working of the price mechanism. For this series of contracts is substituted one.

Id.; see also Cheung, supra note 313, at 5 (stating that a firm involves “a form of contract that binds the input owner to follow directions instead of determining his own course by continual reference to the market prices of a variety of activities he may perform”); R.H. Coase, Nature of the Firm: Meaning, 4 J.L. ECON. & ORG. 19, 28 (1988) (stating that the firm is defined by “a special kind of contract”).

341. Some have suggested that the fact that most employees can resign at any time undermines the claim that firms possess special control attributes. See Alchian & Demsetz, supra note 336, at 777. This argument does not seem convincing. To be sure, most employees are not contractually obligated to remain with their firms for a significant period. The same is true for franchisees and other “independent” firms that might supply distribution services. Nevertheless, employees differ from franchisees because they are bound to follow the directions of their employer so long as they remain employees. They also have the right to utilize the employer’s property—including trademarks. By directing employees pursuant to such contracts, employers can prevent some forms of opportunism. See Klein et al., supra note 327, at 302 (noting that a firm can prevent opportunism simply by firing employees who misuse property).
In this very important way, the employee is like a franchisee who follows those instructions that the franchise contract empowers the franchisor to give.\textsuperscript{342}

As a result, TCE concludes that what economists and antitrust scholars deem "a firm," capable of "unilateral" action disposing of its own property, is in fact a "nexus of contracts" between various individuals that supply labor, capital, and other inputs in pursuit of an economic objective.\textsuperscript{343} Moreover, within this framework, "unilateral" action by a completely integrated firm in fact involves certain forms of collaboration pursuant to a particular nonstandard contract that society chooses to treat as conduct of a single, artificial entity.\textsuperscript{344} Such "unilateral" action also involves reliance in one guise or another upon background legal rules created and enforced by the state, rules that individual actors can always change by contract. For instance, the power of "a firm" to set the price of "its property" depends upon law that grants the firm title and allows those who act for this entity to negotiate contracts with employees who limit their pricing discretion.\textsuperscript{345} By vesting some individuals with the residual product of the firm's activity, background rules assure that these individuals have incentives to exercise their control rights in a manner that enhances social welfare.\textsuperscript{346}


\textsuperscript{343} See Alchian & Demsetz, supra note 336, passim; Cheung, supra note 313, at 3 ("The word 'firm' is simply a shorthand description of a way to organize activities under contractual arrangements that differ from those of ordinary product markets."); Coase, supra note 313, at 41 (stating that the "relationship" known as the firm "come[s] about only when the organizer has contracts with several factors whose activities he coordinates."); see also, e.g., FRANK H. EASTERBROOK & DANIEL R. FISCHEL, THE ECONOMIC STRUCTURE OF CORPORATE LAW 1–39 (1991) (characterizing the modern corporation as a "nexus of contracts").

\textsuperscript{344} See supra notes 169–73 and accompanying text.


\textsuperscript{346} See YORAM BARZEL, ECONOMIC ANALYSIS OF PROPERTY RIGHTS 8–9, 52–53, 78 (1989) (explaining that economic theory predicts parties will maximize their joint welfare by allocating control rights to party or parties that reap the net rewards of the activity in question); Alchian & Demsetz, supra note 336, passim.
The realization that firms are particular types of contracts that exist solely to reduce transaction costs also helped economists and legal scholars interpret other methods of contractual organization short of complete vertical integration. After all, individuals do not merely choose between "the firm" and "the (spot) market"—there are any number of arrangements that are "in between." Franchising, sales agencies, and consignments all blend some elements of the firm (control) with elements of the market (independence), blurring the distinction between the two.\textsuperscript{347}

Price theory's allocational and technological account of the firm provided no benign explanation for these intermediate forms of integration, instead treating all nonstandard contracts as expressions of monopoly power or attempts to acquire it by, for instance, raising barriers to entry and interfering with "competition on the merits."\textsuperscript{348} TCE, by contrast, offered a non-technological explanation for various forms of integration, whether complete or partial. Just as complete integration of economic activity within a firm can avoid the costs of transacting, TCE said, so too can less complete forms of integration that take the form of market contracting.\textsuperscript{349} While such arrangements do not involve the level of control associated with the complete ownership of property or the employer/employee relationship, the agreements creating such relationships can nonetheless vest in a buyer or seller enough authority to attenuate the transaction costs that pure market contracting might oth-

\textsuperscript{347} See, e.g., Cheung, supra note 313, at 19 ("The polar cases [of the firm and the market] are complicated.... [A]ny type of input may support a variety of contractual arrangements. We surmise that these very complications... have arisen from attempts to save transaction costs that were not avoidable in the polar cases."); Coase, supra note 340, at 27; Klein et al., supra note 327, at 326 ("[The] primary distinction between transactions made within a firm and transactions made in the marketplace may be too simplistic. Many long-term contractual relationships... blur the line between the market and the firm."); see also Coase, Nature of the Firm, supra note 139, at 392 n.1 ("[I]t is not possible to draw a hard and fast line which determines whether there is a firm or not. There may be more or less direction.").

\textsuperscript{348} See supra notes 174-76 and accompanying text; see also, e.g., United States v. Grinnell Corp., 384 U.S. 563, 578 (1966) (finding that "lease only" policy and exclusive dealing contracts were "coercive" efforts to raise barriers to entry); F.T.C. v. Brown Shoe Co., 384 U.S. 316, 317, 321 (1966) (finding that exclusive dealing offended the "central policy of the Sherman Act" by "tak[ing] away freedom of purchasers to buy in an open market").

\textsuperscript{349} See, e.g., WILLIAMSON, supra note 125, at 23–29, 185–95, 370–73; Klein et al., supra note 327, at 302–07.
erwise involve.\textsuperscript{350} At the same time, partial integration may avoid some of the downsides of total integration.\textsuperscript{351} For instance, by concentrating the costs and benefits of a particular activity in a single owner, partial integration may preserve the sort of high-powered incentives associated with the market.\textsuperscript{352} In some instances, then, partial integration can produce the "best of both worlds": control of the sort necessary to prevent opportunism coupled with the incentive and specialization benefits of the market.\textsuperscript{353} Indeed Professor Oliver Williamson, the leading modern exponent of TCE, concludes that partial integration is presumptively superior to complete integration. According to Professor Williamson, the various disadvantages of complete integration render such a strategy "the last resort," that actors should embrace only after various forms of partial integration fail.\textsuperscript{354}

\begin{itemize}
  \item \textsuperscript{350} See, e.g., WILLIAMSON, supra note 125, at 28–37; see also Coase, supra note 313, at 42–46 (arguing that long-term contracting can often reduce transaction costs and serve as a good substitute for complete integration); Coase, supra note 340, at 28 (suggesting that franchising provides an example of a "mixed relationship" sharing attributes of the firm and the market); Klein et al., supra note 327, at 302–07.
  \item \textsuperscript{351} See supra notes 175–76 and accompanying text.
  \item \textsuperscript{353} See, e.g., WILLIAMSON, supra note 125, at 157–58 (arguing that such considerations explain automobile manufacturers' decisions to rely on franchised dealers); Levine, supra note 316, at 441 (arguing that such considerations explain airlines' decision to own only a portion of their commuter carriers); Paul H. Rubin, \textit{The Theory of the Firm and the Structure of the Franchise Contract}, 21 J.L. & ECON. 223, 226–30 (1978) (interpreting franchise contracts in this manner); see also Coase, supra note 137, at 716 (contending that transaction cost considerations can explain any number of commercial practices). Professor Williamson continues:

  Vertical market restrictions can be interpreted as a decision [to abjure complete integration] .... If most hazards can be relieved [through such partial integration] without incurring the added bureaucratic cost .... of unified ownership, then hybrid modes, of which franchising is an example, will be employed (provided that the contractual restrictions that accrue thereto are not treated as unlawful).

  \item \textsuperscript{354} See WILLIAMSON, supra note 125, at 21 ("[A]s added bureaucratic costs
B. TCE'S NEW VERSION OF (CONTRACTUAL) COMPETITION

Economists and legal scholars applied the lessons of TCE to various antitrust problems, slowly undermining the intellectual basis for antitrust's inhospitality tradition in the process.355 Perhaps most famously, TCE offered a beneficial explanation for intrabrand restraints such as minimum resale price maintenance or exclusive territories.356 These restraints all restrict competition between various dealers selling a particular manufacturer's product after transfer of title. Such arrangements, it is said, were means of overcoming the failure in the market for distributional services caused by free riding by opportunistic dealers or venture partners.357 As a result, such restraints were analogous to a decision by a single firm to advertise its product while at the same time instructing its employees to charge a high enough price to cover the cost of such promotion.358 While such restrictions eliminated in-

accrue upon taking a transaction out of the market and organizing it internally, internal organization is usefully thought of as the organization form of last resort: try markets, try hybrids, and have recourse to the firm only when all else fails.

355. I do not mean to suggest that TCE arose exogenously with no concern for antitrust problems. Quite the contrary, it appears that TCE arose in significant part to address antitrust problems for which price theory provided an inadequate solution. See WILLIAMSON, supra note 316, at 83–84; Telser, supra note 293 (examining why manufacturers might desire exemption from the Sherman Act in the form of so-called "Fair Trade" laws); see also Robert H. Bork & Ward S. Bowman Jr., The Crisis in Antitrust, 9 ANTITRUST BULL. 587, 593–99 (1964) (arguing that the absence of meaningful concentration in most antitrust cases suggests that practices could not harm consumers and were in fact designed to create efficiencies).

356. See United States v. Topco Assocs., Inc., 405 U.S. 596, 608 (1972) (declaring horizontal division of territories ancillary to legitimate joint venture unlawful per se); Simpson v. Union Oil Co., 377 U.S. 13, 24 (1964) (declaring minimum resale price maintenance a coercive practice and unlawful per se).

357. See Telser, supra note 293, at 96–99 (arguing that minimum resale price maintenance can combat dealer free riding and thus ensure an optimal level of promotional services); see also ROBERT H. BORK, THE ANTITRUST PARADOX 430–38 (1978) (showing that territorial restraints ancillary to a legitimate joint venture could overcome free riding by firms that distribute the venture's brand); Meese, supra note 352, at 598–99. Other scholars have attempted to refine Telser's analysis. See, e.g., Benjamin Klein & Kevin M. Murphy, Vertical Restraints as Contract Enforcement Mechanisms, 31 J.L. & ECON. 265 (1988); Howard P. Marvel & Stephen McCafferty, Resale Price Maintenance and Quality Certification, 15 RAND J. ECON. 346 (1984); see also Howard P. Marvel, The Resale Price Maintenance Controversy: Beyond the Conventional Wisdom, 63 ANTITRUST L.J. 59, 80–90 (1994) (discussing then-extant theories and the empirical support for those theories).

358. See BORK, supra note 357, at 435–36.
(trabrand competition, they could also enhance another, and more important form of rivalry: interbrand competition.\textsuperscript{359} By definition, of course, intrabrand restraints govern only a single brand of product: they are thus not "exclusionary" in any meaningful sense.\textsuperscript{360} However, TCE also offered explanations for agreements such as tying contracts, long-term leases, nonstandard lease provisions, and exclusive dealing arrangements, each of which price theorists and courts had treated as exclusionary contracts not justified by any legitimate benefits.\textsuperscript{361} So, for instance, some scholars argued that tying contracts could protect manufacturers or franchisors from opportunistic purchasing decisions by customers or franchisees.\textsuperscript{362} Such agreements allowed franchisors to replicate the quality standards of vertically integrated firms while retaining the incentive advantages of an independent franchise system.\textsuperscript{363} Also, contracts requiring a purchaser or lessee of complex machinery also to purchase maintenance services from the manufacturer could allow the manufacturer continually to gather information about the operation of its product, thus facilitating further improvements in the good.\textsuperscript{364} Without such a contractual requirement, purchasers or lessees might obtain their services from independent organizations, depriving the manufacturer of the knowledge it might otherwise generate if it provided the repair services itself.\textsuperscript{365} Here again, tying contracts could repli-
cate the purchasing decisions of a fully integrated firm while at the same time preserving some of the benefits of market-based decision making by otherwise independent entities.

Other scholars focused on exclusive dealing contracts, showing that such agreements could encourage a firm to make investments specific to a particular relationship by preventing the firm’s trading partner from dealing with others. For example, an automobile manufacturer could induce a manufacturer of automobile bodies to make investments that are only useful in the context of the relationship in question by promising not to deal with other auto body firms, thus excluding those firms from a portion of the marketplace. In this way, the two firms could replicate the results produced by complete integration without incurring the incentive costs of such a drastic course. Other manufacturers might employ such agreements to prevent opportunism by dealers. For instance, a manufacturer that makes promotional investments might fear that dealers will employ the manufacturer’s trademark and associated goodwill to attract consumers while at the same time encouraging such customers to purchase products manufactured by others. By requiring a dealer to trade with it to the exclusion of other firms, a manufacturer could thereby protect its return

\[\text{citation would entail costs and risks over and above those associated with complete integration, i.e., reliance upon employees to acquire such data. See id. at 65; see also Masten, supra note 326, passim (arguing that certain legal attributes associated with the firm facilitate the production and dissemination of information within it).}

366. See Benjamin Klein, Vertical Integration as Organizational Ownership: The Fisher Body-General Motors Relationship Revisited, 4 J.L. ECON. & ORG. 199, 201 (1988). Some lawyers had suggested this rationale long before economists did. See Milton Handler, Statement Before the Small Business Administration, 11 ANTITRUST BULL. 417, 424 (1966) (suggesting that an exclusive buying provision can constitute “a vital quid pro quo to avoid placing the seller at the dealer’s mercy”); see also United States v. Addyston Pipe & Steel Co., 85 F. 271, 278–91 (1898) (recounting common law’s willingness to enforce agreement preventing employee from working for other employers on the ground that such agreements induced employers to make investments in training employees bound by such agreements).

367. Klein, supra note 366, at 201 (employing this example).

368. See id. at 204 (noting that complete vertical integration often involves “incentive-type costs”); Klein et al., supra note 327, at 307 (noting that complete vertical integration involves “ownership costs” that firms compare to transaction costs when choosing between long-term contracting and complete integration); cf. Goetz & Scott, supra note 352, at 1094–95 (predicting that parties will adopt contracts governing their relationship that will induce them to replicate the behavior of a single, unified firm).
on promotional investments. At the same time, the manufacturer could realize the benefits of a decentralized approach to distribution, an approach that requires independent dealers to bear the risk that comes with purchase of the manufacturer's product.

Scholars have also offered transaction cost explanations for leasing provisions such as those condemned in *United Shoe*. For instance, two scholars have argued that the decision to lease machines instead of selling them outright ensured that United Shoe retained the requisite incentives to provide its customers with high quality machines given the difficulty of discerning quality of the machines at the time of sale and the high cost of negotiating and enforcing warranties governing durable goods. In short, TCE suggested explanations for any number of nonstandard "exclusionary" contracts that economists had previously treated as necessarily "monopolistic."

TCE's explanation for nonstandard contracts undermined price theory's focus on the "passage of title" as an event that purportedly distinguished harmful restraints from "competition on the merits." Indeed, like "competition on the merits," which rests upon a firm's possession and invocation of property rights, TCE's explanations for nonstandard contracts depended upon the exclusive, indeed, "exclusionary" effects of the agree-

369. See Howard Marvel, *Exclusive Dealing*, 25 J.L. & ECON. 1, 6–11 (1982) (contending that exclusive dealing contracts could prevent dealers from promoting inferior brands and thus free riding on the manufacturer's promotional efforts). This explanation, of course, depends upon a claim that, absent some method of contractual control, dealers would find such a strategy rational. Such a strategy would be rational from a dealer's perspective if a manufacturer expended a significantly greater amount per unit of output on promotion than its competitors, with the result that a dealer could enhance its profits by steering customers toward products with lower wholesale prices, and thus higher dealer margins, than those of the manufacturer in question.


373. See *supra* notes 174–76 and accompanying text (detailing price-theorists' hostility toward nonstandard contracts).

374. See *supra* notes 61–63 and accompanying text (explaining that workable competition's interpretation of economic activity rested upon a distinction between property and contract and thus saw great significance in the passage of title).
ments in question. For instance, exclusive dealing contracts protect a manufacturer's promotional investments by creating a sort of property right in the fruits of such expenditures, the same right possessed by fully integrated firms.  

Similarly, agreements requiring franchisees to purchase certain inputs certainly exclude some rival sellers of such inputs from the market. Still, this exclusion can ensure that the franchisees that employ high quality inputs can reap the reward of doing so, without suffering at the hands of free-riding fellow franchisees. Although exclusionary, such agreements effectively grant a property right to those franchisees that maintain high quality standards.

Such contractual rights certainly create "barriers to entry" in some sense. Still, this is true of all property, whether created by contract or positive law. An automobile manufacturer can exclude potential rivals from its factory, realizing economies of scale and driving rivals from the market, because the law of real property empowers it to do so. In the same way, a software firm can exclude potential rivals by relying upon the law of copyright. Nonetheless, society tolerates such


376. See supra notes 356–59 and accompanying text.

377. See Rubin, supra note 353, at 227–29 (arguing that franchise contracts empower franchisors to police shirking franchisees, thus protecting incentives to enhance quality); see also Josef Windsperger, The Nature of Franchising: A Property Rights Approach, 2 REV. ECON. 130 (1996).

378. See Meese, supra note 352, at 593–95.

379. See Harold Demsetz, Barriers to Entry, 72 AM. ECON. REV. 47, 49 (1982); Langlois, supra note 131, at 831; Wesley J. Liebeler, Exclusion and Efficiency, 11 REGULATION 34, 38–39 (1987); see also Elhauge, supra note 62, at 296–98 (employing the same logic to defend refusals to deal).

380. See Liebeler, supra note 379, at 38 (employing this example). Professor Harold Demsetz has explained how "property rights" and "barriers to entry" are really two sides of the same coin:

Even the operation of an unregulated market system presupposes the general recognition of property rights, but the problem of defining ownership is precisely that of creating properly scaled legal barriers to entry. . . . An owner of resources may be barred legally from using (his) resources simply to occupy and operate the facilities of someone already in the industry. He must first meet the cost hurdle of securing the "owner's" permission.

Demsetz, supra note 379, at 49 (emphasis omitted).
barriers because they encourage desirable activities.\textsuperscript{381} Similarly, contractual property may bar the entry of rivals in order to encourage socially useful activities by eliminating market failures that might otherwise occur.\textsuperscript{382}

C. TCE'S NEW MODEL OF COMPETITION

TCE did more than provide new explanations for a variety of practices. It also implied an entirely different model of legitimate "competition" relevant to section 2's distinction between "normal" "competition on the merits," on the one hand, and presumptively unlawful contractual exclusion, on the other.\textsuperscript{383} Price theory's account of the firm and the workable competition school equated legitimate "competition" with property-based, technological rivalry between autonomous firms, unconstrained by nonstandard contracts.\textsuperscript{384} Contracts that limited rivalry between otherwise independent firms were inconsistent with "workable competition," and thus were "market failures" that government should correct via the antitrust laws.\textsuperscript{385}

According to the new paradigm, however, it was price-theoretic "competition on the merits" that would often lead to market failure and thus interfere with the best attainable allocation of resources. Instead of producing the most favorable mixture of price, output, and quality, reliance upon technological rivalry and standard "spot market" contracts to conduct economic activity often led to suboptimal results from the perspective of society and consumers.\textsuperscript{386} Far from "destroying" useful competition and enhancing market power, then, complete vertical integration and various forms of nonstandard contracting often promoted competition and consumer welfare by guiding the allocation of resources closer to the socially optimal result that a well-functioning market would produce in the absence of transaction costs.\textsuperscript{387}

\textsuperscript{381} See Demsetz, supra note 379, at 48–49.
\textsuperscript{382} See id.; Liebeler, supra note 379, at 39.
\textsuperscript{383} See supra notes 43–60 and accompanying text (explaining this distinction).
\textsuperscript{384} See supra notes 172–77 and accompanying text.
\textsuperscript{385} See supra notes 172–77 and accompanying text.
\textsuperscript{386} See supra notes 137–54 and accompanying text.
\textsuperscript{387} See William F. Baxter, The Viability of Vertical Restraints Doctrine, 75 CAL. L. REV. 933, 947–48 (1987) (arguing that vertical restraints are forms of partial integration that overcome market failures and associated distortions of
The realization that "exclusive" agreements can serve efficiency purposes required a redefinition of the sort of "workable competition" that price theorists thought desirable. As a result, just as price theory itself treated certain "imperfect" practices as (workably) competitive, so too, it seems, does TCE and its theory of the firm mandate the recognition that at least some nonstandard "exclusionary" contracts in fact further the ultimate goal of "workable competition" as defined by price theorists. The competition that takes place in the real world and between various groups ultimately depends upon the institution of private contracts, many of which, including "the firm" itself, are "nonstandard." Innovation includes the discovery of new organizational forms and the application of old forms to new contexts. Indeed, as Professor Coase pointed out, many markets deemed "perfectly competitive" are in fact the end result of complex contracts limiting rivalry between competi-

the allocation of resources); Coase, supra note 126, at 68 (arguing that nonstandard contracts and other practices are often "a necessary element in bringing about a competitive situation"); Oliver E. Williamson, Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach, 127 U. PA. L. REV. 953, 987–88 (1979) ("Organizational changes that give rise to cost savings in any of these respects will, if not accompanied by offsetting price distortions, invariably yield social gains."); supra notes 348–54 and accompanying text; cf. KAYSEN & TURNER, supra note 28, at 12–13 (arguing that anticompetitive arrangements should be void to further "competition" in each industry and enhance social welfare (citing Pigou, supra note 149)).

388. See supra notes 348–54 and accompanying text.

389. See supra notes 210–17 and accompanying text (showing that courts embraced this technological model of competition during the inhospitality era); see also Mason, supra note 143, at 1266–71 (outlining concept and goals of workable competition); supra notes 13–21 and accompanying text (explaining that Standard Oil equated "competition" with "rivalry").

390. See Nat'l Soc'y of Prof'l Eng'rs v. United States, 435 U.S. 679, 688 (1978); Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 53 n.21 (1977); Bd. of Trade v. United States, 246 U.S. 231, 238 (1917); Standard Oil Co. v. United States, 221 U.S. 1, 61–62 (1911); cf. HAYEK, supra note 142, at 96 (arguing that various activities inexplicable under price theory's model of competition are in fact necessary to achieving a competitive result).

391. See JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 84–85 (1942) (arguing that price competition is "a matter of comparative indifference" when compared to "the competition from [a] new commodity, the new technology, the new source of supply, [or] the new type of organization") (emphasis added); Oliver E. Williamson, Antitrust Lenses and the Uses of Transaction Cost Economics Reasoning, in ANTI TRUST, INNOVATION, AND COMPETITIVENESS, 137, 139–40 (Thomas M. Jorde & David J. Teece eds., 1992) ("That the 'same technical facilities' produce with a 'great variety of costs' comes as no surprise if nontrivial cost consequences result when firms are organized and managed differently.").
Such *contractual* competition cannot produce perfect results—no human institution ever can. Nonetheless, the result is superior to that which would obtain in a (real) world *without* nonstandard contracting. While such agreements exclude rivals from some portion of the marketplace, these contracts "promote" and "enhance" the sort of real world "competition" that would "develop trade" and advance society's welfare. Given this recognition of contractual competition, proof that a nonstandard contract limits rivalry or excludes rivals from a portion of the market in no way indicates that it is "anticompetitive," monopolistic, or otherwise inconsistent with the goals of "workable competition."

**D. TCE's Influence over Antitrust: Section 1**

TCE would soon come to influence antitrust policy and doctrine, at least under section 1 of the Sherman Act. In particu-

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392. See Coase, supra note 136, at 8–9 (explaining that commodities exchanges depend upon enforcement of "intricate system of rules and regulations"); see also Frank H. Easterbrook, *The Limits of Antitrust*, 63 Tex. L. Rev. 1, 1 (1984) ("Every market entails substantial cooperation over some domain in order to facilitate competition elsewhere . . . . The Chicago Board of Trade, perhaps the closest of modern markets to the textbook ideal, has a sheaf of rules and cooperative arrangements that reduce the cost of competition."); cf. Anderson v. United States, 171 U.S. 604, 616 (1898) (sustaining rules ancillary to cattle exchange whose object was to "provide for the ready transaction of the business of the associates by obtaining a general headquarters for its conduct, and thus to ensure a quick and certain market for the sale or purchase of the article dealt in"); HAYEK, supra note 142, at 96 ("[T]he whole organization of the market serves mainly the need of spreading the information on which the buyer is to act.") (emphasis added).

393. Professor Hayek cautioned economists not to judge the competition that takes place in the real world by comparing such rivalry to that which appears in textbooks:

The basis of comparison, on the grounds of which the achievement of competition [in the real world] ought to be judged, cannot be a situation which is different from the objective facts and which cannot be brought about by any known means. It ought to be the situation as it would exist if competition were prevented from operating. Not the approach to an unachievable and meaningless ideal but the improvement upon the conditions that would exist without competition should be the test.

HAYEK, supra note 142, at 100. Applying Professor Hayek's wisdom, then, many decisions during the price-theoretic era prevented competition from operating.

394. See Coase, supra note 126, at 68; see also supra notes 13–19 and accompanying text (explaining that the *American Tobacco* decision held that "normal" conduct that "advanced trade" could not offend section 2 of the Sherman Act).
lar, numerous scholars embraced TCE's teachings that non-standard contracts are presumptively efforts to economize on the transaction costs that result from reliance upon "the market" to conduct economic activity. These scholars and other antitrust lawyers transmitted their views to the courts, who in turn modulated or rejected altogether certain per se rules against nonstandard contracts in a manner that reflected this new academic consensus. So, for instance, in 1977 the Supreme Court expressly invoked transaction-cost reasoning to justify the repudiation of recent precedent declaring vertical nonprice distribution restraints unlawful per se. Several years later, the Court again invoked scholarly commentary to narrow the scope of the per se rule against horizontal price setting. More recently, the Court invoked such reasoning in partial justification of its repudiation of the per se rule against maximum vertical price fixing. At the same time, the Court moderated other per se rules without expressly invoking transaction cost reasoning. In each case the Court adjusted or rejected earlier decisions in light of evolving economic theory, just as Standard Oil and American Tobacco anticipated.


396. I tell this story in some detail in Meese, supra note 15, at 134–44.


398. See NCAA v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 100–04 (1984) (relying in part on academic commentary to reject per se rule against horizontal price cooperation by sports league); see also Broadcast Music, Inc. v. CBS, Inc., 441 U.S. 1, 23–24 (1979) (finding that horizontal price fixing ancillary to joint venture was subject to Rule of Reason analysis where such price fixing was necessary to the creation of a different product).


401. See supra notes 20–24 and accompanying text (explaining how Rule of Reason announced in Standard Oil and American Tobacco required courts to alter doctrine in light of changing economic theory); see also Khan, 522 U.S. at 20–22 (explaining that the common law nature of the Sherman Act empowers courts to adjust doctrine in light of advances in economic theory and rejecting
Still, TCE's influence on section 1 doctrine is not complete. For instance, the Supreme Court has expressly declined to jettison the per se rule against minimum resale price maintenance, despite TCE's unchallenged conclusion that such agreements can in some instances minimize the cost of relying on unfettered markets to conduct economic activity. In the same way, the Court has continued to adhere to the per se rule against horizontal maximum price fixing, claiming that such contracts interfere with the "forces of a competitive market." TCE's influence seems particularly absent where so-called "exclusionary" contracts are involved. For instance, despite withering critiques, the Court has retained the per se rule against tying contracts obtained by firms with market power. Moreover, the Court has not entertained a case involving an exclusive dealing contract for over forty years. Nor has the Court entertained any case involving a vertical merger or other form of vertical integration since the early 1970s. As a result, precedent that is "on the books" shows little influence of the transaction cost paradigm when it comes to contracts that exclude rivals from a significant portion of the marketplace.

IV. TCE AND MONOPOLIZATION DOCTRINE

As explained earlier, modern monopolization law remains largely unchanged since United Shoe. Perhaps the survival of

per se rule against maximum resale price fixing that had been "widely criticized since its inception"); Cont'l T.V., 433 U.S. at 45–48 (relying in part upon "great weight" of scholarly criticism as rationale for departure from prior decision banning exclusive territories).


407. See supra notes 43–60 and accompanying text.
the *United Shoe* formulation despite the influence of TCE in various doctrinal contexts under section 1 suggests that TCE is less relevant to questions arising under section 2 than to those arising under section 1. However, close analysis reveals that, despite its longevity, the *United Shoe* formulation does not withstand analysis under the transaction cost paradigm and its theory of the firm. Moreover, application of transaction cost reasoning should impel significant adjustments in monopolization doctrine.

A. HOW TCE UNDERMINES MODERN MONOPOLIZATION LAW

Consider again the definition of exclusionary conduct authored by Professors Areeda and Turner twenty-six years ago and repeated recently by Professor Hovenkamp.\(^\text{408}\) That discussion, it will be recalled, essentially endorses *United Shoe's* distinction between property-based "competition based on pure merit" and "exclusionary" contracts.\(^\text{409}\) Within price theory's workable competition model, this distinction makes perfect sense.\(^\text{410}\) Yet when viewed through the lens of the transaction cost paradigm, the discussion simply elicits a variety of questions. Consider, for instance, the authors' assumption that "antitrust ... seeks to protect the process of competition on the merits and the economic results associated with workable competition."\(^\text{411}\) At one level, this is an absolutely accurate statement: antitrust does, and always has, sought to protect what the two authors call "competition on the merits."\(^\text{412}\) At another level, the statement simply prompts the question raised by any academic discussion of exclusion, i.e., should antitrust only protect competition on the merits? And, perhaps more importantly, how should antitrust treat those contracts—tying contracts, exclusive dealing, leasing and the like—that seem to price theorists, anyway, to "interfere" with what the authors call "the

\(^{408}\) See supra note 297 and accompanying text; see also 3 AREEDA & HOVENKAMP, supra note 38, ¶ 651(c), at 78.

\(^{409}\) See supra note 297 and accompanying text.

\(^{410}\) See supra notes 237–62 and accompanying text (noting link between neoclassical price theory and the *United Shoe* formulation).

\(^{411}\) See 3 AREEDA & TURNER, supra note 296, ¶ 626(b), at 77 (emphasis added); see also 3 AREEDA & HOVENKAMP, supra note 38, ¶ 651(c), at 78.

\(^{412}\) See supra notes 14–19 and accompanying text; see also, e.g., Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993) (noting in dicta that above-cost pricing is "competition on the merits" and thus lawful per se).
process of competition on the merits" and "workable competition.”\footnote{See supra notes 174–76 and accompanying text (explaining assumption by price theorists and others that nonstandard restraints interfere with “competition on the merits”).}

Consider now the claim that “competition on the merits” is “desirable,” and that antitrust should not impose “sanctions on the very conduct it would encourage.”\footnote{See 3 AREEDA & TURNER, supra note 296, ¶ 626(b), at 77.} Again, this statement makes perfect sense so far as it goes. Certainly antitrust hopes to encourage (technological) “competition on the merits.” But, is this \textit{all} that the Act seeks to encourage? As Justice Oliver Wendell Holmes noted a century ago, the Sherman Act does not mention “competition” as a desideratum.\footnote{See N. Sec. Co. v. United States, 193 U.S. 197, 403 (1904) (Holmes, J., dissenting) (“The court below argued as if maintaining competition were the expressed object of the act. The act says nothing about competition.”).} Instead, section 1 forbids contracts “in restraint of trade or commerce,” while section 2 forbids monopolization of “any part” of trade or commerce.\footnote{See 15 U.S.C. §§ 1-2 (1890).} Thus, the statute reflects its constitutional moorings, by regulating (“making regular”) interstate commerce.\footnote{See MARTIN SKLAR, THE CORPORATE RECONSTRUCTION OF AMERICAN CAPITALISM 113 (1988) (arguing that Congress rejected early drafts of the Sherman Act that banned restraints interfering with “free competition” for constitutional reasons); see also Randy Barnett, \textit{The Original Meaning of the Commerce Clause}, 68 U. CHI. L. REV. 101, 139-46 (2001) (explaining that the Commerce Clause merely empowered Congress to “make regular” commerce among the several states).} Early case law agreed with Holmes’s assessment, and recognized that some restraints were necessary to advance commerce and trade, even if they “excluded” some rivals from the market or a portion of it.\footnote{See supra notes 12–19 and accompanying text; see also Am. Tobacco Co. v. United States, 221 U.S. 106, 179–80 (1911) (noting that a ban on “normal” contracts or methods would “render difficult if not impossible any movement of trade in the channels of interstate commerce—the free movement of which it was the purpose of the statute to protect”).} As a result, these courts held that the Act only banned “undue” contractual restrictions on competition, defining as undue those that reduced commercial activity and thus harmed consumers.\footnote{See, e.g., Am. Tobacco Co., 221 U.S. at 180–81; Standard Oil Co. v. United States, 221 U.S. 1, 62 (1911); see also United States v. United Shoe Mach. Co., 247 U.S. 32, 59–65 (1918) (finding that contractual restrictions on use of rival products were reasonable); Bd. of Trade of Chi. v. United States, 246 U.S. 231, 238 (1918) (“[T]he legality of an agreement or regulation cannot be determined by so simple a test, as whether it restrains competition. Every}
“exclusion” condemned by the Act must include some manner for determining those contracts the Act seeks to “encourage” and those it does not. Similar questions emerge from an earlier paragraph in the same work, quoted in the Microsoft decision.\(^4\) Recall that the D.C. Circuit rejected any requirement that the United States prove that the firm’s tactics had actually injured consumers.\(^4\) TCE helps suggest some answers to the question that current law and the Areeda/Hovenkamp/Turner formulation both avoid. In particular, TCE offers an alternative explanation for many exclusionary agreements, an explanation more hospitable than that produced by price theory. To be sure, TCE does not rebut the obvious fact that some contracts can “exclude” competitors from the marketplace, and thus thwart “competition on the merits,” as price theorists and courts have defined that term. At the same time, however, TCE suggests that many of these contracts produce significant benefits, benefits unrelated to any expectation of protecting or obtaining monopoly power. In other words, TCE suggests that many such contracts are “normal” or “ordinary” in the sense that courts used that term when they first gave meaning to the Act.\(^4\) While such contracts may exclude competitors from the marketplace, they often do so “on the basis of efficiency,” and not because of some expectation of market power.\(^4\)

TCE’s conclusion that many “exclusionary” contracts are in fact “normal” or “ordinary” has important implications for the law of monopolization. As explained earlier, even property-based “competition on the merits” is “exclusionary” in the most straightforward sense of that word. As one scholar has noted, nothing excludes potential competitors from the marketplace more effectively than low prices or high quality.\(^4\) Nonetheless,

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40. See supra notes 116–19 and accompanying text (describing Microsoft decision as an exemplar of the law’s distinction between “competition on the merits” and contractual exclusion).

41. See supra notes 113–16 and accompanying text.

42. See Am. Tobacco Co., 221 U.S. at 178–80; Standard Oil Co., 221 U.S. at 58–62; see also United Shoe Mach., 247 U.S. at 63–67 (holding that lease agreements were not “exclusionary” in part because they had been adopted in competitive markets and served useful purposes).


44. See Hovenkamp, supra note 50, at 553 (“Nothing is a more effective
courts have repeatedly and uniformly followed United Shoe's holding that such "exclusion"—which the court attributed to "inevitable economic law"—is effectively beyond the reach of section 2.425 Thus, a firm can realize economies of scale or invent a new product or rely upon the law of property—intellectual or otherwise—to exclude competitors from access to its facilities or other important inputs, and courts will not examine such exclusion to determine whether it is "reasonable" on balance.426 Indeed, in United Shoe itself, the court declined to scrutinize the defendant's refusal to share its technological improvements with competitors.427 Instead, courts will only void "internal" conduct if there is no plausible legitimate purpose for it.

Given the teachings of TCE, the question naturally arises: why not apply the same logic to nonstandard contracts as courts currently apply to, say, a firm's creation of a new prod-

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425. See supra notes 47–49 and accompanying text; see also Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993); Aspen Skiing Corp., 472 U.S. at 600–01; Berkey Photo, Inc., v. Eastman Kodak Co., 603 F.2d 263, 276 (2d Cir. 1979) (noting that the realization of technological economies or other benefits of large size does not offend section 2); cf. United Shoe Mach., 110 F. Supp. 295, at 344–45 (noting that internal conduct that simply conforms to inevitable economic laws is not "exclusionary" for purpose of section 2).

426. See, e.g., In re E.I. Dupont de Nemours & Co., 96 F.T.C. 653, 746–51 (1980) (holding that failure to license proprietary technology was not unlawful exclusion, even though it prevented the entry of competitors); Berkey Photo Inc., 603 F.2d at 279–85 (rejecting claim that Kodak's invention of a new camera and failure to disclose its invention to rivals contravened section 2); see also United States v. Nat'l Lead Co., 332 U.S. 319, 353–59 (1947) (rejecting decree that required defendants to share technical know-how with competitors).

427. See supra notes 254–57 and accompanying text (discussing United Shoe's holding on this score).
uct, or, for that matter, the introduction of a new marketing campaign? Such contracts may well exclude rivals from the market, or at least a portion of it and thus, like other forms of property, create a "barrier to entry." Then, so too may the creation of a new product or the campaign to promote it. Given the teachings of TCE, it would seem that the two forms of conduct are identical for antitrust purposes, in that both exclude rivals but also have plausible efficiency purposes.

In response, one could argue that a new product and an associated marketing campaign always enhance the welfare of consumers and is thus distinct from exclusionary contracts. The mere fact, however, that such a campaign helps a firm obtain or retain a monopoly does not itself establish that such a monopoly is superior to the status quo ante or the state of affairs that would have been obtained but for the campaign. By necessity, firms must be able to invoke their property rights; otherwise, markets would cease to function. Indeed, Professor Areeda once argued that Rule of Reason analysis of internal pricing, supply, or purchasing decisions would overtax the legal system and unduly burden business firms. At the same time, the creation of a new product or production process leaves rivals perfectly free to pursue their own innovations. In this way, it might be said, such "competition on the merits" can be distinguished from contractual practices like exclusive dealing, even if the latter are presumptively "normal" in the sense that firms would often enter them without any expectation of creat-

428. Demsetz, supra note 379, at 48-49.
429. See Elhauge, supra note 62, at 296 ("[I]t is precisely the prospect of being able to exclude rivals from one's property and charge a price above the marginal cost of using it that is necessary to encourage the prior investments that created the property . . . ").
430. See United Shoe Mach., 110 F. Supp. at 344-45 (characterizing "competition based on pure merit" as involving "practices which can be properly described as the inevitable consequences of ability, natural forces, or law" while treating contractual exclusion as involving "unnecessary" practices).
431. See 7 AREEDA, supra note 59, at 220. Professor Areeda notes: [T]o see a firm's internal price or supplier decisions as a conspiracy at all may also be to see a restraint. And subjecting virtually every decision made within a firm to Sherman Act § 1 scrutiny would not only overtax the physical limits of our antitrust enforcement institutions, it would also involve judges and commissioners with the daily business decisions of every firm.

Id.; see also id. ¶ 1464(c), at 235-36 ("Conspiracies among unrelated units are relatively infrequent."); Coase, supra note 137, at 714 ("[M]ost resources in a modern economic system are employed within firms . . . ").
ing or maintaining monopoly power.\textsuperscript{432} While both exclude rivals from the market presumptively based upon efficiency, only one, it might be said, leaves rivals a “fighting chance” to enter or remain in the market. A rival who falls prey to a better product or lower prices can blame itself for the failure; one excluded by a contract can point to the “coercion” inherent in such an arrangement.\textsuperscript{433}

Nonetheless, TCE and its theory of the firm suggest that any such distinctions are more illusory than real. As an initial matter, even so-called “unilateral” conduct by a single firm is almost always “concerted action” between numerous individuals working pursuant to a nexus of contracts.\textsuperscript{434} These contracts, in turn, often provide the firm’s owners with exclusive access to certain property or talents (human capital). According to TCE, then, what price theory calls (technological) “competition on the merits” is more than an exercise of property rights. It is also a sort of legal or social construction, which requires the negotiation and enforcement of any number of agreements between input owners that have the express purpose of excluding rivals from resources that the rivals would deem important, even necessary to effective competition. So, for instance, a shoe machinery corporation or software manufacturer that engages in extensive research and development will no doubt require its

\textsuperscript{432} See Kaysen, supra note 7, at 339 (suggesting that monopoly based upon superior skill is less likely to be permanent); Sullivan, supra note 195, at 100 (arguing that courts should distinguish between conduct that merely “utilize[es] existing market opportunities” and that which “foreclos[es] . . . potential competitors as might have been alert enough to grasp an opportunity before the defendant firm had done so”).

\textsuperscript{433} Cf. Eastman Kodak Co. v. Image Technical Serv., Inc., 504 U.S. 451, 482 (1992) (noting that the offense of monopolization involves the “use of monopoly power ‘to foreclose competition’” (quoting United States v. Griffith, 334 U.S. 100, 107 (1948))); id. at 483–86 (finding that tying contracts would constitute such an unlawful use of market power absent a showing of justification); United States v. Microsoft Corp., 253 F.3d 34, 64 (D.C. Cir. 2001) (holding that contractual restrictions on PC makers’ use of competing browsers constituted a “use[ ] of Microsoft's market power” that raised barriers to entry); Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 274–76 (2d Cir. 1979) (opining that section 2 requires courts to distinguish between mere possession of monopoly power and “use” of that power to “tighten [the monopolist’s] hold on the market”).

\textsuperscript{434} See supra notes 335–36 and accompanying text (explaining TCE’s conclusion that “the firm” is in fact a nexus of contracts between individuals); see also Coase, Nature of the Firm, supra note 139, at 393 (noting that a firm, therefore, consists of the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur); Masten, supra note 326, at 184.
engineers or software writers to sign contracts that prevent them from “moonlighting” for a competitor and even from working for a competitor for a substantial period of time after they depart from their employer.\textsuperscript{435} Such contracts may also prevent these employees from releasing trade secrets at any time during and following their employment. Indeed, even without such contractual limitations, background rules of tort law forbid rivals from inducing a firm’s employees to switch employers in the middle of their contractual terms.\textsuperscript{436} Similarly, once these engineers or software writers invent a new product or write a new piece of software, the firm can often rely upon property law, both “real” and “intellectual,” to exclude those who seek to copy it.\textsuperscript{437} Finally, the law of trademark allows mark owners to exclude from the use of the mark those individuals or firms that do not first obtain (contractual) consent of the owner.\textsuperscript{438}

Each of these agreements or rules is “exclusionary” in the sense that it limits the opportunities of actual or potential rivals by depriving them of access to potential inputs. In some cases such limits are contractual, in others they are based on the positive law of property, law that parties can always waive by contract. For instance, while patent law allows parties to protect their intellectual property, such protection will often

\textsuperscript{435} See United States v. Addyston Pipe & Steel Co., 85 F. 271, 281 (6th Cir. 1898). Judge Taft noted in the opinion:

It was of importance that business men and professional men should have every motive to employ the ablest assistants, and to instruct them thoroughly, but they would naturally be reluctant to do so unless such assistants were able to bind themselves not to set up a rival business in the vicinity after learning the details and secrets of their employers.

\textit{Id.} The opinion also noted that covenants not to compete by employees were presumptively reasonable and enforceable. \textit{See id.} at 281–82; see also Ronald J. Gilson, \textit{The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not To Compete}, 74 N.Y.U. L. REV. 575 (1999).


\textsuperscript{438} See, e.g., \textit{Restatement (Third) of Unfair Competition} §§ 18–20 (1989); see also Demsetz, supra note 379, at 49 (explaining that trademark law creates a barrier to entry for those who might otherwise sell their own products under a rival’s mark); Liebeler, \textit{supra} note 379, at 39 (stating that such rules are enforced “because we believe the benefits of increased incentives to inventors and authors exceed the costs of the market power associated with such rights”).
entail a (contractual) requirement that a firm's employees or other agents not agree to waive the firm's rights to such property without the owner's consent. Similarly, the institution of franchising rests upon the power of the franchise system to consent—or refuse to consent—to the use of the trademark by new franchisees.439 By refusing to consent to such use, the franchisee system can deprive potential rivals of access to an important input: the ability to operate under the trademark of the franchise system. While often characterized as "unilateral" action, such consent—or withholding of consent—is in fact the result of a joint venture between numerous "independent" franchisees.440 In the same way, Ford's refusal to allow General Motors or Isuzu to use its factory to produce pickup trucks may increase the cost of production that these firms must incur.441 Viewed through the lens of price theory, such a refusal looks like a unilateral decision by Ford to deny others access to its property. If, however, one applies the transaction cost paradigm, one finds that the refusal is the product of an "agreement" between Ford's numerous owners, directors, officers, and employees, the latter of whom essentially "rent" capital from Ford.442 Each such provision raises the costs of rivals; sometimes these increases will be trivial, but sometimes they will be

440. See WILLIAMSON, supra note 125, at 181–82 (characterizing franchise contract as joint venture between otherwise independent firms); Alan J. Meese, Farewell to The Quick Look: Redefining the Scope and Content of the Rule of Reason, 68 ANTITRUST L.J. 461, 491–92 (2000) (explaining that operation of a franchise system constitutes a continuing horizontal agreement between actual or potential competitors). Professor Hovenkamp notes:

[Re]stauranteurs scattered across a wide area might develop joint menus, building plans, and methods of doing business, and then promote their 'chain' nationally. This national name recognition will enable them to reach traveling customers that might otherwise avoid a local restaurant about which they know nothing. The Topco case... involved such a venture.

HOVENKAMP, supra note 50, at 205; see also Chicago Prof'l Sports Ltd. P'ship v. Nat'l Basketball Ass'n, 95 F.3d 593, 598 (7th Cir. 1996) (explaining that cooperation between franchisees is horizontal in nature).
441. See Demsetz, supra note 379, at 49; Liebeler, supra note 379, at 38 ("[E]xclusionary rights take the form of legal barriers to entry; their purpose and effect is to raise others' (including rivals') costs of using goods protected by the barriers. Ford Motor Company, for example, cannot use a General Motors plant without incurring the cost of getting the latter's permission.").
442. Cf. BUTTERFIELD, supra note 334, at 18 (explaining that scientists sometimes see old data in new ways after "putting on a different kind of thinking-cap"); KUHN, supra note 164, at 114–17 (noting that paradigm shifts cause individuals to reinterpret previously observed phenomena).
substantial. More importantly, what courts call "competition on the merits" is in fact the result of numerous contracts between input owners that necessarily exclude competing firms from particular resources and thus create "barriers to entry."\footnote{See Demsetz, \textit{supra} note 379, at 49–52 (arguing that productive competition depends upon creation and enforcement of property rights); Liebler, \textit{supra} note 379, at 38–39 (same); \textit{see also} Hayek, \textit{supra} note 142, at 110–11 ("That a functioning market presupposes not only prevention of violence and fraud but the protection of certain rights, such as property, and the enforcement of contracts, is always taken for granted.").}

Put another way, application of TCE and its theory of the firm reveals that the "exclusionary impact" of property rights is ultimately the result of contracts among various input owners. At the same time, "exclusionary agreements" between "independent firms" create potentially beneficial contractual property rights and are thus economically indistinguishable from the unilateral or internal conduct of an integrated firm exercising its own property rights.

Here the \textit{Microsoft} case—the most important monopolization decision in decades—provides a useful example.\footnote{See \textit{supra} Part I.D and accompanying text (detailing claims and holding in Microsoft).} Assume for a moment that the firm is vertically integrated into the manufacture of personal computers, which the firm distributes through a separate division.\footnote{This assumption is not far-fetched since both Apple and IBM are vertically integrated in this manner. \textit{See} Digital Equip. Corp. v. Uniq Digital Techs., Inc., 73 F.3d 756, 761 (7th Cir. 1996) (describing how IBM, Apple, and Sun Microsystems all produce their own operating systems and PCs); United States v. Microsoft Corp., 84 F. Supp. 2d 9, 22 (D.D.C. 1999) (explaining that Apple and IBM both produce operating systems for their PCs).} Assume further that the firm has a large share of the PC market, say 50%, and chooses to develop a new browser—IE. Assume further that the firm offers that browser for free to all consumers who purchase a Microsoft PC, but also allows consumers to decline this option.\footnote{By giving consumers this option, Microsoft would avoid any claim that the arrangement is a tying contract. Of course, even without such an explicit right, each consumer would have the ability to decline to use Microsoft's browser.} Finally, assume that the firm declines repeated requests from manufacturers of competing browsers to offer consumers the choice of other browsers when they purchase the machine.

By definition, this creation of IE and its inclusion on all Microsoft PCs would "exclude" other manufacturers of browsers...
from an important channel of distribution. The same result would occur if Microsoft purchased a different firm's browser and chose to include only it on its PCs. Absent such absolute exclusion, such a unilateral refusal to allow a competitor to use the firm's property would still be presumed lawful. Under current law, a plaintiff could rebut this presumption by showing that the refusal entirely eliminated competition by rivals without any offsetting benefits. By contrast, if Microsoft achieved the same result by contract with "independent" manufacturers of PCs, such a restriction would give rise to a prima facie case that Microsoft had violated section 2, even if a plaintiff had numerous alternate channels of distribution and thus could not prove the existence of consumer harm. Once such a case arose, Microsoft could only avoid liability by adducing evidence that the arrangement produced significant benefits. Moreover, even if Microsoft made such a showing, the plaintiff could still prevail if it showed that the defendant could achieve the same benefits with a means less restrictive of competition.


448. See Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 378 (7th Cir. 1986) (Posner, J.) ("You cannot conscript your competitor's salesmen to sell your product even if the competitor has monopoly power and you are a struggling new entrant."); see also Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, 124 S. Ct. 872, 879–80 (2004) (holding a refusal to deal lawful absent additional evidence that refusal could only serve anticompetitive objective); NYNEX Corp. v. Discon, Inc., 525 U.S. 128, 137 (1998) (concluding that the freedom to choose one supplier to the detriment of others "lies close to the heart of the competitive process" and that "the freedom of the individual right to contract is not unduly or improperly exercised [is] the most efficient means for the prevention of monopoly" (quoting Standard Oil Co. v. United States, 221 U.S. 1, 62 (1911))); Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 544 (9th Cir. 1991); In re E.I. Dupont de Nemours & Co., 96 F.T.C. 650, 745–46 (1980); United States v. United Shoe Mach. Corp., 110 F. Supp. 295, 333, 344–45 (D. Mass. 1953) (holding that a refusal to share technology with rivals did not violate section 2).

449. See Alaska Airlines, 948 F.2d at 544; Twin Labs., Inc. v. Weider Health & Fitness, 900 F.2d 566, 567–69 (2d Cir. 1990).

450. See Microsoft, 253 F.3d at 67–71 (finding such a prima facie case where Microsoft entered agreements that excluded rivals from a significant portion of an important distribution channel); see also supra notes 54–60 and accompanying text (describing judicial hostility toward such contracts under current law).

451. See supra notes 54–60 and accompanying text.

452. See supra notes 54–60 and accompanying text.
B. TOWARD A NEW DEFINITION OF UNLAWFUL CONTRACTUAL EXCLUSION

As explained above, current law draws an indefensible distinction between two forms of conduct that excludes rivals. On the one hand, conduct that is purely internal to the firm, such as pricing decisions and product design, is presumed lawful, even if such conduct exclude all of a firm's competitors from the marketplace. Moreover, plaintiffs that challenge such conduct face a heavy burden. In particular, to establish a prima facie case, plaintiffs generally must show that the challenged conduct cannot be explained absent a hypothesis that the defendant expects to obtain or preserve market power by excluding rivals.\(^4\)\(^5\)\(^6\) So, for instance, a plaintiff challenging a monopolist's prices must do more than show that the defendant's prices entirely excluded it from the marketplace as such exclusion may simply be the result of beneficial low prices. Instead, the plaintiff must show that the defendant has priced below some measure of the defendant's costs. Finally, while such a showing will suffice to make out a prima facie case, the defendant can nonetheless avoid liability by showing that such below-cost pricing in fact makes sense, even if the defendant does not obtain or preserve market power.\(^4\)\(^5\)\(^4\)

By contrast, so-called contractual exclusion, that is, arrangements that reach beyond an individual firm and bind competitor's suppliers or customers, are the object of intense judicial scrutiny. First, plaintiffs challenging such arrangements may establish a prima facie case simply by showing that they exclude some rivals from a "substantial" portion of the marketplace. This presumption rests upon price theory's model of (workable) competition, which saw no legitimate purpose for such agreements which supposedly "raise barriers to entry" and thwart "competition on the merits."\(^4\)\(^5\)\(^5\) Furthermore, once plaintiffs establish such a case, defendants that seek to rebut it bear a heavy burden. In particular, a defendant must do more than show that the restraint produces benefits, i.e., is rational absent the possession or expectation of market power. Instead, the defendant must rebut any claim that less restrictive means

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453. See supra notes 54–60 and accompanying text.
454. See supra notes 54–60 and accompanying text (detailing standards that courts apply to internal conduct).
455. See supra notes 174–76 and accompanying text.
will achieve the same objectives as the challenged restraint.\textsuperscript{456} Indeed, in \textit{Microsoft} the D.C. Circuit imposed an additional hurdle, holding that defendants must show that a restraint’s benefits outweigh its harms.\textsuperscript{457}

This Article has shown that modern law’s disparate treatment of “internal” and “contractual” exclusion reflects the continuing influence of price theory’s theory of the firm and the derivative workable competition model. Recently, economists have generated a more realistic paradigm, TCE. Application of TCE and its theory of the firm undermines price theory’s account of vertical integration generally and the existence of firms in particular. At the same time, TCE offers its own theory of the firm, a theory that also explains a wide variety of nonstandard contracts that price theory deemed “monopolistic” and/or exclusionary. In particular, TCE demonstrates that the “firm” is simply a “nexus of contracts” designed to reduce the cost of relying upon atomistic markets to conduct economic activity. At the same time, TCE concludes many nonstandard contracts can also reduce transaction costs, while at the same time avoiding the downside of relying upon a completely integrated firm to conduct economic activity.\textsuperscript{458} TCE’s conception of the firm and other nonstandard contracts suggests that any distinction between “internal” and “contractual” exclusion is entirely illusory. More fundamentally, just as “competition on the merits” can exclude rivals on the basis of efficiency and without any expectation of market power, so too can various nonstandard contracts that reach beyond the firm.\textsuperscript{459}

Recognition that internal conduct and contractual exclusion can produce similar economic benefits suggests that courts should subject such conduct to similar levels of scrutiny. More precisely, faithful application of the Rule of Reason requires courts to adjust current doctrine in light of changes in economic theory to harmonize the treatment of “internal” and “contractual” exclusion.\textsuperscript{460} Antitrust courts could achieve this objective

\begin{itemize}
\item \textsuperscript{456} \textit{See supra} notes 54–60 and accompanying text (describing standards governing contracted exclusion).
\item \textsuperscript{457} \textit{See supra} notes 120–22 and accompanying text.
\item \textsuperscript{458} \textit{See supra} notes 343–47 and accompanying text (detailing TCE’s account of the firm and other nonstandard contracts).
\item \textsuperscript{459} \textit{See supra} notes 194–96 and accompanying text.
\item \textsuperscript{460} \textit{See supra} notes 20–24 and accompanying text (explaining that \textit{Standard Oil} and \textit{American Tobacco} require courts to adjust antitrust doctrine when necessary to reflect the evolution of economic theory).
\end{itemize}
by adjusting monopolization doctrine in several ways.

First, and most importantly, courts should adjust the requirements for establishing a prima facie case that contractual conduct constitutes a violation of section 2. In particular, plaintiffs alleging that a particular agreement unduly interferes with "competition on the merits" should have to establish the structural prerequisites for the creation of anticompetitive harm. So, for instance, a plaintiff challenging an exclusive dealing arrangement as monopolistic should do more than simply show that the agreement excludes a rival from a "substantial" portion of an "important" distribution channel. Instead, courts should require plaintiffs to show that market conditions are such that exclusion of this rival will likely harm consumers by raising or maintaining prices. To this end, the plaintiff would have to show, among other things, that other channels of distribution were significantly more expensive than the channel preempted by the defendant. The plaintiff would also have to show that the cost of distribution was a significant portion of the cost of the final product, with the result that higher input prices would significantly disadvantage one or more of the defendant's rivals. Moreover, the plaintiff would have to rebut any claim that disadvantaged rivals could protect themselves by adopting strategies that counteract an agreement's exclusive impact. Finally, the plaintiff would have to show that a policy disadvantaging it could affect ultimate market prices to the detriment of consumers.

While proof of these conditions should suffice to establish a prima facie case, such proof should not itself establish liability. After all, proof that conditions are ripe for an anticompetitive strategy does not mean that such a strategy is actually afoot. Moreover, proof that such conditions are present does not exclude or even tend to exclude the possibility that the challenged

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461. Cf. supra notes 54–60 and accompanying text (explaining that current law allows plaintiffs to establish a prima facie case by making such a minimal showing); supra notes 120–22 and accompanying text (describing holding in Microsoft case to this effect).


463. See id. at 223–27, 234–36.

464. See id. at 255.


466. See Krattenmaker & Salop, supra note 105, at 262–66.
arrangement overcomes a market failure. As a result, courts should recognize and entertain arguments that such exclusionary agreements can overcome market failures by creating contractual property rights which ensure that individuals and firms internalize the costs and benefits of their actions. Thus, courts should allow defendants to rebut such a prima facie case by showing that the restraint in question in fact overcomes a market failure and thereby produces significant cognizable benefits.

Courts could, of course, balance such benefits against the anticompetitive harm purportedly produced by such arrangements. Courts could also subject such proof to the sort of less restrictive alternative test employed under current law. Both forms of scrutiny rest upon the assumption that any benefits of such restraints necessarily coexist with anticompetitive effects. Still, courts have rejected such intrusive review where a plaintiff challenges above-cost pricing, the introduction of new products, or a refusal to deal. Here, courts implicitly conclude that the benefits of such conduct outweigh any resulting harm. In the same way, courts should reject such scrutiny in cases where the defendant shows that an exclusionary

467. See id. at 277-78.
468. See supra notes 374-77 and accompanying text (describing how such agreements can overcome market failures by creating the contractual equivalent of property rights); cf. 3 AREEDA & HOVENKAMP, supra note 38, ¶ 651(c) (declining to explain how exclusionary contracts can further competition on the merits).
470. See United States v. Microsoft Corp., 253 F.3d 34, 59 (D.C. Cir. 2001) (holding that courts should balance a restraint's benefits against the harms it produces once the defendant rebuts a prima facie case); see also Meese, supra note 15, at 108-10 (describing the balancing that takes place in Rule of Reason litigation under section 1).
471. See supra notes 54-60 and accompanying text (describing courts' application of this test where defendants have proven that a restraint produces significant benefits).
472. See supra notes 54-60 and accompanying text.
473. See supra notes 50-53 and accompanying text; see also, e.g., Trans Sport, Inc. v. Starter Sportswear, Inc., 964 F.2d 186, 188-91 (2d Cir. 1992) (holding that a refusal to deal is justified so long as defendant offers a non-pretextual plausible business justification); Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 377-79 (7th Cir. 1986).
474. See supra notes 155-59 and accompanying text (explaining how workable competition model depended on this assumption); Williamson, supra note 157, at 21-22 (noting that mergers that create significant efficiencies almost certainly enhance total welfare).
agreement produces significant efficiencies.\textsuperscript{475} Indeed, proof that a restraint produces such benefits undermines any assumption that the benefits produced by the restraint coexist with anticompetitive effects. After all, once a defendant shows that a restraint produces significant benefits, the mere fact that the restraint excludes rivals from a marketplace that meets the prerequisites for a successful anticompetitive strategy no longer suffices to support a presumption of consumer harm. Such exclusion is equally consistent with the defendant's claim that the restraint, like any other property, simply overcomes a market failure.\textsuperscript{476} In these circumstances, courts should dispense with balancing or examining "less restrictive alternatives" and instead accord such conduct the same treatment as, say, above-cost pricing by a monopolist: per se legality.\textsuperscript{477}

CONCLUSION

Modern monopolization law rests upon a distinction between property-based "competition on the merits," on the one hand, and contractual exclusion, on the other. In particular, current law treats the former conduct as presumptively lawful while subjecting the latter to exacting scrutiny. This Article has shown that current law rests upon price theory's outmoded conception of the firm and the derivative model of workable competition. This model treats property-based, internal conduct as presumptively efficient while at the same time condemning a firm's attempt to disadvantage rivals by using contracts to constrain the discretion of customers or suppliers.

Application of a competing model—TCE—undermines the distinction between internal conduct and contractual exclusion. TCE undermines price theory's technological conception of the firm and concludes that the firm is itself a nonstandard contract that individuals employ to reduce the cost of market contracting. TCE also shows that, like the firm, various exclusionary contracts can overcome market failures by creating the

\textsuperscript{475} See Meese, supra note 15, at 161–67.

\textsuperscript{476} See id. (arguing that proof showing a restraint produces benefits undermines any presumption that such benefits coexist with anticompetitive effects).

\textsuperscript{477} Cf. United States v. United Shoe Mach. Co., 247 U.S. 32, 63 (1918) (reasoning that the adoption of restraints before a firm possessed a monopoly suggested they produced benefits); id. at 65–67 (concluding that restraints that produced benefits did not offend section 2).
equivalent of property rights that cause actors to internalize the costs and benefits of their activities. While such agreements can exclude rivals from the marketplace, they often do so on the basis of efficiency and are thus economically indistinguishable from internal "competition on the merits." The realization that internal and contractual exclusion are economically similar requires courts to adjust antitrust doctrine accordingly. In particular, courts should treat contractual exclusion in the same way they currently treat "competition on the merits," rejecting challenges to any agreements that produce significant benefits, regardless of exclusionary impact.