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Daniel A. Crane

University of Michigan Law School, dancrane@umich.edu

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MARKET POWER WITHOUT MARKET DEFINITION

Daniel A. Crane*

ABSTRACT

Antitrust law has traditionally required proof of market power in most cases and has analyzed market power through a market definition/market share lens. In recent years, this indirect or structural approach to proving market power has come under attack as misguided in practice and intellectually incoherent. If market definition collapses in the courts and antitrust agencies, as it seems poised to do, this will rupture antitrust analysis and create urgent pressures for an alternative approach to proving market power through direct evidence. None of the leading theoretic approaches—such as the Lerner Index or a search for supracompetitive profits—provides a robust solution. Further, one of the core premises in modern antitrust analysis—that the presence of high entry barriers is necessary to market power—is deeply flawed. Counterintuitively, the higher the entry barriers, the less likely it is that (1) the accused firm engaged in anticompetitive conduct and (2) the market would have been more competitive but for the alleged conduct. A robust approach to market power would require a tight nexus between the challenged conduct and a plausible competitive counterfactual. This Article articulates first principles of market power, diagnoses sources of confusion in the current caselaw, and scrutinizes the recognized methods of proving market power without reliance on market definition and market shares.

INTRODUCTION

Market power is an indispensable element in all antitrust cases except for those arising under the Sherman Act's rule of per se illegality.¹ Merger, monopolization, and rule of reason cases—the bulk of antitrust—require proof of market power to establish liability.² A showing of defendant market

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* Associate Dean for Faculty and Research and Frederick Paul Furth, Sr. Professor of Law, University of Michigan.

1 2B PHILLIP E. AREEDA ET AL., *ANTITRUST LAW* ¶ 500, at 107 (3d ed. 2007) (describing the importance of the market power requirement in antitrust cases).

2 See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 886 (2007) (describing the rule of reason as “an inquiry into market power and market structure designed to assess [a restraint’s] actual effect” (alteration in original) (quoting *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 768 (1984)) (internal quotation marks omitted)); *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966) (describing possession of monopoly power as an indispensable element in monopolization cases under section 2 of the Sherman Act); U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, *HORIZONTAL MERGER GUIDELINES* § 1, at 2 (2010), available at <http://www.justice.gov/atr/public/guide>

power has long been a “screen” through which plaintiffs must pass before advancing the merits of their complaint.³ Traditionally, courts have required plaintiffs to prove market power by showing the defendant’s share of a properly defined relevant market and then examining other structural factors such as entry barriers, demand elasticity, pricing transparency, and customer strength.⁴ Market definition has been the necessary first step in this analysis and, because of its technical difficulty, a breaking point for many antitrust complaints.⁵

In recent years, however, traditional market definition has come under severe attack in the legal academy and in the antitrust agencies. In 2010, the Justice Department and the Federal Trade Commission (FTC) drastically revised their Horizontal Merger Guidelines (Horizontal Merger Guidelines or Guidelines) and demoted market definition from the critical starting point to merely one available tool in merger cases.⁶ Afterwards, Louis Kaplow, one of the most widely respected theorists of antitrust, published an article in the *Harvard Law Review* essentially calling the entire enterprise of market definition intellectually bankrupt and questioning whether market definition should ever be required.⁷ Shortly thereafter, Herbert Hovenkamp, another highly respected antitrust academic and the senior author of the extraordinarily influential *Areeda Antitrust Law* treatise,⁸ pub-

lines/hmg-2010.html [hereinafter HORIZONTAL MERGER GUIDELINES] (“The unifying theme of these Guidelines is that mergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise.”).

3 Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 17–18 (1984) (proposing market power screens in antitrust litigation).

4 2B AREEDA ET AL., *supra* note 1, at 107–34 (describing methods of proving market power based on a market definition approach).

5 See, e.g., Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129, 129 (2007) (“Throughout the history of U.S. antitrust litigation, the outcome of more cases has surely turned on market definition than on any other substantive issue.”); Howard A. Shelanski, *Antitrust Law as Mass Media Regulation: Can Merger Standards Protect the Public Interest?*, 94 CALIF. L. REV. 371, 415 (2006) (describing market definition as a stumbling block in merger cases); Avishalom Tor & William J. Rinner, *Behavioral Antitrust: A New Approach to the Rule of Reason After Leegin*, 2011 U. ILL. L. REV. 805, 860 n.318 (describing market definition as a stumbling block in rule of reason cases).

6 HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 4, at 7. On the reduced importance of market definition in the 2010 Horizontal Merger Guidelines, see Larry Fullerton, *Introduction: 2010 Horizontal Merger Guidelines*, ANTITRUST, Fall 2010, at 8.

7 Louis Kaplow, *Why (Ever) Define Markets?*, 124 HARV. L. REV. 437, 440 (2010) (arguing that the market definition process should be abandoned).

8 On the influence of the Areeda treatise, see Daniel A. Crane, *Antitrust Modesty*, 105 MICH. L. REV. 1193, 1193 (2007). Justice Breyer has remarked that “most practitioners would prefer to have two paragraphs of Areeda’s treatise on their side than three Courts of Appeals or four Supreme Court Justices.” Justice Stephen Breyer, *In Memoriam: Phillip E. Areeda*, 109 HARV. L. REV. 889, 890 (1996). In a recent oral argument, Justice Breyer deified Areeda, although he was uncertain whether Areeda should count as a “major” or “minor” deity. Transcript of Oral Argument at 22, Fed. Trade Comm’n v. Actavis, Inc., 133 S. Ct. 2223 (2013) (No. 12-416), available at http://www.supremecourt.gov/oral_argu

lished a paper questioning the need to define markets in merger cases.⁹ Given these and other developments, the handwriting is on the wall for market definition.

If market definition falls, so does the entire structure of analysis built on top of it—which is to say, a whole lot of antitrust law—unless a suitable replacement can be found. But there is no clear candidate to take the place of traditional market definition as an indirect means of proving market power. While some caselaw recognizes the theoretical availability of “direct” approaches to proving market power¹⁰ and academic theories abound, the existing theories and doctrines are a smorgasbord of incompatible and often incoherent recipes. Antitrust’s analytical core is crumbling and there is no clear replacement.

What is more, some of the key conventional understandings of market power turn out to be misguided. Most fundamentally, antitrust law has generally conceived of market power in an absolute sense by comparing the actual market to some textbook ideal market, without regard to whether the market in question could possibly resemble the ideal market given its economic properties. But market power only makes sense as an expression, in relative terms, of the distance between the market as it is and a competitive counterfactual—the market as it reasonably could be absent anticompetitive conduct. Since antitrust policy aims to reduce the delta between a plausible competitive counterfactual and the actual circumstances, market power should be understood as that delta—the infirmity that antitrust law could correct.

As a result of this grounding misconception, antitrust law has made assumptions about market power that are imprecise, overstated, and potentially misleading. Two are particularly important. First, conventional wisdom holds that the higher the barriers to market entry, the more likely that the firms in the market have engaged in anticompetitive conduct.¹¹ But the relationship between entry barriers and the competitive counterfactual is not

ments/argument_transcripts/12-416.pdf (“I mean, Professor Areeda, who is at least in my mind a minor deity in the matter, in this area, if not major, he explains it.”).

9 Herbert Hovenkamp, *Markets in Merger Analysis*, 57 ANTITRUST BULL. 887 (2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1945964.

10 See *infra* Section I.C. See generally 2B AREEDA ET AL., *supra* note 1, at 135–224 (describing indirect methods of proving market power).

11 See, e.g., *United States v. Falstaff Brewing Corp.*, 410 U.S. 526, 559 (1973) (Marshall, J., concurring) (asserting that the dangers of anticompetitive conduct are “especially intense when the market is already highly concentrated or entry barriers are already unusually high”); *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 285 (3d Cir. 2012) (affirming a jury verdict for a plaintiff in a monopolization case and observing that the record showed that entry barriers were “especially high”); *Sterling Merch., Inc. v. Nestlé, S.A.*, 656 F.3d 112, 125 (1st Cir. 2011) (rejecting plaintiff’s claim that high entry barriers facilitated defendant’s allegedly anticompetitive scheme based on finding that there have been other successful new entrants into the market); *Ball Mem’l Hosp., Inc. v. Mut. Hosp. Ins., Inc.*, 784 F.2d 1325, 1335 (7th Cir. 1986) (noting that “the lower the barriers to entry, and the shorter the lags of new entry, the less power existing firms have”).

always linear. As structural entry barriers become higher, the firms in the market have *reduced* incentives to expend capital to exclude rivals since it is decreasingly likely that rivals will be able to enter even absent exclusionary conduct. Hence, the generic probability that firms have engaged in anticompetitive conduct decreases as entry barriers become higher. Similarly, as entry barriers become higher, it is decreasingly likely that there is a competitive counterfactual—a but-for world in which the market is more competitive. Hence, the kind of market power that should be most concerning in exclusion cases is the middling power that arises from markets where entry barriers are surmountable absent anticompetitive conduct. Markets with very high entry barriers—the focus of current market power principles—should be of less interest to antitrust policy on exclusion.

Second, relationships between revenues and costs are only weakly correlated with the normative functions that the market power inquiry is supposed to serve. Thus, for example, the Lerner Index—the leading “direct” measure of market power—quantifies market power based on the excess of price over marginal cost since firms should price at marginal cost under conditions of perfect competition.¹² But using perfect competition as the baseline from which to judge market power in antitrust cases is unworkable since perfect competition cannot exist in markets with differentiated goods and high fixed costs¹³—which is to say, most of the markets where market power is of interest to contemporary antitrust. Other profitability measures proposed in academic literature or caselaw are similarly defective.

Beyond entry barriers and profitability margins, extant caselaw and academic literature propose a number of other criteria to judge market power directly—that is to say, without resort to market definition and market shares. Some of the proposed criteria, such as the presence of price discrimination or the exclusion of competition, are economically unsound or circular. Others, such as diversion ratios, pricing discontinuity, and competitive benchmarking, may be helpful under some circumstances, but pose considerable risks of error and usually cannot suffice to demonstrate market power without confirmation by other criteria. The upshot is that, at present, direct proof of market power is a basket of broken or incomplete tools. Even if the broken tools were discarded, the remaining ones would be unsuitable for proving market power standing alone or, often, even in combination. For all of its perhaps damning faults, the market definition/market share paradigm prescribed a systematic and deductive approach to proving market power. Its demise leaves courts and antitrust agencies groping to analyze market power issues on an ad hoc and inductive basis.

This Article aims to provide a coherent analytical framework for discussing market power in general and direct proof in particular. No set of tools for determining the existence of market power, whether directly or other-

12 Abba P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 REV. ECON. STUD. 157, 161 (1934); see also William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 939 (1981).

13 See *infra* text accompanying notes 148–57.

wise, will be effective unless it begins with analytically sound first principles about how the market power inquiry serves antitrust law's normative aspirations. Thus, Part I of this Article provides grounding principles for inquiries into market power. In particular, it introduces the key concept of the competitive counterfactual, which reorients antitrust law from its current assumptions about perfectly competitive markets toward a more realistic appraisal of plausible competitive scenarios given inherent market features. It also briefly summarizes the infirmities of the "indirect" market definition based approach and the current confusion in the caselaw on direct proof of market power.

Part II critically evaluates the leading contenders for proving market power directly. Some of them, like using profitability margins, the existence of price discrimination, or proof of exclusion of competition, are misguided and should be discarded altogether. Others, like entry barriers, diversion ratios, pricing discontinuity, and competitive benchmarks may be helpful in some cases, although only with awareness of the many potential pitfalls. What emerges after the brush clearing is that current caselaw and academic theory have not yet provided a robust and comprehensive approach to proving market power and that antitrust law will be largely starting from scratch, with a few scattered and incomplete tools, if it moves away from the market definition/market share paradigm.

Part III concludes with four case studies illustrating how a reexamination of first principles of market power could improve antitrust analysis even given the current incomplete toolkit. It considers the analysis of market power in four technology-intensive markets—computer operating systems, Internet search engines, e-books, and pharmaceuticals—and suggests how conventional wisdom on market power might lead to misleading results in those cases.

I. GROUNDING PRINCIPLES

A. *First Principles: The Competitive Counterfactual*

Today there is a wide consensus that the primary, if not exclusive, goal of antitrust law is to promote economic efficiency and consumer welfare by deterring firms from subverting the competitive process and thus deriving the power to reduce output, price above competitive levels, and stymie innovation.¹⁴ Apart from *per se* offenses where market power is assumed as a rule of judicial convenience,¹⁵ antitrust claims¹⁶ reduce to two fundamental ele-

14 The Supreme Court has repeatedly referred to the antitrust laws as "a consumer welfare prescription." *NCAA v. Bd. of Regents*, 468 U.S. 85, 107 (1984) (quoting *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979)) (internal quotation marks omitted).

15 See *FTC v. Superior Court Trial Lawyers Ass'n*, 493 U.S. 411, 430–31 (1990) (holding that lack of market power is not a defense in a *per se* case); *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 744 n.7 (1988) ("There is no doubt that horizontal intrabrand price fixing is *per se* illegal, even if the conspirators lack the market power to affect inter-brand competition in a manner that would violate the rule of reason."); *Arizona v. Mari-*

ments: (1) the actual presence or dangerous likelihood of market power; and (2) anticompetitive conduct creating, retaining, or enlarging that market power. This is most obvious in the two-part definition of monopolization under section 2 of the Sherman Act,¹⁷ but is also apparent in multi-factored rule of reason analysis, which ultimately reduces to proof that the defendant has market power and has obtained it through agreements not reasonably necessary to secure efficiencies.¹⁸

Before elaborating further on the market power element, a word on two possible objections to this reductionism. First, in challenges to unconsumated mergers (which is most merger challenges)¹⁹ and in attempted monopolization cases,²⁰ actual market power is not an ingredient of the case since, by definition, the merging firms have not yet obtained the prohibited power and the would-be monopolist has been thwarted. But that is not a serious objection to my analytical reduction since proof of probabilistic market power remains an element in both cases. Mergers are prohibited if they are likely to result in market power,²¹ and attempted monopolization requires a showing of dangerous probability that the defendant would achieve market power.²² Thus, with the qualification that probabilistic

copa Cnty. Med. Soc’y, 457 U.S. 332, 354 (1982) (explaining that the rule of reason is grounded in “economic prediction, judicial convenience, and business certainty” as well as “a recognition of the respective roles of the Judiciary and the Congress in regulating the economy” (citing *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 611–12 (1972))).

16 The original construction of the Robinson-Patman Act is a possible exception to this statement, but more recent precedents have required market power in both primary and secondary line cases. *See Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc.*, 546 U.S. 164, 181 (2006) (rejecting a secondary line price discrimination claim in part because of the lack of evidence that any favored purchaser possessed market power); *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 225 (1993) (requiring evidence of market power in a primary line price discrimination case).

17 *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966) (“The offense of monopoly under § 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.”).

18 *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 886 (2007) (noting that the rule of reason can be equated with “an inquiry into market power and market structure designed to assess [a restraint’s] actual effect” (alteration in original) (quoting *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 768 (1984) (internal quotation marks omitted))).

19 *See Daniel A. Crane, Antitrust Antifederalism*, 96 CALIF. L. REV. 1, 54 (2008) (describing the process of merger review under Hart-Scott-Rodino Antitrust Improvements Act of 1976).

20 *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 455 (1993) (stating that since 1905 the Court’s decisions “have reflected the view that the plaintiff charging attempted monopolization must prove a dangerous probability of actual monopolization”).

21 HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 1, at 2 (stating that mergers are prohibited if they would “create, enhance, or entrench market power or . . . facilitate its exercise”).

22 *Spectrum Sports*, 506 U.S. at 455.

rather than actual market power is one of the two core ingredients in some cases, the reduction stands.

Second, there is an open question under U.S. antitrust law whether pure exploitation of market power, without creation, retention, or expansion of that power, violates any of the antitrust laws.²³ Thus, for example, if a tying arrangement harms the interests of consumers by enabling price discrimination but results in no increase in the defendant's market power, some commentators believe that antitrust law does or should provide a remedy.²⁴ Although other legal systems, such as the European Union, condemn the exploitation or abuse of market power without any proof of creation, retention, or enlargement,²⁵ it is doubtful that this view holds under current U.S. law.²⁶ If it does, then the meaning of market power for pure exploitation purposes is outside the purview of this Article.

Returning now to the ordinary market power element, market power is usually defined as the power to raise prices above competitive levels or exclude competitors.²⁷ Market power thus entails an implicit reference to an undefined alternative state in which the market functions more competitively—what I will call the competitive counterfactual. The degree of market power of interest to antitrust law is the delta between the actual or probabilistic position of the accused firm and the competitive counterfactual. Hence,

23 See generally Daniel Crane, *Tying and Consumer Harm*, 8 COMPETITION POL'Y INT'L 27 (2012) (arguing that some theory of anticompetitive effect from a tying arrangement should be required in every tying case).

24 Einer Elhauge, *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory*, 123 HARV. L. REV. 397, 426–50 (2009) (arguing that “power effects” from the exploitation of market power should be deemed anticompetitive).

25 See ARIEL EZRACHI, EU COMPETITION LAW 165–266 (3d ed. 2012) (discussing how conduct that may be regarded as abusive may escape prohibition in Article 102 of the Treaty on the Functioning of the European Union and its analysis).

26 See, e.g., *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 14 (1984) (“Thus, the law draws a distinction between the exploitation of market power by merely enhancing the price of the tying product, on the one hand, and by attempting to impose restraints on competition in the market for a tied product, on the other. When the seller's power is just used to maximize its return in the tying product market, where presumably its product enjoys some justifiable advantage over its competitors, the competitive ideal of the Sherman Act is not necessarily compromised. But if that power is used to impair competition on the merits in another market, a potentially inferior product may be insulated from competitive pressures.”); *Brantley v. NBC Universal, Inc.*, 675 F.3d 1192 (9th Cir. 2012) (affirming dismissal of tying claim based purely on exploitation theory); see also *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) (“The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system.”).

27 *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956). On the distinction between raising prices and excluding competitors—or on Stiglerian and Banian market power, see Thomas G. Krattenmaker et al., *Monopoly Power and Market Power in Antitrust Law*, 76 GEO. L.J. 241 (1987). For purposes of this Article, the legal distinction between monopoly power and market power is analytically unimportant, since monopoly power is just a strong form of market power. See RICHARD A. POSNER, *ANTITRUST LAW* 195 (2d ed. 2001).

market power is normatively relative to an assumed counterfactual in which markets perform more competitively.

A critically important implication of this observation—largely overlooked in current legal doctrine—is that market power has no constant referent but exists only relatively to a plausible competitive counterfactual. Imagine two firms each with a 30% market share operating in two different markets with comparable concentration and profitability indexes—say a Herfindahl-Hirschman Index²⁸ (HHI) of 4000 and a Lerner Index²⁹ of 0.5. Both firms would be thought to have market power in a generic sense, but the two firms' deltas from the competitive counterfactual might be radically different. In one case, it might be that the market's cost structure and other economic attributes would be conducive to allowing many more firms in the market and a much lower ratio of prices to marginal costs. In the other case, the market might be operating at its competitive optimum given its economic constraints (such as scale or scope economies and fixed-cost structures). Saying that both firms possess market power in an abstract sense supplies no useful information for conducting antitrust analysis. In one case, an antitrust challenge makes sense if the firm obtained its position through anticompetitive means. The firm has deprived consumers and society at large of a better state of affairs. In the other, an antitrust challenge does not make sense, since there is no but-for world in which consumer interests and efficiency are better served and hence nothing for antitrust law to remedy.

Current legal doctrine largely treats market power as an abstract quality deduced from market shares, entry barriers, and other structural factors.³⁰ It holds up as the relevant baseline a model of textbook competition in which entry and exit are easy, prices approximate marginal cost, and innovation is constant and costless. It thus misses its own normative foundation—that antitrust law exists to prevent deviations from a superior competitive state that could actually obtain given technological, economic, and social constraints. To be consistent with this norm, antitrust law would need to direct analysis to the relationship between the competitive counterfactual and the actual condition—to measure deltas rather than absolute conditions. The competitive counterfactual would need to be assessed given case-specific economic realities rather than textbook assumptions.

There is one important exception to the foregoing critique of conventional market power measurement: the structuralist approach to horizontal merger review, especially that which prevailed under the Horizontal Merger

28 The HHI is a measure of market concentration that requires summing the squares of the individual market participants to arrive at an overall market concentration ratio. See HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 5.3, at 18; see also Neil B. Cohen & Charles A. Sullivan, *The Herfindahl-Hirschman Index and the New Antitrust Merger Guidelines: Concentrating on Concentration*, 62 TEX. L. REV. 453, 459–60 (1983).

29 See *supra* text accompanying note 12.

30 See 2B AREEDA ET AL., *supra* note 1, ¶ 501, at 109.

Guidelines in place between 1992 and 2010,³¹ correctly conceived of the market power relevant to antitrust analysis as the delta between the pre-merger market condition and the post-merger condition. The Guidelines began with current, pre-merger prices and asked whether the merger would facilitate an increase in prices over existing levels.³² For this, leading commentators accused the Guidelines of committing the “cellophane fallacy”³³ (discussed in the next Part)—failing to recognize that existing market prices might already reflect the exercise of market power.³⁴ That criticism was off the mark. The normative function of merger review is to ensure that mergers do not create *new* market power,³⁵ not to measure the market’s deviation from some theoretical norm of perfect competition. If the pre-merger market already exhibits market power, this is no objection to a merger that does not enhance the preexisting power since the merger makes things no worse than they already are. Hence, the existing market condition is the competitive counterfactual against which post-merger effects need to be measured—which is what the Guidelines tried to do.

The Guidelines’ problem was not that they committed the cellophane fallacy, but that their formal tools of structural analysis—particularly market definition, the computation of market shares, and inferences from concentration indexes—could easily result in arbitrary predictions about a merger’s likely competitive effects.³⁶ Thus, as discussed in the next Part, the 2010 Guidelines revisions severely demoted structural or “indirect” analysis and moved merger review toward a “direct” evidence approach. This may have alleviated a measurement problem, but it also aggravated the separate analytical problem of relating market power to a competitive counterfactual.

As discussed further below, antitrust law’s general failure to recognize market power as relative rather than absolute will not be easily solved with a transition from indirect to direct modes of proof. It continues to show up in many potential approaches to direct proof of market power as well. In transitioning away from conventional market definition, a reexamination of first principles is sorely needed.

31 See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (rev. ed. 1997), available at <http://www.ftc.gov/sites/default/files/attachments/merger-review/hmg.pdf>.

32 *Id.* § 1.11.

33 HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY § 3.4b, at 106 (3d ed. 2005) (“The 1992 Horizontal Merger Guidelines also commit a version of the Cellophane fallacy by defining markets in terms of current prices.”); Krattenmaker et al., *supra* note 27, at 256 n.75 (explaining that a necessary finding of market power as a prerequisite to an antitrust violation, thus leading to a firm’s exclusionary conduct being immunized, leads to the faulty approach known as the “Cellophane fallacy”).

34 See *infra* text accompanying notes 42–52.

35 *United States v. Cont’l Can Co.*, 378 U.S. 441, 463–64 (1964) (explaining concern in merger cases over enhancement of market power).

36 See HOVENKAMP, *supra* note 33; Kaplow, *supra* note 7.

B. *The Infirmities of Market Definition*

Criticisms of the “indirect” market definition/market share approach to proving market power abound,³⁷ and it is not my purpose in this Article to pile on. This Part briefly introduces the leading existing methods of market definition and their flaws as background to an exploration of direct means of proving market power and their relationship to the competitive counterfactual.

The Supreme Court has held that the starting point for determining the existence of market power is the identification of a relevant market consisting of the “commodities reasonably interchangeable by consumers for the same purposes.”³⁸ The leading Supreme Court cases recognize two, often conflicting, approaches to determining whether consumers view goods as reasonably substitutable. Both methods are highly problematic.

First, a relevant market may be defined through economic data showing how consumers react to changes in the price of goods or services—the previously mentioned cellophane approach. In *United States v. E.I. du Pont de Nemours & Co.* (*E.I. du Pont* or the “cellophane case”), the question was whether the relevant market should be considered just cellophane, in which event E.I. du Pont would have a monopoly, or whether there was a wider market including other flexible packaging materials like Pliofilm, glassine, foil, polyethylene, waxed paper, and Saran Wrap.³⁹ The Court concluded that the market included all flexible wrapping materials because there was evidence of substantial cross-elasticity of demand⁴⁰ between cellophane and the other materials.⁴¹ As numerous courts and commentators have pointed out since, the fact that consumers considered cellophane and other flexible wrapping materials substitutes at prevailing prices did not negate the possibility that E.I. du Pont had market power over cellophane.⁴² If E.I. du Pont had

37 See HOVENKAMP, *supra* note 33; Kaplow, *supra* note 7; see also Dennis W. Carlton, *Market Definition: Use and Abuse*, 3 COMPETITION POL'Y INT'L 3 (2007), available at <http://ssrn.com/abstract=987061> (arguing that whether market power exists is “problematic to answer by using market definition”); Mark R. Patterson, *The Market Power Requirement in Antitrust Rule of Reason Cases: A Rhetorical History*, 37 SAN DIEGO L. REV. 1, 8–9 (2000) (explaining that the Supreme Court established that “a showing of market power was not necessary when anticompetitive effects had been shown”). For more optimistic treatment of market definition, see Baker, *supra* note 5; Malcolm B. Coate & Joseph J. Simons, *In Defense of Market Definition*, 57 ANTITRUST BULL. 667 (2012).

38 *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1965).

39 *Id.* at 380.

40 Cross-elasticity of demand refers to the increase in demand for one product caused by an increase in the price of another. F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 75 n.55 (3d ed. 1990).

41 *E.I. du Pont*, 351 U.S. at 400.

42 ABA SECTION OF ANTITRUST LAW, *MARKET POWER HANDBOOK* 59–60 (2005); 2B AREEDA, *supra* note 1, ¶ 539; RICHARD A. POSNER, *ANTITRUST LAW* 128 (1976); Baker, *supra* note 5, at 162–65; Robert Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90 COLUM. L. REV. 1805, 1814 (1990); Lawrence J. White, *Market Power and Market Definition in Monopolization Cases*, in 2 ISSUES IN COMPETITION LAW AND POLICY 913 (2008);

monopolized the cellophane market and then raised the price of cellophane to the profit-maximizing monopoly level, other flexible wrapping materials would become good substitutes for cellophane at the monopoly price. Unless the pricing data can be gleaned from a period as to which the conduct under consideration could have had no effect (as is true in prospective merger cases),⁴³ the cross-elasticity approach may systematically result in false negatives.

The other leading approach, reflected in *United States v. Grinnell Corp.*,⁴⁴ is to identify markets based on the idiosyncratic preferences of discrete groups of customers. Grinnell and its affiliated companies provided accredited central service station services such as fire and burglary protection.⁴⁵ These services involved the installation of a hazard-detecting device at the customer's place of business with a direct link to a central service station that could notify the police or fire department in case of an alarm.⁴⁶ The key issue was whether accredited central service station services were in a distinct product market from other forms of fire and burglary protection, including unaccredited services and other self-help forms of protection.⁴⁷ The evidence showed that at least some customers valued accreditation highly because it resulted in a reduction in their property insurance premiums.⁴⁸ The Court conceded that some customers did not care about the insurance premium reduction and would gladly substitute to a cheaper, unaccredited service.⁴⁹ But, to the Court, this was not a sufficient reason to find that the relevant market included unaccredited services, since other customers had an idiosyncratic preference for accreditation.⁵⁰ Finding that a subpopulation of buyers did not consider accredited and unaccredited services reasonably interchangeable, the Court found accredited services a separate relevant market.

The *Grinnell* approach marks little analytic improvement over *E.I. du Pont*. Simply knowing that certain customers consider the products sold by a particular firm unique does not prove that the seller has any pricing power over them. Unless the idiosyncratic buyers are a large group, then even if the seller is aware of their preferences it will not increase the general market price in an effort to exploit them, since then it will lose too many sales to

Gene C. Schaerr, Note, *The Cellophane Fallacy and the Justice Department's Guidelines for Horizontal Mergers*, 94 *YALE L.J.* 670 (1985).

43 See *supra* text accompanying notes 168–71.

44 384 U.S. 563 (1966).

45 *Id.* at 566–68.

46 *Id.* at 566–67.

47 *Id.* at 570–71.

48 *Id.* at 574.

49 *Id.* (noting that “[t]hough some customers may be willing to accept higher insurance rates in favor of cheaper forms of protection, others will not be willing or able to risk serious interruption to their businesses, even though covered by insurance, and will thus be unwilling to consider anything but central station protection”).

50 *Id.*

other buyers.⁵¹ The seller may try to price discriminate to the idiosyncratic group, but unless it can identify them and prevent arbitrage from undermining its effort,⁵² then price discrimination will not be possible and the idiosyncratic buyers will pay the lower, general market price.

The analytical weakness in current caselaw is arguably an artifact of the cases themselves, but broader conceptual criticisms have also been leveled. In particular, Kaplow argues that the entire concept of market definition is misguided. In a nutshell, Kaplow asserts that the entire construct of market definition is faulty because one is required to begin with an estimate of cross-elasticity in a provisional group of products before one can work out toward defining a relevant market.⁵³ Since the refinements that follow the initial estimate are derivative of the initial estimate and cannot improve it, Kaplow argues that the steps subsequent to initial elasticity estimation can only erode the force of the initial estimate, which itself may have been quite arbitrary.⁵⁴ Kaplow also argues that the market definition construct is predicated on a standard reference market that has never been articulated and leads to wildly varying estimations of what market power means.⁵⁵ Finally, he argues that using market shares to determine market power in relevant markets defined further compounds the initial analytical errors of defining relevant markets in the first place.⁵⁶

The upshot of Kaplow's paper is a strong recommendation that antitrust analysis abandon market definition altogether,⁵⁷ a position taken with somewhat less force in the Horizontal Merger Guidelines⁵⁸ and apparently likely to show up soon, at least as to merger analysis, in the influential Areeda *Antitrust Law* treatise.⁵⁹ For the time being, market definition remains deeply lodged in antitrust precedent on monopolization,⁶⁰ the rule of reason,⁶¹ and

51 See Pitofsky, *supra* note 42, at 1816–17.

52 *Id.*; see HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 3, at 6 (noting that “[f]or price discrimination to be feasible, two conditions typically must be met: differential pricing and limited arbitrage”).

53 See Kaplow, *supra* note 7, at 440.

54 *Id.*

55 *Id.* at 462–65.

56 *Id.* at 440.

57 *Id.* (“The thesis of this Article is that the market definition process should be abandoned.”).

58 See HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 4 (explaining that market definition is merely an analytical tool available to conduct merger analysis and that some analytical tools used by the agencies do not rely on market definition at all).

59 See AREEDA ET AL., *supra* note 1.

60 See *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 452–53 (1993) (discussing the need to prove market power in a relevant market in monopolization cases).

61 *E.g.*, *PSKS, Inc. v. Leegin Creative Leather Prods., Inc.*, 615 F.3d 412, 414 (5th Cir. 2010) (affirming dismissal of rule of reason challenge to vertical resale price maintenance for failure to define relevant market); *Deutscher Tennis Bund v. ATP Tour, Inc.*, 610 F.3d 820, 824 (3d Cir. 2010) (affirming grant of judgment as a matter of law on rule of reason and monopolization claims for failure to prove relevant market).

mergers⁶² although, as discussed next, cracks have already appeared. Whether market definition disappears altogether, as Kaplow urges, or merely undergoes a severe demotion, as appears in the Horizontal Merger Guidelines, it is reasonably clear that an as of yet undeveloped “direct” method of proving market power is ascending.

C. Direct Proof: Present (Messy) Caselaw

Although the market definition/market share paradigm predominates in antitrust analysis, formal doctrine holds that this is merely one of two available routes to proving market power; the other being a “direct” evidence route. The Supreme Court decision standing for this proposition—*Federal Trade Commission v. Indiana Federation of Dentists*⁶³ (*IFD*)—requires some exploration because it is a fount of so much confusion in the lower courts.⁶⁴

The controversy in *IFD* concerned an effort by Indiana dentists to deny insurance companies access to dental x-rays in order to prevent the insurers from overriding the dentists’ professional judgments.⁶⁵ *IFD* was a professional association of fewer than 100 dentists in the Anderson, Lafayette, and Fort Wayne, Indiana areas.⁶⁶ *IFD* splintered off from the much larger Indiana Dental Association (the Association) after the Association acceded to antitrust pressures and dropped its rule prohibiting supplying x-rays to insurers.⁶⁷ *IFD* instituted the rule for its own members, and the FTC brought suit, alleging an unlawful boycott.⁶⁸

62 *E.g.*, *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098 (N.D. Cal. 2004) (rejecting the government’s merger challenge for failure to prove relevant market).

63 *FTC v. Ind. Fed’n of Dentists (IFD)*, 476 U.S. 447 (1986).

64 In addition to confusing the market power issues, the Court unwittingly confused the definition of horizontal group boycotts. In an earlier case, *Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.*, 472 U.S. 284 (1985), the Court limited the rule of per se illegality for group boycotts to “joint efforts by a firm or firms to disadvantage competitors by ‘either directly denying or persuading or coercing suppliers or customers to deny relationships the competitors need in the competitive struggle.’” *Id.* at 294 (quoting LAWRENCE ANTHONY SULLIVAN, *HANDBOOK OF THE LAW OF ANTITRUST* 261–62 (1977)). In *IFD*, the Court rendered *Northwest Wholesale’s* holding as limiting the per se rule in “cases in which firms with market power boycott suppliers or customers in order to discourage them from doing business with a competitor.” 476 U.S. at 458. This was an obvious error since it implied that the illegal boycott must be directed against customers or suppliers in order to force them to boycott a rival of the defendant. Although such a pattern would be included in the definition of a group boycott, it would hardly be necessary under the Court’s boycott precedents, which involved suppliers or customers who participated without coercion in the boycott scheme. *See, e.g.*, *Klor’s Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 212 (1959) (defining group boycott).

65 *IFD*, 476 U.S. at 448–49.

66 *Id.* at 451.

67 *Id.* at 450–51.

68 *See id.* at 451; *see also In re Ind. Fed’n of Dentists*, 101 F.T.C. 57, 70 (1983) (finding the formation of the *IFD* was motivated by desire to “evade the antitrust laws against boycotts”).

One of the issues on appeal was whether IFD possessed market power for purposes of rule of reason analysis.⁶⁹ The Supreme Court held that it did, but through a set of gymnastic exercises that have left the doctrine in perplexity.⁷⁰ IFD argued that it should prevail on the market power issue since the FTC had never proven a relevant market.⁷¹ The Court rejected this argument, asserting that

[s]ince 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 of output,” can obviate the need for an inquiry into market power, which is but a “surrogate for detrimental effects.”⁷²

This language—the suggestion that the market definition/market power method is just a circumstantial means of proving anticompetitive effects—has provided the encouragement for lower courts to construct a “direct proof” alternative.⁷³

Unfortunately, what follows in *IFD* bars the case from providing any meaningful guidance on direct evidence of market power. Having established that market definition is unnecessary when there is “proof of actual detrimental effects, such as a reduction in output,” the Court turned to IFD’s second argument: that the Commission failed to make any findings that the boycott resulted in provision of more costly dental services.⁷⁴ This much the Court conceded, but found it irrelevant because a

concerted and effective effort to withhold (or make more costly) information desired by consumers for the purpose of determining whether a particular purchase is cost justified is likely enough to disrupt the proper functioning of the price-setting mechanism of the market that it may be condemned even absent proof that it resulted in higher prices.⁷⁵

Having just dispensed with the requirement of proving a relevant market if there was “proof of actual detrimental effects,” the Court dispensed with the need to prove actual detrimental effects if those effects were “likely enough.”⁷⁶

IFD is confounding on its own terms, but can be rehabilitated on others. Understood as a “Quick Look” case—one where the restraint on competition is inherently suspect and the burden shifts immediately to the defendant to

69 *IFD*, 476 U.S. at 460–61.

70 *Id.* at 460–61.

71 *Id.*

72 *Id.* (quoting 7 PHILLIP E. AREEDA, *ANTITRUST LAW*, ¶ 1511, at 429 (1986)).

73 *E.g.*, *United States v. Microsoft Corp.*, 253 F.3d 34, 51 (D.C. Cir. 2001) (en banc) (per curiam) (relying on *IFD* in holding that direct evidence of monopoly power is sufficient in section 2 cases); *Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995) (same).

74 *IFD*, 476 U.S. at 460–61 (quoting 7 AREEDA, *supra* note 72, ¶ 1511, at 429).

75 *Id.* at 461–62.

76 *Id.* at 460–61 (quoting 7 AREEDA, *supra* note 72, ¶ 1511, at 429).

offer a procompetitive justification—the case makes perfect sense.⁷⁷ In such a case, proof of market power may never be necessary.⁷⁸ But by not making this clear, the Court left it open to lower courts to waive the market definition/market share paradigm upon a showing of “direct evidence” of anti-competitive effects, without offering any coherent explanation of what would constitute direct evidence of such.

Without guidance from the Supreme Court, lower courts have tried to specify the criteria for a direct evidence approach.⁷⁹ The results are a baffling potpourri. Among the criteria identified by courts are: (1) evidence of restricted output and supracompetitive prices;⁸⁰ (2) the presence of entry barriers;⁸¹ (3) the exclusion of competition;⁸² (4) control over prices;⁸³ (5) the defendant’s ability to engage in price discrimination;⁸⁴ (6) “sustained supranormal profits;”⁸⁵ and (7) abrupt changes in practices following the elimination of competitors.⁸⁶

Taken as a set and in individual application, these criteria are generally vacuous, confusing, or both. The most commonly repeated maxim—that proof of restricted output and supracompetitive prices establishes market power—is not an analytical criterion at all but merely repeats the definition of market power. It amounts to saying that a plaintiff directly proves market power when she directly proves market power. Except that some courts also go on to say that proof of supracompetitive prices without proof of reduced output does not establish market power.⁸⁷ This is baffling. The relationship

77 See Andrew I. Gavil, *Moving Beyond Caricature and Characterization: The Modern Rule of Reason in Practice*, 85 S. CAL. L. REV. 733, 756 (2012).

78 See *Agnew v. NCAA*, 683 F.3d 328, 336 (7th Cir. 2012) (stating that proof of market power is not required in the quick look analysis); 11 HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 1914d(1), at 315 (1998).

79 Not all courts have accepted the direct evidence approach for all species of antitrust claims. See *Christy Sports, LLC v. Deer Valley Resort Co.*, 555 F.3d 1188, 1198 (10th Cir. 2009) (observing that the Tenth Circuit had never ruled on the propriety of the direct evidence approach in a monopolization case).

80 *Theme Promotions, Inc. v. News Am. Mktg. FSI*, 546 F.3d 991, 1001 (9th Cir. 2008); *Coastal Fuels of P.R., Inc. v. Caribbean Petrol. Corp.*, 79 F.3d 182, 196–97 (1st Cir. 1996).

81 *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 307 (3d Cir. 2007).

82 *Heerwagen v. Clear Channel Commc’ns*, 435 F.3d 219, 227 (2d Cir. 2006); *Geneva Pharms. Tech. Corp. v. Barr Labs. Inc.*, 386 F.3d 485, 500 (2d Cir. 2004); *PepsiCo., Inc. v. Coca-Cola Co.*, 315 F.3d 101, 107 (2d Cir. 2002); *Conwood Co. v. U.S. Tobacco Co.*, 290 F.3d 768, 783 n.2 (6th Cir. 2002); *Tops Mkts., Inc. v. Quality Mkts., Inc.*, 142 F.3d 90, 98 (2d Cir. 1998).

83 *Broadcom*, 501 F.3d at 307; *Arani v. TriHealth Inc.*, 77 F. App’x 823, 826 (6th Cir. 2003); *PepsiCo*, 315 F.3d at 107.

84 *United States v. Eastman Kodak Co.*, 63 F.3d 95, 106 (2d Cir. 1995).

85 *Town Sound & Custom Tops, Inc. v. Chrysler Motors Corp.*, 959 F.2d 468, 481 n.17 (3d Cir. 1992).

86 *In re Crude Oil Commodity Futures Litig.*, 913 F. Supp. 2d 41, 51 (S.D.N.Y. 2012).

87 *E.g.*, *Broadcom*, 501 F.3d at 307 (stating that both “supracompetitive prices and restricted output” are required to prove monopoly power directly); *Geneva Pharms.*, 386 F.3d at 500 (rejecting plaintiff’s direct proof of monopoly power argument where plaintiff failed to show reduced output); *Forsyth v. Humana, Inc.*, 114 F.3d 1467, 1476 (9th Cir.

between price increases and output levels is the elasticity of demand. If price increases without a reduction in demand and therefore in output, this is because demand at this point on the demand curve is completely inelastic. In economic theory, inelastic demand generally correlates with higher levels of market power than elastic demand, since it means that sellers have greater power to profit from price increases.⁸⁸ Although price increases without output reductions cause no deadweight losses and hence no loss of allocative efficiency,⁸⁹ they still result in wealth transfers from consumers to producers and hence diminish consumer welfare.⁹⁰ Unless one understands the insistence on proof of output reduction as a back-door replacement of a consumer welfare standard with an allocative efficiency standard⁹¹—a dubious explanation—the output reduction requirement on top of the supracompetitive pricing criterion makes no sense.

Further, the exclusion of rival producers of differentiated but competitive products may actually result in *increased* output by the excluding firms.⁹² To use an illustration from Krattenmaker, Lande, and Salop,⁹³ suppose that a group of widget producers takes anticompetitive action to raise the production costs of gadgets, which are a good substitute for widgets. As the price of gadgets increases, they will either be discontinued or no longer good substitutes for widgets. In that event, widget manufacturers may expand their output even while increasing their prices. Consumer welfare suffers.⁹⁴ It is true that the aggregate output of widgets and gadgets falls, but proving *that* would defeat the entire purpose of a “direct evidence” approach, since it would require proving that widgets and gadgets are good substitutes—the very core of the troublesome “indirect” approach.⁹⁵

As discussed in greater detail in the next Part, the entry barrier, profit margin, price discrimination, and “before and after” criteria are similarly ill-fitting, imprecise, or underspecified. In brief, entry barrier analysis assumes the definition of a relevant market and therefore fits oddly in a “direct proof” analysis meant to obviate the need of proving relevant markets. Profit mar-

1997) (“The plaintiffs submitted evidence that Sunrise Hospital routinely charged higher prices than other hospitals while reaping high profits. With no accompanying showing of restricted output, however, the plaintiffs have failed to present direct evidence of market power.”).

88 See Kaplow, *supra* note 7, at 448–53.

89 ROBERT H. BORK, *THE ANTITRUST PARADOX* 104–06 (1978).

90 See HOVENKAMP, *supra* note 33, at 21–23.

91 See generally Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 *HASTINGS L.J.* 65, 69–70 (1982) (noting that “[a] second group of analysts believe that in addition to enhanced economic efficiency, various social, moral, and political goals were important to the antitrust laws’ framers”).

92 See Krattenmaker et al., *supra* note 27, at 250 (explaining that under conditions of Bainian exclusion, output and market shares of excluding firms increase).

93 *Id.*

94 *Id.*

95 See *supra* Section I.B.

gin analysis easily results in both false positives and negatives. “Before and after” scenarios rarely appear with clean boundaries and, when they do, can often be misleading. And market power is unnecessary for price discrimination, and therefore produces false positives if used as a market power criterion.

What’s more, even courts and agencies that pursue a direct evidence approach usually do so in the shadow of the market definition/market share paradigm. In *Microsoft*, the D.C. Circuit’s en banc decision noted that since “direct proof is only rarely available, courts more typically examine market structure in search of circumstantial evidence of monopoly power,”⁹⁶ a pearl of wisdom embraced by a number of other courts as well.⁹⁷ But market definition is also conceptually difficult and taxing, so courts often consider the direct and circumstantial proof approaches in parallel, permitting imprecisions in each approach to compensate for the imprecisions in the other. Thus, courts have observed that *IFD*, although permitting a direct evidence approach, still included evidence substantiating the “rough contours of the relevant market”⁹⁸ and have suggested that plaintiffs following a direct evidence approach should make at least a half-hearted effort at proof of a relevant market and market shares.⁹⁹ Similarly, in the 2010 Horizontal Merger Guidelines, the FTC and Justice Department state that “[s]ome of the analytical tools used by the Agencies to assess competitive effects do not rely on market definition, although evaluation of competitive alternatives available to customers is always necessary at some point in the analysis.”¹⁰⁰ Since “competitive alternatives available to customers” is just a less precise way of saying market definition, this amounts to a confession that even direct approaches to market power entail some rough consideration of the analytic questions that direct approaches were meant to circumvent.

All of this points to the uncomfortable possibility that the gradual demise of market definition and ascendancy of “direct” evidence may create the worst of all possible worlds—a tentative and unconfident direct effects approach that leans on relaxed evidence of market definition when the tools of market definition have been exposed as vacuous. An analysis of the candidate tools of direct evidence is the subject of the next Part.

96 *United States v. Microsoft Corp.*, 253 F.3d 34, 51 (D.C. Cir. 2001) (en banc) (per curiam).

97 *See Harrison Aire, Inc. v. Aerostar Int’l, Inc.*, 423 F.3d 374, 381 (3d Cir. 2005).

98 *Republic Tobacco Co. v. N. Atl. Trading Co.*, 381 F.3d 717, 737 (7th Cir. 2004).

99 *See, e.g., Cason-Merenda v. Detroit Med. Ctr.*, 862 F. Supp. 2d 603, 648–49 (E.D. Mich. 2012); *Audio Car Stereo, Inc. v. Little Guys, Inc.*, No. 04 C 3562, 2004 WL 3019298, at *7 (N.D. Ill. Dec. 28, 2004).

100 HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 4, at 7.

II. CANDIDATE TOOLS OF DIRECT EVIDENCE

A. *Entry Barriers*

1. Entry Barriers and Direct Analysis

Barriers to entry play a central role in market power analysis.¹⁰¹ They have typically been considered an indispensable element in proving the existence of market power,¹⁰² since if entry is easy, any short-run market power quickly erodes. Closely related to entry barriers are barriers to expansion, which prevent firms already in the market from growing to a more efficient scale and hence making the market more competitive.¹⁰³ For present purposes the distinction between entry and expansion barriers is immaterial and both phenomena safely can be referred to as entry barriers.

Entry barriers have traditionally been considered in “indirect” market power analysis as confirming or calling into question inferences drawn from the defendant’s market share.¹⁰⁴ It is questionable whether entry barriers can be coherently deployed in a “direct” market power analysis since entry barriers require identification of a market into which entry is difficult. Thus, for example, assume that the supply of satellite transponders for use in satellite radio services is extremely limited and would constitute an entry barrier into satellite radio services if that were a proper relevant market. One cannot know whether transponder scarcity is a barrier unless there is, economically, a satellite radio market.¹⁰⁵ In reviewing the Sirius/XM merger, the Justice Department concluded that satellite radio is not a market unto itself,¹⁰⁶

101 Two possible understandings of entry barriers have been proposed without clear resolution in the courts. The Harvard or “structuralist” school conceived of entry barriers as any impediment to the free flow of capital into the market. JOE S. BAIN, *BARRIERS TO NEW COMPETITION* 6–7 (1956). By contrast, the Chicago School conceived of entry barriers much more narrowly: as costs faced by new entrants but not by incumbents. GEORGE J. STIGLER, *THE ORGANIZATION OF INDUSTRY* 67 (1968); see *Microsoft*, 253 F.3d at 56 (discussing the disagreement between the two schools and finding it unnecessary to take sides); Herbert Hovenkamp, *Antitrust and the Costs of Movement*, 78 *ANTITRUST L.J.* 67, 76–80 (2012) (arguing that the Harvard definition of entry barriers is superior).

102 *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 591 n.15 (1986) (observing that without entry barriers it is “impossible to maintain supracompetitive prices for an extended time”); *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 307 (3d Cir. 2007) (monopoly power requires a showing that “significant ‘entry barriers’ protect [the] market” (quoting *Harrison Aire*, 423 F.3d at 381)).

103 See *Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1440 (9th Cir. 1995).

104 HOVENKAMP, *supra* note 33, § 1.6.

105 In approving the merger between the only two existing satellite radio services—Sirius and XM—the Justice Department concluded that satellite radio did not face competition from land-based services and hence, that satellite radio services were not a relevant market for antitrust purposes. Press Release, Dep’t of Justice, Statement of the Dep’t of Justice Antitrust Div. on its Decision to Close its Investigation of XM Satellite Radio Holdings Inc.’s Merger with Sirius Satellite Radio Inc. (Mar. 24, 2008), http://www.justice.gov/opa/pr/2008/March/08_at_226.html.

106 *Id.*

which would seem to moot any discussion about entry barriers into the non-existent satellite radio market. Unmoored from market definition, entry barrier analysis lacks precision at best and coherence at worst.

Nonetheless, courts have assumed that entry barriers are important in direct analysis of market power as well.¹⁰⁷ This is further evidence that even as formal market definition fades, rough intuitions on the boundaries of the relevant market continue to play a role—as they did in *Indiana Federation of Dentists* and continue to do under the Horizontal Merger Guidelines.¹⁰⁸ Even without formally defining a relevant market, courts and antitrust enforcers deploy rough understandings about the area of effective competition in determining whether access to that area is easy or difficult. Given its long and important history in antitrust, entry barrier analysis is likely to retain a prominent role in a post-market definition world. It is therefore important to make sure that the concept is rightly framed.

2. Entry Barriers and the Competitive Counterfactual

In defining market power, one should distinguish between two kinds of entry barriers. First, there are structural entry barriers—market characteristics not intentionally created by market actors to stymie entry but nonetheless deterring entry. Examples include governmental regulations, resource scarcity, and network effects.¹⁰⁹ Second, some entry barriers are created by firms in the market with the object of excluding competitors. Examples include exclusive dealing and tying contracts, which can lock up the market or otherwise inhibit new entrants.¹¹⁰ Entry barriers in the second category are typically analyzed as part of the inquiry into whether the defendants engaged in exclusionary behavior and, hence, are intertwined with the anticompetitive conduct element.

The first category—structural barriers—poses conceptual difficulties for market power analysis. Antitrust reasoning generally treats structural market power as an element separate from the anticompetitive conduct element. The plaintiff must first show that the defendant has market power in an

107 See, e.g., *Broadcom*, 501 F.3d at 307 (listing “[b]arriers to entry . . . such as regulatory requirements, high capital costs, or technological obstacles, that prevent new competition from entering a market in response to a monopolist’s supracompetitive prices” as factors in determining direct evidence of market power); *Harrison Aire*, 423 F.3d at 381 (“Monopoly power can be demonstrated with either direct evidence of supracompetitive pricing and high barriers to entry, or with structural evidence of a monopolized market.” (citation omitted)).

108 See *supra* text accompanying notes 58, 69–78.

109 *Broadcom*, 501 F.3d at 307 (“Barriers to entry are factors, such as regulatory requirements, high capital costs, or technological obstacles, that prevent new competition from entering a market in response to a monopolist’s supracompetitive prices.”).

110 See *Eastman Kodak Co. v. Image Technical Servs, Inc.*, 504 U.S. 451, 485 (1992) (discussing creation of entry barriers through tying arrangements that require rivals to enter two markets simultaneously); *Interface Grp., Inc. v. Mass. Port Auth.*, 816 F.2d 9, 11 (1st Cir. 1987) (discussing the propensity of exclusive dealing contracts to raise entry barriers).

abstract sense and then identify the anticompetitive conduct that created or enhanced this power.¹¹¹ The higher entry barriers are, the more plausible it is thought that the firms in the market would engage in anticompetitive conduct and the more pernicious the anticompetitive effects.¹¹² Hence, a debate about whether entry barriers are “high” is often a key part of the contestation over market power.¹¹³ The assumption that the higher the entry barriers the more likely that pernicious anticompetitive conduct has occurred—what I will call the linear relation assumption—is sometimes right and sometimes backwards.

In two contexts—non-exclusionary conspiracy¹¹⁴ and horizontal merger cases—the linear relation assumption is generally correct.¹¹⁵ For analytical purposes, horizontal merger is just a strong form of cooperative agreement between competitors, and hence of a kind with nonexclusionary conspiracy. When firms collude to raise prices above competitive levels, this attracts new capital to the market, absent entry barriers.¹¹⁶ Entry barriers inhibit the

111 HOVENKAMP, *supra* note 33, at 40–41.

112 See, e.g., *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 285 (3d Cir. 2012) (relying on evidence that barriers to entry were “especially high”); *E.I. du Pont de Nemours & Co. v. Kolon Indus., Inc.*, 637 F.3d 435, 451 (4th Cir. 2011) (finding that counter-claimant had adequately pled market power based in part on allegation of “numerous barriers to entry”); *West Penn Allegheny Health Sys., Inc. v. UPMC*, 627 F.3d 85, 104 (3d Cir. 2010) (finding exclusion complaint adequately pled based in part on allegation of “significant entry barriers”); *Theme Promotions, Inc. v. News Am. Mktg. FSI*, 546 F.3d 991, 1002 (9th Cir. 2008) (finding the presence of “high entry barriers” significant in affirming jury verdict for plaintiff in exclusion case); *Broadcom*, 501 F.3d at 307 (holding that “significant ‘entry barriers’” support plaintiff’s exclusion claim (quoting *Harrison Aire*, 423 F.3d at 381)).

113 See cases cited *supra* note 107.

114 Cartels and other anticompetitive conspiracies often involve both an element of cooperation between the insiders and coordinated exclusion of outsiders. See generally Joseph E. Harrington, Jr., *How Do Cartels Operate?*, in 2 FOUNDATIONS & TRENDS IN MICROECONOMICS 1, 64–69 (2006) (describing the efforts taken by various cartels to limit the impact of non-cartel suppliers who purchase a cartel’s product and resell it, either directly or in an altered form); Randal D. Heeb et al., *Cartels as Two-Stage Mechanisms: Implications for the Analysis of Dominant-Firm Conduct*, 10 CHI. J. INT’L L. 213, 217 (2009) (noting that the first stage of cartel activity involves reaching consensus on curbing rivalry while the second stage of cartel activity focuses on exclusionary behavior); C. Scott Hemphill & Tim Wu, *Parallel Exclusion*, 122 YALE L.J. 1182 (2012) (arguing that parallel exclusion can be more harmful than parallel price elevation); Margaret C. Levenstein & Valerie Y. Suslow, *Breaking Up Is Hard to Do: Determinants of Cartel Duration*, 54 J.L. & ECON. 455, 483 (2011) (stating that exclusionary actions increase cartel stability); Margaret C. Levenstein & Valerie Y. Suslow, *What Determines Cartel Success?*, 44 J. ECON. LITERATURE 43, 74–75 (2006) (surveying the results of studies on exclusionary practices).

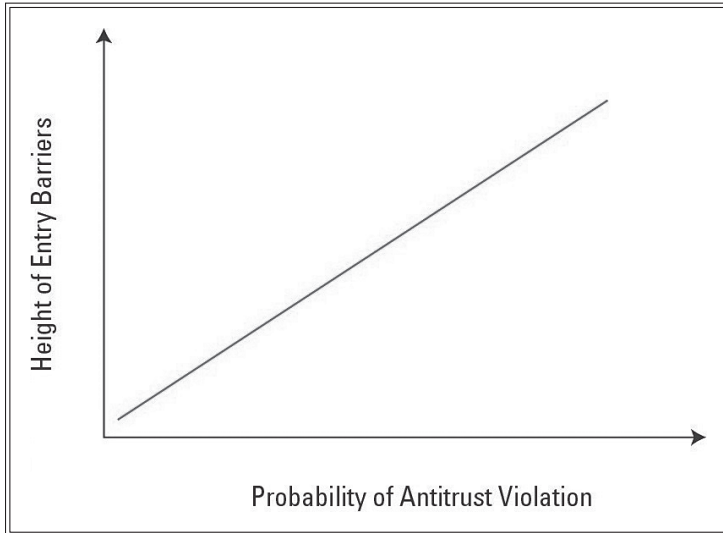
115 As noted at the outset, *supra* text accompanying note 15, under current doctrine the market power requirement is inapplicable to “hard core” price-fixing conspiracies. Here, I am using “conspiracy” in a broader sense to denote all cooperative anticompetitive agreements that do not involve an exclusionary element.

116 Roger D. Blair et al., *Collusive Duopoly: The Economic Effects of the Aloha and Hawaiian Airlines’ Agreement to Reduce Capacity*, 74 ANTITRUST L.J. 409, 434 (2007).

attraction of conspiracy-eroding new capital, and hence are positively correlated with nonexclusionary conspiracies. If we conceive of the “height” of entry barriers as an expression of the likelihood of new entry and posit that the probability of nonexclusionary conspiracy is inversely correlated with the probability of new entry, then it follows that the higher the entry barriers, the more likely that challenged conduct was in fact anticompetitive conspiracy.

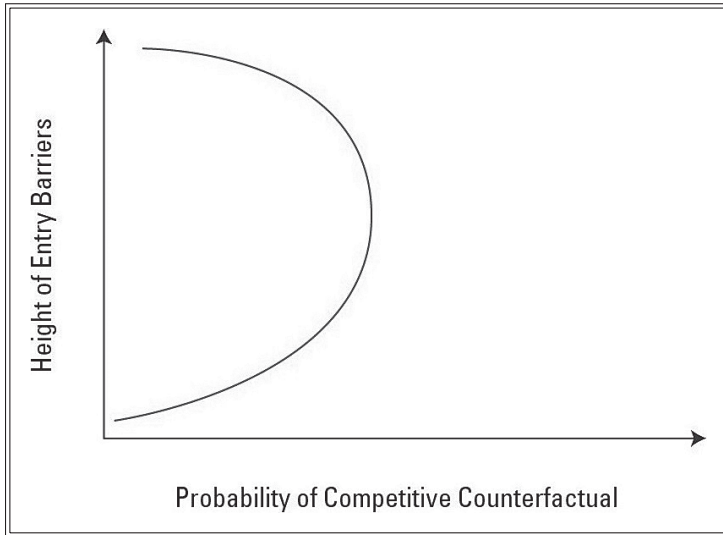
But the linear relation assumption does not follow for allegedly exclusionary behavior. The relationship between the competitive counterfactual and entry barriers is not linear, as generally assumed and represented in Figure 1 below. Rather, the relationship between the height of entry barriers and the probability that an antitrust violation has occurred is a reverse c-shaped curve, as illustrated in Figure 2. When entry barriers are low, it is unlikely that there is a competitive counterfactual since the market is already functioning near its competitive optimum. That much is well understood.¹¹⁷ What follows is not. When structural entry barriers are very high, it is also unlikely that there is a competitive counterfactual, both because it is unlikely that the defendant engaged in exclusionary conduct and because it is unlikely that there would have been entry even absent any exclusionary conduct. The slope of the upper portion of the curve back toward the y-axis requires elaboration because it has been largely or completely overlooked.

FIGURE 1: ASSUMED RELATIONSHIP BETWEEN ENTRY BARRIERS AND ANTITRUST VIOLATIONS



117 See, e.g., *United States v. Falstaff Brewing Corp.*, 410 U.S. 526, 532 (1973) (stating that potential entrants to markets with low entry barriers discipline the behavior of firms in the market); *Ball Mem'l Hosp., Inc. v. Mut. Hosp. Ins., Inc.*, 784 F.2d 1325, 1335 (7th Cir. 1986) (noting that “the lower the barriers to entry, and the shorter the lags of new entry, the less power existing firms have”).

FIGURE 2: ACTUAL RELATIONSHIP BETWEEN ENTRY BARRIERS
AND COMPETITIVE COUNTERFACTUAL



The curve's convexity derives from two related phenomena: the willingness of firms to spend resources on exclusion and the likelihood that absent exclusion there would be new entry. Begin by observing that exclusion is always costly or at least probabilistically costly. Some forms of exclusion, such as predatory pricing or predatory innovation, are extremely expensive.¹¹⁸ But even forms of "cheap exclusion"¹¹⁹ which cost the excluding firm little in out-of-pocket expenses or direct opportunity costs, are costly in one important sense: they create the possibility that rivals will complain to antitrust agencies, sue, or even win treble damages judgments.¹²⁰ Hence, even firms considering the less directly costly forms of exclusion should factor in antitrust liability in deciding whether to proceed.

Firms are less likely to make the investment in exclusion when either of two conditions is present: (1) exclusion of any rival is unlikely to create durable¹²¹ market power since other rivals can freely enter; or (2) investments in exclusion are unnecessary since structural entry barriers are alone sufficient

118 Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 268 (1981); John S. McGee, *Predatory Pricing Revisited*, 23 J.L. & ECON. 289, 292 (1980).

119 Susan A. Creighton et al., *Cheap Exclusion*, 72 ANTITRUST L.J. 975 (2005).

120 See Daniel A. Crane, *The Paradox of Predatory Pricing*, 91 CORNELL L. REV. 1, 3 (2005) (analyzing incentives of private plaintiffs to bring challenges to exclusionary conduct even when those claims are unlikely to succeed).

121 Durable here means of sufficient duration to recoup the exclusionary investment. See generally C. Scott Hemphill, Note, *The Role of Recoupment in Predatory Pricing Analyses*, 53 STAN. L. REV. 1581 (2001) (arguing that a major difficulty for successful predatory pricing is the inability to achieve high-enough profits from reduced competition in order to make the anticompetitive price cut worthwhile).

to deter new entry. To illustrate, consider two corporate CEOs in polar opposite market positions but each with a similar disincentive to invest in exclusionary conduct. The first runs an online retail store for popular and widely available electronic goods. This firm has no market power in a conventional sense and would be unlikely to invest in excluding any online competitor in order to increase its pricing discretion since any number of others could easily take its place. The second CEO runs a pharmaceutical firm with a branded drug under patent for another six years and no close therapeutic substitutes. Several generic drug manufacturers are thought to be exploring ways to market a generic substitute, but the possibility that they will be able to obtain FDA approval before the expiration of the patent is extremely low. The CEO makes clear to his executives that the generics are to be left alone. Since they are so unlikely to enter anyway, taking actions that could be even suggestive of anticompetitive intent would create unnecessary risk and expense.

These two CEOs represent the firms on the opposite ends of the curve at the same point on the x-axis. One has no market power in a conventional sense and the other has a high degree of it, and yet both face equally strong disincentives to engage in exclusionary conduct. In between them, at the center of the curve, reside the firms most likely to engage in exclusionary conduct. These firms operate in markets with middling entry barriers and hence enjoy middling market power in a conventional sense. They have more to gain by excluding rivals than our hypothesized CEOs because (1) if the existing rivals are excluded, it is uncertain that others will be able to enter, and (2) unless these rivals are excluded through anticompetitive means, there is a good chance that they will enter.

The second factor relating to the competitive counterfactual is the probability that but for the exclusionary conduct the market would be more competitive. Here again, entry barriers form a convex curve. Where entry barriers are low, it is probable that the market is already as competitive as it can be. Not only will our retail CEO not obtain market power by excluding a competitor, but he operates in a market that is fully competitive. There is no plausible competitive counterfactual. Our pharmaceutical CEO differs insofar as he presently enjoys conventional market power—he prices far above competitive levels. But he is the same insofar as there is also no plausible competitive counterfactual. Assume that through mistake or spite the pharmaceutical CEO takes anticompetitive action against the generics. Consumer interests are no worse off than they would have been otherwise, since the generics would not have entered even absent the conduct.

For purposes of exclusion analysis, then, the degrees of market power arising from entry barriers that should be of greatest interest to antitrust policy are those somewhere between the poles—not, as usually assumed, those at the heights. This perhaps surprising observation suggests that antitrust law has been wrong to ask for proof of “high” entry barriers in exclusion cases. The entry barriers most likely to be associated with exclusionary conduct are those that narrow the number of potential entrants but are surmountable by

a small set of potential rivals. It is in those cases that dominant firms in the market have most to gain, and consumers most to lose, from exclusion strategies.

B. Profit Margins

Profit margins are a tempting focus in a direct evidence analysis because of the intuition that dominant firms earn supracompetitive profits. But profit margin analysis has long been recognized as problematic, both for its tendency to exonerate firms that actually do possess economic power and to condemn those that do not. This is true of both kinds of profit margins—operating or fully allocated margins and direct or incremental cost margins. And it is true of any analytical tool that makes market power assumptions based on profit margin analysis.

1. Inability to Exclude Possibility of Market Power

One immediate problem with inferring market power from profit margins is that this approach is at best a one-way street. Even if the presence of high profit margins could demonstrate the presence of market power, their absence cannot rule it out. This was perhaps Judge Learned Hand's most penetrating observation in *United States v. Aluminum Co. of America*,¹²² where the Second Circuit rejected Alcoa's claim that its ordinary profit margins negated any inference of market power.¹²³ Hand recognized that dominant firms may internally consume their monopoly profits through sloth, waste, and managerial excess, which show up on the balance sheet as costs of the firm and therefore keep accounting profit margins in the range of competitive industries.¹²⁴ As Nobel laureate John Hicks famously put it, "[t]he best of all monopoly profits is a quiet life."¹²⁵

Depending on how profit margins are calculated, the absence of monopoly profits may not show up on the balance sheets of firms with market power for another reason: when business assets such as patents, plants, or corporate divisions that produce market power are sold, the seller retains the monopoly value as part of his remuneration.¹²⁶ If the asset acquisition costs are amor-

122 148 F.2d 416 (2d Cir. 1945).

123 *Id.* at 427.

124 *Id.* ("Many people believe that possession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; that immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress; that the spur of constant stress is necessary to counteract an inevitable disposition to let well enough alone.")

125 J.R. Hicks, *Annual Survey of Economic Theory: The Theory of Monopoly*, 3 *ECONOMETRICA* 1, 8 (1935).

126 See, e.g., Richard A. Posner, *The Material Basis of Jurisprudence*, 69 *IND. L.J.* 1, 10 (1993) (observing that "the modern purchaser of stock in a corporation that has a patent or other monopoly buys a right to receive a proportionate share of the firm's expected monopoly profits, but the right yields him only a competitive expected return on his investment, not a monopoly return, because the expected monopoly profits have been discounted in the purchase price of the stock").

tized, then the producing firm will not show abnormal operating profits because those profits have been transferred to another firm's balance sheet.¹²⁷ Given the high mobility of market-power producing assets, many firms that possess market power in an economic sense do not earn monopoly profits in an accounting sense.

2. Operating Margins and the Bain Index

Profitability calculations supporting a market power determination could be performed on either a "direct" or "fully allocated" cost basis. Under ordinary accounting conventions, direct costs are those incremental to a particular product line whereas indirect costs are those that support the overall business.¹²⁸ Revenues minus direct costs yields direct margins and revenues minus total costs (the sum of direct and indirect costs) yields operating margins. Neither profitability measure provides a satisfactory indicator of market power.

First, consider operating margins. Economist Joe Bain, whose structuralist approach had a profound effect on U.S. antitrust policy during the 1950s and 1960s,¹²⁹ proposed a market power index approaching an operating margin analysis.¹³⁰ It would measure monopoly power based on a formula of revenues minus currently incurred material costs, wage and salaries, depreciation on capital investments, the interest rate on capital funds, and the owner's investment.¹³¹

Operating margin indices like the Bain Index flounder on the allocation of joint and common costs to particular product segments. Trying to quantify profits on an operating or fully allocated basis for any particular business segment produces economically arbitrary results,¹³² because the allocation of joint and common costs to business lines is arbitrary from an economic perspective.¹³³ From an accounting perspective, firms allocate costs for many reasons that bear no relationship to market power—such as tax treatment,

127 See W. KIP VISCUSI ET AL., *ECONOMICS OF REGULATION AND ANTITRUST* 260 (3d ed. 2000) (observing that "[a]ssets that have been sold may also include in their accounting value the present value of monopoly profits, and this makes it impossible to detect economic profits"); Richard Squire, *Antitrust and the Supremacy Clause*, 59 *STAN. L. REV.* 77, 127 (2006) (noting that if a monopoly license is sold at a public auction, the sales price will equal the difference between the purchaser's expected profits and a normal rate of return on capital).

128 MICHAEL W. MAHER ET AL., *MANAGERIAL ACCOUNTING* 453 (11th ed. 2012).

129 See Daniel Crane, *Structuralism: Introduction*, in *THE MAKING OF COMPETITION POLICY* 318, 318–20 (Daniel A. Crane & Herbert Hovenkamp eds., 2013).

130 Joe S. Bain, *The Profit Rate as a Measure of Monopoly Power*, 55 *Q.J. ECON.* 271 (1941).

131 VISCUSI ET AL., *supra* note 127, at 260.

132 See Franklin M. Fisher & John J. McGowan, *On the Misuse of Accounting Rates of Return to Infer Monopoly Profits*, 73 *AM. ECON. REV.* 82, 82 (1983).

133 Elizabeth M. Bailey et al., *Making Sense of "Apportionment" in Patent Damages*, 12 *COLUM. SCI. & TECH. L. REV.* 255, 261 (2011); William J. Baumol, *On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry*, 67 *AM. ECON. REV.* 809, 809 (1977); Louis Kaplow & Carl Shapiro, *Antitrust*, in 2 *HANDBOOK OF LAW AND ECONOMICS* 1073, 1087–88

accounting convenience, measuring value for casualty insurance purposes, and delineating contractual obligations to joint venture partners.¹³⁴ For example, standard accounting conventions require firms to distinguish between main products and by-products and only allocate joint costs to main products.¹³⁵ Thus, if kerosene is considered a by-product of gasoline production, then the joint and common costs of petroleum extraction and refining would be allocated entirely to gasoline and not to kerosene.¹³⁶ Kerosene sales might thus look extremely profitable on an accounting basis—implying market power to anyone naïvely using operating profits to detect market power.

Accounting profits have little relevance to the way firms actually make pricing decisions. Unless rate regulated, firms do not generally price individual products based on an allocation of joint and common costs. But suppose that they did.¹³⁷ To maximize output, firms would allocate joint costs inversely to the elasticity of demand.¹³⁸ In that case, the operating margins of the different units within the firm would tend to equalize, with the result that business segments where the firm faced relatively little competition (and hence inelastic demand) would show relatively similar operating profits to business segments where the firm faced stiffer competition and hence greater elasticity.¹³⁹ The upshot would be that profit margins would conceal anything meaningful about the firm's economic power in its various product segments.

These are reasons that the absence of supranormal operating profits does not indicate the absence of market power. It does not follow, however, that the existence of “excess profits” affirmatively demonstrates the presence of market power in a sense relevant to antitrust law, as Bain claimed.¹⁴⁰ As already seen, operating profits as to any particular product segment may

(A. Mitchell Polinsky & Steven Shavell eds., 2007); Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548, 595 (1969).

134 MAHER ET AL., *supra* note 128, at 453–97.

135 RONALD W. HILTON ET AL., COST MANAGEMENT 356 (2d ed. 2003).

136 *Id.*

137 Einer Elhauge, *Why Above-Cost Price Cuts to Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power*, 112 YALE L.J. 681, 734–35 (2003) (discussing allocation of joint and common costs in airline pricing).

138 See 1 ALFRED E. KAHN, THE ECONOMICS OF REGULATION 77–83 (1970); WILLIAM J. BAUMOL & DAVID F. BRADFORD, *Optimal Departures from Marginal Cost Pricing*, 60 AM. ECON. REV. 265 (1970); F.P. Ramsey, *A Contribution to the Theory of Taxation*, 37 ECON. J. 47 (1927).

139 To illustrate, assume a firm with two product lines, A and B. A is a highly differentiated product whose customers have few close substitutes. In a conventional sense, this is a product over which the firm has considerable market power. B is a more homogenous product with good substitutes. The firm will tend to allocate joint and common costs to A since that will diminish sales of A less than it would of B. The upshot is that the operating profit margins on A and B may look similar even though the firm has conventional market power over A and not over B.

140 Bain, *supra* note 130, at 274 (“Although excess profits (a price-average cost discrepancy) are thus not a sure indication of monopoly, they are, *if persistent*, a probable indication.”).

represent nothing other than an economically arbitrary cost allocation scheme. Further, a firm's high profit margins may be nothing but a reflection of Ricardian rents¹⁴¹—profits derived from scarce productive resources conferring a cost advantage, or more generally, superior productive efficiency.¹⁴² When a firm's profits reflect Ricardian rents, there is no competitive counterfactual, since the scarcity of the relevant assets means that the general market price will reflect the efficiency of the least efficient producers.¹⁴³

3. Direct Margins and the Lerner Index

The Bain Index has obtained little traction as a measure of market power in economic literature or judicial precedent. By contrast, the Lerner Index, which quantifies market power based on the excess of price over direct or marginal cost,¹⁴⁴ is widely discussed as an objective economic measure of market power.¹⁴⁵ The Lerner Index nominally faces no arbitrary cost allocations,¹⁴⁶ since it only takes into account costs directly attributable to a particular product line. It is predicated on the assumption that, under perfect competition, firms price at marginal cost. Hence the magnitude of market power is simply the magnitude of the deviation from marginal cost.

The Lerner Index is misaligned with the competitive counterfactual since most markets could not function if prices were equated to marginal cost. This is well recognized as to dynamic markets, like pharmaceuticals, where large fixed investments in research and development (R&D) are necessary to the creation of new technologies.¹⁴⁷ But it is also true as to any

141 DAVID RICARDO, ON THE PRINCIPLES OF POLITICAL ECONOMY, AND TAXATION 91–108 (R.M. Hartwell ed., 1971).

142 See Ariel Katz, *Making Sense of Nonsense: Intellectual Property, Antitrust, and Market Power*, 49 ARIZ. L. REV. 837, 868–69 (2007).

143 See Michael A. Williams et al., *Estimating Monopoly Power with Economic Profits*, 10 U.C. DAVIS BUS. L.J. 125, 143 (2010) (explaining how accounting practice of carrying assets at the lower of historical or market value may generate large accounting profits that reflect only Ricardian rents but may be easily mistaken for market power).

144 See *supra* text accompanying note 12.

145 See Kaplow, *supra* note 7 at 446; Landes & Posner, *supra* note 12, at 938.

146 This statement gives the Lerner Index the benefit of the doubt, since the determination of whether costs are direct or indirect is often a tremendously complicated task.

147 See, e.g., ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 40 (2007) (discussing the false positive created by applying Lerner Index to the pharmaceutical industry where firms expend millions of dollars in research and development to create new drugs); Kenneth G. Elzinga & David E. Mills, *The Lerner Index of Monopoly Power: Origins and Uses*, AM. ECON. REV.: PAPERS & PROCEEDINGS, May 2011, at 558, 559 (noting that the Lerner Index “does not encompass dynamic effects that are relevant to the social optimum generated by technological change, innovation, and learning by doing”); Jith Jayaratne & Janusz A. Ordovery, *Economics and Competition Policy: A Two-Sided Market?*, 27 ANTITRUST 78, 79 (2012) (observing that in markets characterized by “very high fixed costs and relatively modest variable costs, there is little probative value in side-specific Lerner Indices”); Robert S. Pindyck, *The Measurement of Monopoly Power in Dynamic Markets*, 28 J.L. & ECON. 193, 194 (1985) (criticizing use of Lerner Index to gauge market power in dynamic markets).

market with significant fixed costs,¹⁴⁸ which is most of the industries where big-ticket antitrust cases occur today. For example, computer programming, Internet search engines, microprocessors, telecommunications services, pharmaceuticals, news media, film, music recording, aviation, and tertiary health care are all industries characterized by very high fixed costs. One could safely say, with Landes and Posner, that use of the Lerner Index to infer market power would be inappropriate “[w]hen the deviation of price from marginal cost . . . simply reflects certain fixed costs,”¹⁴⁹ but that is such a ubiquitous condition in the modern economy that it seems hard to justify employing the Lerner Index in antitrust cases with the caveat that it doesn’t apply to high fixed cost industries. Rather than directing the fact finder toward factors likely to clarify the market power question, it bogs down the process in the doldrums of cost accounting with the likely prospect that, in the end, the Lerner Index will not help at all. Recognizing that the Lerner Index channels purist economic theory rather than plausible assumptions about markets, most courts have rejected application of the Lerner Index in antitrust cases.¹⁵⁰

Recently, however, a variant of the Lerner Index has cropped up in the 2010 Horizontal Merger Guidelines, with potentially expansive implications

148 See 2A AREEDA ET AL., *supra* note 1, ¶ 516g, at 126 (“No matter how accurately measured, of course, a substantial excess of price over marginal cost does not necessarily bring excess returns on investment. A firm generates excess profit only if price exceeds its average total cost, including its cost of capital.”); DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 92 (3d ed. 2000) (“Prices may exceed marginal cost even though profits are not above competitive levels. For example, if there are large enough fixed costs, profits may be zero even if price exceeds marginal cost.”); CARL SHAPIRO, *ANTITRUST, INNOVATION, AND INTELLECTUAL PROPERTY: TESTIMONY BEFORE THE ANTI-TRUST MODERNIZATION COMMISSION, ANTI-TRUST MODERNIZATION COMM’N 6–7* (2005), available at <http://faculty.haas.berkeley.edu/shapiro/amcexclusion.pdf> (testimony of Carl Shapiro, Professor, University of California at Berkeley) (explaining that it is an error to infer genuine market power from the gap between marginal cost and price and that, while the “error may be more common or more pronounced in innovative industries . . . it is not confined to such industries” since in many industries “competitive price can easily and significantly exceed marginal cost”).

149 Landes & Posner, *supra* note 12, at 939.

150 See, e.g., *United States v. Eastman Kodak Co.*, 63 F.3d 95, 109 (2d Cir. 1995) (“Certain deviations between marginal cost and price, such as those resulting from high fixed costs, are not evidence of market power.”); *Kaiser Found. v. Abbott Labs.*, No. CV 02-2443-JFW (FMOx), 2009 WL 3877513, at *9 (C.D. Cal. Oct. 8, 2009) (“[T]he pricing difference between a brand name drug . . . and its generic equivalent does not reflect supra-competitive pricing, but the fact that . . . generics do not incur the substantial research and development expenses incurred by companies that develop and produce brand name drugs.”); *In re Fresh Del Monte Pineapples Antitrust Litig.*, No. 04-md-1628 (RMB) (MHD), 2009 WL 3241401, at *7 n.9 (S.D.N.Y. Sept. 30, 2009) (evidence of a “huge operating profit to sales ratio” insufficient to establish monopoly power), *aff’d sub nom.* *Am. Banana Co. v. J. Bonafede Co.*, 407 F. App’x 520 (2d Cir. 2010); *In re Wireless Tel. Servs. Antitrust Litig.*, 385 F. Supp. 2d 403, 422 (S.D.N.Y. 2005) (“[T]he test for the existence of market power is the ability to control price or exclude competition, not simply pricing a product above marginal cost” (citation omitted)).

for assumptions about market power.¹⁵¹ One of the tools that the agencies have long used to define relevant markets is Critical Loss Analysis, which seeks to determine whether the predictive actual loss in sales attendant to a small but significant price increase would exceed the critical loss—i.e., the levels of loss at which the price increase would become unprofitable because the revenues lost from customers who stopped buying would exceed the revenues gained from customers who continued to buy at higher prices.¹⁵² The key driver of predicted loss is the elasticity of demand. Traditionally, the agencies estimated demand elasticity through a variety of tools including econometric models, natural experiments, price correlations, and documentary or witness evidence.¹⁵³ However, in scholarly writings,¹⁵⁴ the 2010 Guidelines, and a successful enforcement action against H&R Block,¹⁵⁵ the agencies have proposed or utilized a more “direct” means of proving elasticity—through the merging firms’ profit margins on an incremental cost basis. The net effect is to reintroduce the Lerner Index through the back door as a means of demonstrating market power in merger cases—a technical move that could dramatically expand the scope of federal anti-merger enforcement.

Critics of the agencies’ new approach argue that introducing the Lerner approach to merger analysis risks very significant false positives, as large segments of the economy characterized by product differentiation and high fixed costs will become inherently suspect in merger analysis.¹⁵⁶ The Lerner Index is useful in specifying elasticities only under textbook conditions such as “where competition is straightforward to model and thus effectively static, short run marginal costs control the price decision, and both the demand and cost curves are smooth around the equilibrium point.”¹⁵⁷ Since most

151 See generally Joseph J. Simons & Malcolm B. Coate, *Should DOJ’s Controversial Approach to Market Definition Control Merger Litigation, the Case of US v. H&R Block*, (Oct. 24, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2225395 (observing that the minor changes to the recent Merger Guidelines introduce an analytical approach to defining markets that would significantly expand the potential for merger enforcement).

152 Barry C. Harris & Joseph J. Simons, *Focusing Market Definition: How Much Substitution Is Necessary?*, in 12 RESEARCH IN LAW AND ECONOMICS 207, 211 (Richard O. Zerbe, Jr. ed., 1989).

153 Simons & Coate, *supra* note 151, at 5.

154 See, e.g., Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E. J. THEORETICAL ECON., no. 1, 2010, at 12 (discussing the calculation of upward pricing pressure); Joseph Farrell & Carl Shapiro, *Upward Pricing Pressure and Critical Loss Analysis: Response*, CPI ANTITRUST J., Feb. 2010, at 6, available at <https://www.competitionpolicyinternational.com/assets/Free/Shapiro-Farrell FEB10.pdf> (arguing that average incremental cost is the appropriate measure for upward pricing pressure).

155 See *United States v. H&R Block, Inc.*, 833 F. Supp. 2d 36 (D.D.C. 2011).

156 See Jay Ezielev & Janusz A. Ordovery, *The 2010 Horizontal Merger Guidelines: A Static Compass in a Dynamic World?*, ANTITRUST SOURCE, Oct. 2010, at 2; Simons & Coate, *supra* note 151.

157 Simons & Coate, *supra* note 151, at 11 (footnote omitted).

sellers of differentiated goods price well above marginal cost, the introduction of a margin-based analysis would lead to a baseline presumption that a large number of mergers in the modern economy will create market power or facilitate its exercise.

It remains to be seen whether courts will embrace the agencies' new approach. Notwithstanding that neither operating nor direct margins have received broad judicial or economic acceptance as market power indicators, the impulse to rely on firm profitability to infer market power retains some irresistible allure.

C. *Price Discrimination and Control over Prices*

Two other putative criteria of direct proof of market power—the existence of price discrimination and control over prices—can be lumped together and disposed of quickly. First, some courts¹⁵⁸ and commentators¹⁵⁹ have suggested that the presence of price discrimination provides direct evidence of market power. This claim is predicated on the textbook definition of market power as pricing above marginal cost and the assumption that, under perfect competition, sellers are incapable of engaging in price discrimination.¹⁶⁰ It is thus of a kind with reliance on the Lerner Index to infer market power from supramarginal cost pricing. Both methods measure market power as a deviation from theoretical perfect competition rather than a realistic competitive counterfactual.

The presence of price discrimination has little, if any, probative value as evidence of market power. Price discrimination is ubiquitous and only weakly correlated, if at all, with the presence of market power. It is now well established in the economic literature that price discrimination is possible and common under competitive conditions.¹⁶¹ Indeed, it is often the presence of competition that forces firms to engage in discriminatory pricing.¹⁶² Even if the social welfare consequences of imperfect price discrimination are ambiguous and highly contingent upon assumed demand characteristics,¹⁶³

158 See *supra* text accompanying notes 80–84.

159 See 2A PHILLIP E. AREEDA ET AL., *ANTITRUST LAW* ¶ 522, at 125 (1995) (noting that price discrimination “can usefully show the existence and degree of market power if cost differences (or their absence) are readily determinable”); Pitofsky, *supra* note 42, at 1844 (stating that profit levels and price discrimination are essential to “a fair appraisal of market power”).

160 Benjamin Klein & John Shepard Wiley Jr., *Competitive Price Discrimination as an Antitrust Justification for Intellectual Property Refusals to Deal*, 70 *ANTITRUST L.J.* 599, 625 (2003).

161 Mark Armstrong & John Vickers, *Competitive Price Discrimination*, 32 *RAND J. ECON.* 579, 580–82 (2001); Klein & Wiley, *supra* note 160, at 608–11; Michael E. Levine, *Price Discrimination Without Market Power*, 19 *YALE J. ON REG.* 1, 6 (2002).

162 WILLIAM J. BAUMOL, *REGULATION MISLED BY MISREAD THEORY* 2–3 (2006); see also Elhauge, *supra* note 137, at 686–87 (arguing that in competitive markets incumbent airlines maximize their ability to incur joint and common costs by allocating a large share of costs to high-demand buyers).

163 See, e.g., Richard Schmalensee, *Output and Welfare Implications of Monopolistic Third-Degree Price Discrimination*, 71 *AM. ECON. REV.* 242, 246 (1981) (noting that some price dis-

the presence of price discrimination is not a useful marker for the presence of market power.

Control over prices fares no better. The idea here is to locate market power whenever a seller sets its price and output levels independently of the pricing and output decisions of other firms. It is true that in a textbook sense, market power may be defined as control over prices,¹⁶⁴ but that definition has to be relative to some undefined competitive ideal. Every seller of a heterogeneous product faces a downward sloping demand curve and therefore has a degree of pricing discretion.¹⁶⁵ Competition between differentiated sellers—on price, innovation, quality, and variety—may be vibrant, even though each firm is less immediately reactive to its rivals' price and output changes than firms in homogeneous markets.¹⁶⁶ To find market power simply because a seller is not a price taker would impose a fantastical construct on antitrust enforcement in differentiated goods markets.

The alternative would be to associate pricing discretion with market power only when it exceeded some level—but what level? The temptation would be to disassociate pricing discretion and market power so long as the prices were not significantly above cost. But then the analysis comes back full circle to all of the infirmities with the profit margin-oriented analysis discussed previously.

Another peculiarity with associating pricing discretion with market power is that homogeneous pricing in differentiated goods markets raises antitrust concerns over collusion, or at least conscious parallelism.¹⁶⁷ It is precisely because firms have pricing discretion over differentiated goods that suspicions are raised when sellers price such goods in lockstep. It would be an odd antitrust policy that suspected sellers of collusion when their prices were homogeneous and insisted they had unilateral market power whenever their prices appeared heterogeneous.

D. Pricing Discontinuity

One seemingly obvious way to establish the presence of market power is through evidence of a sudden change in the firm's pricing or output behavior following the allegedly anticompetitive act. For example, if a firm engages in the proverbial, exclusionary act of blowing up its competitor's

crimination can improve social welfare by making it profitable to sell to otherwise unprofitable markets); Marius Schwartz, *Third-Degree Price Discrimination and Output: Generalizing a Welfare Result*, 80 AM. ECON. REV. 1259, 1259 (1990) (noting that welfare results from price discrimination depend on certain assumptions of demand characteristics); Hal R. Varian, *Price Discrimination and Social Welfare*, 75 AM. ECON. REV. 870, 875 (1985) (noting that an increase in output is a prerequisite to an increase in welfare).

164 *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956) ("Monopoly power is the power to control prices or exclude competition.").

165 JOAN ROBINSON, *THE ECONOMICS OF IMPERFECT COMPETITION* 92–94 (1938).

166 Herbert Hovenkamp, *Mergers with Dominant Firms: The Lundbeck Case*, CPI ANTI-TRUST CHRON., Dec. 2011, at 5.

167 HOVENKAMP, *supra* note 33, § 4.6c, at 182–85.

factory and then immediately raises its prices by fifty percent, there would seem to be clear proof of deviation from the competitive counterfactual occasioned by an anticompetitive act. In this spirit, the Horizontal Merger Guidelines recognize that “[e]vidence of observed post-merger price increases or other changes adverse to consumers is given substantial weight” as direct evidence of anticompetitive effects.¹⁶⁸ This approach has also been invoked in non-merger contexts. In successfully challenging Unocal’s alleged defrauding of the California Air Resources Board (CARB) as monopolistic, the FTC argued that market power could be directly inferred from the delta between the zero royalty rate that Unocal represented would be charged before the deception and the high royalty rates it charged after the deception.¹⁶⁹

While price discontinuity data could sometimes be useful as direct evidence of market power acquired from anticompetitive conduct, this tool is likely to be useful in only a small number of cases. For it to be useful, there need to be two clearly delineated time periods separated by a line of sharp discontinuity and the absence of other likely causal factors. This is not a pattern observed in most antitrust cases.

Mergers would be most likely to generate such a pattern, and in the days before the Hart-Scott-Rodino Act’s pre-merger notification regime, merger cases were often contested based on a comparison of prices before and after the merger.¹⁷⁰ But because of Hart-Scott, the vast majority of merger cases are decided before the merger has been consummated and therefore before anticompetitive effects from the merger would appear.¹⁷¹ Further, merging parties aware that the agencies and courts will use pricing discontinuity to determine anticompetitive effects have an incentive to muddy the waters by forgoing monopoly profits for some period following a merger and only raising their prices later in time when supervening events have made it difficult to prove that the merger was to blame.

In non-merger cases, pricing discontinuity is even more complicated analytically and as a matter of proof. Here, it is necessary to draw some distinctions between upward discontinuity and downward discontinuity. In the merger context, only upward pricing discontinuity is relevant since the question is whether the merger enabled the merging parties to exercise a new degree of market power.¹⁷² By contrast, in monopolization and rule of rea-

168 HORIZONTAL MERGER GUIDELINES, *supra* note 2, at § 2.1.1, at 3.

169 Complaint Counsel’s Proposed Findings of Fact, Conclusions of Law, and Order ¶ 2874, *In re Union Oil Co. of Cal.*, No. 9305 (F.T.C. Mar. 9, 2005), 2005 WL 906396, available at <http://www.ftc.gov/os/adjpro/d9305/050309ccfofv04.pdf> (“[D]irect evidence of monopoly power can be measured by comparing the actual royalty rates to a competitive benchmark. The proper competitive benchmark is the royalty-free representation that Unocal made to CARB. Since Unocal is seeking royalties significantly above that level, and has received or is likely to receive these royalties, Unocal has monopoly power. Supra-competitive royalty prices are direct evidence of Unocal’s monopoly power.”).

170 *See Crane*, *supra* note 19, at 52–53.

171 *Id.*

172 *See supra* text accompanying notes 153–54.

son cases, there is also the possibility that incumbent firms maintained previously lawful market power through anticompetitive acts.¹⁷³ In such a case, the pricing discontinuity would be downward but for the anticompetitive act. But, if the anticompetitive act was successful, then no pricing change will be observed. Hence, in a broad category of monopoly maintenance and rule of reason cases, the absence of downward pricing discontinuity is the unlawful market power—something that often cannot be directly observed.

Even when it can be directly observed—as when an incumbent succeeds in delaying entry for a period of time, the entrant finally enters, and prices fall—there are analytic risks in equating upside and downside effects as though they were symmetrical. When a market has been functioning competitively and a firm or group of firms suddenly acquires market power and raises its prices, the probability of a competitive counterfactual is plausible. The converse is less likely to be true. Sudden price decreases in a market following new entry are less suggestive of a competitive counterfactual in the previous era because the markets may have been previously unsuitable to competition at the subsequent level.

For example, in the pharmaceutical industry, the first generic producer to enter the market generally sets its price at seventy to eighty percent of the branded price, with each successive generic entrant driving down the price of generics by about ten percent until prices level off near marginal cost.¹⁷⁴ To infer market power in the branded firm and early generics from this abrupt pricing discontinuity would be to conclude that market power of the kind that antitrust law should police is inherent in the early stages of virtually all pharmaceutical products. What is objectionable about this possibility is not merely its vast scope, but its failure to align antitrust policy with its normative foundations in the competitive counterfactual. If pioneer drug companies were forced to price at marginal cost immediately upon introducing new drugs, they could never recoup their fixed R&D costs and hence would have no incentives to invest in R&D in the first place.¹⁷⁵ In most cases, the drugs on which generics offer radically lower prices would not exist if the generics were able to enter very early in the drug's commercial cycle. This is not to say

173 See, e.g., *United States v. Microsoft Corp.*, 253 F.3d 34, 80–81 (D.C. Cir. 2001) (discussing monopoly maintenance theory).

174 See Richard E. Caves et al., *Patent Expiration, Entry, and Competition in the U.S. Pharmaceutical Industry*, in *BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS I*, 35–36, 44–45 (Martin Neil Baily & Clifford Winston eds., 1991) (explaining that “with a single generic entrant, the generic price is roughly 60 percent of the branded drug price” and that “the entry of additional generic producers depresses the prices of existing generic producers much more severely than the price of the original innovator”). See generally David Reiffen & Michael R. Ward, *Generic Drug Industry Dynamics*, 87 *REV. ECON. & STAT.* 37 (2005). Conversely, the price of the branded drug often increases slightly upon generic entry as the branded firm prices to the less elastic demand of patients who strongly prefer the brand over the generic. Darius Lakdawalla & Tomas Philipson, *Does Intellectual Property Restrict Output? An Analysis of Pharmaceutical Markets*, 55 *J.L. & ECON.* 151, 168 (2012).

175 See *In re Remeron Direct Purchaser Antitrust Litig.*, 367 F. Supp. 2d 675, 682 (D.N.J. 2005).

that exclusionary or collusive acts by branded firms that delay entry by generics are incapable of thwarting a competitive counterfactual. But the mere observation of a sharp price increase upon generic entry does not in itself demonstrate the existence of a competitive counterfactual. This point could be extended to any market in which first movers sink considerable costs into the creation of technologies with public good features—easy appropriability at low cost by subsequent entrants.¹⁷⁶

Two more significant limitations on proof of market power through pricing discontinuity warrant mention. First, as noted earlier, pricing discontinuity is most powerful as proof of market power when it is sharp. But relatively few monopolization or rule of reason cases are about temporally concentrated anticompetitive acts that produce clear before and after pictures. More typically, plaintiffs allege a course of conduct that diminished the market's competitiveness over time. In such cases, pricing trends rather than sharp discontinuities will appear. While pricing trends could theoretically still support an inference of market power, the storyline becomes far more circumstantial and inconclusive as the discontinuity becomes progressive.¹⁷⁷

Second, even when the discontinuity is sharp, one has to avoid easy confusion of causation and correlation. An event challenged as anticompetitive may create an exogenous shock to the market resulting in a dramatically different pricing structure than previously without there being a plausible competitive counterfactual. Two cases in which this was possibly true are considered in Sections III.C and D. The mere fact of a sudden shock to the market resulting in higher prices does not demonstrate the acquisition of market power in the sense relevant to antitrust unless it involves conduct that weakens the competitive process and deprives society of a but-for state of affairs in which competition would have generated an improved state of affairs.

E. Inferring Market Power from Exclusionary Conduct

Some courts have held that market power can be proven directly by “the exclusion of competition.”¹⁷⁸ This criterion is singularly confusing and misleading. As a doctrinal matter, proving market power through exclusionary conduct contravenes a line of cases holding that exclusionary conduct that does not distort the overall competitiveness of the market is not actionable under the antitrust laws.¹⁷⁹ The frequently repeated maxim that antitrust

176 ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 672–76 (4th ed. 1998).

177 See generally Michael A. Carrier, *A Tort-Based Causation Framework for Antitrust Analysis*, 77 *ANTITRUST L.J.* 991 (2011) (discussing causation in the context of antitrust analysis).

178 See, e.g., *Tops Mkts., Inc. v. Quality Mkts., Inc.*, 142 F.3d 90, 97–98 (2d Cir. 1998) (observing that excluding competition is one way courts have inferred market power); see *supra* text accompanying note 82 for further citations.

179 *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 137 (1998) (explaining that even malicious business torts against competitors do not translate into antitrust violations absent proof of a reduction of the competitiveness of the market); *Brooke Grp. Ltd. v. Brown &*

law protects “*competition*, not *competitors*”¹⁸⁰ would make little sense if market power could be established simply by the exclusion of competitors. It would amount to the inescapable circularity that a plaintiff cannot recover for exclusionary acts unless she establishes that the acts create market power, but that market power can be inferred from the commission of exclusionary acts.

More fundamentally, the proposition that market power can be inferred from the exclusion of competition rests on one of three possible premises, none of which is sufficient to justify the proposition. First, the maxim might be justified on a view that firms would only seek to exclude rivals if they could obtain economic rents as a result. That view is erroneous since firms may have many reasons for seeking to exclude rivals without any expectation of obtaining market power or monopoly profits. A firm might seek to exclude a rival in order to expand its own market share or sales at competitive prices.¹⁸¹ A diversified firm selling to a variety of customers with differentiated demand functions might try to exclude a rival from “skimming the cream” by selling to just the least demand-elastic customers and thus disrupting an efficient and competitive cost-allocation scheme.¹⁸² Firms might try to exclude rivals from certain market positions to prevent them from appropriating trade secrets, again without any expectation of being able to charge supracompetitive prices. And then there are the firms alternately described as motivated by “personal pique”¹⁸³ or “pure malice”¹⁸⁴ who attack rivals just for the hell of it. In short, even firms without market power or hope of obtaining it engage in many species of conduct that could be characterized as “exclusionary.”

Second, it might be thought that the exclusion of competition is a marker for market power since only firms with market power are capable of excluding competitors. But that is also untrue. Many exclusionary acts require no market power at all. A street hotdog vendor who pushes a rival’s cart into the path of an oncoming taxi has excluded a rival (and a taxi incidentally), even though the vendor remains a perfect price taker.

This is not to deny the existence of what Thomas Krattenmaker, Robert Lande, and Steven Salop have called “Bainian market power,” or the power

Williamson Tobacco Corp., 509 U.S. 209, 225 (1993) (“Even an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws.”).

180 That maxim originated in *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962), and has been repeated in Supreme Court and lower court decisions many times since.

181 See, e.g., Christopher R. Leslie, *Cutting Through Tying Theory with Occam’s Razor: A Simple Explanation of Tying Arrangements*, 78 TUL. L. REV. 727 (2004) (explaining how tying arrangements can be used to lock in sales in multiple markets without impairing overall market competitiveness).

182 See generally Elhaage, *supra* note 137, at 734–43 (discussing the incentives of market entrants to focus on sales to high-demand buyers and circumstances where this activity is most likely to occur).

183 *NYNEX*, 525 U.S. at 137.

184 *Brooke Grp.*, 509 U.S. at 225.

to change a market's structure by raising rivals' costs.¹⁸⁵ Krattenmaker et al. model Bainian power as the ability to increase the rivals' production costs in order to make rivals' products less competitive with the sellers' products.¹⁸⁶ Bainian power requires an outward shift in a rival's cost curve in way that reduces the demand elasticity facing the seller and hence enables it to expand its market share and increase its price.¹⁸⁷ Merely observing the exclusion of rivals without these other effects would not show Bainian power. But showing a price increase attendant to an anticompetitive act raises the analytical difficulties discussed in Section II.C. And if one can show that an exclusionary act facilitates a price increase, one does not need to rely on the exclusionary act to infer market power since the price increase itself does that work.

Finally, one might justify "exclusion of competition" as a means of directly proving market power by clarifying that the exclusion of rivals would not qualify unless it could be shown that competition as a whole was impaired, in the sense that the defendant obtained the power to increase price above competitive levels or reduce output. But at that point the "exclusion of competition" criterion expands to "obtains market power through the exclusion of competitors," which does nothing to advance the analysis since it assumes some extrinsic proof of market power. In short, evidence that a firm took measures to exclude rivals does not show that the firm has market power.

F. *Diversion Ratios*

One of the chief innovations in the 2010 Merger Guidelines is the recognition that whether a firm obtains market power from a merger may be a function of the competitive proximity between the merging firms. The conventional approach in merger cases was to ask whether two firms were in the same relevant market and then treat all firms within the market as equally proximate competitors. The revised Guidelines recognize that, at least in differentiated goods markets, the extent to which customers view the products sold by the merging firms as each other's best substitute may be more indicative of market power. Hence, the Guidelines require examination of the diversion ratio—"the fraction of unit sales lost by the first product due to an increase in its price that would be diverted to the second product"¹⁸⁸—of the merging firms.

To illustrate, suppose that conventional market definition would render a market of "German luxury automobiles," which includes Mercedes-Benz, Audi, BMW, and Porsche. In conventional terms, market power would be a

185 Krattenmaker et al., *supra* note 27, at 249–50; see Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209 (1986) (discussing firms' ability to gain pricing power by raising rivals' costs).

186 Krattenmaker et al., *supra* note 27, at 249–50.

187 See *id.*

188 HORIZONTAL MERGER GUIDELINES, *supra* note 2, § 6.1, at 21.

function of the market shares of each of the firms and structural factors such as entry barriers. Under the 2010 Guidelines, the important question would not be the market power of any of these firms in the abstract, but the diversion ratio between the two merging firms. If a majority of customers who bought Audis would have bought a BMW as their second choice, an Audi-BMW merger might raise greater concerns than a BMW-Mercedes merger, on the theory that a combined Audi-BMW would face customers with less elastic demand.

The diversion ratio approach marks an improvement in market power identification insofar as it understands market power as relative to a particular act rather than as an abstract condition attending to a firm. The question is *this particular merger*, not the power of each firm as a general matter. This analysis could be extended with qualifications to non-merger contexts, including both horizontal agreement and exclusion cases. In exclusion cases, the question would shift from whether the defendant enjoyed market power in the abstract to whether the exclusion of the victim firm would enhance the defendant's power to increase price or reduce output. Evidence that customers considered the victim and predator each other's best substitutes would support such an inference whereas contrary evidence would weaken it. Similarly, in horizontal agreement cases, the analysis would focus on the diversion ratios between the parties to the agreement—an analysis that would become considerably more complicated once there were more than two or three parties to the agreement.

Diversion ratios provide a useful data point in considering questions of market power from identified anticompetitive acts, but cannot, by themselves, answer market power questions. Merely knowing that two firms are each other's closest substitutes does not show that the cessation of competition between the firms—whether by merger, anticompetitive agreement, or exclusion—would provide one or more of the firms sufficient power to raise prices or reduce output, since customers might still be willing to substitute to other suppliers in the event of price increases by the merging or colluding firms. Ruling out the possibility of second-order customer substitution requires measuring cross-elasticity as to all plausible substitutes, which nudges the analysis back into relevant market definition—which direct analysis was supposed to avoid. Diversion ratio analysis is thus primarily useful in combination with other techniques or sources of evidence, but will rarely supply an answer standing alone.

G. *Competitive Benchmarks*

A final possible way to measure market power directly—or, at least not through market definition and market shares—is by comparison between the industrial sector under consideration and a competitive benchmark.¹⁸⁹ For example, if one were asking whether the dominant U.S. widget supplier had

189 See Jerry A. Hausman & J. Gregory Sidak, *Evaluating Market Power Using Competitive Benchmark Prices Instead of the Herfindahl-Hirschman Index*, 74 ANTITRUST L.J. 387, 388 (2007).

market power, one might compare various data points—i.e., price, quality, and innovation—about U.S. widget production to an extrinsic benchmark, say gadgets. Or the benchmark could be the same product in a different geographic region. For example, in its successful lawsuit against Visa and MasterCard's exclusionary rules prohibiting member banks from issuing competitors' cards, the Justice Department argued that in foreign countries without the exclusionary rule, Visa was pushed into a higher rate of innovation than in the United States.¹⁹⁰

The appeal of the competitive benchmark approach lies in its realism and empirical grounding. In a case with a competitive benchmark, the competitive counterfactual is not some idealized market operating under conditions of perfect competition but rather a real market that, along various vectors, outperforms the market under consideration. Competitive benchmarking thus has the virtue of focusing market power analysis on factual comparisons rather than theoretical constructs.

For all its facial appeal, the competitive benchmark approach has serious drawbacks. First, there is no generally accepted way of indexing comparative competitiveness at a firm-specific level. Firm or sectoral competitiveness is a function of several different factors, including at least price, quality, and innovation. In order to compare two markets, all factors would need to be weighted unless all factors turned out to be superior in the benchmark market. To revert to the credit card example, suppose that Visa showed greater innovation but also charged more for use of its network in Europe than in the United States. Europe could not function as a competitive benchmark for establishing market power in the United States unless weights were assigned to the innovation and price factors, a task that could not be accomplished with anything approaching analytical precision.¹⁹¹

A second drawback concerns problems with drawing an inference of market power from competitive superiority. Even adjusted for all of the many cost, regulatory, and demand-side factors that might skew performance across markets, competitive superiority may reflect managerial superiority rather than market power. A firm with comparatively low quality and innovation may be operating at its maximum potential given its management. Over time, poorly managed firms with vigilant shareholders operating under corporate law rules that do not overly entrench managers should see improved performance, but it would be unrealistic to assume that competitively underperforming firms are monopolistic and not just ill-managed.

Finally, there are risks with using intra-firm competitive benchmarks. In particular, inferring market power from a comparison of a firm's pricing across different markets runs a high risk of type two errors. A firm's differential pricing across markets often reflects competitively compelled price discrimination.¹⁹² Pharmaceutical companies that price discriminate across

190 *United States v. Visa U.S.A., Inc.*, 344 F.3d 229, 241 (2d Cir. 2003).

191 *See* Ian Ayres & Gideon Parchomovsky, *Tradable Patent Rights*, 60 *STAN. L. REV.* 863, 867 (2007) (noting the tradeoffs between pricing and innovation).

192 *See supra* text accompanying notes 189–91.

geographic markets may face the same competitors in every market and earn no more than an ordinary rate of return on capital in the aggregate.¹⁹³ Establishing market power from a competitive benchmark requires ruling out the many other factors that can cause stark pricing differences between markets—a task that may often prove impossible to perform.

H. Summation

The analysis just presented suggests that the direct evidence of the market power toolkit is depleted. Pricing margins, price discrimination, control over prices, and exclusion of competition are unworkable as criteria and should be discarded. Entry barrier analysis needs to be reformulated, and is questionable as an analytical tool without an understanding of the contours of the market the barriers are protecting from competition—an item of proof that steers the analysis back toward the market definition paradigm. Pricing discontinuity, diversion ratios, and competitive benchmarking may provide useful information under some circumstances but will often require corroboration from other tools to provide a sufficiently robust answer. And often, they will not apply at all.

For all of its analytical weaknesses, the market definition/market share paradigm suggested an organized progression of analysis. At present, direct analysis cannot promise anything but an inductive, ad hoc inquiry. A court or agency first has to scour the ground for facts—were there sharp price increases, is there another market that could serve as a benchmark, etc.—and then see whether those facts can be backed into a theory of competitive harm. If facts and correlated theories do not present themselves, courts and agencies have no choice but to fall back on structuralist proof, with all of its infirmities.

The upshot is that antitrust analysis is not ready to give up on market definition and market shares. While direct evidence ascends, it will continue to play in the shadow of the conventional approach, offering complementary insights and filling in gaps in some cases. Or, if it stays on its present course, it may obfuscate the analysis more often than not.

Lest this assessment sound overly pessimistic, the final Part of this Article offers four case studies in which a focus on the competitive counterfactual as the meaning of market power, an enhanced understanding of the entry barrier curve, and others tools of direct measurement could improve antitrust analysis. Clearing the brush from the current understanding of market power and direct evidence provides immediate analytical benefits. In the long run, it sets the stage for a comprehensive reconstruction of the concept of market power.

¹⁹³ See William W. Fisher III, *When Should We Permit Differential Pricing of Information?*, 55 UCLA L. REV. 1, 8–9 (2007) (discussing geographic price discrimination of patented AIDS drugs).

III. ILLUSTRATIVE CASES

A. *Operating Systems*

One of the hotly contested issues in the Justice Department's monopolization lawsuit against Microsoft was whether Microsoft enjoyed monopoly power in PC-compatible computer operating systems.¹⁹⁴ The D.C. Circuit concluded that it did, primarily on an indirect market definition/market share analysis.¹⁹⁵ The court also considered a "direct" approach to market power, which mainly consisted of rebutting Microsoft's claims that its heavy research and development investments and perpetual innovation dispelled any inference of market power.¹⁹⁶

One of the central tensions on market power in *Microsoft* was whether there were high barriers to entry into the operating systems market. The government initially, and ultimately the court, faced a dilemma concerning proof and emphasis. The primary entry barriers at issue were indirect network effects caused by feedback loops between programmers and users.¹⁹⁷ Computer users strongly prefer to purchase operating systems that are rich in available programs. Computer programmers prefer to write applications for operating systems that are rich with users. Hence, potential new entrants into the operating systems market face a severe "chicken and egg" problem in trying to steal share from the incumbent. Users will not buy an operating system until it is program rich, and programmers will not write for an operating system until it is customer rich.¹⁹⁸

This network effects theory was central to the government's case,¹⁹⁹ but it also posed a deep conceptual problem. Throughout the litigation the government repeatedly emphasized that entry barriers—a combination of the previously described network effects and scale economies—were extremely high.²⁰⁰ But this fed into the arguments of skeptics to the effect that entry barriers were *so* high that operating systems were something akin to a natural

194 *United States v. Microsoft Corp.*, 253 F.3d 34, 47 (D.C. Cir. 2001).

195 *Id.* at 55–56.

196 *Id.* at 56–58.

197 *Id.* at 55.

198 *Id.*

199 See A. Douglas Melamed & Daniel L. Rubinfeld, *U.S. v. Microsoft: Lessons Learned and Issues Raised*, in *ANTITRUST STORIES* 287, 303 (Eleanor M. Fox & Daniel A. Crane eds., 2007).

200 Complaint ¶ 58, *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2001) (No. 98-1232), available at <http://www.justice.gov/atr/cases/f1700/1763.htm> (noting that economies of scale and network effects result in high barriers to entry); Declaration of Franklin M. Fisher at 5, *Microsoft*, 87 F. Supp. 2d 30 (No. 98-1232), available at <http://www.justice.gov/atr/cases/f212700/212766.pdf> (“[N]etwork effects create high barriers to competition and entry in operating systems. This increases the risk that anti-competitive conduct by Microsoft will increase barriers even further.”); Declaration of David S. Sibley ¶¶ 7–18, *Microsoft*, 87 F. Supp. 2d 30 (No. 98-1232), available at <http://www.justice.gov/atr/cases/f212700/212767.pdf> (arguing that scale economies and network effects created high barriers to entry).

monopoly in which a single firm would always enjoy dominance.²⁰¹ If so, then the likelihood of a competitive counterfactual actually would be low, since Microsoft would have little incentive to engage in exclusionary conduct and the likelihood that a competitor would overtake it was similarly low. Thus, the government's continued insistence on the height of entry barriers had the counter effect of bolstering arguments that the operating system market was Schumpeterian and therefore naturally dominated by a single firm.²⁰² Responses to these sorts of arguments had the effect of talking down the importance of scale economies and network effects, which diluted the government's claim that Microsoft enjoyed monopoly power.²⁰³ The D.C. Circuit acknowledged these tensions but largely avoided resolving them, noting the indeterminacy in the academic literature over whether operating systems were strongly Schumpeterian and that Microsoft itself made no argument that anticompetitive conduct should be assessed differently in technologically dynamic markets.²⁰⁴

The tentativeness of the court's resolution reflects the conceptual flaw in conventional market power discussed in Section II.A—the standard assumption that proof of high entry barriers is necessary to establish an antitrust violation. Recognizing the concavity of the entry barrier curve makes the case that Microsoft possessed market power in PC-compatible operating systems more straightforward. Arguably, the entry barriers in operating systems circa the year 2000 were of middling height. Scale economies and network effects were such that relatively few firms could hope to compete with Microsoft as platforms for application programming interfaces (APIs).²⁰⁵ Further, potential rivals probably did not have the luxury of entering the market on a trial or niche basis but would need to enter suddenly at a large scale in order to “tip” a sufficient number of programmers and customers to their platform in a short period of time.²⁰⁶ These facts represented entry barriers that could be surmounted by only a small number of firms. But, again arguably, they could and would have been surmounted by firms like Netscape, Sun, and Novell absent exclusionary conduct. Microsoft thus occupied exactly the position where exclusionary conduct and a competitive

201 See David Balto & Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583, 604 (1998) (“In industries characterized by networks, even monopoly is seen by some observers as inevitable and merely an accommodation to consumer demand for a compatible technical standard.”); Harry First, *Microsoft and the Evolution of the Intellectual Property Concept*, 2006 WIS. L. REV. 1369, 1412–13 (exploring natural monopoly arguments in context of the *Microsoft* case); Alan J. Meese, *Intrabrand Restraints and the Theory of the Firm*, 83 N.C. L. REV. 5, 82–83 (2004) (same).

202 See *Microsoft*, 253 F.3d at 49–50 (discussing arguments that the computer systems operating market was a natural monopoly).

203 For a skeptical take on the strength of network effects, see WILLIAM H. PAGE & JOHN E. LOPATKA, *THE MICROSOFT CASE* 86–96 (2007).

204 *Microsoft*, 253 F.3d at 50.

205 See *supra* text accompanying notes 194–98.

206 See Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1896–97 (2002) (discussing the tipping phenomenon).

counterfactual are most plausible—a presently dominant position in a market with entry barriers surmountable by a confined number of potential rivals absent the creation of artificial entry barriers.

My point here is not to pass judgment on whether Microsoft in fact had market power or engaged in exclusionary conduct. Rather, it is to show that the analysis would be improved by a recognition that entry barriers are most strongly correlated with a competitive counterfactual when they narrow the number of potential entrants but, as to those entrants, do not seriously impede entry. This understanding of the market power relevant to antitrust cases would sharpen legal analysis and align it more closely with antitrust's normative foundations in the competitive counterfactual.

B. Search Engines

As Microsoft has faded as antitrust's tech *bête noire*, Google has assumed its position, although thus far without the sorts of negative consequences that plagued Microsoft in the late twentieth century and early twenty-first.²⁰⁷ The threshold issue for any monopolization or abuse of dominance claims is whether Google has market power in Internet search or related services, such as advertising for Internet search or, more broadly, Internet advertising. The FTC has largely examined the issue in the traditional structuralist vein, defining a relevant market in search advertising and finding Google dominant because of its large market share.²⁰⁸ Google critics claim that Internet search is characterized by strong indirect network effects, since search engines determine relevance based on the search and website visitation patterns of other users.²⁰⁹ Google and its allies respond that Google is incapable of monopolizing Internet search since “competition is one click away.”²¹⁰

207 The FTC conducted a broad investigation of Google and closed it after Google made relatively minor concessions. Edward Wyatt, *U.S. Ends Inquiry on Web Search; Google Is Victor*, N.Y. TIMES, Jan. 4, 2013, at A1. The European Commission is continuing its investigation of Google. *Id.*

208 See *Statement of Federal Trade Commission Concerning Google/DoubleClick*, FED. TRADE COMM'N, FTC File No. 071-0170, available at <http://www.ftc.gov/os/caselist/0710170/071220statement.pdf>.

209 See Peter T. Barbur et al., *Market Definition in Complex Internet Markets*, 12 SEDONA CONF. J. 285, 290 (2011) (noting that Google provides free search engine use because of indirect network effects); Pamela Jones Harbour & Tara Isa Koslov, *Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets*, 76 ANTITRUST L.J. 769, 777–78 (2010) (observing that the accuracy and relevance of Google searches improve with continued use); Jeffrey Jarosch, *Novel “Neutrality” Claims Against Internet Platforms: A Reasonable Framework for Initial Scrutiny*, 59 CLEV. ST. L. REV. 537, 569 (2011) (discussing network effects and improved search data); Viva R. Moffat, *Regulating Search*, 22 HARV. J.L. & TECH. 475, 489 (2009) (discussing networks effects with search engines).

210 *Facts About Google and Competition: Questions and Answers*, GOOGLE, <https://web.archive.org/web/20120415050748/http://www.google.com/competition/qa.html> (last visited Apr. 15, 2012) (“Does Google have a monopoly in search? No. On the Internet, competi-

Missing from the current debate over Google's dominance is a realistic appraisal of a competitive counterfactual. Knowing that Google has market power in a textbook sense does little to clarify the difficult policy questions faced by courts and regulators. The normatively important question is whether Internet search could plausibly be structured significantly differently than it currently is, with users moving fluidly across a number of search engines with roughly comparable customer acceptance and utilization.

In answering this question, competitive benchmarking may be particularly useful. Since search engines are tailored to national boundaries, Internet search in other countries provides a reference point for asking whether a competitive counterfactual is plausible. On a market share basis, Google is dominant in twenty-one out of the world's twenty-five largest economies,²¹¹ with a usage share ranging from a low of about 65% in the United States to nearly 100% in many countries.²¹² But when Google is not dominant in a market, another search engine invariably is. In Russia, China, and South Korea, an indigenous search engine (Yandex in Russia, Baidu in China, and Naver in South Korea) dominates the market with shares in the 60 to 70% range.²¹³ Yahoo dominates Japanese search with a share approaching 60%.²¹⁴ Google is present in all of these markets, but plays a very distant second fiddle. There are no instances in the top economies, and few outside, of markets where a single search engine does not have a share approaching 60%.

tion is one click away. Users aren't locked in to using Google search, and the cost of switching to a different search engine is zero.”).

211 GDP (current US\$), WORLD BANK, <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD> (last visited Oct. 29, 2014).

212 ANNE F. KENNEDY & KRISTJÁN MÁR HAUSSON, GLOBAL SEARCH ENGINE MARKETING app. C (2012), available at http://ptgmedia.pearsoncmg.com/images/9780789747884/supplements/9780789747884_appC.pdf (last visited Oct. 29, 2014) (including the United States (Google, 65.8%); Germany (Google, 97.09%); France (Google, 95.59%); Brazil (Google, 97.44%); United Kingdom (Google, 92.77%); Italy (Google, 96.96%); India (Google, 97.08%); Canada (Google, 92.93%); Spain (Google, 93.02%); Australia (Google, 95.55%); Mexico (Google, 93.35%); Indonesia (Google, 96.5%); Netherlands (Google, 94.65%); Turkey (Google, 98.97%); Switzerland (Google, 97.32%); Saudi Arabia (Google, 95.42%); Sweden (Google, 96.68%); Poland (Google, 98.05%); Belgium (Google, 97.61%); Norway (Google, 96.1%); Argentina (Google, 96.59%)).

213 See Jaewha Choi, *Why Google Can't Be #1 in the Korean Market*, THE ONLINE ECONOMY: STRATEGY AND ENTREPRENEURSHIP (Oct. 5, 2012), <http://www.onlineeconomy.org/why-google-can-t-be-1-in-the-korean-market> (noting that Naver holds a 73% search engine market share in South Korea); KENNEDY & HAUSSON, *supra* note 212, at (showing Baidu with a 60.74% search engine market share); *Search Engine Market Shares in Russia*, GINZAMETRICS, <http://www.ginzametrics.com/wp-content/uploads/2012/05/search-market-share.png> (last updated Apr. 2012) (containing pie chart showing Yandex with a 59.6% search engine market share).

214 *Yahoo Japan to Use Google Search*, BBC NEWS (July 27, 2010, 10:24 AM), <http://www.bbc.co.uk/news/business-10773532> (noting that Yahoo Japan holds about a 57% search engine market share).

It would be wrong to conclude from this that Internet search is a natural monopoly, in the sense of a market where all or most sales are necessarily made by a single firm.²¹⁵ Alternative search engines may be able to flourish by catering to niche preferences or otherwise playing in the market on a relatively small scale. But, at least given present technological and social dynamics, Internet search exhibits a strong tendency toward selection of a single dominant provider that tends to control a usage share in the 60 to 95% range. Viewed from this perspective, Google's dominance in a large number of markets may not reflect the kind of market power with which antitrust law is concerned, because there is no likely counterfactual in which the market looks more classically competitive.²¹⁶

A related question is whether Google has the power to distort competition in Internet sites that provide services like shopping, maps, travel booking, or social networking of various kinds by preferring Google affiliated sites in its universal search results.²¹⁷ The answer to this question turns on whether Google is dominant in traffic referral to Internet sites.²¹⁸ Even if Google's share of search engine usage is high, unless universal search is the gateway to Internet sites, bias in universal search will not distort competition in Internet services. At present, the empirical evidence suggests that Google is the referral source for a relatively small share of the total referrals that Internet services such as news and travel booking receive.²¹⁹ Users are finding many paths—such as Facebook, linking from other sites, bookmarking, apps, or typing in a URL—other than universal search to locate Internet services. This implies that Google lacks the power to distort competition in Internet services.

Observe that the referral dominance question does not neatly fit into established patterns of antitrust analysis. Traditional market definition/market share analysis would not be helpful, since the important question is not whether Google has the power to price above competitive levels or reduce output in universal search, but whether its position in universal search gives it

215 See Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1180–82 (2008) (arguing that search engines exhibit natural monopoly characteristics).

216 Questions regarding search engine dominance have played out in other markets where a firm other than Google is dominant. In 2009, the Beijing No. 1 Intermediate People's Court dismissed a claim by the Tangshan Renren Information Service Center (Renren) that Baidu had intentionally blocked Renren, a social networking site similar to Facebook, from its search results. Jiangxiao Athena Hou & Jane Yi, *A Progress Report on the Implementation of China's Anti-Monopoly Law*, COMPETITION: J. ANTITRUST & UNFAIR COMPETITION L. SEC. ST. B. CAL., Spring 2011, at 79, 85–86. The court found that Renren failed to prove that Baidu held a dominant position in Internet search. *Id.* at 86.

217 See Daniel A. Crane, *Search Neutrality as an Antitrust Principle*, 19 GEO. MASON L. REV. 1199, 1200–03 (2012) (discussing processes of search origins and website referrals).

218 See Daniel A. Crane, *Search Neutrality and Referral Dominance*, 8 J. COMPETITION L. & ECON. 459, 460 (2012) (discussing the many ways users access websites and how search dominance may not be equivalent to referral dominance).

219 See *id.* at 464–65.

the power to suppress competition in other kinds of Internet services—including ones in which Google itself might not be dominant. The relevant focus is less on static power in any market than on the trajectory of user migration across online locations.

C. *e-Books*

As discussed in Part II, evidence of sharp pricing discontinuity following an event challenged as anticompetitive is an appealing candidate for direct proof of market power because of its visceral force in demonstrating the competitive counterfactual. But while such evidence may be helpful when available, it can sometimes *trompe l'oeil*—misleading more than it helps. The next two case studies, on e-books and pharmaceuticals, explore some difficulties with inferring market power from pricing shocks or other sudden market dislocations accompanying an event challenged as anticompetitive.

The Justice Department's high-profile case against Apple²²⁰ and five major book publishers²²¹ concerning e-book pricing rests on seemingly obvious evidence of the exercise of collective market power creating anticompetitive effects. The government alleged, and the district court recently found, that Apple colluded with the book publishers to force Amazon to switch from the wholesale model, where Amazon set the price of e-books, typically at \$9.99, to an agency model, where the publisher sets the price of the books, typically at \$14.99, and the distributor retains a 30% commission.²²² The sudden and dramatic price increases following the challenged agreements provide seemingly conclusive evidence that Apple and the publishers exercised collective market power to increase e-book prices.²²³

But reaching that conclusion from the pricing discontinuity is problematic insofar as it isolates price effects in e-books without regard to the broader dynamics in inter-system and inter-platform competition taking place in the industry at the same time. In many technology and information markets, competition may be more intense at a system or platform level than at the level of individual platform accessories like books, songs, movies, software programs, or apps.²²⁴ A significant change in systems competition, such as with the introduction of a new system, can both increase the competitiveness of the market as a whole and hence decrease the market power of the market

220 *United States v. Apple Inc.*, 952 F. Supp. 2d 638 (S.D.N.Y. 2013).

221 The five publishers were Hachette Book Group, Inc., HarperCollins Publishers LLC, Holtzbrinck Publishers LLC d/b/a Macmillan, Penguin Group (USA), Inc., and Simon & Schuster, Inc. *Id.* at 645.

222 *Id.* at 666–67, 691–94.

223 The case was tried against Apple alone after the publishers all settled with the government. The district court found that Apple had orchestrated a series of *per se* illegal horizontal agreements, and hence found it unnecessary to determine the market power question. *Id.* at 645, 691–94.

224 See William H. Page & Seldon J. Childers, *Antitrust, Innovation, and Product Design in Platform Markets: Microsoft and Intel*, 78 ANTITRUST L.J. 363, 375 (2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1914737.

participants even while exerting upward pricing pressure on particular accessories, such as e-books. A more competitive ecosystem may actually lead to price increases in some of the ecosystem's outputs.

This may well have been the case as to e-books. Between the introduction of Amazon's Kindle in 2007 and the introduction of Barnes & Noble's Nook in 2009 and Apple's iPad in 2010, Amazon was the juggernaut in the e-book and e-reader market. Amazon strategically priced e-books at an attractive \$9.99 in part to stimulate demand for the Kindle and, arguably, to entrench its market position in advance of the availability of competitive technologies. Indeed, in the lead up to Apple's launch of the iPad, Amazon was pricing most of its e-books several dollars below the publisher's wholesale price, meaning that Amazon was losing several dollars on every sale in order to subsidize the entrenchment of the Kindle.²²⁵

The book publishers felt that Amazon was devaluing the e-book market in order to promote its proprietary systems and technology. They feared that Amazon's low e-book pricing would condition consumers to expect low e-book prices forever—that it would poison the well.²²⁶ But so long as Amazon had a near-monopoly on e-book distribution, the publishers were unable to prevent Amazon from using their content as a market share entrenching loss leader.

The advent of the iPad (and to a lesser extent the Nook) in 2010 radically altered the electronic media distribution ecosystem. The iPad leapfrogged the Kindle's limited e-reader functionality and created a new general-purpose tablet market, including such additional features as 3G wireless, expanded memory, camera, GPS navigation, and vastly expanded apps. Within a few months, the iPad had left the Kindle in the dust from a market share and industry buzz perspective.

The iPad's radical disruption of the e-reading ecosystem virtually guaranteed that e-book prices would rise, even though the surrounding ecosystem had become vastly more competitive. Once the iPad leapfrogged the Kindle, the book publishers' individual bargaining position vis-à-vis Amazon increased and Amazon had no further incentive to loss-lead on e-books in order to sell the Amazon system (especially since they were portable to iPads). With or without collusion, e-book prices were bound to rise once the iPad hit the market.

The district court found that Apple orchestrated a per se illegal price fixing conspiracy, in which event the presence or absence of market power would be irrelevant.²²⁷ But to the extent that the challenged agreements are functionally vertical rather than horizontal and hence subject to full rule of reason analysis, it would be analytically perilous to assume market power from the sharp pricing discontinuity at the moment of the challenged agreements. The challenged agreement coincided with a major technological

225 See *Apple*, 952 F. Supp. 2d at 649.

226 See *id.*

227 See *id.* at 691–94.

shock to the market, and hence deducing market power from the price increases very likely confuses correlation with causation.

D. *Pharmaceuticals*

A second pricing discontinuity case, *FTC v. Lundbeck, Inc.*,²²⁸ reveals an even more dramatic example of how inferences from sudden price effects are sometimes misleadingly easy. At the time the FTC brought the case, there were only two FDA-approved drug treatments for patent ductus arteriosus, a life-threatening heart condition that primarily affects low-birth-weight and usually premature babies.²²⁹ Lundbeck bought the rights to the first drug, Indocin IV, from Merck in 2005 and the rights to the second drug, NeoProfen, from Abbott Laboratories in 2006. Two days after acquiring NeoProfen, Lundbeck raised the price of Indocin by 1300%.²³⁰ At the time of its acquisition of NeoProfen, that drug had not yet been introduced on the market. When Lundbeck introduced it a few months later, it priced NeoProfen at about the same level as the post-increase price of Indocin.²³¹

In eyebrow-raising decisions, the district court and the Eighth Circuit rejected the FTC's challenge to the acquisition on the grounds that the Commission failed to prove that Indocin and NeoProfen belonged in the same relevant market.²³² The two drugs are not bioequivalent compounds, and the district court credited the testimony of five clinical pharmacists and seven neonatologists, who testified that the neonatologists selected a drug based solely on its clinical advantages and did not take price into consideration.²³³ Since there was no cross-elasticity of demand between the two drugs, they did not belong in the same relevant market and, without proof that the acquisitions increased the concentration of any market, there was no antitrust case.²³⁴

At one level, *Lundbeck* seems to be a poster child for the growing view that market definition is an analytically incoherent formalism that snuffs out compelling antitrust claims.²³⁵ Herbert Hovenkamp has persuasively argued that the courts erroneously relied on an assumption of perfect competition in which changes in the prices of competitive products instantly affect the

228 650 F.3d 1236 (8th Cir. 2011).

229 *Id.* at 1238. After the case was brought, the FDA approved marketing by generics. See *id.*

230 *Id.*

231 *Id.*

232 *Id.* at 1240–43.

233 *Id.* at 1240.

234 *Id.*

235 See David S. Evans & Michael Noel, *Defining Antitrust Markets When Firms Operate Two-Sided Platforms*, 2005 COLUM. BUS. L. REV. 667, 696–97 n.59 (“Formal market definition has taken on a life of its own and this formalism attempts to impose sharp boundaries even where they do not exist. Particularly in differentiated products markets, mechanical market definition risks weakening the analysis rather than strengthening it and there are risks of misleading conclusions.”).

demand for their substitutes.²³⁶ With differentiated products—like non-bioequivalent drugs used to treat the same condition—competitive responses may develop in more complex patterns over space and time.²³⁷

If the insistence on formal market definition based on analytical assumptions derived from a perfect competition model was erroneous, there remains the question of whether the 1300% price increase constituted direct evidence of market power. At a visceral level, the evidence seems compelling. But there may be more to the case than meets the eye.

Ironically, the best impeachment of the likelihood of a competitive counterfactual may come from a voice supporting an even more aggressive stance than the one taken by the FTC. In a concurring statement²³⁸ and later law review article,²³⁹ Commissioner Rosch offered an alternative account of the acquisitions and their effect on price. Rosch would have challenged Lundbeck's (then named Ovation) acquisition of Indocin even apart from its subsequent acquisition of NeoProfen. He reasoned that the Indocin acquisition—which at that time was just a conglomerate acquisition—enabled the price increase because of a change in the reputational considerations of Merck, Indocin's previous owner, and Lundbeck.²⁴⁰ Rosch suspected that Merck, a large and diversified company with many different drug portfolios, would have been reluctant to charge a monopoly price for a drug used to treat premature babies.²⁴¹ Lundbeck, a much smaller company with a limited product portfolio, might not have such reputational constraints and hence might feel free to price the drugs ruthlessly.

If Rosch is right about what happened, this actually complicates rather than helps the antitrust case because it throws doubt on the likelihood of a competitive counterfactual. If what kept prices down was Merck's fear of reputational sanctions from the health care community rather than fear of being undercut in price by Abbott, the price effect did not result from a loss of competition between the two acquired products. The but-for scenario in which prices remained lower would not be a *competitive* counterfactual since competition would not be the force restraining the price increase. The same price increase might have occurred if NeoProfen and Indocin had been sold to two separate venture capital funds without any concerns over future reputational consequences or if the parent companies had simply spun off the relevant units in order to maximize their profitability.

236 See Hovenkamp, *supra* note 166, at 5.

237 See *id.* at 3.

238 *Concurring Statement of Commissioner J. Thomas Rosch*: Fed. Trade Comm'n v. Ovation Pharm. Inc., FED. TRADE COMM'N, FTC File No. 081-0156, (Dec. 2008), available at <http://www.ftc.gov/public-statements/2008/12/concurring-statement-commissioner-j-thomas-rosc-federal-trade-commission> [hereinafter *Statement of Commissioner Rosch*].

239 J. Thomas Rosch & Darren S. Tucker, *Emerging Theories of Competitive Harm in Merger Enforcement*, ANTITRUST SOURCE, Oct. 2011, at 1.

240 See *Statement of Commissioner Rosch*, *supra* note 238, at 1.

241 *Id.*

Lundbeck illustrates the difficulties with drawing strong inferences from pricing discontinuities. It serves as a reminder that many economic forces other than competition between rivalrous firms steer the course of firm behavior. Since antitrust law is solely focused on competitive drivers of firm behavior, direct analysis of market power must take care to separate competition and non-competition based influences. And that may often prove impossible.

CONCLUSION

As market definition fades, antitrust law sorely needs a redefinition of market power that satisfies three criteria. First, it should reflect the normative assumption of antitrust law—that firms should not intentionally diminish the competitiveness of markets on grounds other than efficiency. Second, it should reflect a coherent relationship between the market power and anticompetitive conduct elements. Finally, it should be workable given the institutional constraints of contemporary antitrust decisionmaking. This is a tall order, but an urgent requirement for modern antitrust.

At present, direct analysis does not nearly fit this bill. Much of the problem is rooted in a deep-seeded disposition to think of market power as a deviation from an idealized vision of perfect competition rather than as the delta between a plausible competitive counterfactual and the actual market. Correcting the starting premise requires jettisoning a good many of the traditional tools of direct analysis of market power. And once that is accomplished, the direct analysis toolkit looks quite impoverished.

Given the ubiquity of the market power element in antitrust analysis, the need for a systematic reconstruction of market power analysis is urgent. This Article has contributed to the preliminary stages of that process by seeking to articulate first principles, diagnose sources of doctrinal confusion, jettison existing approaches inconsistent with first principles, and scrutinize the virtues and limitations of the remaining recognized methods. Much more work lies ahead.

