

Reframing Antitrust in Light of Scientific Revolution: Accounting for Transaction Costs in Rule of Reason Analysis

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This Article contends that modern rule of reason analysis, informed by workable competition's partial equilibrium trade-off paradigm, is suitable for evaluating only a subset of agreements that may reduce transaction costs. The Article distinguishes between "technological" and "non-technological" transaction costs. Technological transaction costs entail the bargaining and information costs first emphasized by Ronald Coase, while non-technological transaction costs result from more fundamental departures from perfect competition, departures creating a risk of opportunism that accompanies relationship-specific investments.

Modern law does accurately assess restraints that may reduce technological transaction costs—costs that are analogous to the sort of production costs recognized by the trade-off model. However, this same methodology is poorly suited for analyzing restraints that may reduce non-technological transaction costs. In particular, the model treats non-restraint price and output as a "competitive" baseline against which to measure a restraint's impact. As a result, tribunals applying the trade-off model may misinterpret benefits of such restraints, such as increased investment and resulting higher prices, as exercises of market power. Given the baselines that courts use, a test focused on price or output will condemn many restraints that enhance welfare.

Several considerations explain courts' failure to incorporate the lessons of transaction cost economics ("TCE") when analyzing contracts that may reduce non-technological transaction costs. For one thing, the trade-off paradigm has shed light on important antitrust problems. Practitioners of a successful paradigm do not readily abandon it. Moreover, Coase's seminal work on TCE focused exclusively on technological transaction costs analogous to ordinary production costs easily recognized within the trade-off paradigm. Furthermore, proponents of TCE actually embraced and refined the trade-off model for analyzing mergers producing technological efficiencies. Finally, lower courts have modified aspects of the modern rule of reason test, staving off anomalies that can undermine a paradigm's support.

Courts should accordingly "reframe" their analysis, selecting a different baseline against which to measure the impact of restraints that may reduce non-technological transaction costs. That is, tribunals should ask whether the restraint produces higher prices (or lower output) compared to the prices or output that would obtain if the defendants made specific investments without a safeguard against opportunism. Such an approach would hold constant the other variables that influence price and output, thereby isolating the impact of the restraint simpliciter on market power and/or transaction costs.

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INTRODUCTION

“No answer is what the wrong question begets.” So said constitutional theorist Alex Bickel, speaking of a particular brand of constitutional originalism.¹ Antitrust lawyers must be wary of borrowing ideas from constitutional sources: Such borrowing has, in the past, disserved consumers and the rest of society, leading courts to abjure consumer welfare in pursuit of values not properly cognizable under the Sherman Act’s rule of reason.² Still, there is a sense in which Bickel’s admonition applies with *greater* force to courts and enforcement agencies

1. ALEXANDER M. BICKEL, *THE LEAST DANGEROUS BRANCH: THE SUPREME COURT AT THE BAR OF POLITICS* 103 (1962).

2. Sherman Act of 1890, 26 Stat. 209, 209-10 (current version at 15 U.S.C. §§ 1-7 (2006 & Supp. III 2009)). Compare *United States v. Topco Assocs.*, 405 U.S. 596, 611-12 (1972) (banning reasonable ancillary restraints because they interfered with the “freedom” of traders to sell wherever they pleased), and *Appalachian Coals, Inc. v. United States*, 288 U.S. 344, 374 (1933), with *Nat’l Soc’y of Prof’l Eng’rs v. United States*, 435 U.S. 679, 688 (1978) (explaining that the rule of reason is concerned only with economic impact of restraints), *Cont’l T.V., Inc. v. GTE Sylvania*, 433 U.S. 36, 49 (1977) (same), and *Standard Oil Co. of N.J. v. United States*, 221 U.S. 1, 61 (1911) (holding that the Sherman Act bans contracts producing monopoly or its consequences, that is, higher prices, reduced output or lower quality).

evaluating restraints on rivalry under the rule of reason. Here, the wrong question may do more than provide “no” answer. Instead, the wrong question may provide the *wrong* answer, leading courts and enforcement agencies to condemn, as harmful, restraints that actually enhance the welfare of consumers and the rest of society.

Under current law, some restraints are unlawful *per se*, because they reduce rivalry without offsetting benefits.³ Still, most restraints on rivalry nonetheless avoid *per se* condemnation, often because they may plausibly reduce “transaction costs”—that is, the costs parties would otherwise incur by relying upon an unbridled market.⁴ Courts analyze such restraints under the rule of reason, inquiring directly into their impact on consumers and the rest of society.⁵ First identified by Ronald Coase in 1937, such costs can take many forms, and this Article proposes a simple but powerful taxonomy of them. In the first category are “technological transaction costs,” the sort of garden variety bargaining and information costs that generally precede a transaction, which Coase emphasized in his seminal work on the subject.⁶ In the second category are what this Article calls “non-technological transaction costs,” particularly the risk of opportunism, that postdate relationship-specific investments that enhance product differentiation. Coase’s early work sparked a revolution in how economists understand and interpret non-standard contracts, with the result that agreements that may reduce either form of transaction cost avoid immediate condemnation and are scrutinized under the rule of reason.⁷

This Article contends that, despite these significant advances in economic theory, courts and agencies are asking—or at least purport to be asking—“the wrong question” when conducting rule of reason analysis of restraints that may overcome certain forms of transaction costs. Because of administrative costs, courts cannot observe directly the impact of a restraint on social welfare, but must instead seek to discern that impact by relying upon various shortcuts that conserve these administrative costs. While current standards will produce accurate analysis of restraints that defendants claim reduce technological transaction costs, they can falsely condemn restraints that avoid *per se* condemnation because they may reduce non-technological transaction costs. In particular, courts and agencies place undue emphasis upon a restraint’s supposed impact on the “price” (and output) of a defendant’s product, an impact courts and agencies purport to ascertain in various ways. This contention naturally raises the question why, more than

3. See *infra* notes 72–75 and accompanying text.

4. See *infra* notes 87–94 and accompanying text.

5. See *infra* notes 95–98 and accompanying text.

6. See *infra* Part II.B.

7. See *infra* notes 274–81 and accompanying text.

seventy years after Coase's revolutionary insight, courts and leading scholars have articulated standards that properly evaluate some restraints that reduce transaction costs, but are biased against others. The Article finds the answer in price theory's perfect competition and workable competition models of industrial organization, models that began to influence antitrust doctrine in the mid-twentieth century, particularly at the behest of the so-called "Harvard School" of antitrust analysis.⁸ The workable competition model, in particular, posited a comparison of a restraint's market power effects, on the one hand, and any resulting technological efficiencies, on the other, a comparison that Oliver Williamson later formalized in his famous "partial equilibrium trade-off model" in 1968.⁹ Application of this model and associated assumptions led to the so-called "inhospitality tradition" of antitrust law, whereby courts and the enforcement agencies condemned most non-standard agreements.¹⁰

Despite the rise of transaction cost economics, this trade-off model still acts as a Kuhnian paradigm guiding the solution to many antitrust problems, including the analysis of horizontal mergers and conduct by monopolists, each of which may simultaneously enhance market power and produce technological efficiencies such as economies of scale. Application of this model, in turn, rests upon the identification of a pre-restraint baseline of price, output, and quality, against which to compare the impact of a restraint or transaction. In the rule of reason context, the trade-off model, which assumes away externalities, transaction costs, specific investments, production differentiation, and changes in market demand, influences the "baseline" of price and output that courts employ when attempting to discern the impact of a restraint.¹¹ Thus, courts and agencies treat the non-restraint baseline of price and/or output—often "discerned" via a thought experiment—as a workably competitive equilibrium, and thus a valid point of comparison with the post-restraint price or output.¹² Moreover, the model only recognizes efficiencies that tend to *reduce* the price of the defendant's product compared to the pre-restraint baseline.¹³ Given these assumptions, a restraint that appears to result in higher prices compared to the non-restraint baseline necessarily reflects an exercise of market power, to the detriment of consumers and the rest of society.

Reliance upon the partial equilibrium trade-off model and its limiting assumptions is not surprising. Both the Harvard and Chicago

8. See *infra* notes 31–86 and accompanying text.

9. See *infra* notes 45–57 and accompanying text.

10. See *infra* notes 71–79 and accompanying text.

11. See *infra* notes 55–57, 119–21 and accompanying text.

12. See *infra* notes 102–09 and accompanying text.

13. See *infra* notes 113–14, 119–21 and accompanying text.

Schools of antitrust analysis have expressly or implicitly invoked this paradigm as a proper vehicle for analyzing antitrust problems.¹⁴ The Harvard School, in particular, has for decades premised its antitrust policy upon an effort to implement the prescriptions of workable competition and has advocated a rule of reason test reflecting the dictates of the partial equilibrium paradigm.¹⁵ The Supreme Court, in turn, has cited Harvard pronouncements when articulating key facets of the rule of reason test,¹⁶ leaving the agencies and lower courts with little apparent choice but to follow suit, though some lower courts have in fact departed from Supreme Court doctrine.¹⁷ While the Harvard School has internalized important elements of transaction cost economics (“TCE”), particularly when advocating narrower per se rules, it has stubbornly clung to the trade-off model—which produces useful results in other contexts—when analyzing restraints that may reduce transaction costs under the rule of reason. The courts and agencies have followed Harvard’s teachings in this respect.¹⁸

Examination of “price” (or output) to evaluate a restraint’s impact would seem to make sense, given the Sherman Act’s singular focus on “consumer welfare.” Indeed, courts and scholars have argued that such a standard economizes on the cost of identifying restraints that exercise market power to the detriment of consumers.¹⁹ For instance, proponents of this view contend that if a restraint does or would result in higher prices or lower output, it is presumptively an exercise of market power.²⁰ Moreover, if a restraint does, in fact, *reduce* transaction costs, basic economics informed by the perfect competition model would seem to predict that such a reduction in costs would manifest itself in *lower* prices, other things being equal. Hence, reliance upon this standard would seem to economize on the costs of determining whether the benefits of a restraint counteract its purported harms.

Closer analysis suggests that the actual impact of such restraints is more complicated than basic economics grounded in price theory and the workable competition model would suggest. Certainly some reductions in transaction costs resulting from complete or partial integration will manifest themselves as reduced prices when compared to the partial equilibrium model’s non-restraint baseline. Indeed, bargaining and information costs, the original “transaction costs” that Ronald Coase identified in 1937, are relatively slight departures from perfect

14. See *infra* notes 60–62 and accompanying text.

15. See *infra* notes 119–31 and accompanying text.

16. See *infra* notes 101, 109–11 and accompanying text.

17. See *infra* notes 141–46 and accompanying text.

18. See *infra* notes 99–127 and accompanying text.

19. See *infra* notes 109–10 and accompanying text.

20. See *infra* notes 125–27 and accompanying text.

competition and are analogous, if not identical, to the sort of technological production costs recognized by the perfect and workable competition models. Thus, the dominant paradigm for analyzing trade restraints, developed within the confines of the workable competition model, readily incorporates Coase's original insight that vertical integration can reduce technological transaction costs, even though the workable competition model did not recognize such costs.²¹ When a restraint purportedly reduces these costs without impacting other economic variables, the current method for analyzing restraints, influenced by the partial equilibrium trade-off model, produces correct results. Indeed, the technological nature of the transaction costs that Coase identified likely explains why the partial equilibrium paradigm and the resulting hostility toward non-standard contracts survived Coase's 1937 insight completely unscathed. Paradigms and their practitioners are stubborn, and the partial equilibrium paradigm is no exception. Because this paradigm incorporated technological transaction costs so readily, even economists who embraced Coase's analysis would have had no reason to question the broad application of the trade-off model until other scholars rediscovered Coase's insight and identified non-technological transaction costs that such agreements could eliminate.

Still, courts and the enforcement agencies err when they employ the partial equilibrium paradigm to examine restraints that may reduce *non*-technological costs. While the partial equilibrium model recognizes technological efficiencies, it also assumes constant consumer demand and the absence of transaction costs and externalities. Many non-standard contracts, however, lower costs by reducing the risk of opportunism that arises because of relationship-specific investments and resulting product differentiation. Such opportunism is an externality, made possible by imperfect institutional arrangements such as poorly-specified property rights and other conditions that contravene the workable competition model from which courts derive their price and output baselines when conducting rule of reason analysis. Because the partial equilibrium model's baseline does not incorporate such externalities or shifts in demand, reliance on the trade-off model to evaluate restraints that may reduce non-technological transaction costs can produce incorrect results. Simply put, reductions in non-technological transaction costs bear no similarity to technological efficiencies and can manifest themselves as prices that are higher than those that defendants would charge but for the restraint, at least as courts and agencies currently frame their analysis and measure the impact of such restraints. By facilitating the differentiation or promotion of a product, these restraints can enhance

21. See *infra* notes 211–15.

the demand for the item, as well as the cost of producing and promoting it, resulting in a price that is higher than the defendant would charge without the restraint *and accompanying investments*.

To be sure, removal of the restraint simpliciter could result in reduced prices compared to those that postdate the investments the restraint accompanies, at least in the short run, but this reduction would reflect opportunistic exploitation of specific investments by the party no longer bound by the restraint that induced such investments in the first place. Such exploitation and the resulting price and output do not reflect a stable economic equilibrium, as it will lead defendants to cease investing in the very activities that created the value being exploited, thereby reducing the quality and promotion of the defendant's product. Thus, the prices resulting from a hypothetical removal of the restraint reflect opportunistic behavior and resulting externality, contrary to the partial equilibrium model's assumption of no externality. They are economic illusions and do not reflect profitable economic activity, with the result that the partial equilibrium model cannot provide a useful vehicle for evaluating such restraints without some modifications.

The rule of reason's bias against restraints that reduce certain types of transaction costs is ironic, given current law's reliance upon the propensity to reduce such costs as a rationale for sparing certain restraints from per se condemnation.²² Since the 1960s, various scholars have argued that numerous restraints deemed harmful by the workable competition model are actually beneficial efforts to reduce the costs of relying upon the market, that is, transacting, to conduct economic activity.²³ While courts and enforcement agencies properly incorporate these revolutionary insights when determining whether a restraint is unlawful per se, they sometimes ask the wrong question when conducting rule of reason analysis of restraints that avoid per se condemnation, giving undue focus to the purported impact that such restraints have upon the price that defendants charge for their products and/or the output they produce.²⁴

The realization that improper framing distorts the outcome of rule of reason analysis under current standards suggests that courts should reframe their analysis so as to incorporate the insights of TCE. In particular, courts should employ a different baseline when determining whether a restraint results in higher prices or reduced output. That is, courts should ask whether prices produced by the restraint are higher, or output lower, than the prices, or output, that would result if the defendants enter the venture and made specific investments *without*

22. See *infra* notes 87–94, 275–81 and accompanying text.

23. See *infra* notes 244–56 and accompanying text.

24. See *infra* notes 305–12 and accompanying text.

adopting the challenged restraint. If the restraint would produce higher prices, or reduced output, compared to *this* baseline, then a court or agency could properly conclude that the market power effects of the restraint overcome any efficiencies. However, courts and agencies will rarely be able to observe this baseline—which differs markedly from the sort of rivalry and equilibrium that existed before the restraint—directly, since firms will only rarely enter a transaction or venture without adopting a restraint that counteracts opportunism. As a result, courts and agencies examining a challenged restraint will have to ascertain the costs and benefits of such restraints directly, thereby determining whether the restraint produces more harm than good when compared to a hypothetical world in which the defendants do not adopt the restraint.

Part I of this Article reviews antitrust law's evolving treatment of non-standard contracts that often reduce transaction costs. This Part reviews the inhospitality tradition of antitrust, whereby courts and agencies, influenced by the models of perfect and workable competition, condemned various non-standard contracts as unlawful per se, or nearly so. Such hostility, it is shown, rested upon an application of the partial equilibrium trade-off model, including the assumption that efficiencies were technological in nature and that such restraints could not produce technological efficiencies. This Part then explains how courts and agencies abandoned various per se rules, after concluding that such restraints can reduce transaction costs. This Part also details the standards that courts and agencies now employ when analyzing such restraints under the rule of reason. Both courts and agencies, it is shown, focus heavily on the impact that a restraint purportedly has on a defendant's price or output. In particular, courts now employ, at the behest of the Harvard School, various means of identifying a non-restraint equilibrium price and output and presume unlawful any restraint that appears to result in prices above—or output below—this purported equilibrium. While these standards are relatively uncontroversial, they seem internally incoherent, produce anomalous results, and are sometimes ignored by lower courts.

Part II examines the rise of “transaction cost economics,” the economic framework that undermined the inhospitality tradition and led to the reversal of various rules condemning certain non-standard contracts. The Part begins by examining Ronald Coase's 1937 claim that the firm, a particular non-standard contract, arises to minimize the “transaction costs” that would beset continuous market contracting between unaffiliated individuals in the real world.²⁵ This Part also articulates two categories of transaction costs that non-standard contracts may reduce. So-called “technological transaction costs,” which Coase

25. See *infra* notes 176–95 and accompanying text.

emphasized, involve the bargaining and information costs ordinarily associated with the term in the law and economics literature. These costs are closely analogous to the production costs normally recognized within the perfect and workable competition models. By contrast, so-called “non-technological transaction costs” result from numerous *departures* from perfect competition, including product differentiation and departures from both perfect and workable competition, namely relationship-specific investments, opportunism, and the passage of time. Moreover, departures from perfect competition that give rise to non-technological transaction costs often reflect improvements over the allocation of resources and resulting social welfare that atomistic rivalry would produce in the “real world.” While most law and economics scholars have focused on the first type of transaction costs,²⁶ scholars interested in antitrust problems have generally focused on the second.²⁷

Part III examines the standards currently governing rule of reason analysis of restraints that reduce transaction costs. These standards, based as they are on the partial equilibrium paradigm, properly evaluate restraints that reduce technological transaction costs, which are closely analogous to the sort of technological efficiencies recognized by the workable competition model. In such cases, the stubbornness of the partial equilibrium paradigm has served antitrust law well. However, these same standards are not up to the task of evaluating restraints that reduce non-technological transaction costs. In particular, a singular focus on the price and/or output supposedly produced by a restraint can yield incorrect results, particularly in light of the baselines that courts employ when conducting this analysis. This Part ends by offering some possible explanations for the law’s stubborn failure to adjust partial equilibrium analysis to account for TCE’s identification of non-technological transaction costs. As it turns out, several factors, including Coase’s focus on technological transaction costs, have combined to prevent the emergence of the sort of crisis that leads scientists to reexamine paradigms that have served their profession well. Part IV explains how courts and agencies should reframe rule of reason analysis in light of the insights offered in Part III.

I. ANTITRUST’S TREATMENT OF NON-STANDARD CONTRACTS

Antitrust law’s treatment of non-standard contracts—whether complete or partial integration—has evolved alongside economic theory over the last sixty years. This Part examines that evolution and lays the groundwork for explication of the continuing influence of various economic theories on antitrust doctrine governing these agreements.

26. See sources cited *infra* note 191.

27. See *infra* notes 239–56 and accompanying text.

Price theory and its workable competition model, it is shown, exercised significant influence over antitrust doctrine, influence that was mediated by the stubborn partial equilibrium trade-off paradigm. In particular, courts condemned numerous restraints as unlawful per se, or nearly so, because they reduced rivalry between the parties without producing any apparent offsetting benefits. While the Supreme Court has reversed many of the more extreme manifestations of this “inhospitality tradition,” current standards governing rule of reason analysis of such agreements nonetheless seem to produce anomalous results. At the same time, some lower courts have modified such standards, seemingly contrary to Supreme Court precedent, so as to avoid condemning agreements that apparently produce significant benefits.

A. “PERFECT COMPETITION,” “WORKABLE COMPETITION,” AND THE
INHOSPITALITY TRADITION

The Sherman Act’s²⁸ rule of reason requires courts and agencies to determine whether a challenged agreement “restrains trade” unreasonably by producing the consequences of monopoly power: reduced output, above-cost pricing, and/or reduced quality.²⁹ Courts and agencies have naturally turned to economic theory to guide them in discerning the impact of challenged restraints.³⁰ For several decades of the twentieth century, neoclassical price theory was the dominant economic framework relevant to industrial organization and antitrust policy.³¹ Indeed, during this period, industrial organization was little

28. 15 U.S.C. § 1 (2006).

29. See *Standard Oil Co. of N.J. v. United States*, 221 U.S. 1, 64 (1911); *id.* at 61 (defining “restraint of trade” as “undue restraint of the course of trade,” bringing about monopoly, or “produc[ing] the same result as monopoly”); *id.* at 57 (“[At common law] contracts or acts which . . . were thought to unduly diminish competition and hence to enhance prices—in other words, to monopolize—came . . . to be spoken of and treated as . . . being in restraint of trade.”); *id.* at 52 (listing “evils” of monopoly as: (1) the power to fix prices, (2) the power to limit output, and (3) reduced quality of the monopolized product); *id.* (characterizing “power arbitrarily to enhance prices” as one of “the wrongs arising from monopoly”); see also Robert H. Bork, *Price Fixing and Market Division*, 74 *YALE L.J.* 775, 802–05, 831–32 (1965); Alan J. Meese, *Price Theory, Competition and the Rule of Reason*, 2003 *U. ILL. L. REV.* 77, 83–89.

30. See HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW: 1836–1937*, at 268 (1991) (“One of the great myths about American antitrust policy is that courts began to adopt an ‘economic approach’ to antitrust problems only in the 1970’s. At most, this ‘revolution’ in antitrust policy represented a change in economic models. Antitrust policy has been forged by economic ideology since its inception.”); Michael S. Jacobs, *An Essay on the Normative Foundations of Antitrust Economics*, 74 *N.C. L. REV.* 219, 226 (1995) (“In almost every era of antitrust history, policymakers have employed models to explain or modify the state of the law and the rationale for its enforcement.”).

31. Exemplars of the price-theoretic approach to industrial organization include: JOE S. BAIN, *INDUSTRIAL ORGANIZATION* (1959); JOEL B. DIRLAM & ALFRED E. KAHN, *FAIR COMPETITION: THE LAW AND ECONOMICS OF ANTITRUST POLICY* (1954); CARL KAYSER & DONALD F. TURNER, *ANTITRUST POLICY: AN ECONOMIC AND LEGAL ANALYSIS* (1959); JOHN PERRY MILLER, *UNFAIR COMPETITION: A STUDY IN CRITERIA FOR THE CONTROL OF TRADE PRACTICES* (1941); Edward S. Mason, *Monopoly in Law and*

more than “applied price theory.”³² Price theory, which sought to explain the “performance of business firms in relation to the selling markets for the goods they produce,”³³ rested upon the foundational model of perfect competition.³⁴ This model imagined a world of continuous, unconstrained rivalry between innumerable firms resulting in a “competitive” price and “competitive” output.³⁵ If replicated in all industries, such unbridled rivalry would produce an instantaneous equilibrium and optimal allocation of resources, maximizing the value of society’s output in light of its endowment of labor, capital, and other inputs.³⁶

To be sure, economists recognized that the real world did not always replicate perfect competition’s various assumptions.³⁷ Some departures from these assumptions were the result of imperfect legal arrangements that resulted in a poor specification of property rights.³⁸ In such cases, society could enhance welfare by altering legal institutions to eliminate these imperfections.³⁹ In other instances, however, such departures were exogenous to legal rules and would arise even in a perfect legal system. Focusing on these latter departures, economists of the era recognized

Economics, 47 YALE L.J. 34 (1937).

32. See R. H. COASE, *Industrial Organization: A Proposal for Research*, in THE FIRM, THE MARKET, AND THE LAW 59–64 (1988) [hereinafter COASE, *Industrial Organization*] (arguing that, as of 1972, industrial organization consisted simply of applied price theory). Indeed, after reviewing two of the period’s leading industrial organization texts, Professor Coase concluded that “essentially, both [authors] consider the subject of industrial organization as applied price-theory.” *Id.* at 60; see also BAIN, *supra* note 31, at 25–27 (describing price theory as a foundation of industrial organization); RICHARD CAVES, *AMERICAN INDUSTRY: STRUCTURE, CONDUCT, PERFORMANCE* 14 (Otto Eckstein ed., 2d ed. 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 INDUSTRY I* (1968) (portraying industrial organization as “price or resource allocation theory”).

33. BAIN, *supra* note 31, at 25–26.

34. See generally FRANK M. MACHOVEC, *PERFECT COMPETITION AND THE TRANSFORMATION OF ECONOMICS* (1995) (tracing the rise of perfect competition model and its influence on microeconomic theory); George J. Stigler, *Perfect Competition, Historically Contemplated*, 65 J. POL. ECON. 1 (1957) (tracing the evolution of perfect competition model); see also KAYSSEN & TURNER, *supra* note 31, at 7–8 (“[T]he rigorous model of the perfectly competitive market is the appropriate starting point of any definition [of competition].”).

35. See FRANK H. KNIGHT, *RISK, UNCERTAINTY, AND PROFIT* 76–93 (Augustus M. Kelley, 1964) (1921) (propounding a detailed articulation of the perfect competition model and the consequences of perfect competition); GEORGE J. STIGLER, *THE THEORY OF COMPETITIVE PRICE* 21–26 (1942); see also *infra* notes 153–68 and accompanying text (detailing assumptions of the perfect competition model).

36. See KNIGHT, *supra* note 35, at 81–86; STIGLER, *supra* note 35, at 26–31.

37. See, e.g., KNIGHT, *supra* note 35, at 264–90 (introducing the notion of uncertainty and its impact upon an otherwise competitive market).

38. See A.C. PIGOU, *ECONOMICS OF WELFARE* 172–203 (4th ed. 1962); see also KAYSSEN & TURNER, *supra* note 31, at 67 n.25 (explaining how inequality of private and social costs reflects “inappropriate property institutions”).

39. See, e.g., KAYSSEN & TURNER, *supra* note 31, at 67 n.25 (contending that divergence between private and social costs establishes case for government operation of an industry); PIGOU, *supra* note 38, at 172–203; Morris A. Copeland, *Institutionalism and Welfare Economics*, AM. ECON. REV., Mar. 1958, at 1, 2–7.

that certain additional departures from perfect competition could actually enhance society's welfare.⁴⁰ For instance, contrary to the assumptions of perfect competition, firms might produce heterogeneous products, catering to consumers' preferences for variety. While such differentiation could confer modest market power on sellers, the benefits of differentiation often outweighed any harm.⁴¹

Moreover, in some industries, technological conditions might require firms to reach significant size to achieve economies of scale or other technological efficiencies.⁴² In these circumstances, a departure from the model's assumption of innumerable participants in each industry might produce significant efficiencies, even if that departure resulted in market power due to oligopoly or even monopoly.⁴³ Where realization of efficiencies required market power, scholars argued that policy should tolerate such power.⁴⁴

40. See KAYSSEN & TURNER, *supra* note 31, at 71 n.31 (suggesting that, given some departures from perfect competition, other departures might actually enhance welfare).

41. DIRLAM & KAHN, *supra* note 31, 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 31, at 117; ALFRED R. OXENFELDT, *INDUSTRIAL PRICING AND MARKET PRACTICES* 88 (1951) ("[Perfect competition] may not give desirable results in a world characterized by rapidly changing consumer tastes [and] a strong desire for diversity of products . . ."); F.M. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 22 (1970) (describing product differentiation as a potentially beneficial departure from perfect competition); Frank H. Knight, *Demand and Supply and Price*, in *SECOND-YEAR COURSE IN THE SOCIAL SCIENCES: SYLLABUS AND SELECTED READINGS* 193, 218 (Harry D. Gideonse et al. eds., 2d prelim. ed. 1933) (explaining that a seller's "monopoly" over its own brand is constrained by competition from other branded goods); Mason, *supra* note 31, at 47-49 (concluding that economists should not oppose all instances of product differentiation despite the resulting market power); see also E.H. Chamberlin, *Product Heterogeneity and Public Policy*, *AM. ECON. REV.*, May 1950, at 85, 92 ("Monopoly elements are built into the economic system and the ideal necessarily involves them. Thus wherever there is a demand for diversity of product, pure competition turns out to be not the ideal but a departure from it.").

42. See JOE S. BAIN, *PRICING, DISTRIBUTION, AND EMPLOYMENT: ECONOMICS OF AN ENTERPRISE SYSTEM* 112 (rev. ed. 1953) ("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 31, at 8 ("[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."); TIBOR SCITOVSKY, *WELFARE AND COMPETITION: THE ECONOMICS OF A FULLY EMPLOYED ECONOMY* 331-33 (1951); STIGLER, *supra* note 35, at 132-42.

43. See BAIN, *supra* note 42 ("In most industries, a small firm is quite inefficient . . ."); *id.* at 153 (concluding that monopolized industries often realize economies of scale and may out-produce competitive ones); KAYSSEN & TURNER, *supra* note 31, at 5-8; MILLER, *supra* note 31, at 411 ("[I]t would not be feasible to pulverize industry sufficiently to approximate pure competition . . . without interfering with the attainment of the optimum scale of plant and rate of operation . . ."); Edward S. Mason, *Workable Competition Versus Workable Monopoly*, in *ECONOMIC CONCENTRATION AND THE MONOPOLY PROBLEM* 382, 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.").

44. See KAYSSEN & TURNER, *supra* note 31, at 45 ("[I]n so far as reduction of market power is

Given these benefits of exogenously-driven departures from perfect competition, price theorists did not view restoring atomistic rivalry of the sort imagined by the model as a proper goal of antitrust policy. Instead, price theory implied that antitrust law should further what became known as “workable competition.”⁴⁵ Under this approach, conduct resulting in a departure from perfect competition, and thus market power, was presumptively “anticompetitive” and therefore, harmful *unless* it produced countervailing technological efficiencies or product differentiation that offset such harm.⁴⁶ While more “realistic” than perfect competition, workable competition models continued to embrace most assumptions of the perfect competition model, including the assumption that bargaining costs, information costs, opportunism, and externalities are completely absent.⁴⁷

The workable competition approach to antitrust found particular expression in the so-called “Harvard School” of antitrust policy.⁴⁸ Indeed, beginning in the early 1950s, Harvard maintained an interdisciplinary working group charged with “developing a standard of workable competition” to guide antitrust regulation.⁴⁹ In 1959, two participants, Donald Turner and Carl Kaysen, produced a definitive text aimed at guiding antitrust law toward the policies required by workable competition.⁵⁰ The text argued that market power should render a

incompatible with efficiency and progressiveness, we subordinate the first goal to the second.”); *id.* at 113 (arguing that monopoly achieved via economies of scale should be beyond antitrust scrutiny); *id.* at 133 (arguing that merger creating significant efficiencies should pass scrutiny despite enhancement of market power); Donald F. Turner, *The Scope of Antitrust and Other Economic Regulatory Policies*, 82 HARV. L. REV. 1207, 1217–25 (1969) (arguing that monopoly achieved via economies of scale should survive antitrust scrutiny).

45. See J. M. Clark, *Toward a Concept of Workable Competition*, AM. ECON. REV., June 1940, at 241, 243 (first articulating the concept of “workable competition” as a guide to antitrust policy).

46. See generally Alan J. Meese, *Monopolization, Exclusion, and the Theory of the Firm*, 89 MINN. L. REV. 743, 772–93 (2005) (summarizing scholarly literature of the era endorsing this model).

47. See, e.g., KAYSEN & TURNER, *supra* note 31, at 67 n.25 (“[T]he equality of private and social costs, especially in the areas relevant to our study, is not a major problem.”); see also FREDRICH A. HAYEK, *The Meaning of Competition*, in INDIVIDUALISM AND ECONOMIC ORDER 92, 94 (1948) (“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.’”); Richard N. Langlois, *Transaction Costs, Production Costs, and the Passage of Time*, in COASEAN ECONOMICS: LAW AND ECONOMICS AND THE NEW INSTITUTIONAL ECONOMICS I, 2–3 (Steven G. Medema ed., 1997) (noting that pioneers of oligopoly theory invoked various assumptions of perfect competition model). Indeed, George Stigler’s pioneering article on the economics of information began by noting that “economics” (not “perfect competition”) mostly ignored the question of information. See George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213, 213 (1961).

48. See Jacobs, *supra* note 30, at 227–29 (describing so-called Harvard School of industrial organization and antitrust policy during this period).

49. *Nine Professors Named for Study of Monopoly Problems*, CHRISTIAN SCI. MONITOR, July 10, 1950, at 13 (describing Mason’s launch of his five year study); see also BAIN, *supra* note 31, at x (asserting that Mason created the field of industrial organization); Edward Mason, *Preface* to KAYSEN & TURNER, *supra* note 31, at xi, xix–xx (1959) (describing origins and workings of the group).

50. See generally KAYSEN & TURNER, *supra* note 31; Mason, *supra* note 49, at xix–xx (explaining

practice or transaction unlawful absent proof that it would create technological efficiencies or other benefits, such as product differentiation.⁵¹ In the same year, another member of the group, Joe Bain, whose work was supported by the same foundation that subsidized the Harvard group, produced a definitive text on industrial organization.⁵² While Bain did not write about antitrust policy per se, Harvard scholars who did often relied upon his work.⁵³

The validation of some practices that departed from perfect competition and created market power rested upon an implicit balance of harms against benefits that assumed the latter predominated.⁵⁴ In 1968, Oliver Williamson would formalize this result at Donald Turner's behest, employing price theory's partial equilibrium trade-off model to demonstrate that a merger to monopoly that enhanced market power and produced allocational losses could nonetheless enhance overall welfare if it resulted in non-trivial technological efficiencies such as economies of scale.⁵⁵ Williamson embraced various assumptions of the workable competition model, including (1) that prices and output before a merger were in a state of equilibrium; (2) an absence of externalities; (3) unchanged products; (4) unchanged demand; and (5) that efficiencies were technological in nature and therefore, other things being equal, manifested in the form of lower prices.⁵⁶ These various assumptions, in what Williamson called a "naïve" model, allowed for definitive conclusions about the overall impact of two—but only two—countervailing effects of a transaction, while holding everything else constant, in keeping with the general methodology of price theory.⁵⁷

that this text grew out of Mason's working group).

51. KAYSSEN & TURNER, *supra* note 31, at 45, 113.

52. See BAIN, *supra* note 31, at x (describing support by this foundation for research that informed the text and also formed the basis for a different book).

53. See Turner, *supra* note 44, at 1211, 1215.

54. See Meese, *supra* note 46, at 780–83; see also JOE S. BAIN, PRICE THEORY 208–09 (1952) (explaining how efficiencies resulting from large size could offset harm flowing from market power); KAYSSEN & TURNER, *supra* note 31, at 77–81 (articulating this approach); *id.* at 128–29 (contending that a merger conferring market power could nonetheless enhance welfare on balance by producing "the appropriate scale of operations"); George J. Stigler, *The Extent and Bases of Monopoly*, AM. ECON. REV., June 1942, at 1, 8–13 (examining the extent to which economies of scale might justify departures from perfect competition).

55. See Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, AM. ECON. REV., Mar. 1968, at 18 [hereinafter Williamson, *Antitrust Defense*]; see also Oliver E. Williamson, *Economics and Antitrust Enforcement: Transition Years*, ANTITRUST, Spring 2003, at 61, 64 (explaining the origins of this conclusion).

56. See Williamson, *Antitrust Defense*, *supra* note 55, at 21–24; *id.* at 22 n.4 ("[S]ocial and private costs are assumed to be identical.").

57. See BAIN, *supra* note 54, at 14 (explaining that price theory examines the impact of small changes under the assumption that most variables are fixed); KNIGHT, *supra* note 35, at 79 (explaining that perfect competition assumes that all given conditions and factors "remain absolutely unchanged"); W. KIP VISCUSI, ET AL., ECONOMICS OF REGULATION AND ANTITRUST 74 (2d ed. 1996) (explaining how partial equilibrium tools assume away complexities such as externalities and

Williamson's analysis formalized and legitimated what some philosophers of science call a paradigm, to wit, a concrete problem solution, akin to a common law precedent, that a given profession accepts as the basis for further research, often by analogy.⁵⁸ This paradigm naturally informed merger analysis; merger case law and the enforcement guidelines still bear its influence.⁵⁹ Moreover, numerous antitrust scholars subsequently explicitly embraced Williamson's merger trade-off analysis as a paradigm to be applied to various other antitrust problems.⁶⁰ Indeed, Robert Bork, a founder of the Chicago School of antitrust analysis, opined that Williamson's model was properly "used to illustrate all antitrust problems."⁶¹ Other scholars continued to employ the trade-off analysis implicitly, by invoking the postulates and policy prescriptions of the workable competition school and citing Williamson's article and welfare conclusions with approval.⁶²

interactions between industries); *see also supra* note 47 and accompanying text (explaining that workable competition embraces many of the same limiting assumptions as perfect competition).

58. *See* THOMAS S. KUHN, *The Essential Tension: Tradition and Innovation in Scientific Research*, in *THE ESSENTIAL TENSION* 225, 225–39 (1977) [hereinafter KUHN, *The Essential Tension*] (articulating Kuhn's original, narrower definition); *id.* at 229 ("[Text]books exhibit concrete problem solutions that the profession has come to accept as paradigms, and they then ask the student . . . to solve for himself problems very closely related in both method and substance to those through which the textbook or accompanying lecture has led him. Nothing could be better calculated to produce 'mental sets' or *Einstellungen*."); *id.* at 233 (describing basic research in the sciences in the same way); THOMAS S. KUHN, *Preface* to *ESSENTIAL TENSION supra*, at ix, xvii–xx (articulating this definition and recognizing that the definition of the concept was expanded in *Scientific Revolutions* to refer to the set of values and pre-commitments shared by a particular scientific community); THOMAS S. KUHN, *Second Thoughts on Paradigms*, in *ESSENTIAL TENSION, supra*, at 293, 294–308; 2 THOMAS S. KUHN, *INTERNATIONAL ENCYCLOPEDIA OF UNIFIED SCIENCE: THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 23 (2d ed. 1970) [hereinafter KUHN, *SCIENTIFIC REVOLUTIONS*] ("In a science, on the other hand, a paradigm is rarely an object for replication. Instead, like an accepted judicial decision in the common law, it is an object for further articulation and specification under new or more stringent conditions."); WOLFGANG STEGMÜLLER, *THE STRUCTURE AND DYNAMICS OF THEORIES* 177–80 (1976).

59. *See, e.g.*, William J. Kolasky & Andrew R. Dick, *The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers*, 71 *ANTITRUST L.J.* 207 (2003) (describing the role of Williamson's trade-off model in enforcement policy).

60. ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 107–10 (Free Press 1993) (1978) (arguing that Williamson's trade-off model can be used to illustrate all antitrust problems); Oliver E. Williamson, *Allocative Efficiency and the Limits of Antitrust*, *AM. ECON. REV.*, May 1969, at 105, 105 ("The emphasis throughout [this article] is on mergers, but much of the argument generalizes easily."); *see also* DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 798–99 (2d ed. 1994) (relying upon the Williamson model to illustrate efficiency-based antitrust policy); VISCUSI ET AL., *supra* note 57, at 124–25 (agreeing with Bork that a partial equilibrium "diagram can be used to illustrate all antitrust problems"); Thomas C. Arthur, *The Costly Quest for Perfect Competition: Kodak and Nonstructural Power*, 69 *N.Y.U. L. REV.* 1, 15–18 (1994) (invoking Williamson's model to illustrate the trade-off between market power and efficiencies when analyzing trade restraints); Wesley J. Liebeler, *Intrabrand "Cartels" Under GTE* *Sylvania*, 30 *UCLA L. REV.* 1, 15–16 (1982) (employing the model to illustrate a "consumer welfare" standard applicable to all antitrust problems).

61. *See* BORK, *supra* note 60, at 108.

62. *See, e.g.*, 2 PHILLIP AREEDA & DONALD F. TURNER, *ANTITRUST LAW: AN ANALYSIS OF*

Non-standard contracts, such as tying, exclusive dealing, exclusive territories, or complete vertical integration, did not fare well within either the workable competition model or the trade-off paradigm that informed it. Such agreements offended two postulates of perfect competition. First, these contracts limited rivalry between the parties to them, or between these parties and third parties.⁶³ Second, given the nature of contract—to restrain—such agreements interfered with the movement of resources from one user to the other.⁶⁴ Thus, such agreements contravened perfect competition's assumed absence of "obstacles to the making, execution, and changing of plans at will" and "'perfect mobility' in all economic adjustments, with no cost involved in movements or changes."⁶⁵

These departures from perfect competition did not, according to price theorists, produce offsetting benefits. Such agreements interfered with the discretion of trading partners before firms took title to inputs, or after title to output passed to consumers. Thus, such agreements could not create technological efficiencies such as economies of scale, which by their nature arose within a firm, in connection with the manufacturing process.⁶⁶ For the same reason, such agreements could not alter or enhance the quality of the products they governed. Moreover, scholars of the era habitually assumed a well-functioning legal system, including well-defined property rights that minimized the prospect that private

ANTITRUST PRINCIPLES AND THEIR APPLICATION, ¶ 408a, at 292 n.1 (1978) (invoking Williamson's conclusions in support of tolerance for concentration and resulting scale economies); Timothy J. Muris, *The Efficiency Defense Under Section 7 of the Clayton Act*, 30 CASE W. RES. L. REV. 381 (1980) (relying upon Williamson's conclusion to justify an efficiency defense in the merger context).

63. Cf. KNIGHT, *supra* note 35, at 77-78 (noting that perfect competition requires absence of cooperation between individuals that are potential rivals); Stigler, *supra* note 34, at 14 ("[I]t seems essential to assume the absence of collusion as a supplement to the presence of large numbers.").

64. Cf. *Chicago Bd. of Trade v. United States*, 246 U.S. 231, 238 (1918) ("To bind, to restrain is of [the] very essence [of contracts].").

65. KNIGHT, *supra* note 35, at 77-78; see also STIGLER, *supra* note 35, at 21 (explaining that perfect competition assumes that "markets are free from special institutional restraints" and that "prices and the mobility of resources are not restricted").

66. See OLIVER E. WILLIAMSON, *ECONOMIC INSTITUTIONS OF CAPITALISM* 370-71 (1985) (explaining how price theory treated efficiencies as technological in nature and thus as arising "within" the firm). Complete vertical integration constituted a partial exception to the generalizations offered here, since such integration could conceivably create technological efficiencies. See BAIN, *supra* note 31, at 356-57 (describing possible technological benefits of vertical integration); KAYSER & TURNER, *supra* note 31, at 128-29 (explaining that merger can alter the extent of vertical integration to account for technological changes). Still, scholars assumed that most such integration enhanced market power. See BAIN, *supra* note 31, at 357-58 ("[T]here 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, where in most cases the rationale of the integration is most evidently the increase of the market power of the firms involved rather than a reduction in cost."); Stigler, *supra* note 34, at 22 ("Such economies are historical: technological progress merely leads to a redefinition of the scope of the production process. But it is arguable that most of the important advantages of vertical integration partake of a monopolistic nature.").

costs could diverge from social costs.⁶⁷ This *legal* framework was exogenous to the *economic* market; economic actors took it as a given and could not change it, just as they took for granted the sort of scientific and engineering considerations that determined the shape of production functions, the mathematical relationships between inputs and outputs.⁶⁸ Scholars also assumed, somewhat curiously, that parties did not behave in an opportunistic fashion, thereby precluding recognition that such restraints could overcome such opportunism.⁶⁹ Because such restraints restricted rivalry, and interfered with the mobility of resources while producing no corresponding technological benefits, economists naturally inferred that they reflected an exercise of market power to the detriment of consumers and the rest of society.⁷⁰ There were, moreover, no apparent efficiencies that might offset these harms. Given these assumptions, application of the trade-off paradigm easily required condemnation of such agreements.

For over three decades, price theory and its workable competition model informed antitrust policy, giving rise to the “inhospitality tradition” of antitrust.⁷¹ During this era, courts found numerous practices unreasonable *per se*, reasoning that such practices always, or almost always, were anticompetitive and always, or almost always, lacked redeeming virtues.⁷² Price-fixing, whether horizontal or vertical, maximum

67. See KAYSSEN & TURNER, *supra* note 31, at 67 n.25 (“[T]he equality of private and social costs, especially in the areas relevant to our study, is not a major problem.”); PIGOU, *supra* note 38, at 127–30 (explaining that a competitive economic system depends upon well-functioning property and contract rights).

68. See Alan J. Meese, *Market Failure and Non-Standard Contracting: How the Ghost of Perfect Competition Still Haunts Antitrust*, 1 J. COMPETITION L. & ECON. 21, 69–70 (2005) (explaining how the perfect competition model assumed fixed property rights and other background rules of law that parties could not change by contract); see also *infra* note 165 and accompanying text (collecting authorities for the proposition that the shape of production functions depends upon exogenous scientific and engineering considerations).

69. See, e.g., Samuel Bowles & Herbert Gintis, *The Revenge of Homo Economicus: Contested Exchange and the Revival of Political Economy*, J. ECON. PERSP., Winter 1993, at 83, 84 (1993) (contending that price theory and perfect competition rested upon an assumption that market actors behaved as “Victorian gentlemen”); Louis Makowski & Joseph M. Ostroy, *Perfect Competition and the Creativity of the Market*, 39 J. ECON. LITERATURE 479, 490–91 (2001) (detailing the tendency of some devotees of perfect competition to assume away the possibility of opportunism by fiat).

70. See KAYSSEN & TURNER, *supra* note 31, at 8 (arguing that behavior different from that predicted by the perfect competition model reflects the exercise of market power).

71. See Meese, *supra* note 29, at 124–34 (detailing the influence of price theory on antitrust doctrine during this period and the resulting inhospitality tradition). The phrase “inhospitality tradition” was coined by Donald Turner, a Harvard economist and lawyer who headed the Antitrust Division of the Department of Justice during the Johnson Administration. Donald F. Turner, *Some Reflections on Antitrust*, 1966 N.Y. ST. B. ASS’N ANTITRUST L. SYMP. 1, 1–2. Turner “approach[ed] territorial and customer restrictions not hospitably in the common law tradition, but inhospitably in the tradition of antitrust law.” *Id.*; see also Jacobs, *supra* note 30, at 227–29 (describing the Harvard School of antitrust policy).

72. See, e.g., *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 8–9 (1958) (articulating and applying this test to tying agreements).

or minimum, failed this test, regardless of defendants' position in the marketplace.⁷³ Other horizontal limitations on rivalry were unlawful per se, even when ancillary to legitimate ventures.⁷⁴ Tying contracts and exclusive dealing fared slightly better. Tying was "only" unlawful per se when the seller of the tying product possessed "economic power," which courts found in any departure from perfect competition.⁷⁵ Exclusive dealing contracts were unlawful whenever they "foreclosed" a non-trivial share of the relevant market, regardless of whether they created any offsetting benefits.⁷⁶ The Federal Trade Commission went even further, with the blessing of the Supreme Court, banning as "unfair trade practices" exclusive dealing agreements that foreclosed one percent of the market.⁷⁷ Finally, complete vertical integration by merger was unlawful whenever the transaction "foreclosed" rivals from a non-trivial portion of the market.⁷⁸ Such transactions, it was said, created a "clog on competition," with competition defined as moment-by-moment rivalry.⁷⁹

At the same time, so-called unilateral conduct was almost always lawful per se.⁸⁰ Such behavior included charging a high price, realizing economies of scale, devising new products, as well as advertising and promoting those products.⁸¹ Moreover, courts expressly held that successful product differentiation did not violate Sherman Act § 2,⁸² despite any resulting market power.⁸³ Nearly all of these practices could injure rivals and perhaps drive them from the market, to the detriment of consumers in some cases. Nonetheless, courts treated such conduct as "competition on the merits," beyond scrutiny under either § 1 or § 2 of

73. See *Albrecht v. Herald Co.*, 390 U.S. 145, 152–53 (1968); *Kiefer-Stewart v. Joseph E. Seagram & Sons*, 340 U.S. 211, 213 (1951).

74. See *United States v. Topco Assocs.*, 405 U.S. 596, 606–13 (1972) (banning contractually-imposed exclusive territories ancillary to valid venture); *United States v. Sealy, Inc.*, 388 U.S. 350, 357–58 (1967) (same).

75. See *N. Pac. Ry.*, 356 U.S. at 6; see also *Fortner Enters. v. U.S. Steel Corp.*, 394 U.S. 495, 503–04 (1969) (finding that the existence of tying contracts creates a presumption that agreements are imposed via market power); *United States v. Loew's, Inc.*, 371 U.S. 38, 45 (1962) (possession of copyright creates presumption of economic power); *Siegel v. Chicken Delight, Inc.*, 448 F.2d 43, 49 (9th Cir. 1971) (holding that ownership of attractive trademarks established "economic power").

76. See *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 305 (1949) (holding exclusive dealing contracts necessarily "substantially lessen[ed] competition" where manufacturer bound 6.7% of region's dealers); *United States v. Richfield Oil Corp.*, 99 F. Supp. 280 (S.D. Cal. 1951), *aff'd*, 343 U.S. 922 (1952) (finding exclusive dealing contract that bound three percent of a region's dealers unlawful).

77. See *FTC v. Brown Shoe Co.*, 384 U.S. 316, 321 (1966) ("[Such agreements] obviously conflict[] with the central policy of both § 1 of the Sherman Act and § 3 of the Clayton Act.").

78. See *Brown Shoe Co. v. United States*, 370 U.S. 294, 323–24 (1962).

79. See *id.* at 324 (quoting *Standard Oil Co. of Cal.*, 337 U.S. at 314).

80. Meese, *supra* note 46, at 797–808.

81. *Id.* at 801–04.

82. 15 U.S.C. § 2 (2006).

83. *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 393–94 (1956) (finding that product differentiation confers slight monopoly power but does not offend § 2).

the Sherman Act, even when practiced by a monopolist.⁸⁴ Harvard scholars advocated and praised these results, concluding that such conduct was consistent with workable competition, because the benefits of such conduct would more than counteract any harm.⁸⁵ This result flowed naturally from the partial equilibrium trade-off analysis.⁸⁶

B. THE COLLAPSE OF THE INHOSPITALITY TRADITION AND A NEW RULE OF REASON

More than three decades ago, in *Continental T.V. v. GTE Sylvania*, the Supreme Court abandoned its hostility to non-standard agreements, holding that certain non-price vertical restraints should be analyzed under the rule of reason.⁸⁷ The *Sylvania* Court acknowledged that such restraints reduced rivalry between dealers selling the manufacturer's product.⁸⁸ Nonetheless, the Court reversed the per se ban on such agreements, relying upon reasoning derived from "transaction cost economics," a self-described rival to price theory that revolutionized economists' interpretation of non-standard contracts.⁸⁹ While the Court recognized that such restraints were departures from "pure competition," it concluded that they could produce countervailing benefits, albeit not the sort of technological efficiencies recognized by the workable competition model.⁹⁰ In particular, the Court noted that such restraints could allow dealers to recoup the benefits of their investments

84. See *United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295 (D. Mass. 1953), *aff'd*, 347 U.S. 521 (1954) (per curiam); see also Meese, *supra* note 46, at 793–808.

85. See 3 PHILLIP AREEDA & DONALD TURNER, *ANTITRUST LAW: AN ANALYSIS OF PRINCIPLES AND THEIR APPLICATION* ¶ 626b (1978) (contending that § 2 of the Sherman Act should not ban conduct producing the "economic results associated with workable competition"); KAYSSEN & TURNER, *supra* note 31, at 44, 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)).

86. See Oliver E. Williamson, *Dominant Firms and the Monopoly Problem: Market Failure Considerations*, 85 HARV. L. REV. 1512, 1525 (1972) ("The dominant firm charged with a violation would be able to rebut the presumption of unlawful monopolization by demonstrating that its dominance was the result of economies of scale leading to a natural monopoly, of the exercise of an unexpired patent or of continuing, indivisible, absolute management superiority." (footnote omitted)).

87. See 433 U.S. 36, 59 (1977).

88. See *id.* at 54 ("[V]ertical restrictions reduce intrabrand competition . . .").

89. See *id.* at 51–57; see also WILLIAMSON, *supra* note 66, at 372 (explaining how the *Sylvania* decision reflected advances in economic theory produced by TCE); Oliver E. Williamson, *Delimiting Antitrust*, 76 GEO L.J. 271, 274 (1987) [hereinafter Williamson, *Delimiting Antitrust*] (contending that TCE was the manifestation of a "genuine scientific revolution"); Oliver E. Williamson, *The Economics of Antitrust: Transaction Cost Considerations*, 122 U. PA. L. REV. 1439, 1440–47 (1974) [hereinafter Williamson, *Economics of Antitrust*] (comparing "received microtheory" and "transaction cost" approaches to industrial organization).

90. See *Sylvania*, 433 U.S. at 51–57; see also *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 103 (1984) (explaining how *Sylvania* held that restriction on competition in one portion of the market could enhance overall competition).

in promotional activities and thereby ensure adequate downstream promotion of the manufacturer's product.⁹¹

Subsequent decisions invoked *Sylvania* to repudiate per se rules against other vertical restraints.⁹² The Court has also held that certain *horizontal* restraints once deemed unlawful per se should instead be analyzed under the rule of reason.⁹³ Lower courts have extrapolated from these and other decisions and subjected numerous horizontal restraints that were once unlawful per se to rule of reason analysis.⁹⁴

The repudiation of various per se rules required courts and agencies to articulate a methodology for evaluating such restraints under the rule of reason.⁹⁵ For nearly a century, the goal of such an analysis has been clear: Determine whether a challenged restraint produces the "consequences of monopoly," namely, increased market power manifesting itself as higher prices, reduced output, or lower quality.⁹⁶ If courts were omniscient planners, they could directly discern whether, in fact, a restraint enhanced parties' ability profitably to reduce output and thus raise price above cost—the definition of market power.⁹⁷ Antitrust law, however, is a costly administrative system that cannot replicate the conclusions of a perfectly-informed economist.⁹⁸ Thus, courts and agencies conducting rule of reason analysis have developed certain shortcuts or proxies for determining whether, in fact, a restraint enhances the market power of the parties to it, to the detriment of consumers.

Both courts and agencies have agreed on certain principles. First, where a restraint expressly sets price or output, the mere existence of the agreement establishes a prima facie case, regardless of whether the

91. See *Sylvania*, 433 U.S. at 55–56 (opining that intrabrand restraints could improve upon a "purely competitive situation" by eliminating "free rider effect" and citing work of Richard Posner and Robert Bork for the proposition that non-price intrabrand restraints can eliminate "free riding" that would occur if manufacturers relied upon unfettered dealer rivalry for product distribution).

92. See, e.g., *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007) (reversing the per se rule against minimum resale price maintenance).

93. See *Cal. Dental Ass'n v. FTC*, 526 U.S. 756 (1999) (analyzing a horizontal agreement limiting advertising related to price and quality under the rule of reason); *NCAA*, 468 U.S. at 99–104 (articulating rationale for analyzing restraint on price and output under the rule of reason).

94. See generally *Chi. Prof'l Sports Ltd. v. NBA*, 95 F.3d 593 (7th Cir. 1996) (holding that horizontal restriction on output of broadcast games should be analyzed under a full-blown rule of reason); *SCFC ILC, Inc. v. Visa USA, Inc.*, 36 F.3d 958 (10th Cir. 1994) (holding that horizontal agreement depriving a rival of access to important input will be analyzed under the rule of reason); *Rothery Storage & Van Co., v. Atlas Van Lines, Inc.*, 792 F.2d 210 (D.C. Cir. 1986) (holding that a horizontal agreement on minimum prices could produce cognizable benefits and was thus properly analyzed under the rule of reason); *Polk Bros., Inc. v. Forest City Enters.*, 776 F.2d 185 (7th Cir. 1985) (holding that a horizontal agreement on product offerings could produce cognizable benefits and was thus properly analyzed under the rule of reason).

95. See, e.g., *NCAA*, 468 U.S. at 103–20 (conducting rule of reason analysis after rejecting per se condemnation of a challenged horizontal restraint on price and output).

96. See *supra* note 29 and accompanying text.

97. See *CARLTON & PERLOFF*, *supra* note 60, at 137–38.

98. See *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 234 (1st Cir. 1983) (Breyer, J.).

defendant possesses market power.⁹⁹ These courts and agencies believe that such explicit restraints “obviously” or “evidently” enhance market power, to the detriment of consumers.¹⁰⁰ This result, it is said, flows from “rudimentary economics.”¹⁰¹

Second, where less explicit restraints are concerned, courts and agencies find a prima facie case whenever a restraint causes “actual detrimental effects” in the form of higher price, reduced output, or reduced quality, again regardless whether the defendant possesses market power.¹⁰² Whether a restraint actually results in “higher” prices, or reduced output, raises the question: “Compared to what?” Courts applying this test have employed three different baselines for comparison with the prices or output produced by a restraint. Some take a temporal approach, comparing the price, output or quality produced by the restraint to what defendants actually offered before the restraint.¹⁰³ Others compare the price produced by the restraint to the price simultaneously charged by firms in other markets not employing such

99. See *Cal. Dental Ass'n v. FTC*, 526 U.S. 756, 769–70 (1999) (explaining that, in some cases, a mere restriction on price or output can suffice to establish a prima facie case); *United States v. Brown Univ.*, 5 F.3d 658, 673–74 (3d Cir. 1993) (applying this approach to a horizontal interbrand restraint); DEP'T OF JUSTICE & FTC, ANTITRUST GUIDELINES FOR COLLABORATION AMONG COMPETITORS § 3.3 (2000) [hereinafter AGCC] (noting that the character of the agreement, without more, can give rise to a prima facie case); see also *Chi. Prof'l Sports*, 961 F.2d at 674–76 (finding that proof of express output limitation itself established prima facie case).

100. See *Cal. Dental Ass'n*, 526 U.S. at 769–70; AGCC, *supra* note 99, § 3.3 (noting that the character of the agreement can give rise to a prima facie case); cf. *FTC v. Super. Ct. Trial Lawyers Ass'n*, 493 U.S. 411, 435 n.18 (1990) (citing *Bork*, *supra* note 60, at 269) (contending that the existence of a price fixing agreement suggests that the parties to the agreement believe they possess market power).

101. *Cal. Dental Ass'n*, 526 U.S. at 757, 770 (invoking “rudimentary economics” to justify this approach); see *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 109 n.39 (1984) (quoting a pamphlet by Professor Areeda for the proposition that in some cases, restraints are so obviously anticompetitive that rule of reason analysis “can be applied in the twinkling of an eye” (quoting PHILLIP AREEDA, FED. JUDICIAL CTR., THE “RULE OF REASON” IN ANTITRUST ANALYSIS: GENERAL ISSUES 37–38 (1981))).

102. See *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460–61 (1986) (rejecting defendants' contention that market definition and proof of market power were necessary elements of a rule of reason case); *NCAA*, 468 U.S. at 104–09 (1984); AGCC, *supra* note 99, § 3.2, at 8 (“Agreements of a type that always or almost always tends to raise price or reduce output are per se illegal.”); *id.* § 1.2, at 4 (“The central question is whether the relevant agreement likely harms competition by increasing the ability or incentive profitably to raise price above or reduce output, quality, service or innovation below what likely would prevail in the absence of the relevant agreement.” (emphasis added)); see also HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 256 n.25 (2d ed. 1999) (“Detrimental effects include observed decreases in output, an observed increase in price coordination, or exclusion from the market of firms that seem to be competitive entrants.”); cf. *Polk Bros. v. Forest City Enters., Inc.*, 776 F.2d 185, 191 (7th Cir. 1985) (stating that proof of market power is a necessary ingredient of any rule of reason claim).

103. See *Law v. NCAA*, 134 F.3d 1010, 1020–21 (10th Cir. 1998) (holding that plaintiff established a prima facie case by showing that prices for the services governed by the restraint changed after the restraint); AGCC, *supra* note 99, § 3.35, at 22 n.50 (discussing a temporal approach).

restraints.¹⁰⁴ Still others perform a sort of “thought experiment,” asking whether removal of the restraint would result in lower prices or higher output, thereby employing a hypothetical non-restraint equilibrium as a baseline for comparison to the prices and output produced by the restraint.¹⁰⁵ These approaches are not mutually exclusive—some courts have relied upon more than one.¹⁰⁶

Each approach used to discern whether there is a prima facie case imagines two worlds: one in which defendants have adopted the restraint and one in which the restraint is removed.¹⁰⁷ In this way, both decisional law and enforcement guidelines identify baselines against which to measure the impact of the restraint. These baselines, in turn, constitute alternative equilibria to those produced by the restraint.¹⁰⁸ According to judges and agencies, any price increase (or reduction in output or quality) compared to such baselines necessarily reflects a collective exercise of market power enabled by the restraint, therefore rendering any additional inquiry into market power superfluous.¹⁰⁹ This supposed

104. See, e.g., *Ind. Fed'n of Dentists*, 476 U.S. at 455–57 (recounting evidence that terms were more favorable to consumers in localities without restraints); *United States v. Visa USA, Inc.*, 344 F.3d 229, 241 (2d Cir. 2003) (finding the fact that defendants offered more products in foreign markets not governed by the restraint than they did domestically relevant to finding that restraints reduced “product innovation and output”).

105. See *NCAA*, 468 U.S. at 104–09 (invoking the finding by the trial court that but for restraint, prices would be lower and output higher); *Visa*, 344 F.3d at 240–41 (finding that removal of the restraint “would” result in greater and more diverse product offerings). The characterization here of *NCAA* as relying upon a “thought experiment,” as opposed to actual proof of anticompetitive harm, is likely controversial. Indeed, leading scholars such as Professor Areeda contended that the *NCAA* opinion rested upon proof of actual anticompetitive harm. See 7 PHILLIP E. AREEDA, *ANTITRUST LAW: AN ANALYSIS OF PRINCIPLES AND THEIR APPLICATION* ¶ 1511, at 430–33 (1986). However, a close reading of the Court’s decision confirms that the Court cited no evidence of tangible harm. The Court relied heavily upon the trial court’s conjecture that removal of the restraints “would” have resulted in higher output and lower prices. See, e.g., *NCAA*, 468 U.S. at 106 n.30 (quoting findings of the district court that, absent the challenged restraints, prices and output “would” be different). Indeed, the *NCAA* first imposed the restraints decades before the litigation. *Id.* at 89–90. Thus the district court’s findings were purely conjectural, in that the court merely hypothesized what would occur if the league removed the restraints.

106. See *Visa*, 344 F.3d at 240–41 (relying upon the second and third approach to find that plaintiff had established a prima facie case).

107. *NCAA*, 468 U.S. at 105–08 (affirming trial court’s finding of a prima facie case by asking whether prices would be higher or lower absent the restraint); *AGCC*, *supra* note 99, § 3.1 (“Rule of reason analysis focuses on the state of competition with, as compared to without, the relevant agreement.”).

108. See *NCAA*, 468 U.S. at 104–08 (finding that the restraint foreclosed competition because it raised prices and lowered output more than would be expected in a competitive market); *AGCC*, *supra* note 99, § 3.1 (explaining that rule of reason analysis determines whether an agreement enhances or reduces output when compared to “the absence of the relevant agreement”).

109. See *Ind. Fed'n of Dentists*, 476 U.S. at 460–61 (“Since the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, ‘proof of actual detrimental effects, such as a reduction in output,’ can obviate the need for an inquiry into market power, which is but a ‘surrogate for detrimental effects.’” (quoting 7 AREEDA, *supra* note 105, ¶ 1511, at 429)); *AGCC*, *supra* note 99, § 3.3, at 11 n.28 (quoting

exercise of market power constitutes “anticompetitive harm,” and reflects an economic state of affairs inferior to that which would occur without the restraint.¹¹⁰ Leading scholars, particularly those from the Harvard School, have endorsed this approach and the reasoning behind it.¹¹¹

A prima facie case does not itself establish liability: a defendant can still seek to avoid this fate by adducing proof that the restraint produces significant benefits that offset any harm.¹¹² However, Supreme Court decisions and enforcement guidelines provide that evidence purporting to rebut such a case is only cognizable if it tends to show that the restraint results in *lower* prices for the defendants’ product, or at least does not raise those prices, as compared to the prices that would occur without the restraint.¹¹³ That is, courts and agencies assume that a purported “benefit” that results in higher prices necessarily reflects an exercise of market power and thus simply confirms the initial presumption that the restraint produces anticompetitive harm.¹¹⁴ Finally, once defendants adduce evidence of significant benefits, courts and agencies assume that these benefits coexist with anticompetitive effects, irrebuttably presumed once a plaintiff establishes a prima facie case.¹¹⁵

Ind. Fed’n of Dentists, 476 U.S. at 460–61, for the proposition that proof of increased prices obviates the need for market power assessment and stating that agencies will only gather information necessary to determine the impact of a restraint); *see also* *Todd v. Exxon Corp.*, 275 F.3d 191, 206 (2d Cir. 2001) (“[A]n actual adverse effect on competition arguably is more direct evidence of market power than calculations of elusive market share figures.”).

110. *See NCAA*, 468 U.S. at 104–09; AGCC, *supra* note 99, §§ 3.1, 3.3.

111. *See* 7 AREEDA, *supra* note 105, ¶ 1511; HOVENKAMP, *supra* note 102, at 256; LAWRENCE A. SULLIVAN & WARREN S. GRIMES, *LAW OF ANTITRUST: AN INTEGRATED HANDBOOK* 210–12 (2000) (approving NCAA’s rejection of market power inquiry given proof of increased prices). To be sure, Professor Areeda opined that “plaintiff must ordinarily allege and prove the market that is allegedly restrained and that the defendants occupy a sufficient role in that market to impair competition there.” 7 AREEDA, *supra* note 105, ¶ 1507b, at 397. He did not, however, suggest that proof of market power was legally necessary, but instead claimed that plaintiffs would have difficulty proving detrimental effects and would thus turn to proof of market power as a surrogate for such effects. *See id.* ¶ 1503, at 376; *see also infra* notes 122–27 and accompanying text (elaborating on Professor Areeda’s position).

112. *See* *United States v. Visa USA, Inc.*, 344 F.3d 229, 243–44 (2d Cir. 2003) (evaluating proffered benefits after plaintiff established a prima facie case); *Law v. NCAA*, 134 F.3d 1010, 1021–24 (10th Cir. 1998) (considering several such justifications).

113. *See NCAA*, 468 U.S. at 113–14 (finding the purported benefit not cognizable where the trial court found that the challenged restraint caused defendants’ prices to rise); *Nat’l Soc’y of Prof’l Eng’rs v. United States*, 435 U.S. 679, 693 (1978) (holding defendants’ claim that restraint enhanced quality by preventing competitive bidding rested on an assumption that restraint produced higher prices and thus was not cognizable); AGCC, *supra* note 99, § 3.3 (stating that potential benefits will only give rise to rule of reason analysis if they “could” offset anticompetitive harm by reducing prices or preventing price increases).

114. *See, e.g., NCAA*, 468 U.S. at 114; *Nat’l Soc’y of Prof. Eng’rs*, 435 U.S. at 693; *see also* Herbert Hovenkamp, *Competitor Collaboration after California Dental Association*, 2000 U. CHI. LEGAL F. 149, 179 (contending that restraints imposed in *NCAA* were necessarily the result of market power).

115. *See* Meese, *supra* note 29, at 162 (explaining how the current approach to comparing costs and

This assumption underlies the requirement that decisionmakers “balance” benefits against harms.¹¹⁶ Given this “coexistence assumption,” “mere” proof that the restraint results in lower prices does not entitle the defendant to judgment. Instead, the restraint is still unlawful if the defendant could achieve the same benefits by means of a less restrictive alternative.¹¹⁷ This less restrictive alternative test helps courts avoid actually balancing a restraint’s benefits against harms. At the same time, the test rests upon the assumption that any benefits produced by the restraint necessarily coexist with harms that the restraint purportedly produces.¹¹⁸ Absent this assumption, there is simply no reason to assume that the restraint is “restrictive,” or to ask whether there is a *less* restrictive means of achieving the same benefits.

The mode of rule of reason analysis just described dovetails nicely with the price-theoretic partial equilibrium trade-off paradigm that animated the workable competition model and the inhospitality era and still informs the analysis of horizontal mergers and monopolies by courts and agencies.¹¹⁹ Like the partial equilibrium model, modern analysis begins with an implicit baseline—the price, output, and quality that exists before or without the restraint. This partial equilibrium baseline, in turn, is an equilibrium—a steady state of affairs—and is also free of externalities. Proof that a restraint produces “actual detrimental effects”

benefits rests upon assumption that two effects coexist). *But cf.* *United States v. Brown Univ.*, 5 F.3d 658, 674 (3d Cir. 1993) (noting that a lack of evidence of tangible harm lightens defendant’s burden of articulating benefits).

116. *See* AGCC, *supra* note 99, § 3.37 (providing that the decisionmaker must determine whether efficiencies prevent price increases); *id.* § 3.3 (explaining that overriding benefits must “offset anticompetitive harms”); *see also* *Capital Imaging v. Mohawk Valley Med. Ass’n*, 996 F.2d 537, 543 (2d Cir. 1993) (“Ultimately [under the rule of reason], it remains for the factfinder to weigh the harms and benefits of the challenged behavior.”); *U.S. Healthcare, Inc. v. Healthsource, Inc.*, 986 F.2d 589, 595 (1st Cir. 1993) (“[T]he most careful weighing of alleged dangers and potential benefits [is] the normal treatment afforded by the rule of reason.”).

117. *See, e.g., Law*, 134 F.3d at 1019 (explaining that once defendant proves benefits, plaintiff can prevail by showing that “those objectives can be achieved in a substantially less restrictive manner”); *Brown Univ.*, 5 F.3d at 679; *Capital Imaging*, 996 F.2d at 543; AGCC, *supra* note 99, § 3.36(b) (“[I]f the participants could have achieved or could achieve similar efficiencies by practical, significantly less restrictive means, then the Agencies conclude that the relevant agreement is not reasonably necessary to their achievement.”); 7 AREEDA, *supra* note 105, ¶¶ 1505b, 1507b; HOVENKAMP, *supra* note 102, at 257 (endorsing this test for evaluating horizontal ancillary restraints); *id.* at 487–89 (endorsing this test for vertical distribution restraints); STEPHEN F. ROSS, *PRINCIPLES OF ANTITRUST LAW* 157–58 (1993) (ancillary restraint should be unlawful if “broader than necessary to achieve [its] purpose”); SULLIVAN & GRIMES, *supra* note 111, at 223 (endorsing this test for horizontal restraints); Thomas A. Piraino, Jr., *Reconciling Competition and Cooperation: A New Antitrust Standard for Joint Ventures*, 35 WM. & MARY L. REV. 871, 930 (1994) (endorsing this test for restraints ancillary to joint ventures).

118. *See* Meese, *supra* note 29, at 167–69 (explaining that a “less restrictive alternative test” rests upon the assumption that the restraint’s benefits coexist with harms).

119. *See supra* note 71 and accompanying text (detailing the influence of the partial equilibrium trade-off model upon inhospitality era of antitrust); *supra* note 59 and accompanying text (detailing the influence of the partial equilibrium trade-off model on modern merger law and enforcement guidelines).

compared to this often hypothesized baseline is analogous to proof that, say, a merger to monopoly confers market power on the new entity when compared to the pre-merger equilibrium state of affairs.¹²⁰ Moreover, the assumption that benefits manifest themselves in the form of lower prices as compared to the pre-restraint equilibrium reflects the model's assumption that efficiencies are technological in nature and reduce (historical) production costs, when everything else is held constant. Finally, the requirement that fact-finders "balance" any benefits against harms, as in the merger context, reflects the model's assumption that harms and benefits coexist.¹²¹

As noted above, leading scholars have endorsed the dominant approach to rule of reason analysis. Most notably, the modern era's most influential antitrust scholar, the late Phillip Areeda of Harvard Law School, embraced the approach described above "hook, line and sinker." One might even say that Professor Areeda invented the approach. In 1981 and perhaps earlier, Areeda prepared a course for the Federal Judicial Center's "Education and Training Series" for judges on the methodology of rule of reason analysis.¹²² The pamphlet prepared for the course was, Professor Areeda said, adopted from forthcoming volume six of the author's massive and influential treatise, the first five volumes of which were co-authored with Donald Turner, a co-founder of the Harvard School of antitrust.¹²³ The pamphlet anticipated the elements of the rule of reason analysis described above.¹²⁴ Moreover, just three years later, the Supreme Court quoted the document at length for the proposition that a court could conduct rule of reason analysis without determining whether the defendants possessed market power.¹²⁵ In 1986, the Court quoted volume seven of the treatise, this time for the proposition that proof of "actual detrimental effects" would establish a *prima facie* case, thereby obviating the need for inquiry into market power, which was itself (supposedly) simply a surrogate for such effects.¹²⁶ Professor Areeda himself endorsed the rule of reason

120. See DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 1-3 (2010) [hereinafter JOINT MERGER GUIDELINES] (detailing standards governing determination of concentration, anticompetitive effects, and prospect of entry).

121. See *supra* note 60 and accompanying text (explaining how many treated the trade-off paradigm as a key tool for solving antitrust problems); see also JOINT MERGER GUIDELINES, *supra* note 120, at 2-4 (articulating this approach to analyzing mergers).

122. See PHILLIP E. AREEDA, FED. JUDICIAL CTR., THE "RULE OF REASON" IN ANTITRUST ANALYSIS: GENERAL ISSUES 37-38 (1981).

123. In fact, the substance of the pamphlet did not appear until volume seven of the treatise, which appeared in 1986. See 7 AREEDA, *supra* note 105, ¶ 1511, at 433 n.22 (referring to 1981 work as an "earlier version" of this treatise chapter).

124. See *id.* ¶ 1438b, at 8-10 (discussing less restrictive alternative test); *id.* ¶ 1441e-1444th, at 37-38, 41-42 (discussing a truncated rule of reason).

125. See NCAA v. Bd. of Regents of the Univ. Okla., 468 U.S. 85, 109-10 n.39 (1984).

126. FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 460-61 (1986) ("Since the purpose of the

methodology announced in *NCAA v. Board of Regents of the University of Oklahoma*, and several lower courts have cited his treatise to support the dominant method of rule of reason analysis outlined above.¹²⁷

Professor Areeda, of course, was heir to the Harvard School of antitrust started by Edward Mason, Donald Turner, and Joe Bain during the early 1950s, while Areeda was a student at Harvard Law School. Beginning in 1975, Areeda and Turner co-authored numerous articles in the *Harvard Law Review*, as well as the first five volumes of the treatise. This work, the most influential antitrust scholarship of the twentieth century,¹²⁸ acknowledged one intellectual debt—to Richard Caves, who had opined that industrial organization was “applied price theory.”¹²⁹ Moreover, the work assumed that the purpose of antitrust law was to achieve the “economic results associated with workable competition.”¹³⁰ Finally, these scholars argued that “externalities” resulting from “transaction costs . . . do not imply any material alteration of antitrust policy,” but that, instead, governments should eliminate such market failures via regulation.¹³¹ It should come as no surprise, then, that this leader of the Harvard School would endorse an approach to rule of reason analysis reflecting workable competition’s partial equilibrium trade-off model and its numerous limiting assumptions.

Despite its apparent precision, the dominant method of rule of reason analysis seems to produce various anomalies, that is, observations

inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, ‘proof of actual detrimental effects, such as a reduction of output,’ can obviate the need for an inquiry into market power, which is but a ‘surrogate for detrimental effects.’” (quoting 7 AREEDA, *supra* note 105, ¶ 1511 at 429)).

127. See 7 AREEDA, *supra* note 105, ¶ 1511 (discussing and endorsing *NCAA*); see also, e.g., *Law v. NCAA*, 134 F.3d 1010, 1024 (10th Cir. 1998) (citing the treatise for the less restrictive alternative test); *SCFC ILC, Inc. v. Visa USA, Inc.*, 36 F.3d 958, 963 (10th Cir. 1994); *United States v. Brown Univ.*, 5 F.3d 658, 669 (3d Cir. 1993); *Capital Imaging v. Mohawk Valley Med. Ass’n*, 996 F.2d 537, 543 (2d Cir. 1993).

128. According to Justice Breyer, Supreme Court advocates would rather cite two paragraphs of this treatise than the holdings of four courts of appeals and the opinions of three Supreme Court Justices. See *Langdell’s West Wing Renamed in Honor of Areeda*, HARV. U. GAZETTE (Apr. 25, 1996), <http://www.news.harvard.edu/gazette/1996/04.25/LangdellsWestWi.html>.

129. See 1 PHILLIP AREEDA & DONALD F. TURNER, ANTITRUST LAW: AN ANALYSIS OF PRINCIPLES AND THEIR APPLICATION, at xvii (1978); see also CAVES, *supra* note 32, at 14 (“The subject of ‘industrial organization’ applies the economist’s models of price theory to the industries in the world around us.”).

130. 3 AREEDA & TURNER, *supra* note 85, at 77 (“[Antitrust law] seeks to protect the process of competition on the merits and the economic results associated with workable competition.” (emphasis added)).

131. 2 AREEDA & TURNER, *supra* note 62, at 316. The authors did recognize “only one respect in which externalities have implications for antitrust policy,” that is, collaboration to avoid what they called “low private-cost but high social-cost method[s] of production.” *Id.* at 317. The authors concluded that courts should not automatically condemn such collaborations as anticompetitive. *Id.*; see also KAYSEN & TURNER, *supra* note 31, at 13 n.12 (same); *id.* at 67 n.25 (“[E]quality of private and social costs, especially in the areas relevant to our study, is not a major problem.”).

or results inconsistent with those predicted or allowed by the dominant paradigm.¹³² For one thing, the method of analysis seems to preclude any real opportunity to show that a restraint produces significant benefits. As already noted, parties generally establish a prima facie case by showing that the restraint in question results in “actual detrimental effects” by increasing prices or reducing output.¹³³ While defendants may supposedly offer evidence of benefits in rebuttal, such evidence must tend to show that prices fell or did not rise because of the restraint.¹³⁴ Indeed, purported benefits are not even cognizable unless they satisfy this criterion.¹³⁵ This opportunity to rebut the prima facie case seems illusory, however, given that the fact-finder has already determined that the restraint produces higher prices and/or reduced output. To be sure, the defendant is always free to prove that his prices did not, in fact, rise after or because of the restraint.¹³⁶ Still, such proof does not rest upon any proof of efficiencies, but instead simply counteracts the prima facie case of harm. Absent such proof, any effort to rebut such a case simply by demonstrating efficiencies will fail.

Moreover, the assertion that benefits must manifest themselves as reduced prices runs counter to other statements in Supreme Court decisions that pro-competitive effects may manifest themselves as higher prices.¹³⁷ For instance, the Supreme Court has twice held that evidence tending to show that a manufacturer desires higher resale prices is consistent with a pro-competitive account of challenged restraints and therefore cannot, without more, justify per se condemnation.¹³⁸ Moreover, in *NCAA*, the Supreme Court indicated that members of an amateur sports league could agree to place a ceiling on the compensation paid to student athletes without incurring per se liability, even though the whole point of such restraints is to produce wages lower than competition would produce in a “free market.”¹³⁹ Finally, the canonical example of a “reasonable” restraint—the narrowly-tailored covenant ancillary to the sale of a business—will, if successful, result in prices that

132. See generally KUHN, *SCIENTIFIC REVOLUTIONS*, *supra* note 58, at 60–65 (defining anomalies in this way).

133. See *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 114 (1984).

134. *Id.*

135. See *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 693–95 (1978).

136. Cf. Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 *YALE L.J.* 209, 278 nn.216–17 (1986) (suggesting that much evidence of benefits tends to show the absence of market power harm in the first place).

137. See *Monsanto Co. v. Spray-Rite Serv. Co.*, 465 U.S. 752, 762 (1984).

138. *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 727–28 (1988) (finding that “price cutting is frequently made possible by ‘free riding’ on the services provided by other dealers,” and that the manufacturer’s concern about price cutting is consistent with a beneficial account of the restraint); see also *Monsanto*, 465 U.S. at 762–63 (same); Meese, *supra* note 29, at 151–52.

139. See 468 U.S. at 103 (stating that contractual restrictions on horizontal rivalry were necessary to enable the NCAA to differentiate its product from minor league sports).

are higher and/or output that is lower than it would otherwise be, thereby allowing the party that sought the covenant to reap the fruits of its investment. A covenant that did not have such an effect would seem worthless, and yet courts have repeatedly enforced such agreements.¹⁴⁰

Perhaps sensing something is amiss, some lower courts have adjusted or ignored the dominant test when evaluating restraints they believe may be pro-competitive. For instance, some courts describe the proffer of evidence of efficiencies without stating that such efficiencies must result in lower prices or higher output.¹⁴¹ Others carve out exceptions from the dominant test, or ignore it altogether. In *Chicago Professional Sports Ltd. v. NBA*, for instance, the Seventh Circuit initially affirmed a preliminary injunction against the NBA's limit on the number of games an individual team could broadcast, holding that the explicit restraint established a prima facie case.¹⁴² Later in the litigation, the court reversed course, holding that proof of market power would be an essential element of the plaintiff's case at trial, even though no one disputed that the restraint reduced the output of televised games.¹⁴³ The court distinguished Supreme Court precedent by claiming that the NBA reflected greater economic integration than entities previously accorded greater scrutiny, a factor the *NCAA* Court did not mention as relevant to its analysis.¹⁴⁴ Other decisions have ignored the test altogether, holding that plaintiffs must establish that defendants possess "market power" in a properly defined market to establish a prima facie case.¹⁴⁵ These courts have recognized, at least implicitly, that straightforward application of current law may condemn restraints that in fact produce benefits without any offsetting harm. At the same time, none of these decisions has confronted the possible conflict between their conclusions and the Supreme Court's price and output test.¹⁴⁶

140. See *Nat'l Soc'y of Prof'l Eng'rs*, 435 U.S. at 688-89 (discussing such agreements as quintessential reasonable restraints under § 1 of the Sherman Act); *United States v. Addyston Pipe & Steel Co.*, 85 F. 271, 280 (6th Cir. 1898), *aff'd*, 175 U.S. 211 (1899); see also *United States v. Joint Traffic Ass'n*, 171 U.S. 505, 568-71 (1898) (noting that such restraints are "indirect" and thus not unlawful under § 1).

141. See *United States v. Brown Univ.*, 5 F.3d 658, 669 (3d Cir. 1993).

142. See 961 F.2d 667, 674 (7th Cir. 1992).

143. See *id.* at 599-601.

144. *Id.* at 599-600.

145. See *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 217-21 (D.C. Cir. 1986); *Polk Bros. v. Forest City Enters.*, 776 F.2d 185, 191 (7th Cir. 1985).

146. See, e.g., *Rothery Storage*, 792 F.2d at 216-23 (finding that the challenged restraint produced benefits by increasing promotional expenditures and enhancing demand, without considering the possibility that prices rose as a result).

II. RONALD COASE AND THE TRANSACTION COST REVOLUTION

As noted earlier, courts and agencies were once hostile to non-standard agreements, because they departed from perfect competition without any apparent countervailing benefits in the form of product differentiation or technological efficiencies.¹⁴⁷ Courts began reversing this hostility three decades ago, eventually declaring that many such restraints should be analyzed under the rule of reason, despite their impact on rivalry.¹⁴⁸ This revised treatment followed naturally from the TCE revolution in economic theory, which undermined the workable competition paradigm and offered various beneficial explanations for complete and partial integration.¹⁴⁹

This Part details the origins and course of the TCE revolution, beginning with a description of the perfect competition model. This model, of course, served as the foundation for price theory and its workable competition model, including the partial equilibrium trade-off model and the concomitant price/output baseline.¹⁵⁰ As shown below, the model also served as the starting point for Ronald Coase's pathbreaking explanation for the existence of the business firm, the most ubiquitous non-standard contract. Coase's approach, it is shown, was premised upon the recognition of antecedent and exogenous, but minor departures from perfect competition that give rise to transaction costs and efforts by rational market participants to reduce such costs. This Part will focus particularly on the evolving definition of "transaction costs" that economists extending Coase's classic case of integration have identified, costs that help explain partial integration, which Coase did not explore in his published work. This Part also contends that transaction costs are usefully divided into two categories that reflect different sorts of departures from perfect and often workable competition: technological transaction costs and non-technological transaction costs. The former, which Coase emphasized in his revolutionary work, entail haggling and gathering information and are closely analogous to engineering-based production costs always recognized by the perfect competition model and price theory more generally. Given this close analogy, the partial equilibrium trade-off model readily incorporates the reduction of such costs into its methodology for determining the impact of trade restraints. As a result, Coase's work did not by itself seem to call into question either the usefulness of the trade-off model or the dominant approach for analyzing trade restraints and transactions. The latter, non-technological costs, which represent extensions of Coase's classic case,

147. *See supra* notes 46, 63–70 and accompanying text.

148. *See supra* notes 87–94 and accompanying text.

149. *See supra* notes 89–94, 176–98, 228–73 and accompanying text.

150. *See supra* note 34 and accompanying text.

result from more fundamental departures from perfect competition, including relationship-specific investments, product differentiation, the passage of time, imperfectly-specified property rights, and the resulting risk of opportunism. As will be seen, application of the trade-off model is ill-suited to arrangements that produce these types of efficiencies.

A. THE PERFECT COMPETITION MODEL

Early twentieth century economists sought to identify and to articulate the conditions necessary to “perfect competition.”¹⁵¹ According to Nobel Laureate George Stigler, Frank Knight was the first to articulate a complete formulation of the model.¹⁵² In 1921, Knight listed eleven assumptions that, if satisfied, will lead to “perfect competition,” including the following nine:¹⁵³

1. Members of society compose a cross-section of “normal human beings” with the attributes associated with members of Western Societies.¹⁵⁴
2. Members act “with ‘complete rationality,’” subject to “ordinary human motives.”¹⁵⁵
3. People are free to act on their motives, or people “own themselves.”¹⁵⁶
4. There is a “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.”¹⁵⁷
5. “It follows as a corollary from number 4 that there is perfect competition.”¹⁵⁸
6. “Every member of Society is to act as an individual only, in entire independence of all other persons. . . . [I]n exchanges between individuals, no interests of persons not parties to the exchange are to be concerned”¹⁵⁹
7. “[A]ll preying of individuals on each other” is excluded. “This specification is really a corollary from numbers 2 and 3, which exclude

151. See Stigler, *supra* note 34, at 1 (describing the evolution of the perfect competition model); see also KNIGHT, *supra* note 35, *passim*; PIGOU, *supra* note 38, at 172, 213 (discussing “simple competition”).

152. Stigler, *supra* note 34, at 11 (“The concept of perfect competition received its complete formulation in Frank Knight’s *Risk, Uncertainty, and Profit*.”); see also KNIGHT, *supra* note 35, at 76–81.

153. See KNIGHT, *supra* note 35, at 76–81.

154. *Id.* at 76.

155. *Id.* at 76–77.

156. *Id.* at 77.

157. *Id.*

158. *Id.* at 78.

159. *Id.* According to Knight, the assumption of “[i]ndividual independence in action excludes all forms of collusion, all degrees of monopoly or tendency to monopoly.” See *id.*; see also *supra* note 63.

fraud or deceit and theft or brigandage respectively.”¹⁶⁰

8. “The motives for division of labor and exchange must be present and active.”¹⁶¹

9. “All given factors and conditions are . . . to remain absolutely unchanged.”¹⁶²

Taken together, Knight said, these various conditions would result in “perfect competition” and thus, a general competitive equilibrium, namely an allocation of resources that maximized society’s welfare given its endowments of labor, other inputs, and technical knowledge.¹⁶³ Implicit was the assumption that the state would create and enforce basic rights of property and contract, creating an institutional framework that was exogenous to the marketplace.¹⁶⁴ Moreover, the costs, prices, and output in each market would depend, in part, upon technology, derived from scientific and engineering considerations reflected in a production function.¹⁶⁵ Thus, technological improvements would manifest themselves as changes in the production function, reduced production cost, and lower prices.¹⁶⁶ Finally, given its exclusion of information costs, obstacles to movement, and the like, the perfect competition model implied that production, exchange, and the resulting allocation of resources took

160. *Id.* at 78–79.

161. *Id.*

162. *Id.*

163. *See id.* at 85–86; STIGLER, *supra* note 35, at 38.

164. *See* PIGOU, *supra* note 38, at xii, 127–30; *see also* FRIEDRICH A. HAYEK, *Free Enterprise and Competitive Order*, in *INDIVIDUALISM AND ECONOMIC ORDER*, *supra* note 47, at 110–16 (explaining that well-functioning competitive order depends upon a properly-designed “legal framework” of contract, property, tort, and business law); KAYSEN & TURNER, *supra* note 31, at 67 n.25 (explaining that adequate property institutions are necessary for the price system to produce an efficient allocation of resources); KNIGHT, *supra* note 35, at 56–57 (“[T]he foundation of the process [to be studied] is the private *ownership* of productive resources—a synonym for individual freedom.”); STIGLER, *supra* note 35, at 22 (noting that perfect competition depends upon enforcement of contracts and protection of private property); *infra* notes 224–25 and accompanying text (explaining how TCE undermined the assumption that the institutional framework is exogenous to market actors).

165. *See* PAUL A. SAMUELSON, *ECONOMICS: AN INTRODUCTORY ANALYSIS*, 546 (1951) (“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.”); STIGLER, *supra* note 35, at 33–34 (noting that production function determines the combination of inputs necessary to produce certain outputs); *id.* 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.”); *see also* Scott Moss, *The History of the Theory of the Firm from Marshall to Robinson and Chamberlin: The Source of Positivism in Economics*, 51 *ECONOMICA* 307, 313 (1984) (noting that Pigou’s 1932 perfect competition model assumed a production function based on “technological factors [that] were considered to be entirely exogenous to the firm”).

166. *See* STIGLER, *supra* note 35, at 38.

place instantaneously.¹⁶⁷ By assumption, the perfect competition model functioned in a world divorced from time.¹⁶⁸

There was no apparent place for the business firm—complete vertical integration—in a perfectly competitive market, or, for that matter, partial vertical integration.¹⁶⁹ In perfect competition, individual owners of factors of production—including labor—allocated resources through continuous, costless, voluntary exchanges; there was thus no need for vertical integration’s hierarchical direction of economic activity.¹⁷⁰ Indeed, Knight’s rigorous articulation of the perfect competition model omitted any reference to “firms,” relying instead upon individuals as the model’s building blocks.¹⁷¹ Still, perhaps because firms were ubiquitous, some economists included firms “by fiat” in their articulations of the model.¹⁷² Others argued that the firm, or at least integration from one level to another, was explained by technological considerations.¹⁷³

167. See KNIGHT, *supra* note 35, at 78 (“[In perfect competition, e]ach person continuously produces a complete commodity which is consumed as fast as produced. The exchange of commodities must be virtually instantaneous and costless.”). However, Knight also assumed that production itself entailed “a brief interval of time.” See *id.* at 81.

168. See HAYEK, *supra* note 47, at 96 (explaining that satisfaction of perfect competition’s various assumptions results in instantaneous equilibrium); KNIGHT, *supra* note 35, at 81–82; MACHOVEC, *supra* note 34, at 178–79 (describing perfect competition’s instantaneous market clearing); see also BAIN, *supra* note 54, at 14–15 (explaining that price theory focuses on determining the “end result” of responses to a “fixed set of determinants” and does not generally incorporate questions regarding the passage of time and movement from one equilibrium to the next).

169. See Steven N.S. Cheung, *The Contractual Nature of the Firm*, 26 J.L. & ECON. 1, 4–8 (1983) (discussing various degrees of vertical integration); Friedrich Kessler & Richard H. Stern, *Competition, Contract, and Vertical Integration*, 69 YALE L.J. 1, 2 (1959) (examining varieties of partial contractual integration).

170. See Armen A. Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, AM. ECON. REV., Dec. 1972, at 777, 777 (assuming that activities conducted within the firm can also be conducted via market transactions).

171. See KNIGHT, *supra* note 35, at 80 n.1 (“[The individualistic world of perfect competition,] in contrast with ‘enterprise,’ [is one] in which the operative has lost his responsible status and lives, not by the production and sale of a commodity, but by the sale of productive services to an entrepreneur.”); *id.* at 78 (“Each person continuously produces a complete commodity which is consumed as fast as produced. . . . Each member of the society is to act as an individual only, in entire independence of all other persons.”); see also PIGOU, *supra* note 38 (examining whether the free play of “self-interest” will maximize society’s welfare without invoking the existence of firms).

172. See, e.g., STIGLER, *supra* note 35, at 21 (describing firms and households as the basic economic units in society); see also Harold Demsetz, *The Firm in Economic Theory: A Quiet Revolution*, AM. ECON. REV., May 1997, at 426, 426 (“The firm does not play a central role in [neoclassical] theory.”); Moss, *supra* note 165, at 310–11 (concluding that Alfred Marshall derived his theory of the firm inductively, by examining characteristics of firms in the real world).

173. See WILLIAM G. SHEPHERD, MARKET POWER AND ECONOMIC WELFARE 37 (Donald J. Dewey ed., 1970) (“The cost advantages in a firm may be of two types: *technical* and *pecuniary*. Only technical economies represent a genuine improvement in social efficiency.”); WILLIAMSON, *supra* note 66, at 366 (“[A]ccording[] [to price theory], efforts to reconfigure firm and market structures that violated ‘natural’ boundaries were believed to have market power origins.”). Price theory’s quintessential exemplar of technologically-induced vertical integration involved integration of iron and steel

As noted earlier, this model, with its unrealistic assumptions and implications, formed the foundation of neoclassical price theory as well as the model of workable competition and its partial equilibrium trade-off paradigm.¹⁷⁴ Indeed, while workable competition and its trade-off paradigm recognized a few departures from perfect competition, both also embraced several other assumptions, including the presence of a well-functioning institutional framework and the absence of opportunism, as well as the resulting externality and market failure.¹⁷⁵ Perfect competition also formed the starting point for Coase's effort to explain the existence of firms, the most ubiquitous non-standard contracts.¹⁷⁶ That is, while some economists simply assumed that firms exist and others attributed them to technological considerations, Coase sought a more precise explanation for why these institutions arise. He began by asking why firms exist at all, given that all production, and the resulting allocation of society's resources, *could*, as the perfect competition model implied, be "regulated by price movements,"—in other words, continuous transactions by individuals.¹⁷⁷ Moreover, Coase expressly omitted any explanation rooted in the existence or acquisition of market power, thereby retaining, at least implicitly, perfect competition's assumption that no entity possesses more than a minuscule share of the relevant market and that no entity colludes with others.¹⁷⁸

Instead, Coase found the rationale for the firm in a different and slight departure from the rigorous assumptions of the perfect

production to achieve cost savings. Several leading texts of the price-theoretic era employed this example. See, e.g., BAIN, *supra* note 31, at 156–57; KAYSER & TURNER, *supra* note 31, at 120; SCHERER, *supra* note 41, at 70. Indeed, in 1942, George Stigler referred to this as a "stock" example of technological determination of vertical integration. See Stigler, *supra* note 54, at 22.

174. See *supra* notes 34, 56 and accompanying text.

175. See *supra* note 47 and accompanying text.

176. See 7 AREEDA, *supra* note 105, at 235–36 ("[C]onspiracies among unrelated units are *relatively* infrequent."); see also R. H. Coase, *The Institutional Structure of Production*, AM. ECON. REV., Sept. 1992, at 713, 714 [hereinafter Coase, *Institutional Structure*] ("[M]ost resources in a modern economic system are employed within firms.").

177. R. H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386, 388 (1937) [hereinafter Coase, *Nature of the Firm*] ("[H]aving regard to the fact that if production is regulated by price movements, production could be carried on without any organisation at all, well might we ask, why is there any organisation?"); see also R. H. Coase, *Nature of the Firm: Origin*, 4 J.L. ECON. & ORG. 3, 4 (1988) [hereinafter Coase, *Origin*] ("[I]f there were atomistic competition, where every transaction involving the use of another's labour, materials or money was the subject of a market transaction, there would be no need for organization." (quoting Coase's 1932 correspondence) (internal quotation marks omitted)).

178. See Ronald H. Coase, *The Nature of the Firm: Meaning*, 4 J.L. ECON. & ORG. 19, 26–27 (1988) [hereinafter Coase, *Meaning*] ("In the early 1930s I was looking for an explanation for the existence of the firm which did not depend on monopoly. I found it, of course, in transaction costs."); Coase, *Nature of the Firm*, *supra* note 177, at 390–91 (discussing a rationale for the firm without mentioning monopoly or market power); see also *supra* note 63 and accompanying text (collecting authorities providing that the perfect competition model assumes the absence of cooperation between otherwise independent economic units).

competition model, namely, the real-world cost of continuous market transacting—“concluding a separate contract for each exchange transaction”¹⁷⁹—a cost that the perfect competition model assumed away.¹⁸⁰ While perfect competition assumed the absence of obstacles to discovering and transacting with trading partners, Coase understood that this was not the case in “the real world.”¹⁸¹ According to Coase, the most obvious cost of relying upon the price mechanism to conduct economic activity was the cost of “discovering what the relevant prices are.”¹⁸² Next was the cost of “negotiating and concluding a separate contract for each exchange transaction which takes place on a market.”¹⁸³ This explanation envisioned firms arising and existing in a world characterized by minimal departures from perfect competition.¹⁸⁴ To be more precise, Coase offered an explanation for firms that was entirely plausible in an unrealistic world, with perfectly specified property rights, but without specific investments, opportunism, product differentiation, or economies of scale. At the same time, as noted earlier, the model of workable competition had also relied upon many of the same unrealistic assumptions that animated the perfect competition model, including the absence of information and bargaining costs.¹⁸⁵ Thus, Coase’s account could also explain why firms arose in a world with workable competition and economies of scale, but again without specific investments, opportunism, poorly-specified property rights, or any effort to acquire or maintain market power. Ironically, Coase dealt with a broader range of transaction costs rooted in other departures from perfect competition in private correspondence predating his seminal article.¹⁸⁶ Nonetheless, Coase concluded that partial contractual integration could eliminate such costs.¹⁸⁷ Thus, while such costs could explain certain non-standard

179. Coase, *Nature of the Firm*, *supra* note 177, at 391–92.

180. Coase, *Meaning*, *supra* note 178, at 19 (“All that was needed was to recognize that there were costs of carrying out market transactions and to incorporate them into the analysis, something which economists had failed to do.”); *see also* Coase, *Nature of the Firm*, *supra* note 177, 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.”). Coase was not the only economist to seek an explanation for the existence of firms in some departure from perfect competition. More than a decade before Coase’s work, Frank Knight argued that firms arise as risk-bearing mechanisms in response to uncertainty. *See* KNIGHT, *supra* note 35, at 233–312.

181. Coase, *Nature of the Firm*, *supra* note 177, at 390 n.4 (noting that “static theory,” or perfect competition, assumes that all prices are known to everyone, but that “this is clearly not true of the real world”); *see also* Demsetz, *supra* note 172, at 426.

182. Coase, *Nature of the Firm*, *supra* note 177, at 390.

183. *Id.* at 390–91.

184. *See infra* notes 206–10 and accompanying text; *see also* Demsetz, *supra* note 172, at 426 (“The cost of using the price system was not clearly defined by Coase, although he refers to the costs of acquiring price information, negotiating and exchanging.”).

185. *See supra* note 47 and accompanying text.

186. *See infra* notes 229–38 and accompanying text.

187. *See* Coase, *Origin*, *supra* note 177, at 12–13 (discussing portions of 1932 correspondence).

contracts, they could not explain the emergence of the particular non-standard contract known as the firm.¹⁸⁸ Because Coase was only concerned with explanations for *complete* integration, his public work did not identify this separate category of transaction costs, leaving that task to work by others published three decades later.¹⁸⁹

More than three decades later, Coase returned to the subject of transaction costs in his pathbreaking work that gave rise to the Coase Theorem.¹⁹⁰ Scholars who applied Coase's work on social cost outside the context of industrial organization embraced this definition and did not relate "transaction costs" to vertical integration.¹⁹¹ Economic actors could avoid these costs, Coase said, by instead organizing and conducting the very same activity within a firm.¹⁹² After all, the firm was basically a single contract between entrepreneur and employee, a contract that empowered the former to direct the latter without the individualized negotiation that characterized a market transaction.¹⁹³ Reliance on this particular contract, then, reduced the discovery and bargaining costs parties otherwise would incur when relying upon the market to conduct economic activity.¹⁹⁴ Firms arose "voluntarily," he said, because the cost of organizing production pursuant to this single, non-standard contract is lower than the cost of conducting the same activity via continuous market contracting.¹⁹⁵

188. See *id.* at 13; see also Oliver E. Williamson, *The Logic of Economic Organization*, 4 J.L. ECON. & ORG. 65, 73 (1988) (explaining that complete vertical integration is the "paradigm problem" that transaction cost economics seeks to solve).

189. See *infra* notes 239–73 and accompanying text.

190. See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960) [hereinafter Coase, *Social Cost*] ("[T]o carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on.").

191. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW*, 48–49, 54–57 (3d ed. 1986); Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1106–10 (1972); Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 144–42 (1979).

192. Coase, *Nature of the Firm*, *supra* note 177, at 390–91.

193. See *id.* at 391 ("The contract is one whereby the factor, for a certain remuneration (which may be fixed or fluctuating), agrees to obey the directions of an entrepreneur *within certain limits*. The essence of the contract is that it should only state the limits to the powers of the entrepreneur. Within these limits, he can therefore direct the other factors of production."); see also Scott E. Masten, *A Legal Basis for the Firm*, 4 J.L. ECON. & ORG. 181, 194 (1988) (explaining that economic actors could employ contract law to replicate all of the rights and duties that characterize the employer-employee relationship, the distinguishing mark of the business firm).

194. See Coase, *Nature of the Firm*, *supra* note 177, at 391 ("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.").

195. See *id.* at 389 n.3 ("[F]irms arise voluntarily because they represent a more effective method of organising production.").

Several decades later, scholars would rediscover Coase's insight and proceed to identify a wider range of "transaction costs" that might induce individuals to abjure reliance on the market in favor of firms.¹⁹⁶ These costs were the result of departures from perfect competition that were different from, and more fundamental than, those that Coase had identified.¹⁹⁷ We will return to consider these costs later in this Article.¹⁹⁸ It is important to note here, however, that Coase's 1937 article focused only upon the sort of discovery and haggling costs discussed above.

B. THE TECHNOLOGICAL NATURE OF COASE'S TRANSACTION COSTS

The sort of discovery and bargaining costs on which Coase did focus were those that, by their nature, tended to *precede* an individual market transaction and thus also to *precede* the production and sale of a final product to consumers. Moreover, these costs are virtually indistinguishable from any number of the garden-variety production costs of technological origin recognized by and incorporated within the perfect competition model, costs that need not give rise to firms or other non-standard contracts. For instance, an individual may consume significant time—a cost—searching for relevant prices.¹⁹⁹ He or she may also purchase a trade periodical that reproduces prices gathered by the periodical's publisher.²⁰⁰ Like any other input, the production of such periodicals will consume scarce resources, and the periodical's publisher will charge a positive price for the publication.²⁰¹ Or, a party's potential

196. Major contributions include: WILLIAMSON, *supra* note 66; Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 75 YALE L.J. 373 (1966); Benjamin Klein et al., *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297 (1978); Lester G. Telser, *Why Should Manufacturers Want Fair Trade?*, 3 J.L. & ECON. 92 n.6, 95–96 (1960) (stating that the "special services" rationale for minimum resale price maintenance does not apply to undifferentiated products and applies only to certain "branded products"); Oliver E. Williamson, *The Vertical Integration of Production: Market Failure Considerations*, AM. ECON. REV., May 1971, at 112.

197. See *infra* notes 253–73 and accompanying text (explaining how transaction costs identified during the 1960s, 1970s, and 1980s depended upon departures from perfect competition such as product differentiation, specific investments, and opportunism). Note that transaction costs flowing from these departures are "second order" in nature. For instance, product differentiation, while a departure from perfect competition, is not itself a cost of transacting. If anything, differentiation can reduce such costs. However, the existence of differentiation, or a desire to create it, can create a risk of opportunism, and thus, raise the cost of relying upon the market to conduct economic activity. See *infra* note 264 and accompanying text.

198. See *infra* Part II.C.

199. Cf. Stigler, *supra* note 47, at 214–16 (explaining that the chief search cost for purchasers is time).

200. Cf. Coase, *Nature of the Firm*, *supra* note 177, at 390 ("[The cost of discovering relevant prices] may be reduced but it will not be eliminated by the emergence of specialists who will sell this information.").

201. See KNIGHT, *supra* note 35, at 73–76 (explaining that the cost relevant to perfect competition is a sacrificed alternative); STIGLER, *supra* note 35, at 38 ("Costs [relevant to perfect competition] are merely the amounts productive services would secure if they were transferred to some other use.");

trading partners may overcome some of these costs by advertising or developing a strong trademark, incorporating these promotional costs in their products' prices.²⁰² Moreover, once a party identifies a favored vendor, it will have to contact that vendor and bargain over price and quantity.²⁰³ This bargaining will also consume resources, including labor that bargaining parties could employ elsewhere.²⁰⁴ Finally, if the vendor consents to a sale, the parties may memorialize their agreement in writing, consuming additional resources, if only paper, ink, and the opportunity cost of labor consumed negotiating and preparing the agreement.²⁰⁵

In short, the sort of “transaction costs” Coase emphasized are barely distinguishable from the costs that individual economic actors ordinarily incur in perfect competition.²⁰⁶ Indeed, one scholar who adopted a definition of transaction costs later endorsed by Coase has explained that there is little, if any, analytical distinction between these sorts of “transaction costs” on the one hand, and production costs on the other.²⁰⁷ Instead, a choice to rely upon “the market,” with its additional costs, would seem indistinguishable from a choice to purchase from a more expensive vendor, or to employ less efficient production technology.²⁰⁸ In

Stigler, *supra* note 47, at 216 (suggesting that localized markets that overcome information costs may charge participating sellers a “toll”).

202. See Stigler, *supra* note 47, at 216, 220–24.

203. See *supra* notes 181–83 and accompanying text.

204. See KNIGHT, *supra* note 35, at 73–76.

205. See *id.* at 63 (explaining how labor is a cost within perfect competition); see also Benjamin Klein, *Vertical Integration as Organizational Ownership: The Fisher Body-General Motors Relationship Revisited*, 4 J.L. ECON. & ORG. 199, 200 (1988) (referring to costs identified by Coase as “ink costs”).

206. See Dahlman, *supra* note 191, at 145; Klein, *supra* note 205, at 209 (contending that Coase equated the cost of relying upon the market with the “narrow transaction costs of discovering prices and executing contracts”); see also *supra* note 165 and accompanying text (explaining how, in perfect competition, the production function describes the technological relationship between inputs).

207. See Dahlman, *supra* note 191, at 145 (“[P]roportional transaction costs are productive in precisely the same way that resources used up in the physical transformation of inputs into outputs are productive—indeed they could be treated in an identical manner with no loss of information.”); *id.* at 146 (“[I]t is difficult to see any significant difference between the set up cost of an exchange, called a transaction cost, and the set up cost of a basic unit of production, or the fixed cost of a firm.”); *id.* at 152 (“[I]t would be desirable to reduce such transaction costs, of whatever kind, preferably to zero if that were possible, just as it would be desirable to decrease costs of production in a firm.”); *id.* at 148 (“These, then, represent the first approximation to a workable concept of transaction costs: search and information costs, bargaining and decision costs, policing and enforcement costs.”); see also R. H. COASE, *The Firm, the Market, and the Law*, in *THE FIRM, THE MARKET, AND THE LAW*, *supra* note 32, at 1, 6 [hereinafter COASE, *The Firm, the Market, and the Law*] (“In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on.” (quoting Coase, *Social Cost*, *supra* note 190, at 15) (internal quotation marks omitted)); *id.* at 6 (endorsing Professor Dahlman’s definition of transaction costs).

208. Dahlman, *supra* note 191, at 144 (“Just as self-interested individuals will select the cheapest mode of transportation, it is possible to show that they may choose to use a medium of exchange as an

the same way, “discovery” by individual actors of the institution known as “the firm” is the economic equivalent of the discovery of a new production technology.²⁰⁹ Both alter the “production function,” that is, the mathematical relationship between inputs and output, and thus reduce the costs of producing any given type of output.²¹⁰

Although Coase’s article was truly revolutionary, it may not have appeared so to practitioners of the traditional price-theoretic model, who had already determined that technological considerations determined the extent of vertical integration. Indeed, three decades after its publication, George Stigler treated Coase’s explanation for the firm and the extent of vertical integration as “related” to Stigler’s own technological explanation.²¹¹ That is to say, Coase’s discovery of a transaction-cost explanation for integration did not induce Stigler or other price theorists to abandon technological explanations for integration or to reformulate the partial equilibrium trade-off paradigm.²¹² Paradigms and their practitioners are stubborn, and practitioners of the dominant paradigm could well have incorporated Coase’s discovery, which posited only minor deviations from perfect competition, within their own price-theoretic models, including the partial equilibrium trade-off paradigm.²¹³

alternative to barter if [fewer] resources are used as a consequence.”).

209. See STIGLER, *supra* note 35, at 34 (explaining how “development of new forms of business organization” can enhance economic growth); see also JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 84 (1942) (“[T]he competition from the new commodity, the new technology, the new source of supply, [or] the new type of organization . . . is much more effective than [price competition] . . .” (emphasis added)).

210. See Coase, *Institutional Structure*, *supra* note 176, at 716–18 (explaining how the firm and other non-standard contracts alter the institutional framework in a way that reduces costs and changes the allocation of resources); see also Stigler, *supra* note 47, at 216–17 (characterizing used car dealership as a specialized firm that arises to reduce the (technological) costs of bringing buyers and sellers together).

211. See GEORGE J. STIGLER, THE THEORY OF PRICE 170–71 (3d ed. 1966) [hereinafter STIGLER, THE THEORY OF PRICE]; *id.* at 168–70 (discussing Stigler’s own theory of vertical integration, resting on division of labor, extent of the market, and economies of scale); Stigler, *supra* note 47, at 216–17; see also COASE, *Industrial Organization*, *supra* note 32, at 65 (stating, albeit in conclusory terms, that Stigler’s analysis “does not take us very far”); George J. Stigler, *The Division of Labor Is Limited by the Extent of the Market*, 59 J. POL. ECON. 185 (1951) [hereinafter Stigler, *Division of Labor*] (articulating this theory of vertical integration in greater detail).

212. See M. A. Adelman, *Integration and Antitrust Policy*, 63 HARV. L. REV. 27, 29–30 (1949) (invoking Coase’s 1937 article, but also repeating and endorsing the typical technological explanation for vertical integration).

213. See KUHN, SCIENTIFIC REVOLUTIONS, *supra* note 58, at 63–65 (explaining that scientists seek to tame anomalies by adjusting conceptual categories within existing paradigms); *id.* at 78 (concluding that scientists “will devise numerous articulations and *ad hoc* modifications of their theory in order to eliminate any apparent conflict” between predicted and actual results under an existing paradigm). Scholars have identified “shadow paradigms” that narrow scholars’ field of vision outside the antitrust context. See Alan J. Meese, *The Externality of Victim Care*, 68 U. CHI. L. REV. 1201, 1227–29 (2001) (explaining that much economic analysis of tort law rests upon the “farmer-railroad” exemplar and that this reliance has in at least one instance produced misleading results); Carol M. Rose, *The Shadow of The Cathedral*, 106 YALE L.J. 2175, 2177–82, 2197 (1997) (arguing that leading literature on the

While scholars would subsequently claim that Coase's transaction cost approach undermined the technological explanation for vertical integration, price theorists apparently did not think so at the time.²¹⁴ Indeed, in 1952, Coase's 1937 work was republished as one of several "Readings in Price Theory."²¹⁵

This is not to say that Coase explained how firms could arise in a perfectly competitive world. Despite their close similarity to ordinary production costs, the perfect competition model excluded bargaining and information costs by fiat.²¹⁶ Moreover, firms reduced such costs by working other departures from perfect competition. According to Coase, the defining characteristic of the firm was "the suppression of the price mechanism" for allocating resources.²¹⁷ This suppression entailed a contract between an entrepreneur and employee that suspended, at least for a short period, the mobility of the employee, a factor of production.²¹⁸ For Coase, the particular contract known as "the firm" eliminated transaction costs and thus avoided the market failure that otherwise would occur, ensuring that resources moved to their best use, unobstructed by the transaction costs the firm avoided.²¹⁹ This suspension of mobility contravened a key assumption of the perfect competition model, namely, the complete absence of obstacles to the movement of resources, including the absence of any costs of altering such movements.²²⁰ That is, the institution traded one departure from perfect competition for another and improved overall welfare. While the firm did not create "perfect competition," it was a second-best institutional arrangement in a world where true perfect competition is not possible.²²¹

distinction between property rights and liability rules rests upon the unarticulated "shadow example" of automobile accidents).

214. Cf. Victor P. Goldberg, *Production Functions, Transaction Costs and the New Institutionalism*, in *ISSUES IN CONTEMPORARY MICROECONOMICS AND WELFARE* 395, 399–400 (George R. Feiwel ed., 1985) (explaining that technical economies cannot explain firm boundaries because, absent transaction costs, such economies can "be achieved equally well if the factors of production are owned by independent individuals").

215. See *READINGS IN PRICE THEORY* (George J. Stigler & Kenneth E. Boulding eds., 1952).

216. See KNIGHT, *supra* note 35, at 76–82; see also *id.* at 20 (perfect knowledge is the "prime essential" to perfect competition); Stigler, *supra* note 47, at 213 (explaining that economic theory generally ignores the cost of acquiring information).

217. See Coase, *Nature of the Firm*, *supra* note 177, at 389 ("[T]he distinguishing mark of the firm is the supersession of the price mechanism.").

218. See *id.* at 391–92.

219. See *supra* note 195 and accompanying text.

220. See KNIGHT, *supra* note 35, at 77 ("[The perfect competition model] assume[s] 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."); see also STIGLER, *COMPETITIVE PRICE*, *supra* note 35, at 21 (including absence of "institutional restraints" on resource movement as a requirement of perfect competition).

221. See COASE, *Industrial Organization*, *supra* note 32, at 67–68 (asserting that non-standard contracts and other practices inexplicable under price theory are often necessary for "bringing about a competitive situation"); cf. HAYEK, *supra* note 47, at 96 (suggesting that many activities inconsistent

The world of perfect competition was, like the world without friction, only a thought experiment.²²²

Coase showed how this world was less imaginary than it first seemed. While others accepted the bargaining and discovery costs that prevented perfect competition from arising, Coase explained how the firm itself, a voluntary institution, could overcome such costs.²²³ In so doing, Coase demonstrated that transaction costs are not necessarily exogenous or given, but instead can depend upon background legal rules.²²⁴ Indeed, the contingency of transaction costs upon background rules and institutions was a theme of Coase's later work.²²⁵ A well-functioning firm, then, eliminated the costs that prevented an otherwise atomistic market from reaching perfect competition. Though not necessary in the imaginary world of perfect competition, the firm made such competition possible, or at least more possible, than it otherwise would be.²²⁶ This function was perhaps so taken for granted that economists often ignored the question that Coase posed and treated the firm—and not individuals—as the most basic productive unit of analysis.²²⁷

C. NON-TECHNOLOGICAL TRANSACTION COSTS

As noted earlier, the *ex ante* haggling and discovery costs that Coase emphasized in 1937 did not exhaust the costs that may arise when individuals rely upon the market to conduct economic activity.²²⁸ This should come as no surprise, as the costs that Coase identified represent only one sort of departure from both perfect and workable competition models—and a contrived departure at best—that impacts the cost of relying on market contractions to conduct economic activity. Other

with perfect competition are in fact methods of achieving a more “competitive” result); Dahlman, *supra* note 191, at 144–46.

222. KNIGHT, *supra* note 35, at 6–11 (analogizing economist's modeling techniques to those employed by physicists, and analogizing unrealistic assumptions of economists to physicists' assumption of “perpetual motion at every stage”); THOMAS S. KUHN, *A Function for Thought Experiments*, in *THE ESSENTIAL TENSION*, *supra* note 58, at 240; *see also* STIGLER, *supra* note 35, at 24 (analogizing assumptions of perfect competition to physicists' assumption of a world without friction).

223. *See* Coase, *Nature of the Firm*, *supra* note 177, at 389–91.

224. *See* Coase, *Institutional Structure*, *supra* note 176, at 717–18 (explaining how background rules construct the institutional framework and thereby impact the allocation of resources); Coase, *Social Cost*, *supra* note 190, at 15–16, 19.

225. *See, e.g.*, Coase, *Institutional Structure*, *supra* note 176, *passim*; *see also* COASE, *The Firm, the Market, and the Law*, *supra* note 207, at 28 (“[The law can] make transactions more or less costly by altering the requirements for making a legally binding contract.”).

226. *See* COASE, *Industrial Organization*, *supra* note 32, at 68 (contending that non-standard contracts and other suspect practices are often methods of “bringing about a competitive situation”).

227. *See* STIGLER, *supra* note 35, at 21; Demsetz, *supra* note 172, at 426 (stating that firms are present in perfect competition).

228. *See supra* notes 196–98 and accompanying text.

departures producing such costs could include the passage of time between transactions, investments specific to particular relationships, threats of opportunism, or poorly-specified property rights.

Indeed, even before he published *The Nature of the Firm*, Coase explained—in unpublished correspondence—how vertical integration could overcome opportunism made possible by relationship-specific investments and the passage of time.²²⁹ Coase posited the example of a manufacturer who installed specialized equipment to serve the needs of distinct customers.²³⁰ By installing this equipment, Coase said, the manufacturer would render itself vulnerable to what modern economists call opportunism, that is, the possibility that, after the passage of time, the special customer might take its business elsewhere, leaving the supplier with new but unused equipment.²³¹ Or, the customer could “merely” threaten this course, inducing the manufacturer to renegotiate, and reduce its price below the manufacturer’s average cost.²³² This prospect of opportunism, Coase concluded, would cause the supplier contemplating such an investment to internalize the tangible risk that the original investment in the equipment would lead to lower than normal returns because of subsequent opportunism.²³³ This risk, in turn, would raise the manufacturer’s cost of capital accordingly.²³⁴ The manufacturer would have to cover this cost, by passing it on to its purchaser as part of the price of the inputs produced by the specialized equipment.²³⁵

By relying upon the market (“transacting”) to purchase specialized inputs, then, the purchaser in Coase’s example would incur a cost: the premium its supplier would charge to compensate itself for the risk of the purchaser’s opportunism. To avoid this transaction cost, the purchaser might integrate backwards, taking on the manufacturing process itself, thereby avoiding a transaction, eliminating the prospect of opportunism, and minimizing the cost of obtaining the input.²³⁶ Or, the customer might take the less drastic course, namely, relying upon the market to purchase inputs while agreeing not to take its business elsewhere, or, in other words, to deal exclusively with the supplier, thereby eliminating the risk

229. See Coase, *Origin*, *supra* note 177, at 12–13 (reproducing and discussing portions of Coase’s 1932 correspondence).

230. *Id.* at 13.

231. *Id.*

232. *Id.*

233. *Id.*

234. *Id.*

235. *Id.*; see also WILLIAMSON, *supra* note 66, at 32–35 (formalizing the result that a firm relying upon the market to distribute its product will charge a premium reflecting any risk of opportunism).

236. See Coase, *Origin*, *supra* note 177, at 13 (“[I]f the consuming firm decides to make this product this risk is absent and it may well be that this difference in capital costs may well offset the relative inefficiency in actual operating.”).

of opportunism that would otherwise result in a premium.²³⁷ Indeed, as explained earlier, Coase did not pursue this opportunism-based explanation for the existence of firms, because he believed that this less drastic alternative of partial integration could eliminate these costs.²³⁸

About forty years later, other scholars would rediscover Coase's identification of specific investments as a source of transaction costs, and embellish Coase's then-unknown point with express reference to the concept of opportunism.²³⁹ These scholars argued that market transacting in the presence of relationship-specific investments and passing time could render one or both parties vulnerable to post-transaction opportunism.²⁴⁰ Parties could avoid such opportunism in one of two ways. First, they could abjure the specific investment, thereby forgoing the benefits of specialization, and relying instead upon general technology producing undifferentiated inputs.²⁴¹ Or, the parties could avoid these costs by complete or partial integration.²⁴² At the same time, these scholars took issue with Coase's claim that partial integration could always eliminate these costs.²⁴³

Even before these scholars "rediscovered" Coase's insight, others were identifying non-technological costs of relying upon the market and explaining how complete or partial contractual integration might overcome them. Perhaps most famously, Lester Telser argued in 1960 that the production of promotional services by independent retailers is susceptible to free riding by such retailers, leading to suboptimal

237. See Klein et al., *supra* note 196, at 308–09 (explaining how an exclusive dealing contract can reduce the threat of opportunism); see also WILLIAMSON, *supra* note 66, at 32–35 (explaining that adoption of a contract eliminating opportunism will eliminate the price premium).

238. See Coase, *Meaning*, *supra* note 178, at 30–31 (describing pre-1937 notes concluding that the desire to avoid fraud by trading partners was not an impetus to integration); Coase, *Origin*, *supra* note 177, at 15–16 (reproducing correspondence in which Coase concludes that parties could eliminate the risk of such opportunism by means of partial integration, thereby suggesting that the risk of such opportunism was not a significant cause of complete vertical integration).

239. See OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS* 20–40, 82–105 (1975) [hereinafter WILLIAMSON, *MARKETS AND HIERARCHIES*]; see also Klein et al., *supra* note 196; Williamson, *supra* note 188, at 65–66 (articulating the mainstream view regarding rediscovery of Coase's insight).

240. See, e.g., Klein et al., *supra* note 196, at 297–302 (explaining how the article is an application of "Coase's fundamental insight"); Williamson, *supra* note 188, at 66–72; *id.* at 71 ("The intertemporal governance of contractual relations is greatly complicated as a consequence of this condition [bilateral dependence caused by relationship-specific investments].").

241. See WILLIAMSON, *supra* note 66, at 31–32 (explaining that, where asset specificity is absent, discrete market contracting functions well despite bounded rationality and opportunism); Langlois, *supra* note 47, at 7–8, 11–14 (explaining that specific investment can deepen specialization and enhance welfare).

242. See WILLIAMSON, *supra* note 66, at 90–98; Klein et al., *supra* note 196, at 298–307.

243. See Klein, *supra* note 205, at 200–11 (taking issue with Coase's argument that parties can employ long-term contracts to prevent opportunism); see also Klein et al., *supra* note 196, at 302–07 (detailing purported shortcomings in efforts to control opportunism via partial integration).

production of such services.²⁴⁴ Telser surmised that minimum resale price maintenance (“RPM”) agreements between manufacturers and dealers could forestall such behavior by ensuring that dealers who promote a manufacturer’s differentiated product can recoup the rewards of doing so.²⁴⁵ Absent such restraints, he said, a dealer might expend resources promoting the manufacturer’s product—a relationship-specific investment—only to find dealers who did not make such investments subsequently luring away customers with discounts.²⁴⁶ Telser did not mention Coase’s work, transaction costs, or opportunism. Still, he expressly limited his argument to instances in which promotional services were “specific to the commodity” produced by the manufacturer, and his work plainly rested on the realization that reliance upon market transacting to conduct economic activity—here, promotion and distribution—imposed a cost, in the form of foregone sales, upon a manufacturer as a result of dealers’ opportunism.²⁴⁷ Moreover, Telser posited that rational manufacturers would anticipate such post-transaction costs and seek to minimize them through non-standard contracting, namely RPM.²⁴⁸

Just six years later, Robert Bork expanded Telser’s analysis and began to integrate it with Coase’s original work. In particular, Bork reiterated Coase’s 1937 insight that the institution known as “the firm” is just one form of contractual integration, analogous to other forms of partial, contractual integration.²⁴⁹ According to Bork, partial integration in the form of minimum RPM or exclusive territories could allow firms that relied upon independent dealers—the market—to distribute their goods so as to ensure the same type and amount of promotion that a fully integrated firm would produce.²⁵⁰ At the same time, Bork did not expressly refer to “transaction costs” or “market failure,” but instead

244. See Telser, *supra* note 196, at 89–96.

245. See *id.*; see also *id.* at 95–96 (explaining that the argument depended upon the assumption that the product in question was branded and thus differentiated). As Telser noted, Ward Bowman had previously pointed out that minimum RPM could prevent “spillovers” that characterized promotional services like advertising and demonstrations. See *id.* at 89 n.4 (citing Ward S. Bowman, Jr., *The Prerequisites and Effects of Resale Price Maintenance*, 22 U. CHI. L. REV. 825, 840–43 (1955)).

246. See *id.* at 89–96.

247. See *id.* at 89 (“We must understand these retailers’ services to be specific to the commodity [produced by the manufacturer] and unrelated to the retailers’ methods of generally doing business.”).

248. See *id.* at 91–92.

249. See Bork, *supra* note 196, at 384.

250. See *id.* at 429–39; *id.* at 472 (“In economic analysis, a contract integration is as much a firm as an ownership integration. The nature of the standards applied to them through the Sherman Act should be the same.”). Bork implicitly assumed that the fully integrated firm he hypothesized flawlessly pursued its owners’ interests. As I have explained elsewhere, however, manufacturers may rely upon dealers to distribute their goods precisely because their employees do not possess the incentives necessary to pursue owners’ interests. See Alan J. Meese, *Property Rights and Intra-brand Restraints*, 89 CORNELL L. REV. 553, 595–98 (2004). Thus, promotion by a fully integrated firm may not replicate that achieved by properly incentivized independent dealers. *Id.*

claimed that his analysis followed directly from “basic price theory,” a contention subsequently repeated by Richard Posner.²⁵¹ Moreover, he plainly recognized that a manufacturer’s reliance upon an unrestrained market to distribute its goods could entail a cost, which Bork measured as the deviation from the promotional expenditures and economic results that a completely integrated (and properly incentivized) firm would achieve.²⁵²

The Telser/Bork argument rested upon several departures from perfect competition, as well as some beneficial departures from workable competition. These included relationship-specific investments, product differentiation, the passage of time between promotional investments, and when those investments bear fruit.²⁵³ However, these beneficial conditions also created a risk of opportunism, and thus externality and market failure, given the imperfect specification of property rights preventing dealers from recouping the benefits of promotional investments in an atomistic market.²⁵⁴ As Bork explained, intrabrand restraints could function as a sort of contractual property right, thereby altering the institutional framework in a way that changed the content of economic activity and resulted in optimal promotional expenditures.²⁵⁵ Other scholars built on this foundation, elaborating on how various non-standard contracts could reduce the cost of relying upon the market. Tying contracts, franchising, and exclusive dealing—all could overcome market failure and thus, reduce transaction costs.²⁵⁶

Practitioners of workable competition had assumed away bargaining and information costs, specific investments, the passage of time, and the

251. See Robert H. Bork, *Resale Price Maintenance and Consumer Welfare*, 77 YALE L.J. 950, 952 (1968) (“[The contention that] r.p.m. creates an efficient utilization of resources [is] grounded in basic price theory.”); see also BORK, *supra* note 60, at 116–17 (contending that price theory is the only methodology capable of informing a rational antitrust policy); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 932 (1979) (“The Chicago School has largely prevailed with respect to its basic point: that the proper lens for viewing antitrust problems is price theory.”).

252. See Bork, *supra* note 196, at 434–36 (treating promotion produced by a completely integrated firm as a baseline against which to measure the impact of non-standard contracts on promotional decisions).

253. See Telser, *supra* note 196, at 87 (asserting that market power due to product differentiation is a necessary condition for use of minimum RPM to overcome market failure).

254. *Id.* at 89–96 (explaining promotional expenditures and free riding). Absent the passage of time, for instance, a manufacturer could constantly observe and respond to suboptimal promotion by dealers. See *infra* note 261.

255. See Bork, *supra* note 251, at 956 (suggesting that RPM confers the equivalent of property rights on dealers); Meese, *supra* note 250, at 595–607; *id.* at 602 & n.266 (collecting authorities suggesting that non-standard contracts, including minimum RPM, create contractual property rights).

256. See Benjamin Klein & Lester F. Saft, *The Law and Economics of Franchise Tying Contracts*, 28 J.L. & ECON. 345, 349–54 (1985); Benjamin Klein, *Transaction Cost Determinants of “Unfair” Contractual Arrangements*, AM. ECON. REV., May 1980, at 356 [hereinafter Klein, *Transaction Cost Determinants*]; Howard P. Marvel, *Exclusive Dealing*, 25 J.L. & ECON. 1 (1982); Paul H. Rubin, *The Theory of the Firm and the Structure of the Franchise Contract*, 21 J.L. & ECON. 223 (1978).

resulting threat of opportunism borne by firms that relied upon unbridled markets to conduct economic activity.²⁵⁷ Both Coase's unpublished speculations and more modern practitioners of TCE reversed this presumption, assuming several departures from the perfect competition model in addition to those emphasized in Coase's 1937 article.²⁵⁸ For instance, both accounts assumed a conscious effort to produce differentiated products in response to varying consumer preferences. Such differentiation would, of course, contravene the perfect competition model's assumption of homogenous products. Moreover, if such differentiation conferred market power on a seller, such power would itself contravene perfect competition. These accounts also assumed that market actors might make investments specific to particular relationships or customers, thereby enhancing product quality but creating assets not readily transferred to other uses.²⁵⁹ Immobility of such specific investments contravenes the assumptions of perfect competition and workable competition, namely that resources can be redeployed instantly and without cost.²⁶⁰

These accounts also assumed that time would pass between initial investment and subsequent economic activity.²⁶¹ This passage of time, combined with specific investments, created the prospect that trading partners might behave opportunistically, appropriating or threatening to appropriate investments made by others.²⁶² Such opportunism, an externality, was only possible because property rights were poorly specified.²⁶³ These departures from perfect competition were not themselves transaction costs, in the same way that, say, the cost of

257. See *supra* note 47 and accompanying text.

258. Cf. Yoram Barzel & Levis A. Kochin, *Ronald Coase on the Nature of Social Cost as a Key to the Problem of the Firm*, 94 SCANDINAVIAN J. ECON. 19, 25 (1992) (noting that Coase's 1937 "discussion of transaction costs" is "brief and cryptic").

259. See Coase, *Origin*, *supra* note 177, at 13 ("Suppose the production of a particular product requires a large capital equipment which is, however, specialized insofar that it can only be used for the particular product concerned or can only be readapted at great cost."); Klein et al., *supra* note 196, at 299 ("Once installed, an asset may be so expensive to remove or so specialized to a particular user that if the price paid to the owner were somehow reduced the asset's services to that user would not be reduced."); Langlois, *supra* note 47, at 7–8, 11–14 (noting that specific investments can enhance specialization and product quality).

260. See *supra* note 157 and accompanying text.

261. Cf. POSNER, *supra* note 191, at 93–95 (explaining how the passage of time between sale and performance can result in opportunistic breach of contract).

262. Klein et al., *supra* note 196, at 298–302 (explaining how the authors' model assumes that the seller purchases distinctive asset that it utilizes over time, and that purchasers are opportunistic); cf. KNIGHT, *supra* note 35, at 78–79 ("[Perfect competition model excludes] preying of individuals upon each other [including] fraud or deceit and theft or brigandage."). Some scholars believed the exclusion of fraud and similar behavior to be redundant with the model's assumption of perfect information. See STIGLER, *supra* note 35, at 22.

263. See Harold Demsetz, *Toward a Theory of Property Rights*, AM. ECON. REV., May 1967, at 347, 348–49 (explaining how well-defined property rights induce property holders to internalize the social costs and benefits of their actions).

acquiring information was, nor were they exogenous, as they might result from conscious efforts by rational economic actors to depart from perfect competition. Instead, these departures were conditions—sometimes beneficial—that could ultimately give rise to such costs.²⁶⁴ According to Coase and others, these pervasive departures from perfect and workable competition in the real world ensured that reliance on atomistic markets to conduct economic activity would entail a cost of transacting and produce a market failure and externality resulting in a suboptimal allocation of resources.²⁶⁵ Taken together, each of these conditions combined to increase the cost of relying upon discrete market transactions to conduct economic activity. Moreover, unlike the costs that Coase had emphasized, these latter costs had no analogue in the technological costs recognized by the foundational model of perfect competition, which had assumed perfectly-specified property rights and, for instance, excluded opportunism, specific investment, and product differentiation by fiat.²⁶⁶ Put another way, these costs were non-technological in origin, and contracts that reduced them produced non-technological efficiencies.²⁶⁷ Indeed, according to scholars who identified this category of transaction costs, technological considerations could *never* explain the existence of a firm or an existing firm's decision to integrate.²⁶⁸

These departures from perfect competition differed from those Coase invoked in another way as well. Unlike bargaining and information costs, some of these departures could actually enhance the welfare of consumers and the rest of society, by inducing an allocation of resources superior to that produced by atomistic rivalry. For instance, the specialized equipment in Coase's original unpublished example could produce a differentiated input that the purchaser could in turn use to

264. See *supra* note 197 (explaining how one might characterize these as “second order transaction costs”).

265. See COASE, *The Firm, the Market, and the Law*, *supra* note 207, at 26 (contending that pervasive transaction costs render externality and market failure ubiquitous); WILLIAMSON, *supra* note 66, at 103–30 (“Vertical integration . . . is more consistent with transaction cost economizing than with . . . alternatives.”); WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 239, at 20 (“[A] presumption of market failure is warranted where it is observed that transactions are shifted out of a market and into a firm . . .”).

266. See KNIGHT, *supra* note 35, at 78–79 (excluding preying of individuals on one another by fiat).

267. Cf. WILLIAMSON, *supra* note 66, at 86–90 (explaining why technological considerations generally cannot explain vertical integration); Goldberg, *supra* note 214, at 396–97 (contending that price theory errs in assuming that production costs are unrelated to institutional arrangements, including ownership of relevant inputs).

268. See WILLIAMSON, *supra* note 66, at 86–90; Goldberg, *supra* note 214, at 397 (explaining that technical economies cannot explain the 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”).

produce a differentiated product for sale to consumers.²⁶⁹ Moreover, a firm that produced a differentiated product could thereby enhance consumer welfare by better catering to unique tastes and preferences.²⁷⁰ Even doctrinaire price theorists had recognized that product differentiation, though a departure from perfect competition, could actually enhance the welfare of consumers, despite accompanying market power.²⁷¹

Under these accounts, then, complete and partial integration did far more than simply reduce the cost of identifying and bargaining with suppliers. Instead, such restraints altered the institutional framework in which economic activity took place, thereby changing incentives and the ultimate content of economic activity, such as price, output, and the quality thereof.²⁷² Like the rationale for integration Coase identified in 1937, this explanation does not rest upon any assumption that the restraint exercised market power by reducing output, or increasing price above costs.²⁷³ Moreover, this change was for the better, as it entailed various forms of activity that antitrust policy encourages.

III. A TRANSACTION COST CRITIQUE OF THE RULE OF REASON STANDARD

As explained earlier, antitrust law and enforcement policy at one time reflected significant hostility toward non-standard contracts, hostility derived from price theory's partial equilibrium trade-off paradigm.²⁷⁴ This hostility manifested itself as declarations that various non-standard contracts were unlawful per se, or nearly so. The work of several scholars identifying various transaction costs and contractual solutions thereto influenced courts and agencies, causing both to abandon per se treatment of numerous restraints.²⁷⁵ In particular, courts have held that many non-standard contracts, while restrictive of atomistic

269. Langlois, *supra* note 47, at 7–8, 11–14 (explaining how asset-specificity can deepen specialization, enhance productivity, and create unique capabilities).

270. See sources cited *supra* note 41 (collecting authorities contending that product differentiation can increase product variety and thus consumer welfare).

271. See *supra* note 41 and accompanying text.

272. See Coase, *Institutional Structure*, *supra* note 176, at 717–18 (arguing that background rules construct an institutional framework that impacts the allocation of resources).

273. See *supra* note 178 and accompanying text (explaining Coase's assertion that his theory of the firm was independent of market power considerations).

274. See *supra* notes 63–86 and accompanying text (describing the so-called “inhospitality era” of antitrust law and the partial equilibrium paradigm that drove it).

275. See *State Oil Co. v. Khan*, 522 U.S. 3, 18 (1997) (reversing the per se ban on maximum resale price maintenance); *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 98–104 (1985) (holding that certain restraints on price and output should be analyzed under the rule of reason); *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 58 (1977) (reversing the per se ban on non-price vertical restraints); see also Meese, *supra* note 29, at 141–44 (recounting the influence of transaction cost reasoning on antitrust law during this period).

competition, might nonetheless be necessary to produce benefits treated as cognizable under the antitrust laws.²⁷⁶ Such benefits, it should be noted, were distinct from technological benefits, such as economies of scale and product differentiation, that courts had previously recognized.²⁷⁷

In some cases, courts and scholars recognized cognizable benefits similar to those identified by Coase, that is, the reduction of bargaining and information costs.²⁷⁸ Indeed, some scholars believe these “mundane” costs to be the more important determinant of vertical integration.²⁷⁹ More often, however, courts and scholars have relied upon assertions that such restraints can reduce non-technological transaction costs.²⁸⁰ A finding that a restraint may reduce either sort of cost obviates per se condemnation, since such restraints no longer lack redeeming virtue, which is a necessary element of per se condemnation under the Sherman Act.²⁸¹

In holding that non-standard contracts could produce “redeeming virtues,” courts recognized that arrangements inconsistent with the conditions of perfect competition could enhance the welfare of consumers, even if they might lead to market power.²⁸² Still, recognition of such efficiencies as cognizable and relevant to antitrust analysis does not ensure that agencies and courts would properly evaluate such

276. See Meese, *supra* note 29, at 141–44 (documenting the influence of transaction cost reasoning upon various per se rules); see also *Sylvania*, 433 U.S. at 54 (“Vertical restrictions . . . achieve certain efficiencies in the distribution of [manufacturers’] products. These ‘redeeming virtues’ are implicit in every decision sustaining vertical restrictions under the rule of reason.”).

277. See *supra* notes 80–84 and accompanying text.

278. See *Broad. Music, Inc. v. Columbia Broad. Sys.*, 441 U.S. 1, 19–21 (1979) (invoking the propensity of restraint to reduce bargaining and information costs as a rationale for rule of reason treatment); see also HOVENKAMP, *supra* note 102, at 378 (describing numerous such costs firms may reduce via vertical integration); Roy W. Kenney & Benjamin Klein, *The Economics of Block Booking*, 26 J.L. & ECON. 497, 538–40 (1983) (explaining how certain tying contracts could reduce search costs); cf. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 43–44 (1984) (O’Connor, J., concurring) (arguing that a contract’s propensity to reduce monitoring and search costs militated against rule of reason condemnation).

279. See generally Richard N. Langlois, *The Secret Life of Mundane Transaction Costs*, 27 ORG. STUD. 1389 (2006) (arguing that these types of transaction costs provide a better understanding of the evolving relationship between markets and firms).

280. See e.g., *Sylvania*, 433 U.S. at 51–57 (relying upon scholarly articles invoking transaction cost to identify benefits of vertical restraints); *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 221–23 (D.C. Cir. 1986); *Polk Bros. v. Forest City Enters.*, 776 F.2d 185, 189–90 (7th Cir. 1985).

281. See *United States v. Topco Assocs.*, 405 U.S. 596, 607–08 (1972) (holding that a restraint is unlawful per se if it always, or almost always, is anticompetitive and always, or almost always, lacks “redeeming virtue” (quoting *N. Pac. RR. Co. v. United States*, 356 U.S. 1, 5 (1958))).

282. See *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 101–02 (1984) (finding that cooperation that “differentiates” college football from other sports produces cognizable benefits); *id.* at 103 (explaining how restraint on rivalry in one part of the market could enhance overall welfare); *Sylvania*, 433 U.S. at 56 n.25 (finding that intrabrand restraints can facilitate promotion conveying information about differentiated products); *id.* at 55 (noting that a “purely competitive situation” might result in insufficient promotion).

agreements under the rule of reason. Indeed, as explained earlier, lower courts and scholars have offered competing approaches to rule of reason analysis.²⁸³

What, though, about the approach to rule of reason analysis taken by the Supreme Court and enforcement agencies, with its singular focus on price or output within the partial equilibrium framework?²⁸⁴ Both presume that a restraint is unlawful if it results in higher prices or lower output.²⁸⁵ Moreover, once this presumption arises, courts and agencies ask whether any benefits of the restraint “outweigh” or “offset” the perceived harms, by reducing prices or preventing their increase as compared to the pre-restraint baseline, for instance.²⁸⁶ If, despite these benefits, the restraint still leads to a higher price, courts and agencies conclude that the agreement is an exercise of market power to the detriment of consumers.²⁸⁷ Leading scholars have endorsed this approach, which the Harvard School began to articulate and embrace in the early 1980s.²⁸⁸

Will this approach separate harmful contracts from those that are beneficial? To answer this question, this Part will compare and contrast current law’s treatment of two different sorts of restraints, each of which reduces the cost of transacting, broadly-defined, albeit in different ways. As will be seen, current law properly declines to condemn restraints that reduce technological transaction costs without creating market power. At the same time, even if properly applied, current law seems to condemn restraints that significantly reduce *non*-technological transaction costs, even though such restraints avoid per se condemnation precisely because they might reduce such costs.

283. Compare *Polk Bros.*, 776 F.2d at 188–91 (proof that defendants possess market power is a necessary ingredient of any rule of reason claim), and Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 19–23 (1984) (contending, inter alia, that absence of market power should doom a plaintiff’s case under the rule of reason), with *Todd v. Exxon Corp.*, 275 F.3d 191, 206 (2d Cir. 2001) (“[A]n actual adverse effect on competition . . . arguably is more direct evidence of market power than calculations of elusive market share figures.”), and Mark Patterson, *The Market Power Requirement in Antitrust Rule of Reason Cases: A Rhetorical History*, 37 SAN DIEGO L. REV. 1, 38–45 (2000) (contending that proof of anticompetitive harm should suffice to establish a prima facie case regardless of market power).

284. See *supra* notes 99–118 and accompanying text.

285. See *NCAA*, 468 U.S. at 104–11; AGCC, *supra* note 99, § 3.3; see also *FTC v. Ind. Fed’n of Dentists*, 476 U.S. 447, 459–63 (1986) (holding that proof of detrimental effects suffices to establish prima facie case).

286. See *supra* notes 116, 121 and accompanying text (describing the requirement that courts “balance” a restraint’s benefits against presumed harms).

287. See *supra* notes 109–10, 113–14 and accompanying text.

288. See *supra* notes 48, 111 and accompanying text.

A. TWO EXAMPLES OF TRANSACTION COST REDUCTION

Consider two different restraints that may reduce transaction costs. First, a small firm may integrate backward by purchasing a supplier to reduce the cost of discovering inputs and haggling over terms of trade.²⁸⁹ Second, consider a more complicated story, drawn from an actual case, whereby rivals and potential rivals in the grocery business form a joint venture to develop and produce products similar (but not identical) to those already sold by members in competition with each other.²⁹⁰ Assume further that the venture sells its product to these rivals who in turn distribute the output to consumers, and that such distribution requires product-specific promotional expenditures.²⁹¹ Moreover, assume that the new venture assigns rivals exclusive territories where they may distribute the venture's output.²⁹² Finally, assume that this arrangement prevents venture members from free riding on each other's promotional expenditures and thus, ensures that each venture member expends optimal resources on promotion.²⁹³ In this way, one can say, the venture ensures that members' promotional activity replicates that of a fully integrated firm producing the same product.²⁹⁴ Absent such restraints, the venture might produce the new product, but no one would promote it.

Both of these arrangements reduce the cost of relying upon the market—conceived at the highest level of generality—to conduct economic activity.²⁹⁵ Still, they do so in very different ways. The first—backwards integration to reduce information and haggling costs—impacts only one relevant variable: the pre-transaction technological cost of discovering and negotiating with trading partners. Thus, the restraint reduces the cost of producing unchanged output that postdates the transaction, a reduction analogous to a reduction in production costs

289. See Coase, *Nature of the Firm*, *supra* note 177, at 390–91 (emphasizing these sorts of costs); see also HOVENKAMP, *supra* note 102, at 378 (describing, in intricate detail, various bargaining and information costs that firms may seek to avoid by means of vertical integration).

290. See *United States v. Topco Assocs.*, 405 U.S. 596, 602–05 (1972). The *Topco* venture produced numerous “private label” products for sale in venture members' stores. *United States v. Topco Assocs.*, 319 F. Supp. 1031, 1033 (N.D. Ill. 1970). Thus, venture members sought to replicate the private label offerings of vertically-integrated rivals. See *id.* at 1033–35.

291. Cf. Telser, *supra* note 196, at 89 (providing a benevolent account of minimum RPM that assumes dealers' services are specific to the manufacturer's product).

292. See *Topco*, 405 U.S. at 607–11 (evaluating such a venture).

293. See Bork, *supra* note 196, at 429–39 (explaining how such restraints can facilitate promotion in this manner); see also *Topco*, 319 F. Supp. at 1042–43 (finding that horizontal territorial restraints ancillary to a legitimate joint venture facilitated and encouraged promotional expenditures to the ultimate benefit of consumers).

294. See Bork, *supra* note 196, at 434–36 (explaining how such restraints can replicate promotional expenditures by a fully-integrated firm).

295. I do not mean to suggest that contractual integration always produces significant economic benefits. Nor do I assume that such restraints never produce economic harm. I mean only to employ an example of a restraint that plainly produces significant benefits without any offsetting harm as a means of illustrating the current law's inadequacy at dealing with such restraints.

caused by, say, a realization of economies of scale.²⁹⁶ An economist would model this particular reduction in transaction costs within the partial equilibrium framework by shifting the firm's cost curve downward.²⁹⁷ Nor is there any reason to suspect that the transaction will alter the demand schedule for the product in question. As a result, output of the same, unchanged product would rise and price would fall compared to the *status quo ante*, that is, a baseline consisting of the price and output that existed before the integration. Moreover, removal of the restraint would lead to higher prices and reduced output.

Thus, a plaintiff challenging this first restraint could not make out a *prima facie* case, unless it could demonstrate that the defendant possesses market power as a result of the transaction—a prospect excluded by the facts.²⁹⁸ Even if the plaintiff could somehow establish that the defendant possesses market power, the defendant could nonetheless prevail by demonstrating that the restraint in fact reduced prices compared to the *status quo ante*.²⁹⁹ In short, the dominant rule of reason test, informed as it is by the partial equilibrium trade-off model, would produce accurate assessments of the impact of this form of integration.

The impact of the second arrangement and its resulting fate under the current test is more difficult to trace. For one thing, the restraint in question does not exist in a vacuum, but is, instead, part of a larger effort to create and market a new product and significantly to alter the economic *status quo ante*. This effort will involve specific investments in creating and producing a new product, product differentiation, advertising expenditures (which also constitute specific investments), and the passage of time between investments and their expected payoff. Moreover, the investment and subsequent promotion of the new product create conditions that are ripe for opportunism, in this case free riding by rivals on the sunk promotional expenditures of other members of the venture.³⁰⁰ Finally, the transaction and the accompanying restraint have no impact on the engineering considerations that impact technological

296. See *supra* notes 42–44 and accompanying text.

297. See Williamson, *Antitrust Defense*, *supra* note 55, at 21; cf. BAIN, *supra* note 31, at 357 (describing how certain instances of vertical integration purportedly reduce technological production costs).

298. See, e.g., *United States v. Brown Univ.*, 5 F.3d 658, 668 (3d Cir. 1993) (explaining that proof of market power is an alternate vehicle for establishing a *prima facie* case under the rule of reason); AGCC, *supra* note 99, § 3.31, at 12 (“In some cases, however, a determination of anticompetitive harm may be informed by a consideration of market power.”).

299. See, e.g., *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 114 (1984); AGCC, *supra* note 99, § 3.35, at 22 n.50.

300. Indeed, the district court in *Topco* found that unrestrained rivalry between venture members would result in such free riding. See 319 F. Supp. 1031, 1040–43 (N.D. Ill. 1970).

production costs in the perfect competition model.³⁰¹ Indeed, the whole point of the restraints is to alter background “rules of the game,” so as to induce venture partners to expend *more* resources on promotion—that is, to *increase* the overall venture’s technological unit cost of production and distribution when compared to the expenditures that would be in place before the restraint.³⁰² Moreover, unlike the first transaction, which merely impacts the supply side of the market, by altering the costs of producing an unchanged product, these challenged restraints would also impact the demand side. By facilitating creation of a new product and inducing venture partners to make additional promotional investments, the restraints would attract new customers and induce current customers to purchase additional products from the manufacturer at a given price.³⁰³ Economists model the impact of promotion and product differentiation as an outward shift in the demand schedule for the product in question, as well as a change in the slope of the curve to reflect less elastic demand.³⁰⁴

By hypothesis, the venture creates a new product and thus, serves the interests of consumers.³⁰⁵ Moreover, the restraint encourages promotion of this product, which may compete with those sold by larger, completely integrated rivals, who achieve the same amount of promotion unilaterally.³⁰⁶ Nothing about this account depends upon the restraint inducing the exercise of market power, aside from that associated with product differentiation, which of course does not offend the antitrust laws.³⁰⁷ In short, this is the exact sort of conduct the antitrust laws are designed to protect and encourage, namely, economic integration

301. See *supra* notes 68, 165 and accompanying text (collecting authorities treating the production function as based upon “engineering considerations”).

302. Several scholars have recognized that beneficial vertical restraints such as exclusive territories will induce dealers bound by such agreements to incur additional costs of promotion and thus, to seek to increase the price they can charge for the product in question. See William F. Baxter, *The Viability of Vertical Restraints Doctrine*, 75 CALIF. L. REV. 933, 945–46 (1987); Telser, *supra* note 196, at 91; see also Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 156 (1984) (“Every argument about restricted dealing implies that the restrictions influence price. There is no such thing as a free lunch; the manufacturer can’t get the dealer to do more without increasing the dealer’s margin.”); Meese, *supra* note 29, at 152–61 (applying this logic to horizontal restraints).

303. See, e.g., Bork, *supra* note 196, at 429–39; see also Meese, *supra* note 29, at 158–61 (explaining how such restraints can facilitate product differentiation).

304. See Telser, *supra* note 196, at 89–90 (portraying the impact of RPM in this manner).

305. Cf. *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 100–02 (1984) (holding that horizontal restraints that facilitate creation of differentiated product are properly analyzed under the rule of reason); *Broad. Music, Inc. v. Columbia Broad. Sys.*, 441 U.S. 1, 13–16 (1979) (finding that restraint’s creation of a new product prevents summary condemnation).

306. See *United States v. Topco Assocs.*, 319 F. Supp. 1031, 1035, 1039–41 (N.D. Ill. 1970).

307. Cf. AGCC, *supra* note 99, § 3.36(a) (stating that agencies will not credit purported efficiencies requiring anticompetitive output reductions).

reallocating resources to facilitate interbrand competition and enhance society's welfare.³⁰⁸

Still, such a restraint would not survive scrutiny under the rule of reason standards articulated by most courts and the agencies. To begin with, the restraint apparently produces the sort of "actual detrimental effects" that give rise to a prima facie case, by resulting in higher prices and/or lower output when compared to the baseline that courts currently employ. If successful, the restraint will facilitate promotion and product differentiation and cause the price of the venture product to rise as compared to products sold by venture members before the venture. Moreover, once the venture begins selling the new product to its members, who in turn incur significant promotional expenses, subsequent removal of the restraint will increase short term rivalry between venture members and thus increase output and reduce prices, thereby suggesting that enforcement of the restraint *increased* prices and *reduced* output.³⁰⁹ Indeed, for some restraints, mere proof that the restraint exists would suffice to establish such a case.³¹⁰

Moreover, once a plaintiff establishes a prima facie case, a defendant can only prevail by showing that the restraint produces significant benefits that manifest themselves as prices that are *lower* than those that would exist without the restraint.³¹¹ However, the benefits of the restraint—encouraging promotion and product differentiation—will manifest themselves as *higher* prices compared to the baselines that courts and the agencies employ, quashing any effort to rebut the prima facie case.³¹² Thus, the current rule of reason framework, informed by the

308. See *State Oil Co. v. Khan*, 522 U.S. 3, 15–16 (1997) (noting that interbrand competition is the primary concern of antitrust); *NCAA*, 468 U.S. at 100–02 (finding that a restraint's facilitation of product differentiation is a redeeming virtue); *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 56 n.25 (1977) (noting that promotion of a differentiated product conveys useful information); see also Oliver E. Williamson, *Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach*, 127 U. PA. L. REV. 953, 987–88 (1979) (explaining how non-standard agreements that reduce transaction costs facilitate efficient allocation of resources).

309. See *NCAA*, 468 U.S. at 104–08 (finding that the plaintiff had established a prima facie case by "showing" that removal of the restraint would reduce prices).

310. See *supra* notes 99–101 and accompanying text. Indeed, one former head of the Antitrust Division of the Department of Justice opined that the mere existence of a restraint such as the one posited here would itself establish a prima facie case. See Joel Klein, Assistant Attorney Gen., Dep't of Justice, *A Stepwise Approach to Antitrust Review of Horizontal Agreements*, Address Before the American Bar Association's Antitrust Section Semi-Annual Fall Policy Program 5 & n.8 (Nov. 7, 1996), available at www.justice.gov/atr/public/speeches. The former head of the Federal Trade Commission reached a similar result. See Robert Pitofsky, *A Framework for Antitrust Analysis of Joint Ventures*, 74 GEO. L.J. 1605, 1621 (1986) (concluding that *Topco* restraints were properly condemned because defendants could have achieved the same objectives in a different manner).

311. See *supra* notes 113–14 and accompanying text.

312. Cf. *NCAA*, 468 U.S. at 114 ("If the NCAA's television plan produced procompetitive efficiencies, the plan would increase output and reduce the price of televised games. The District Court's contrary findings accordingly undermine petitioner's position.").

partial equilibrium trade-off paradigm, would unambiguously condemn such restraints, which in fact create no harm and produce only benefits treated as cognizable under the antitrust laws.

B. THE SOURCE OF THE HOSTILITY

What explains current law's unjustified hostility toward certain restraints that reduce transaction costs? After all, both forms of vertical integration detailed above "reduce transaction costs." Both do so by changing background rules—the institutional framework—to reduce the "cost" of relying upon atomistic markets to conduct economic activity.³¹³ By altering the framework in this way, both also alter the content of future activity and the resulting allocation of society's resources.³¹⁴ Both alter this content "for the better," that is, they attenuate market failure so as to enhance the allocation of resources.³¹⁵ Finally, antitrust courts have repeatedly stated that such benefits are cognizable, or with the result that a plausible claim that a restraint will produce them avoids per se condemnation.³¹⁶ Nonetheless, as explained above, current law, informed as it is by the partial equilibrium trade-off model, would condemn one such restraint and others like it.

There is, however, an important conceptual difference between these two restraints and the transactions they accompany, a difference that accounts for this disparate treatment. The "market failure" solved by the first restraint manifests itself in higher pre-transaction *technological* costs of discovery and haggling. This "failure" is no different in some sense from the "failure" that occurs when a firm elects to purchase inputs from a supplier with higher costs of producing the input than its own.³¹⁷ Thus, a decision to abandon the market to reduce these transaction costs seems indistinguishable from the classic rationale for vertical integration recognized by price theory's partial equilibrium trade-off model, namely, the realization of technical economies that alter the firm's production function as compared to the *status quo ante*.³¹⁸

313. See Coase, *Institutional Structure*, *supra* note 176, at 715–17.

314. *Id.* at 717–18 (explaining how a contractual or legal change in background rules can alter the content of economic activity).

315. See Baxter, *supra* note 302, at 947–48 (arguing that vertical restraints overcome market failures and enhance the allocation of resources); Coase, *Industrial Organization*, *supra* note 32, at 68 (arguing that non-standard contracts are often essential to fostering competition); Meese, *supra* note 29, at 134–41 (explaining how non-standard contracts can overcome market failure and improve welfare); Williamson, *supra* note 308, at 988–89 ("Organizational changes that give rise to [transaction costs savings] will, if not accompanied by offsetting price distortions, invariably yield social gains.").

316. See, e.g., *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 51–57 (1976).

317. See *supra* notes 207–08 and accompanying text; see also Dahlman, *supra* note 191, at 144–46.

318. See BAIN, *supra* note 31, at 357; STIGLER, *THE THEORY OF PRICE*, *supra* note 211, at 168–71 (referring to Stigler, *Division of Labor*, *supra* note 211); see also KAYSSEN & TURNER, *supra* note 31, at 128–29 (noting that a merger can alter the extent of vertical integration to account for technological changes); *supra* note 173 and accompanying text (detailing classic technological account of vertical

This first class of efficiencies finds easy recognition within the price-theoretic merger trade-off paradigm and the doctrinal framework that this paradigm informs.³¹⁹ To be precise, such restraints purport to alter only one variable as compared to the equilibrium *status quo ante*, namely, the cost of identifying and bargaining with an input supplier.³²⁰ The restraints do not depend upon or accompany relationship-specific investments or other efforts to differentiate a firm's product. Moreover, such restraints do not contemplate promotional efforts to enhance consumers' demand for the newly-differentiated product. While such restraints do overcome a sort of "market failure," the failure does not, as do various forms of opportunism, manifest itself as a pre-restraint disequilibrium, that is, specific investments without safeguards against opportunism.³²¹

In these circumstances, then, the price charged by the defendants before the adoption of the restraint can serve as a useful baseline for assessing the impact of a restraint that purports to reduce these transaction costs. It makes perfect sense to treat the equilibrium price that existed before the restraint as "competitive," or at least as competitive as antitrust regulation can expect, namely, workably competitive.³²² Moreover, in those cases in which one cannot determine the pre-restraint price, it makes sense for a court simply to perform a straightforward thought experiment—that is, to ask whether, after consummation of the transaction, the defendants would charge a lower or higher price if the transaction were reversed.³²³ If removal of the restraint would *increase* prices, such an increase would indicate that

integration).

319. See *supra* notes 60–62 and accompanying text (explaining how the merger trade-off example served as a paradigm informing antitrust policy).

320. Cf. BAIN, *supra* note 54, at 14–15 (explaining that price theory "does not investigate very well the implications of changing determinants" of different equilibria and economic performance).

321. Cf. Klein, *Transaction Cost Determinants*, *supra* note 256, at 356–57 (explaining that opportunistic exploitation of relationship-specific investments "is not a long-run equilibrium phenomenon"); see also *infra* notes 356–58 and accompanying text (explaining how pre-restraint prices do not always constitute an equilibrium relevant to antitrust analysis, where the restraint prevents opportunism).

322. Cf. *Law v. NCAA*, 134 F.3d 1010, 1019–20 (10th Cir. 1998) (assuming implicitly that a price existing before the restraint was competitive in this sense); *Chi. Prof'l Sports Ltd. v. NBA*, 961 F.2d 667, 673–74 (7th Cir. 1992) (same). As Oliver Williamson noted, application of the partial equilibrium trade-off model to mergers does not require assumption that pre-merger prices were perfectly competitive. See Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 712 (1977) ("[M]erging parties' possession of [p]reexisting market power . . . may be introduced easily into the basic model."); cf. *id.* at 706–07 & n.25 (explaining that the basic model assumes that merging firms are duopolists, and that threat of entry keeps pre-merger prices at a competitive level).

323. See, e.g., *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 104–09 (1984) (relying upon the district court's finding that removal of challenged restraints would reduce prices and increase output); see also *id.* at 89–90 (recounting how parties had adopted similar restraints in the early 1950s and enforced them throughout).

lower transaction costs more than offset any market power effects, while a lower price upon removal would indicate that the restriction created power that overwhelmed any efficiencies.³²⁴ Thus, while these restraints produce benefits supposedly not recognized by workable competition's trade-off model, that model in fact has no difficulty recognizing and incorporating such efficiencies within its central tool for evaluating trade practices.³²⁵ Like Newtonian mechanics, which produces useful results despite unrealistic assumptions, the partial equilibrium trade-off model can evaluate restraints that reduce certain forms of transaction costs, even while modeling them as changes in technology.³²⁶

By contrast, the second sort of arrangement produces non-technological efficiencies.³²⁷ These restraints have no impact on the underlying "engineering" cost of production. Moreover, such restraints do not arise in a vacuum, but accompany larger efforts to improve the economic *status quo ante* by manipulating variables other than the cost of production. For instance, as assumed above, such a restraint might accompany investments designed to alter the product the defendants were selling before the restraint.³²⁸ Indeed, such restraints may themselves facilitate and encourage the creation of a new product, as when members of a college sports league agree among themselves not to pay student-athletes a salary, thereby preserving the amateur quality of the product.³²⁹ Moreover, such restraints often facilitate promotional efforts that alter consumer preferences and shift the demand schedule for the defendants' product and alter its slope.³³⁰ Finally, and perhaps most importantly, the various specific investments that such restraints

324. See *id.* at 114 (noting that the district court's finding that restraints resulted in prices higher than those that would exist without them undermined defendants' claim of benefits).

325. Cf. KUHN, SCIENTIFIC REVOLUTIONS, *supra* note 58, at 78 (explaining how the incumbent paradigm resists challenges by adjusting itself through "numerous articulations and ad hoc modifications" to incorporate seemingly contradictory evidence).

326. Cf. Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1706 (1986) ("Newton's model of gravitation assumes a perfect vacuum. There aren't any perfect vacuums in this universe, but the model is still pretty useful—and it is useful even though Einstein showed it to be wrong. Newtonian dynamics, flawed as they are, give very good approximations for practical use by people sending Voyager 2 to Neptune or baseballs to home plate.").

327. See *supra* Parts II.B (defining and discussing "technological transaction costs") and II.C (defining non-technological transaction costs).

328. See *supra* notes 303–05 and accompanying text; see also *NCAA*, 468 U.S. at 103 (stating that contractual restrictions on horizontal rivalry were necessary to differentiate the NCAA's product from minor league sports); *Chi. Prof'l Sports Ltd. v. NBA*, 961 F.2d 667, 674–75 (7th Cir. 1992); *United States v. Topco Assocs.*, 319 F. Supp. 1031, 1042 (N.D. Ill. 1970) (finding that defendants would not have formed their venture without assurance provided by exclusive territories).

329. See *NCAA*, 468 U.S. at 100–02 (1984) (holding that horizontal agreement on players' salaries would avoid summary condemnation because unbridled rivalry would result in the degeneration of "amateur" football, associated with an academic tradition, to the equivalent of semi-pro football); Meese, *supra* note 29, at 158.

330. See, e.g., *Chi. Prof'l Sports*, 961 F.2d at 675–76.

accompany require the passage of time, thereby enhancing the risk of opportunism.³³¹ Such opportunism takes place when property rights are poorly specified, thereby providing incentives for some parties to exploit investments made by others, resulting in a disequilibrium allocation of resources, at least in the short run.³³²

The absence of well-specified property rights is itself a departure from the assumptions of perfect and workable competition.³³³ Such restraints survive per se condemnation precisely because they may overcome the sort of market failure that poorly-specified property rights may induce.³³⁴ By changing background rules, the restraints help create the well-defined property rights that perfect and workable competition assume in the first place, a right in the fruits of members' promotional expenditures.³³⁵ The existence of the rights will, of course, encourage promotion—a form of output—thereby facilitating product differentiation.³³⁶ Indeed, it may even encourage the formation of the venture in the first place.³³⁷ Thus, this second type of restraint has no impact on the technological costs of production, but instead, helps alter what firms choose to produce, how much they choose to promote it, and what consumers choose to buy.³³⁸

331. See, e.g., *id.* at 673–75 (explaining how the restraint accompanied the league's successful multi-year effort to enhance the attractiveness of its product *vis à vis* other entertainment and how, in 1980 and 1981, the league was so unpopular that the league championship was only televised on tape delay).

332. See, e.g., Armen A. Alchian & Harold Demsetz, *The Property Right Paradigm*, 33 J. ECON. HIST. 16, 22–25 (1973) (describing how a system of private property can transform a communal good characterized by underproduction into a private good); Demsetz, *supra* note 263, at 348–49 (discussing how well-defined property rights cause owners to internalize the social costs and benefits of their actions).

333. See YORAM BARZEL, *ECONOMIC ANALYSIS OF PROPERTY RIGHTS* 11–15 (2d ed. 1997); see also HAYEK, *supra* note 47, 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.”).

334. See *supra* notes 87–94, 314–16 and accompanying text (explaining how restraints survive per se condemnation for this reason).

335. See Bork, *supra* note 251, at 956 (suggesting that RPM confers the equivalent of property rights on dealers); Meese, *supra* note 250, at 595–607; cf. MICHAEL J. TREBILCOCK, *THE COMMON LAW OF RESTRAINT OF TRADE: A LEGAL AND ECONOMIC ANALYSIS* 252–53 (1986) (explaining that restrictive covenants enable business owners to realize the benefits of expected returns from investment in goodwill in the sale price of a business, by granting limited property rights in these assets to the purchaser).

336. See *supra* notes 244–52 and accompanying text; see also Robert H. Bork, *A Reply to Professors Gould and Yamey*, 76 YALE L.J. 731, 733–34 (1967) (discussing how promotional expenditures are indistinguishable from other forms of output).

337. See Meese, *supra* note 29, at 158 (explaining how the availability of efficient distribution devices may encourage firms to create and market new products).

338. See Bork, *supra* note 336, at 733–34 (describing how promotion can differentiate a product); Meese, *supra* note 29, at 158–60 (explaining how such non-standard contracts can facilitate product differentiation).

Given these characteristics of restraints that produce non-technological efficiencies, it should come as no surprise that the test applied under current law—based upon the partial equilibrium trade-off model—does not accurately appraise the impact of such restraints. Recall that the partial equilibrium model assumes well-specified property rights, production of an unchanged product, instantaneous market equilibria, constant demand for the defendants' product, and the absence of opportunism and other externalities. The model also assumes that only the state can eliminate externalities, via state ownership or rearrangement of state-created property rights.³³⁹ In this way, the model exemplifies Joe Bain's observation, consistent with Frank Knight's definition of perfect competition, that price theory investigates mainly "what performance would be with some given and fixed set of determinants, after some sort of stable balance or regular pattern of behavior has been reached in a given situation" and thus, does not "investigate very much the implications of changing determinants."³⁴⁰ At most the model recognizes two sorts of changes: economies of scale and enhanced market power.

Take current law's methods of determining whether a restraint results in "actual detrimental effects."³⁴¹ Under one of these methods, courts take a historical approach, asking whether the defendants' prices are higher, or output is lower, after the restraint than they were beforehand, without adjusting prices, or output, for product quality.³⁴² This approach—entirely consistent with the partial equilibrium model—assumes that price and output charged before the imposition of the restraint reflected an equilibrium and that demand for the product remains constant before and after the restraint.³⁴³ In this scenario, a new equilibrium of higher prices, or lower output, would readily indicate that the restraint facilitates the collective exercise of market power. Other explanations have been excluded by hypothesis.

However, the assumptions that undergird the application of the partial equilibrium model make no sense in this context. Once a defendant offers a plausible claim that a restraint produces non-technological efficiencies, there is no reason to assume that the pre-restraint price reflects a non-harmful or "competitive" benchmark the exceeding of which indicates an exercise of market power. Instead, it

339. See Meese, *supra* note 68, at 80 (stating that during the inhospitality era, economists assumed that only legal reform, and not market contracting, would overcome market failure and thus, externalities).

340. See BAIN, *supra* note 54, at 14; see also KNIGHT, *supra* note 35, at 79 (stating that the perfect competition model assumes that "given factors and conditions are...to remain absolutely unchanged").

341. See *supra* notes 102, 126 and accompanying text.

342. See *supra* notes 102-03, 126 and accompanying text.

343. See *supra* notes 56, 102-03, 126 and accompanying text.

seems just as plausible to assume that the pre-restraint price reflects a non-optimal combination of product quality, promotion, or both, as well as externalities, that is, a risk of opportunism.³⁴⁴ In these circumstances, one could say that, contrary to assumptions undergirding price theory, the restraint will *change* state-created background rules. This change will improve upon imperfect property rights, which in turn will facilitate a joint venture and associated promotion that will reallocate resources and thereby alter the content of economic activity, as compared to the pre-restraint baseline embraced by the partial equilibrium trade-off model. Thus, any apparent “increase” in price would have absolutely nothing to do with the collective exercise of market power, but would instead reflect a new, more efficient equilibrium brought about by the venture, product differentiation, and the accompanying restraint.³⁴⁵

What, however, about the other method of determining the impact of a restraint on prices or output—namely a thought experiment whereby the tribunal simply asks whether, if the restraint were removed, the defendants’ price would fall and output would rise?³⁴⁶ Such a hypothetical reduction in price and increase in output would indicate that imposition and enforcement of the restraint caused higher prices and reduced output. This approach would seem superior to a simple comparison of pre- and post-restraint prices, since this latter approach controls for specific investments, product differentiation, and promotion by ignoring pre-restraint prices. Thus, it would seem, such an approach to determining actual detrimental effects will isolate the impact upon price or output, and any market power effects, of the restraint itself, thereby correcting for the shortcomings of the historical approach.

Nonetheless, closer analysis reveals the flaw in this latter approach that produces the erroneous results described earlier. The outcome of a thought experiment is only as good as the implicit model that informs it. Here, that model suffers from various shortcomings that undermine the results of any thought experiment that relies upon it. Assume that the venture and the accompanying restraints have their intended impact, namely, specific investments in product creation and promotion, as well as a differentiated, well-promoted product. Assume that, subsequently, the parties involuntarily drop the restraint. Venture members will invade each others’ former territories, enhancing rivalry in the sale of venture products.³⁴⁷ Such rivalry will reduce prices and increase output. To the tribunal schooled in “rudimentary economics” and the application of the

344. See Meese, *supra* note 29, at 146–48.

345. See *supra* notes 41, 82–86 and accompanying text (explaining how product differentiation does not offend the antitrust laws and, in fact, benefits consumers).

346. See, e.g., *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 105–06 (1984).

347. See *United States v. Topco Assocs.*, 405 U.S. 596, 611 (1972) (assuming that restraint’s removal would have such an effect, even if “members may indeed ‘cut each other’s throats’”).

partial equilibrium paradigm, these changes in price and output would reflect the natural impact of competition tempering an exercise of market power—a movement from an anticompetitive equilibrium, imposed by the restraint, to a non-restraint equilibrium that is more “competitive.”³⁴⁸ Judged against this purportedly “competitive” baseline, then, the restraint apparently exercises market power and harms consumers.

This tribunal would be wrong. Instead of reflecting the salutary impact of competition upon market power, the price reduction imagined by this thought experiment would instead reflect inefficient opportunistic behavior by firms entering their partners’ erstwhile exclusive territories. Nothing in the scenario hypothesized depended upon a market structure conferring market power upon the defendants, even after the venture. Moreover, the restraint by hypothesis induced expenditures that, by their nature, would be sunk, that is, not useful in connection with other economic endeavors.³⁴⁹ Finally, these expenditures would differentiate the product and enhance consumer demand, resulting in higher prices.

A firm that entered a partner’s exclusive territories after removal of a restraint would presumably abjure promotional expenditures, choosing instead to exploit the incumbent’s sunk promotional investments, free riding on those expenditures already made.³⁵⁰ The new entrant could thus profitably underprice the incumbent, forcing it to match the prices charged by the entrant to remain in the marketplace. While the incumbent would suffer an accounting loss “on paper,” such prices would minimize its losses, given that the costs of promotion are sunk and thus, independent of the incumbent’s price or output.³⁵¹ Removal of the restraint would thereby result in higher output and reduced prices for the venture product, at least in the short run. Once the entrant has fully exploited the incumbent’s promotional investments, however, the incumbent will refuse to make additional investments of the same sort.³⁵² Moreover, the entrant itself will also refuse to make such investments. As a result, demand for the venture’s product will fall over the longer run, both output *and* prices will fall, and the entire venture may become unprofitable and shut down.

Thus, while removal of the restraint would reduce the defendant’s prices and increase output, thereby suggesting that the restraint itself *increases* prices and *reduces* output, this prediction would not suggest

348. *Cf.* Cal. Dental Ass’n v. FTC, 526 U.S. 756, 769–70 (1999) (explaining that courts should rely upon “a rudimentary understanding of economics” when determining whether a restraint, on its face, establishes a prima facie case).

349. *See* Klein, *supra* note 196, at 298–300 (describing the connection between sunk costs and opportunism).

350. *Cf.* Telser, *supra* note 196, at 87–91.

351. Klein et al., *supra* note 196, at 299 (explaining how reducing prices below sunk costs will not reduce the exploited party’s output).

352. *See* Telser, *supra* note 196, at 91.

that the restraint constitutes an exercise of market power, that is, the ability to raise price above cost by restricting output.³⁵³ Instead, higher prices associated with the restraint could just as well reflect the cost of additional, efficient promotion induced by the agreement.³⁵⁴ Nor would the price reduction or output increase imagined by the thought experiment be “pro-competitive.” Instead, the price reduction or output increase would reflect rivals’ opportunistic exploitation of product-specific promotional investment and below-cost pricing by the defendant. The prevention of such exploitation is, by hypothesis, the rationale for rejecting *per se* condemnation in favor of rule of reason treatment in the first place.³⁵⁵ Far from reflecting a more “competitive” price and output than that produced by the restraint, then, such exploitation and resulting lower price is the result of two departures from perfect (and workable) competition: the poor specification of property rights and opportunistic behavior—an externality—by venture members.³⁵⁶ This state of affairs is not an equilibrium or a stable solution that can provide a valid baseline against which to measure the effects of the restraint for antitrust purposes.³⁵⁷ Instead of reflecting a “competitive” or optimal mix of economic variables, analogous to the workably “competitive” market that animates the partial equilibrium trade-off model, this baseline reflects an unsustainable combination of price, output, and promotion.³⁵⁸

The “thought experiment” method of implementing current law ignores specific investments, product differentiation, and possible opportunism—all non-technological departures from perfect competition. As a result, this method improperly interprets the imagined price reduction and output increase following removal of the restraint as evidence that the agreement enhances defendant’s market power and produces prices and output that are “anticompetitive” compared to that

353. See generally William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937 (1981) (examining definition and measurement of market power relevant for antitrust law).

354. See Meese, *supra* note 29, at 150–51.

355. See *Cont’l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 51–57 (1977) (holding that the propensity of a restraint to reduce opportunistic free riding is a cognizable benefit, saving the restraint from *per se* condemnation).

356. Cf. KNIGHT, *supra* note 35, at 78–79 (explaining that perfect competition model assumes that individuals do not “prey upon” one another); Bowles & Gintis, *supra* note 69, at 84 (contending that price theory and the perfect competition model rested upon assumption that all market actors behaved as “Victorian gentlemen”); Makowski & Ostroy, *supra* note 69, at 490–91 (detailing the tendency of some devotees of perfect competition to assume away possibility of opportunism by fiat).

357. See *supra* note 56 and accompanying text (explaining how the partial equilibrium trade-off model assumes that pre-merger prices and output reflect stable equilibrium free of externality and market failure).

358. See Klein, *Transaction Cost Determinants*, *supra* note 256, at 357 (explaining that opportunistic exploitation of relationship-specific investments “is not a long-run equilibrium phenomenon”); Langlois, *supra* note 47, at 11–12.

which would occur upon removal of the restraint.³⁵⁹ In point of fact, however, the non-restraint baseline that is supposedly more “competitive” is entirely illusory—a state of affairs that parties would not rationally have chosen in the first place, because the imagined prices and output do not reflect the costs of production and associated promotion anticipated by the joint venture.³⁶⁰ Parties’ failure to achieve this inefficient non-equilibrium combination of price and output is not a “harm” for antitrust purposes, any more than a firm’s failure to price below cost.³⁶¹ Internalization of an externality sometimes leads to higher prices, and the Sherman Act does not require firms to adopt practices that maintain externality and destroy wealth. Measurement and “observation” are of little use if one does not know what one is looking for, or simply asks the wrong question.³⁶²

Take, now, the manner in which courts evaluate a defendant’s argument that its restraint produces efficiencies that overcome the harm presumed once a plaintiff makes out a prima facie case, in whatever manner. Under current law, such an argument can only succeed if the tribunal determines that, in fact, the restraint results in prices that are lower, or at least no higher, than those that would exist without the restraint.³⁶³ Indeed, courts have even gone so far as to hold that a purported benefit is not even cognizable unless it tends to reduce prices below the non-restraint level.³⁶⁴ This is the very same approach that courts currently take in the merger context.³⁶⁵

Such an approach would make perfect sense if defendants were claiming that their restraints produced technological efficiencies in an otherwise workably competitive market. In such cases the impact of a restraint upon price would signal whether efficiencies outweighed market

359. See *supra* note 29 and accompanying text (explaining that rule of reason analysis is premised on a search for exercise of market power that harms consumers).

360. Cf. *supra* notes 334–38 and accompanying text (explaining how some restraints can allow parties to capture the benefits of promotional investments and thereby increase promotional expenditures).

361. See generally Alan J. Meese, *Property, Aspen, and Refusals to Deal*, 73 ANTITRUST L.J. 81 (2005) (arguing that the Sherman Act does not require monopolists to sell output to rivals below cost); cf. HAYEK, *supra* note 47, at 100 (asserting that economists should judge the impact of real world rivalry by comparing results to those that could actually be obtained under alternative arrangements).

362. THOMAS S. KUHN, *The Function of Measurement in Modern Physical Science*, in THE ESSENTIAL TENSION, *supra* note 58, at 178, 213 [hereinafter KUHN, *The Function of Measurement*] (contending that “[g]o ye forth and measure’ may well prove only an invitation to waste time,” because “fruitful quantification” depends upon theoretical apparatus telling scientists what to look for); *id.* at 193 (theory tells scientists what quantifiable facts to look for); see also KARL POPPER, THE LOGIC OF SCIENTIFIC DISCOVERY 88 (Routledge Classics, 2002) (1959) (stating that true science needs a theoretical “point[] of view” to drive and inform its fact gathering).

363. See, e.g., NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 114 (1983); AGCC, *supra* note 99, § 3.37.

364. See Nat’l Soc’y of Prof’l Eng’rs v. United States, 435 U.S. 679, 693 (1978).

365. See JOINT MERGER GUIDELINES, *supra* note 120, § 4.0.

power effects to purchasers' benefit. However, the markets in question emphatically do not satisfy these assumptions, given the presence of specific investments, poorly-specified property rights, opportunism-related externalities, and market failure. Thus, the restraint produces efficiencies that may manifest themselves as prices higher, and output lower, than the pre-restraint baseline, or the price, or output, that would obtain after removal of the restraint.

C. THE PERSISTENCE OF THE PARTIAL EQUILIBRIUM PARADIGM

Current law's continuing failure properly to consider non-technological transaction costs may seem surprising. After all, the Supreme Court recognized that non-standard agreements can produce such "redeeming virtues" three decades ago, in the *Sylvania* decision.³⁶⁶ Moreover, the Court has repeatedly invoked the prospect of such benefits to justify their refusal to declare various restraints unlawful per se.³⁶⁷ Why, then, have these same actors simultaneously adopted a method of rule of reason analysis destined to condemn so many of these restraints?

For one thing, successful paradigms and the "mental sets" they embody are persistent and resist change; such resistance is part of their strength.³⁶⁸ Scientists, including social scientists, do not lightly abandon an analytical apparatus that has served them well, by illuminating and solving problems the discipline deems important.³⁶⁹ The partial equilibrium trade-off model and workable competition theory have served industrial organization and antitrust well, by illuminating and helping to solve a variety of antitrust problems by producing, or at least suggesting, workable rules to address issues such as product differentiation, mergers, internal expansion by monopolists, and economies of scale in concentrated industries.³⁷⁰ Finally, Williamson's

366. See *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 54–57 (1977).

367. See *supra* notes 90–94 and accompanying text.

368. See KUHN, *The Essential Tension*, *supra* note 58, at 225; *id.* at 232 (“[A] more flexible practice will not produce the pattern of rapid consequential scientific advance to which recent centuries have accustomed us. . . . Except under quite special circumstances, the practitioner of a mature science does not pause to examine the divergent modes of explanation or experimentation.”); *id.* at 229 (explaining how training that solidifies paradigms creates “mental sets” or “*Einstellungen*”); see also KUHN, *SCIENTIFIC REVOLUTIONS*, *supra* note 58, at 76–79 (entrenched paradigms resist change).

369. See KUHN, *SCIENTIFIC REVOLUTIONS*, *supra* note 58, at 76 (“So long as the tools a paradigm supplies continue to prove capable of solving the problems it defines, science moves fastest and penetrates most deeply through confident employment of those tools. The reason is clear. As in manufacture so in science—retooling is an extravagance to be reserved for the occasion that demands it.”); *id.* (adding that such retooling only occurs when there is a genuine scientific crisis); KUHN, *The Function of Measurement*, *supra* note 362, at 208–09 (noting that scientists cling to theories to which they are committed as long as possible).

370. See *supra* notes 80–86 and accompanying text; see also KUHN, *SCIENTIFIC REVOLUTIONS*, *supra* note 58, at 23 (“Paradigms gain their status because they are more successful than their competitors in

formalization of the model in the late 1960s, complete with a simple graphical visualization, made the model and its conclusions accessible to a much wider audience, facilitating its application by legal scholars and practitioners.³⁷¹

Moreover, as explained earlier, Coase's classic example of transaction costs—bargaining and information costs—were closely analogous to the sort of costs recognized by the partial equilibrium paradigm.³⁷² Scholars outside the context of industrial organization and antitrust defined “transaction costs” in the same way, without reference to opportunism or even integration.³⁷³ Thus, an enthusiastic recognition that integration could reduce transaction costs did not, on its face, call into question the utility of the partial equilibrium trade-off model, or the antitrust tests that it spawned.

Even subsequent expansions of the transaction cost concept by other scholars did not undermine any of the core conclusions of the trade-off model or workable competition, neither of which had arisen to evaluate non-standard agreements. It was Oliver Williamson, after all, a modern proponent of TCE, who also refined the trade-off paradigm as a vehicle for analyzing mergers that produce technological efficiencies.³⁷⁴ TCE offered new explanations for agreements that workable competition had explained as expressions of market power.³⁷⁵ These explanations entered the antitrust policy debate during the same period that scholars and policymakers expressed growing appreciation of the propensity of mergers and internal expansion to generate efficiencies via economies of scale, a propensity clarified by Williamson's formalization.³⁷⁶ Moreover, given the state of the law in the mid-1960s, when scholars began to rediscover Coase's insight and to identify new transaction costs, the main question before the courts and scholars was whether to expand or contract the scope of various per se rules.³⁷⁷ Scholars and appellate courts could answer this question without

solving a few problems that the group of practitioners has come to recognize as acute.”).

371. See sources cited *supra* note 60; see also Timothy J. Muris, *The Efficiency Defense Under Section 7 of the Clayton Act*, 30 CASE W. RES. L. REV. 381, 385–88 (1980) (invoking Williamson's partial equilibrium model to illustrate the possible trade-off between efficiency losses and gains in merger to monopoly).

372. See *supra* notes 199–210 and accompanying text.

373. See *supra* note 191 and accompanying text.

374. Williamson, *Antitrust Defense*, *supra* note 55.

375. See *supra* notes 180–98, 228–73.

376. See Williamson, *Delimiting Antitrust*, *supra* note 89, at 273 (“[During the 1970s] the social benefits of efficient resource allocation—to include the importance of [technological] economies as an antitrust defense—became much more widely appreciated.”).

377. See, e.g., *Russell Stover Candies, Inc. v. FTC*, 718 F.2d 256 (8th Cir. 1983) (delimiting the scope of the per se rule against minimum RPM).

determining *how* to conduct rule of reason analysis, which they often left to trial courts and juries on remand.³⁷⁸

Courts and scholars did turn to the content of rule of reason analysis in the early 1980s, just a few years after transaction cost analysis achieved its status as a competing paradigm for analyzing the antitrust implications of partial and complete integration.³⁷⁹ At the same time, decisions declaring partial integration subject to rule of reason analysis suggested that any benefits produced by such restraints coexisted with anticompetitive effects.³⁸⁰ It should come as no surprise, then, that scholars constructing standards for conducting rule of reason analysis would turn to (and extend) the very same paradigm used to evaluate mergers, oligopolistic concentration, and unilateral expansion by monopolists, a paradigm that readily handled transactions that both enhanced market power and produced efficiencies.³⁸¹ While application of these standards produced anomalies and puzzles of the sort described earlier, some lower courts have managed to avoid incorrect results by adopting ad hoc modifications of the standard approach, thereby staving off a crisis of confidence in the trade-off paradigm and slowing the emergence of an alternative.³⁸²

Moreover, post-TCE decisions that reached the Supreme Court did not provide useful vehicles for recognizing the impact of TCE's insights upon the partial equilibrium paradigm. One case, for instance, involved a restraint that avoided per se condemnation, because it reduced bargaining and information costs, costs analogous to the sort of

378. See, e.g., *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 25 (1979) (remanding without explaining how to conduct rule of reason analysis); see also *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 723–36 (1979) (affirming the lower court's application of the rule of reason to intrabrand restraint without elaborating on content of such analysis); *Cont'l T.V., Inc. v. GTE Sylvania Inc.* 433 U.S. 36 *passim* (1977) (same).

379. Dating the emergence of TCE as a competing paradigm would seem to be an inexact science. It seems safe to say, however, that the paradigm had fully emerged by 1980, if not before. Between 1974 and 1980, for instance, several scholarly publications expressly applied the transaction cost approach to discern the causes of complete and partial vertical integration. See, e.g., WILLIAMSON, *MARKETS AND HIERARCHIES*, *supra* note 239; Williamson, *Economics of Antitrust*, *supra* note 89; Klein, *Transaction Cost Determinants*, *supra* note 256; Klein et al., *supra* note 196.

380. See *Sylvania*, 433 U.S. at 49 (explaining that courts conduct rule of reason analysis by “weighing” various variables bearing on the impact of the restraint); *id.* at 57 n.27 (asserting that courts can properly “balance” a restraint's impact on intrabrand competition against the impact on interbrand competition).

381. See KUHN, *The Essential Tension*, *supra* note 58, at 233 (“[M]uch of the research undertaken within a scientific tradition . . . [consists of] the extension of existing theory to areas that it is expected to cover but in which it has never before been tried.”); see also *supra* notes 55–62 and accompanying text.

382. See KUHN, *SCIENTIFIC REVOLUTIONS*, *supra* note 58, at 78 (noting that a paradigm's practitioners adopt ad hoc modifications conforming theory with inconvenient facts); *id.* at 76 (opining that practitioners only retool useful paradigms when crisis demands it); see also *supra* notes 141–46 and accompanying text (detailing efforts by lower courts to avoid implications of straightforward application of standard model).

technological production costs already recognized by the partial equilibrium model.³⁸³ Another involved an assertion that purchasers could not be trusted to make tradeoffs between price and quality, a benefit the Court properly rejected as non-cognizable.³⁸⁴ Finally, in *NCAA*, the Court rejected per se condemnation of the challenged restraints on price and output, without identifying any particular redeeming virtues the restraints might create.³⁸⁵ Thus, the Court's ensuing rule of reason analysis did not have to confront any assertion that the restraint produced non-technological efficiencies.³⁸⁶ While the Court has addressed numerous vertical restraints that could produce non-technological benefits, it has in each such case simply rejected per se condemnation without attempting to conduct its own rule of reason analysis.³⁸⁷ Given the stickiness of paradigms, these cases did not result in the sort of anomaly-driven crisis that would lead to a repudiation of the partial equilibrium framework. Litigants hoping to undermine the current test must select and frame cases in a manner that squarely presents the conflict between the trade-off paradigm and the lessons of TCE.

Finally, the law's erroneous analysis of restraints that reduce non-technological transaction costs likely flows from the intuitive assumption that a restraint that *reduces* transaction costs, or otherwise produces benefits, will tend to *reduce* prices when compared to a world with no such restraint. This intuition flows naturally from price theory's so-called partial equilibrium trade-off model, discussed earlier.³⁸⁸ Nor has it helped, in this respect, that prominent scholarly advocates of the transaction cost approach have incorrectly invoked "price theory" in support of their arguments.³⁸⁹ It should come as no surprise, then, that generalist judges, for instance, have clung to a seemingly straightforward

383. See *Broad. Music*, 441 U.S. at 20–21.

384. See *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 693–97 (1978).

385. See *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 109–13 (rejecting per se condemnation of restraints before the Court, because certain restraints not before the Court were necessary to make the venture function).

386. See *id.* at 104–20.

387. See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 908 (2007); *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 768 (1984); *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 722–26 (1979); *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 57–59 (1977); see also William H. Page, *The Chicago School and the Evolution of Antitrust: Characterization, Antitrust, Injury and Evidentiary Sufficiency*, 75 VA. L. REV. 1221 (1989) (arguing that antitrust doctrine had evolved gradually in the previous decades by, inter alia, gradual revision in the scope of per se rules).

388. See *supra* notes 55–57 and accompanying text (describing partial equilibrium model and its application to antitrust problems).

389. See *supra* note 251 and accompanying text (explaining that Richard Posner and Robert Bork claimed that proper antitrust analysis of non-standard agreements rested on "basic price theory").

price-based standard that purports to identify instances in which restraints harm consumers.³⁹⁰

IV. REFRAMING RULE OF REASON ANALYSIS

What, then, is the proper baseline from which to analyze restraints that purport to reduce non-technological transaction costs? To answer this question, it is useful to return to the example considered—but not published—by Coase in 1932, that of a supplier that makes relationship-specific investments to satisfy unique demands of a particular customer.³⁹¹ Coase opined that the supplier may fear that, after the investment, the customer might switch suppliers, or threaten to do so as a way of exploiting the relationship-specific investments.³⁹² Such exploitation, of course, would take the form of the customer's demand that the supplier *reduce* the price of the input, perhaps even below the supplier's total unit costs. As a result, a supplier contemplating a relationship-specific investment would minimize the expected cost of producing the good in question, if it could obtain some assurance through partial or complete integration that the customer would not take its business elsewhere, but would instead deal exclusively with the supplier.³⁹³ Or, viewed from the customer's perspective, purchasing the new input on the "open market," free from contractual restraint, would entail a higher price than purchase pursuant to some sort of restraint.³⁹⁴ The purchaser could also minimize these costs if it integrated backwards and thereby took on the task of supplying its own needs.³⁹⁵

Courts employing a partial equilibrium approach when evaluating such agreements would ask whether removal of the restraint would result in a lower price, thereby suggesting that enforcement of the restraint results in market power. Given the manner in which courts conduct this analysis, removal of the restraint "midstream" would in fact appear to *reduce* prices, as purchasers exploited the seller's sunk investments by demanding price cuts, thus giving rise to a *prima facie* case.³⁹⁶ Moreover, even if a defendant could demonstrate that the restraint produces benefits, such benefits would not manifest themselves as reduced prices,

390. See HOWARD MARGOLIS, *PARADIGMS & BARRIERS: HOW HABITS OF MIND GOVERN SCIENTIFIC BELIEFS* 29–42 (1993) (arguing that entrenched mental habits based on common perceptions can constitute "barriers" preventing scientists from recognizing superior paradigms).

391. See Coase, *Origin*, *supra* note 177, at 13.

392. *Id.* at 12.

393. *Id.* at 13; see also Klein et al., *supra* note 196, at 298–302 (making a similar point well before publication of Coase's 1932 correspondence).

394. See Coase, *Origin*, *supra* note 177, at 12–13.

395. *Id.* at 13 ("[T]he risks inherent in this condition of bilateral monopoly may make the capital costs so high that it is cheaper for the original consuming firm to produce [inputs] itself even though the actual operating efficiency is less.").

396. See *supra* note 105 and accompanying text.

but would instead tend to increase prices as compared to the *status quo ante*. Current law would thus condemn a restraint that in fact enhanced consumer welfare.

There is, however, another approach to consider, involving a baseline that requires a different thought experiment. Courts evaluating such a restraint could imagine a state of affairs—and resulting prices, quality, and output—that would obtain if the supplier incurred the cost of the hypothesized specific investment and produced the resulting differentiated product, but *did not* employ a non-standard contract to safeguard its specific investment through some degree of exclusivity. In this world, the supplier would incur *both* the cost of the new equipment *and* the transaction cost due to the resulting risk of customer opportunism.³⁹⁷ As a result, the supplier would charge more, and produce less, than it would if it could restrain the purchasing decisions of its customer by contract.

Conducted against this baseline, the tests employed by the courts and enforcement agencies would work just fine. After all, partial or complete integration by a firm that has already made a specific investment that exposes it to opportunism will reduce the costs that the supplier will incur, increase its output, and reduce the price it will charge for the product produced with the new equipment.³⁹⁸ Thus, if our hypothetical supplier obtains some form of exclusivity from its customer, it will no longer face a prospect of opportunism that will induce it to charge a premium for the newly-differentiated product. Therefore, the firm's prices will fall and output will rise "as a result of the restraint."³⁹⁹ A test that focuses on the price charged by the defendant measured against the properly hypothesized baseline will therefore conclude that the restraint in question will, in fact, reduce prices. As a result, a plaintiff will not be able to establish a *prima facie* case against this sort of beneficial integration under this test.

It should be noted that the baseline just described is not necessarily hypothetical. There may, for example, be instances in which a firm initially—and perhaps mistakenly—makes the specific investment in question, without simultaneously adopting a contractual safeguard. In these cases, the investing firm will suffer the relevant costs of opportunism *after* this investment and, in some cases anyway, will attempt to raise its prices accordingly to compensate for this risk. Moreover, if the firm then adopts a contractual safeguard, its costs will

397. See Coase, *Origin*, *supra* note 177, at 13 (explaining that specialized investment would raise the cost of capital absent some guarantee against opportunism).

398. See *supra* notes 230–38 and accompanying text.

399. See WILLIAMSON, *supra* note 66, at 32–35 (asserting that a restraint reducing the prospect of opportunism will reduce the price charged by the proponent of the restraint); Coase, *Origin*, *supra* note 177, at 12–13 (same).

fall, and it may reduce its prices accordingly. Indeed, the prospect of such reduced prices would induce the firm's trading partners to agree to the new safeguard in the first place.⁴⁰⁰ In cases such as this one, the *status quo ante* will be that situation in which the firm has made the specific investment without the safeguard, thereby exposing the firm to cost-raising opportunism. The restraint in question will, therefore, actually reduce the costs that the firm incurs and thus may reduce the prices it charges consumers, with the result that current doctrine will achieve the correct result, it seems.

Scenarios like the one just discussed will be less prevalent than one may initially think, however. For one thing, firms that are victims of unanticipated opportunism may not be able to raise their prices to reflect an exploitation of sunk costs, at least in the short run. Indeed, the paradigmatic example of opportunism that Coase invoked involved a purchaser's demand that a supplier *reduce* its price *below* its total costs, some of which are sunk to the relationship in question.⁴⁰¹ In these circumstances, the addition of a restraint will not reduce prices; it may even increase them, by depriving the customer of the ability to exploit the supplier by threatening to take its business elsewhere. Moreover, if opportunism has forced the supplier to keep its price down, it is not clear how the supplier will then be able to induce its opportunistic trading partners to agree to such a provision.

In any event, a specific investment *without* a contractual safeguard and the resulting high price will not constitute an equilibrium and thus is not likely to occur in the "real world." Like price theory, transaction cost economics depends upon the assumption that market participants, including our hypothetical purchaser and supplier, are rational and forward looking.⁴⁰² As such, these participants will at least attempt to anticipate the sort of opportunism that can follow specific investments and, where possible, will guard against such behavior via complete or partial integration.⁴⁰³ Indeed, firms that devise methods of combating such opportunism will thrive *vis à vis* those that do not, regardless whether they know why they are thriving.⁴⁰⁴ Thus, it seems logical to

400. See WILLIAMSON, *supra* note 66, at 32–35; see also Alan J. Meese, *Price Theory and Vertical Restraints: A Misunderstood Relation*, 45 UCLA L. REV. 145, 184–89 (1997) (explaining how a price differential can induce an agreement to a provision reducing opportunism).

401. See Coase, *Origin*, *supra* note 177, at 13; Klein et al., *supra* note 196, at 298–99.

402. See WILLIAMSON, *supra* note 66, at 44–46.

403. See Williamson, *supra* note 188, at 72 ("The main case to which transaction cost economics subscribes has been stated by Frank Knight as follows: 'Men in general, and within limits, wish to behave economically, to make their activities *and their organization* 'efficient' rather than wasteful. This fact does deserve the utmost emphasis. . . .'" (citations omitted) (quoting Frank H. Knight, *Anthropology and Economics*, 53 J. POL. ECON. 247, 252 (1941))).

404. See Armen A. Alchian, *Uncertainty, Evolution, and Economic Theory*, 58 J. POL. ECON. 211, 216 (1950) (contending that firms that adopt optimal responses to their economic environment will

assume that most real world specific investments that expose the investing party to the prospect of opportunism will be accompanied, ex ante, by some mechanism, at least, that protects the investing firm from opportunism.⁴⁰⁵ Thus, in most cases examining non-standard contracts, courts will not be able to identify a real world baseline of price or output that accompanies pre-restraint specific investments. A legal test calibrated to evaluate conduct by irrational firms not likely to survive in the marketplace will not produce useful results.

If parties, in fact, avoid opportunism by imposing certain restraints ex ante, then courts and enforcement agencies will have to construct a purely hypothetical baseline, that is, imagine a world in which the defendants make relationship-specific investments that give rise to product differentiation, but *do not* impose such a restraint. Having imagined such a world, the tribunal can compare the hypothetical non-restraint price or output to that which accompanies the restraint.

To determine whether the hypothesized price or output is higher or lower than that which actually prevails in the market place, a tribunal will have to predict the impact of the restraint based upon an assessment of its potential benefits and market power effects. The mere fact that such a restraint *could* produce such benefits does not mean that it will do so. At the same time, the mere fact that the restraint reduces or eliminates rivalry that would otherwise occur—in this scenario by preventing a customer from taking her business elsewhere—does not thereby establish anticompetitive harm. Nor, of course, would proof that the restraint produced higher prices, or reduced output as compared to the improper baselines employed by current law.⁴⁰⁶ Instead, courts would have to determine directly whether, given the structure of the marketplace (including the ease with which new firms may enter), the restraint in question could possibly enhance or protect market power of the parties to it.⁴⁰⁷ Moreover, if market structure is conducive to such

survive and thrive relative to those that do not, even if they do not fully understand those conditions or know their particular practices are the optimal response to them); Coase, *Nature of the Firm: Influence*, 4 J.L. ECON. & ORG. 33, 39–40 (1988) (noting that competition will induce firms to adopt the proper degree of contractual integration).

405. These mechanisms need not take the form of non-standard contracts subject to § 1 of the Sherman Act. See e.g., WILLIAMSON, *supra* note 66, at 47–48 (stating that firms can sometimes minimize the risk of opportunism by selecting trading partners with lower propensity of such behavior); Klein & Saft, *supra* note 256, at 348 & n.15 (describing a chain restaurant that established franchises in neighborhoods to increase repeat customers and reduce opportunism).

406. See *supra* notes 102–06 and accompanying text (describing baselines employed by current law).

407. See, e.g., *Rothery Storage & Van Co. v. Allied Van Lines, Inc.*, 792 F.2d 210, 216–21 (D.C. Cir. 1986) (finding that defendant's small share of an unconcentrated market undermined plaintiff's claim that the challenged restraint produced anticompetitive harm); *Krattenmaker & Salop*, *supra* note 136, at 253–67; see also AGCC, *supra* note 99, § 3.5 (articulating standards that enforcement agencies employ to determine whether entry by new firms may deter or prevent exercises of market power).

harm, tribunals would have to examine directly whether, in fact, the restraint produces the sort of benefits the defendant attributes to it, as well as the magnitude of such benefits. If the restraint does produce significant benefits, then tribunals would have no choice but to determine whether those benefits offset the harm identified at the first step. The results of this inquiry will, of course, replicate the results of an inquiry into whether the heightened risk of opportunism incurred without the restraint (the reframed baseline) would result in higher or lower prices than those associated with the restraint. In short, contrary to the approach that courts and agencies currently take, reframing rule of reason analysis along the lines suggested here would eliminate shortcuts and require courts to do the heavy lifting of determining whether, in fact, the restraint produces anticompetitive harm and, if so, whether that harm predominates.

CONCLUSION

Science employs tested paradigms to solve problems deemed important by the community, and economic science is no exception. For decades now, economists and legal scholars have employed workable competition's partial equilibrium trade-off model to evaluate numerous practices governed by the Sherman Act. Moreover, application of this paradigm has produced useful evaluations of much conduct, including mergers and unilateral conduct, such as expansion that both realizes economies of scale and creates or fortifies monopoly power.

At the same time, workable competition and its trade-off model produced misleading evaluations of non-standard contracts that may reduce non-technological transaction costs. To be precise, this framework led economists to interpret such agreements as market-power based restrictions on rivalry, restrictions that produced no offsetting (technological) efficiencies. For several decades, this hostility manifested itself as various *per se* rules condemning numerous non-standard agreements.

More recently, so-called transaction cost economics has offered an alternative account of such agreements. That is, TCE contends that such agreements reduce the cost of relying upon atomistic markets to conduct economic activity. Such costs take two forms: technological transaction costs and non-technological transaction costs. TCE has not gone unheeded. Instead, courts and the enforcement agencies have relied upon TCE's teachings to contract the scope of *per se* rules, holding that numerous restraints, once condemned outright as unlawful *per se*, should now be analyzed under the rule of reason.

Nonetheless, the standard methodology for conducting rule of reason analysis still reflects significant influence of the partial equilibrium trade-off paradigm, whereby courts attempt to assess

whether the restraint produces harm in the form of enhanced market power and to compare any such harm with the benefits produced by the restraint. In so doing, courts and agencies treat the price or output that existed before the restraint as a valid baseline against which to measure the impact of a challenged agreement. Where there is no such baseline, courts perform a sort of thought experiment, asking a hypothetical question, namely whether price would rise (or output would fall) if the restraint were removed. Both baselines make perfect sense within the partial equilibrium framework, which assumes away the possibility of transaction costs, opportunism, and shifts in demand for the underlying product.

TCE represents a genuine scientific revolution that undermines workable competition's interpretation of non-standard contracts. One might therefore expect that any rule of reason test based upon this framework is bound to fail. In point of fact, however, the partial equilibrium trade-off paradigm can produce useful analyses of agreements that may reduce technological transaction costs, that is, the sort of bargaining and information costs on which Ronald Coase focused in his seminal work on the subject. Such costs, it turns out, are analogous to the sort of technological production costs normally recognized within workable competition and its partial equilibrium trade-off paradigm. Thus, application of the current method of rule of reason analysis to restraints that yield such benefits will produce correct results.

Current law fares far less well when analyzing restraints that may reduce non-technological transaction costs. Such costs exist because of several departures from workable competition, departures not incorporated with the partial equilibrium trade-off paradigm. Such unrecognized departures include specific investments that may enhance demand for the defendant's product, the passage of time between investment and payoff, and the threat that these conditions will give rise to opportunistic behavior and, thus, externalities. These departures render useless the baselines that courts currently employ when evaluating the impact of challenged restraints. To be precise, the application of such baselines excludes the possibility that apparent price increases or reductions in output reflect the opportunism-reducing effects of such restraints. Such effects would naturally manifest themselves as increased specific investment, including investment in promotion, investments that could enhance demand—and thus price—for the new product in question. While removal of the restraint could appear to result in reduced prices, or even higher output in some cases, such prices and output would reflect suboptimal specific investments and/or the opportunist exploitation of investments already made.

Courts' continued application of the trade-off paradigm to contracts that produce non-technological efficiencies seems puzzling at first, since

judges have relied upon TCE when contracting or eliminating numerous *per se* rules. Closer analysis, however, helps explain the persistence of this error. The trade-off paradigm has served antitrust well, solving problems deemed important by the antitrust community. Moreover, the transaction costs that Coase initially identified were readily incorporated within the partial equilibrium framework, given their similarity to technological production costs. Finally, Supreme Court decisions examining non-standard contracts have arisen in procedural or factual contexts that obscured, or obviated altogether, any conflict between TCE and the trade-off model. Thus, the rise of TCE has not resulted in the sort of crisis-generating anomalies that cause practitioners to question or reform a settled paradigm.

The realization that the rule of reason analysis of restraints that overcome non-technological transaction costs rests upon improper baselines requires courts and agencies to reframe their analysis of such restraints so as to achieve correct results. Such reframing entails the selection of a new baseline against which to measure the impact of challenged restraints. That is, courts should select as a baseline the price and output that would prevail in the marketplace if the defendants entered the venture in question and made investments specific to that venture, but without the challenged restraint. In this way, tribunals can determine the impact of the restraint itself, while holding all other variables constant. Proper application of this standard can distinguish restraints that reduce the welfare of consumers from those that enhance it.
