REFUSALS TO DEAL AND PRICE SQUEEZES BY AN UNREGULATED, VERTICALLY INTEGRATED MONOPOLIST

Steven C. Salop*

In the absence of any purpose to create or maintain a monopoly, the act does not restrict the long recognized right of trader or manufacturer . . . freely to exercise his own independent discretion as to parties with whom he will deal.

United States v. Colgate & Co., 250 U.S. 300, 307 (1919)

This article formulates a rigorous legal standard under Section 2 of the Sherman Act for refusals to deal and price squeezes undertaken by an unregulated, vertically integrated monopolist against actual or potential competitors. This standard is administrable by the courts and by the monopolist because it requires no more information than the test for predatory pricing in *Brooke Group*.[1] The standard takes into account both the direct effects on consumers and the indirect effects on innovation and investment incentives of the monopolist and its would-be competitors. In this way, the proposed standard protects consumers and the competitive process.

The legal standard formulated in this article is consistent with historical Supreme Court precedent (including the *Colgate* doctrine quoted above) and takes into account concerns identified by the Supreme Court in its recent antitrust cases, including *Trinko*[2] and *linkLine*.[3] The

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[1] Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993).

[2] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

[3] Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109 (2009).

proposed standard does not, however, follow a broader reading of *Trinko* or provide for per se legality of the conduct at issue.

The proposed standard is based on the assumption that the defendant has non-transitory monopoly power in both the upstream input market and the downstream output market. The plaintiff would be required to make this monopoly power showing. If this prong of the standard is satisfied, the remainder of the proposed standard then can be stated as follows: The courts would first compare the monopolist's input price to a benchmark measure. If the monopolist sells the product at issue to other customers at the same market level as the competitor, or has sold it to the competitor in the past, then the presumptive benchmark would be this market price, subject to rebuttal by the defendant (e.g., if the defendant's costs of serving the competitor are higher than its costs of serving other customers or if the defendant's costs have changed). Where there is no presumptive benchmark, the court would establish one using the "Protected Profits Benchmark" (*PPB*) test which, in the case of homogeneous products as discussed below, is the level at which the monopolist is sacrificing direct profits by refusing to deal and at which a hypothetical equally efficient competitor would be viable, and a more efficient competitor would prosper. (In the case of differentiated products, the *PPB* is altered somewhat because the concepts of profit-sacrifice and equally efficient competitor are more complex.) If the monopolist refuses to sell at this benchmark price, then the plaintiff would need to satisfy the other elements of the rule of reason test, including that the effect of the refusal or price squeeze is to achieve or maintain a durable monopoly and thereby harm consumers.

In this way, the proposed standard synthesizes tests derived from the profit-sacrifice, equally efficient competitor, and consumer welfare harm standards to determine whether there is a "purpose to create or maintain a monopoly."[4] This proposed standard allows the monopolist to obtain compensation sufficient to maintain its innovation and investment incentives, without impeding either efficient entry or the innovation incentives of competitors. The standard also respects cognizable efficiency rationales for refusing to deal or charging a high input price that allegedly squeezes the margin of entrants and other rivals. In sum, the proposed standard should satisfy the key analytical concerns articulated by courts and commentators.[5]

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[4] United States v. Colgate & Co., 250 U.S. 300, 307 (1919).

[5] For a sampling of commentary, see Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253 (2003); Andrew I. Gavil, *Exclusionary Distribution Strategies by Dominant Firms*, 72 ANTITRUST L.J. 3 (2004); Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 U. CHI. L. REV. 147 (2005); Mark S. Popofsky, *Defining Exclusionary Conduct:*

Of course, the legal standard will not satisfy commentators who desire a rule of per se legality.[6] However, per se legality is not the appropriate rule because refusals to deal and price squeezes can be used by vertically integrated monopolists to maintain or enhance their monopoly power, to the detriment of competition.[7] For example, the European Commission recently found Microsoft liable for its refusal to disclose interoperability information to its competitors because Microsoft's conduct harmed consumers and the competitive process.[8] In fact, a rule of per se legality for refusals to deal also might weaken rules against other types of anticompetitive conduct, for example, tying.[9]

Some commentators have read the Supreme Court's dicta in *Trinko*[10] and *linkLine*[11] as suggesting a rule of per se legality. It is true that the Court in these cases went to great lengths to emphasize concerns regarding both administrability of any rule against this type of conduct, as well as the negative investment and innovation incentives that such a rule might create. With respect to investment and innovation incentives, the Court in *Trinko* raised the concern that "[t]he opportunity to charge monopoly prices—at least for a short period—is what attracts business

Section 2, the Rule of Reason, and the Unifying Principle Underlying Antitrust Rules, 73 ANTITRUST L.J. 435 (2006); Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 ANTITRUST L.J. 311 (2006); Gregory J. Werden, *Identifying Exclusionary Conduct Under Section 2: The "No Economic Sense" Test*, 73 ANTITRUST L.J. 413 (2006); Herbert J. Hovenkamp, *Unilateral Refusals to Deal, Vertical Integration, and the Essential Facility Doctrine* (U. Iowa Legal Studies Res. Paper No. 08-31, 2008), *available at* http://ssrn.com/abstract=1144675 [hereinafter *Unilateral Refusals to Deal*].

6 *See, e.g.*, R. Hewitt Pate, Refusals to Deal and Essential Facilities, Testimony at FTC/DOJ Hearings on Single-Firm Conduct (July 18, 2006), *available at* http://www.ftc.gov/os/sectiontwohearings/docs/PateStatement.pdf; RICHARD A. POSNER, ANTITRUST LAW ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 243–44 (2d ed. 2001); Kenneth L. Glazer & Abbott B. Lipsky, Jr., *Unilateral Refusals to Deal Under Section 2 of the Sherman Act*, 63 ANTITRUST L.J. 749 (1995).

7 Among other things, a refusal to deal or price squeeze might be used by a vertically integrated monopolist to maintain its (upstream) input market monopoly by raising barriers to entry to (downstream) output market competitors that might use that toehold in order to enter the input market. That conduct also might be used to achieve or maintain a (downstream) output market monopoly in the face of potential entry by unintegrated competitors. The conduct similarly might be used to achieve or maintain a monopoly in a market for an ancillary product. For example, an unregulated natural gas pipeline monopolist might use the conduct to achieve or maintain dominance in producing natural gas from one or more fields it serves.

8 Case COMP/C-3/37.792—Microsoft Corp., Comm'n Decision (Mar. 24, 2004) (summary at 2007 O.J. (L 32) 23), *available at* http://ec.europa.eu/competition/antitrust/cases/decisions/37792/en.pdf, *aff'd*, Case T-201/04, Microsoft Corp. v. Comm'n, 2007 E.C.R. II-3601 (Ct. First Instance).

9 For example, the Supreme Court analyzed Kodak's conduct as both tying and a refusal to deal in *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451 (1992).

10 Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

11 Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109 (2009).

acumen in the first place" and "induces risk taking that produces innovation and economic growth."[12] The Court went on to caution that compelling monopolists "to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities."[13]

With respect to the administrability issue, the Court said in *Trinko* that "[e]nforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill-suited."[14] This corresponds to an oft-stated concern going back to *Trenton Potteries*.[15] Of course, this concern is not an absolute prohibition on setting antitrust rules based on prices, as illustrated by the Court's willingness to embrace judicial oversight of the level and terms of pricing in the seminal *BMI* case.[16] Moreover, the Court clearly recognizes that courts are capable of comparing prices to costs, for example, in predatory pricing cases such as *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*[17]

The Court reiterated these concerns in *linkLine*. However, the Court did not mandate a rule of per se legality for refusals to deal in *Trinko*.[18] Quoting from *Aspen Skiing*, the *Trinko* Court stated:

> However, "[t]he high value that we have placed on the right to refuse to deal with other firms does not mean that the right is unqualified." *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 601, 105 S.Ct. 2847, 86 L.Ed.2d 467 (1985). Under certain circumstances, a refusal to cooperate with rivals can constitute anticompetitive conduct and violate § 2.[19]

The Court's language suggests that refusal-to-deal claims primarily should be actionable where the parties had a previous voluntary course of dealing or where the defendant deals with other firms. The Court appeared reluctant to permit complaints against "unconditional" refus-

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[12] *Trinko*, 540 U.S. at 407.

[13] *Id.* at 407–08.

[14] *Id.* at 408.

[15] United States v. Trenton Potteries Co., 273 U.S. 392 (1927).

[16] Broadcast Music, Inc. v. CBS, Inc., 441 U.S. 1 (1979).

[17] 509 U.S. 209, 222–23 (1993).

[18] Nor did the Court establish a rule of per se legality for price squeezes in *linkLine*. *See* Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109, 1120 (2009) (holding that such claims are not viable where: (a) there is no duty to deal at the wholesale level; and (b) there is no predatory pricing at the retail level).

[19] *Trinko*, 540 U.S. at 408.

als to deal; that is, situations where the defendant does not sell the input to anyone––competitors or non-competitors.[20]

Thus, the Court set a high bar for a legal rule to identify unlawful refusals to deal and price squeezes in a way that is administrable and preserves appropriate incentives. This article meets the Court's challenge.

I. *TRINKO*'S CONCERNS

In *Trinko*, the Court referred to its earlier decision in *Aspen Skiing* as "at or near the outer boundary of § 2 liability."[21] There are several peculiar legal and factual characteristics of *Aspen Skiing* that might explain this characterization.

First, *Aspen Skiing* did not involve a simple refusal by a monopolist to supply an input used by a rival in manufacturing its competing product. Instead, the focus of the plaintiff's complaint was on the defendant's refusal to continue to sell a joint ski lift ticket with the plaintiff, Aspen Highlands. Thus, the case is unusual in that the course of dealing the plaintiff sought to compel (continuation of the joint lift ticket) resembles horizontal price fixing. Indeed, the Court cites the fact that the Colorado Attorney General apparently had attacked the joint ticket as unlawful price fixing.[22]

Second, aside from the joint ticket, it also was alleged that the defendant Ski Co. refused to accept as payment the vouchers that Highlands offered to redeem for cash. Expecting a third party to accept what amounts to privately issued money is unusual in an economy of government-printed currency.

In explaining the continuing relevance of *Aspen Skiing*, the *Trinko* Court focused on the allegation that Ski Co. refused to sell daily tickets to Highlands on the same terms that it sold those daily tickets to others. This is a more standard refusal to deal allegation. The Court stressed that, "the defendant's unwillingness to renew the ticket *even if compensated at retail price* revealed a distinctly anticompetitive bent."[23] This type of refusal to supply clearly is harder to justify on efficiency grounds because it is "conditional," in the sense that it is targeted at a firm that

[20] *Id.* at 410.

[21] *Id.*

[22] Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 591 n.9 (1985). The Attorney General required each firm to set its price unilaterally, which would tend to reduce the efficiency of a package of complementary products.

[23] *Trinko*, 540 U.S. at 409.

competes with the monopolist, even while the monopolist is willing to sell to non-competitors. And, of course, the existence of the price charged to others can be used to define a non-exclusionary benchmark price, reducing concerns about administrability.

After limiting *Aspen Skiing*, the *Trinko* Court articulated three specific concerns with imposing liability for refusals to deal: Compelled dealing could (a) facilitate collusion; (b) lessen the investment incentives of the monopolist and the entrants; and (c) require courts to act as central planners. The Court also articulated a fourth, general concern about setting rules that might falsely identify conduct as anticompetitive (lead to "false positives"). Careful economic analysis suggests that all of these concerns are overstated in most cases and do not justify the type of highly permissive—nearly per se legality—standard suggested by some commentators following *Trinko*.

A. Facilitating Collusion Concern

In *Trinko*, the Court raised the concern that "compelling negotiation between competitors may facilitate the supreme evil of antitrust: collusion."[24] The competitor's desire for a joint ticket in *Aspen Skiing* provides a potential example of how forced sharing can facilitate anticompetitive collusion.[25] But this concern certainly would not have applied to other famous Supreme Court refusal to deal cases, including *Lorain Journal*,[26] *Otter Tail*,[27] *Kodak*,[28] and *Trinko* itself. In those cases, the rival would be unable to compete absent access to the monopolist's facility (or customers in the market, in the case of *Lorain Journal*), thus maintaining the monopoly.[29]

The Court's concern about collusion also would seem to imply an even stronger concern with *voluntary* dealing among competitors, where the risk of collusion is even higher. In addition, relying on the Court's desire to avoid facilitating collusion as a reason to avoid scrutinizing re-

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[24] *Id.* at 408.

[25] I use the term "potential" because the products at issue in that case were arguably complements. Joint pricing of pure complements leads to lower prices, whereas joint pricing of substitutes (collusion) leads to higher prices. Of course, the tickets of Ski Co. and Highlands might have been substitutes for some consumers and complements for others.

[26] Lorain Journal Co. v. United States, 342 U.S. 143 (1951).

[27] Otter Tail Power Co. v. United States, 410 U.S. 366 (1973).

[28] Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992).

[29] Nor would this concern apply to concerted refusal to deal cases, such as *United States v. Terminal Railroad Association*, 224 U.S. 383 (1912), *United States v. VISA USA, Inc.*, 344 F.3d 229, 238 (2d Cir. 2003), and *JTC Petroleum Co. v. Piasa Motor Fuels, Inc.*, 190 F.3d 775, 778–79 (7th Cir. 1999). In all of those cases, cooperating sellers conspired to refuse to deal with firms that wanted to compete instead of colluding.

fusals to deal altogether ignores the fact that many refusals to deal involve "conditional" refusals, in the sense that the monopolist conditions sales on an agreement by input customers to coordinate their conduct on specific terms set by the monopolist (e.g., "I will not sell to you if you compete with me."). Accordingly, a greater collusion risk might arise if the courts do *not* review such conduct.

B. INVESTMENT AND INNOVATION INCENTIVES CONCERN

In *Trinko*, the Court raised the concern that "[t]he opportunity to charge monopoly prices—at least for a short period—is what attracts 'business acumen' in the first place" because it "induces risk taking that produces innovation and economic growth."[30] The fear that overly intrusive Section 2 standards might reduce the investment and innovation incentives of monopolists has been a concern in Section 2 cases going back to *Alcoa*.[31] In *Alcoa*, Judge Hand opined that "[t]he successful competitor, having been urged to compete, must not be turned upon when he wins."[32]

But there is also the parallel risk that overly permissive Section 2 standards might reduce the monopolist's incentives to innovate and invest. As Judge Hand also opined in *Alcoa*, "[i]mmunity from competition is a narcotic, and rivalry is a stimulant to industrial progress."[33] In addition, a comprehensive economic analysis must also consider the incentives of the monopolist's rivals. Only by looking at the full range of incentives can competition be protected.

Investment and innovation incentives likely would be reduced under a rule of per se legality for monopolistic refusals to deal and price squeezes targeted against actual and potential competitors, relative to a well-formulated rule of reason standard. First, economists generally agree that the lack of competitive pressure tends to reduce innovation incentives.[34] Monopolists have generally weaker innovation incentives

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[30] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004).

[31] United States v. Aluminum Co. of Am., 148 F.2d 416 (2d Cir. 1945).

[32] *Id.* at 430.

[33] *Id.* at 427.

[34] This issue recently has been discussed in detail elsewhere, including Jonathan B. Baker, *"Dynamic Competition" Does Not Excuse Monopolization*, 4 COMPETITION POL'Y INT'L 243 (2008); Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation*, 74 ANTITRUST L.J. 575 (2007); Thomas O. Barnett, *Maximizing Welfare Through Technological Innovation*, 15 GEO. MASON L. REV. 1191 (2008); David S. Evans & Keith N. Hylton, *The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust*, 4 COMPETITION POL'Y INT'L 203 (2008); Herbert J. Hovenkamp, *Schumpeterian Competition and Antitrust*, 4 COMPETITION POL'Y INT'L 273 (2008); F.M. Scherer, *Technological*

than competitors and Schumpeterian competition requires that potential entrants have the ability to invest and innovate.

In theory, an overly aggressive rule against refusals to deal might undermine an entrant's incentives to invest and innovate in the input market. However, this risk can be avoided by the requirement to show that the defendant has non-transitory monopoly power in an input market guarded by significant entry barriers that make such leapfrog competition by the entrant unlikely. If the plaintiff makes such a showing, then it follows that the entrant would not have been able to efficiently invest in its own input facility. Conversely, if the entrant could efficiently invest on its own absent access to the defendant's input, then the defendant would not be found liable because it would lack monopoly power.

Finally, in raising its concern about innovation incentives, the Court seemed to be assuming that the defendant would not be adequately compensated for the input sales made to competitors. While this assumption may have turned out to be correct with respect to the regulated (and allegedly below-cost) input price in *Trinko*, the benchmark price standard formulated in this article adequately compensates the monopolist.[35]

Thus, concern over investment and innovation incentives does not justify a rule of per se legality. Instead, antitrust standards must be formulated to strike the proper balance of these long-run incentive issues along with the direct impact of the conduct on short-term consumer welfare and efficiency in the particular case.

C. Administrability and Central Planning Concern

In *Trinko*, the Court raised the concern that "[e]nforced sharing also requires courts to act as central planners, identifying the proper price, quantity, and other terms of dealing––a role for which they are ill-suited."[36] This administrability concern is the most significant issue

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Innovation and Monopolization, *in* 2 ABA Section of Antitrust Law Issues of Competition Law and Policy 1033 (2008); Howard Shelanski, *Unilateral Refusals to Deal in Intellectual and Other Property*, 76 Antitrust L.J. 369 (2009). *See also* Kenneth Arrow, *Economic Welfare and the Allocation of Resources for Innovation*, *in* Universities-Nat'l Bureau Comm. on Econ. Growth, Soc. Sci. Research Council, The Rate and Direction of Inventive Activity: Economic and Social Factors (1962).

[35] The Court in *Kodak* recognized that entry into the output market cannot automatically be viewed as free riding on the defendant's investment, noting that "[t]his understanding of free-riding has no support in our case law." Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 485 (1992).

[36] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 408 (2004). *See also* Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 Antitrust L.J. 841 (1989).

raised in setting standards for refusals to deal and price squeeze allegations. However, the Court's fear is overstated, for at least two important reasons.

First, a court often can rely on market prices in setting the price standard. As recognized by the Court, there may be a history of voluntary dealing with the competitor from which a price can be determined, or the defendant may sell to other comparable purchasers. Second, even when market prices are insufficient for setting the price standard—either because the market prices arguably would not apply to the allegedly excluded rivals' current situation or because the defendant does not sell to others, a benchmark price may be constructed in a straightforward way. The Protected Profits Benchmark formulated in this article relies only on information regarding the monopolist's price and cost. The Court has enthusiastically embraced a standard in *Brooke Group* based on the monopolist's price and cost.[37] There is no reason to suppose that courts (or monopolists) are less capable of formulating administrable price standards based solely on the monopolist's own price and cost for compelled dealing than they are for developing administrable standards for predatory pricing.[38]

D. False Positives

The Court in *Trinko* and in other recent antitrust cases has expressed a strong concern that legal rules might falsely identify beneficial conduct as anticompetitive. These concerns represent a one-sided view that should be broadened. First, the Court implicitly seems to be comparing

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[37] Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993). In the recent decision in *linkLine*, the Court cited *Brooke Group* numerous times, without ever once suggesting that the price/cost standard adopted in that case was either impractical or not administrable. Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109 (2009).

[38] For example, Justice Breyer explained this point in simple terms at the *linkLine* oral argument, imagining the testimony of the victim of a price squeeze:

> [T]hey are selling me this widget or line at a dollar. All right. That's considerably higher than their costs of producing it. And, in addition to that, they sell the same service I do for $1.20, even though it costs me or would cost any human being at least 60 cents to provide that added service. So we are asking you to tell them that if they continue to sell it at $1.20, they lower their wholesale price to us so that we only have to pay at most 80 cents, or whatever the right number is there.

Transcript of Oral Argument, Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc. at 46–57, No. 07-512 (Dec. 8, 2008). Justice Breyer was imagining the dialogue with a regulator. However, for an unregulated monopoly, the same dialogue could occur with a court. The lower required wholesale price could be set through the protected profits benchmark price, and a wholesale price offer above that level would be considered a de facto refusal to deal.

per se illegality to per se legality. But, this is not the only judicial choice. The Court could also adopt a rule under which the plaintiff would need to pass a number of evidentiary hurdles under the rule of reason, such as evidence of monopoly power and harm to competition.

Second, there is a parallel concern with the potential for false negatives and underdeterrence that is essentially ignored by the Court in its more recent cases. For example, in quoting from its earlier decision in *Colgate*, the *Trinko* Court failed to include the key proviso, "in the absence of any purpose to create or maintain a monopoly."[39] This omission is particularly significant in light of the high standard of proof that would need to be achieved by a plaintiff in a modern Section 2 refusal to deal case.

II. ADMINISTRABILITY AND THE PROTECTED PROFITS PRICE BENCHMARK

Despite the concerns expressed by the *Trinko* Court, the courts can successfully administer a standard based on the monopolist's price and cost, just as they have done in predatory pricing cases following *Brooke Group*. *Brooke Group* has been cited numerous times by courts without complaint that the price-cost standard is impractical or not administrable. Of course, in many refusal to deal and price squeeze cases, it will not even be necessary for the court to make an explicit price-cost comparison. In some cases, the defendant refuses to deal only with competitors, while it continues to sell to other customers who are not competitors. In that situation, the price charged to others is a presumptive benchmark price, potentially obviating the need to measure costs.[40] Similarly, measurement issues are eased when the defendant and competitor have a previous voluntary course of dealing and the complaint arises when the defendant terminates that voluntary course of dealing, as in *Kodak*.[41] A prior course of voluntary dealing proves that supplying the input is technologically feasible. Moreover, a benchmark based on the previous voluntarily negotiated market price sometimes may be applicable, as recognized in *Trinko*.[42]

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[39] United States v. Colgate & Co., 250 U.S. 300, 307 (1919).

[40] This was the situation in *Kodak*, in which the defendant voluntarily sold repair parts to final customers, just not to the Independent Service Organizations that competed with Kodak in the service market. It also was the situation in *Otter Tail*, in which the defendant voluntarily wheeled power for non-competitors. Otter Tail Power Co. v. United States, 410 U.S. 366, 370–71 (1973); *see Trinko*, 540 U.S. at 410.

[41] *Kodak*, 504 U.S. 451, 457–58.

[42] Similarly, in the article quoted by the Court in *Trinko*, Professor Areeda was more sanguine about concerted refusal to deal cases because in such cases participants are already dealing with one another, proving that such dealing is feasible and efficient.

Of course, the defendant may argue that the market prices or previously charged prices are not (or are no longer) applicable to the competitor in the current market. For example, the monopolist may claim that it lacks sufficient capacity to supply the excluded rival(s), that supplying the excluded rival(s) would be more expensive than supplying others, or that its costs of supplying outsiders has risen over time. These rationales sometimes may be determined to be pretextual. However, if proven, these certainly would be valid defenses and would imply the need to adjust the price benchmark to serve as a better measure of costs, rather than simply relying on these market prices.

Assuming there is no readily available market price to use as a benchmark, a benchmark can be based on the well-known Efficient Components Pricing Rule (ECPR) and its various modifications.[43] The ECPR also is relevant for the transfer price standard for monopolistic price squeezes applied by Judge Hand in *Alcoa*[44] and more recently proposed (but not explained in any detail) by the amici in *linkLine*.[45] This standard was not adopted by the Court, but only on the basis of a formalistic analysis that did not depend on the particular standard.[46]

Areeda, *supra* note 36, at 845 n.21; *see* Gavil, *supra* note 5, at 45. In contrast, a history of voluntary dealing was not considered significant by the Department of Justice in its 2008 report. U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 126 (2008), *available at* http://www.usdoj.gov/atr/public/reports/236681.pdf. As of May 2009, the current administration has withdrawn the DOJ Section 2 Report. *See* Press Release, U.S. Dep't of Justice, Justice Department Withdraws Report on Antitrust Monopoly Law (May 11, 2009), *available at* http://www.usdoj.gov//atr/public/press_releases/2009/245710.pdf.

[43] Janusz A. Ordover & Robert D. Willig, *Access and Bundling in High-Technology Markets*, *in* COMPETITION, INNOVATION, AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE 103 (Jeffrey A. Eisenach & Thomas M. Lenard eds., 1999) [hereinafter *Access and Bundling*]; Robert D. Willig, *The Theory of Network Access Pricing*, *in* ISSUES IN PUBLIC UTILITY REGULATION 109 (Harry M. Trebing ed., 1979); William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold to Competitors*, 11 YALE J. ON REG. 171 (1994); William J. Baumol, *Some Subtle Pricing Issues in Railroad Regulation*, 10 INT'L J. TRANSP. ECON. 341 (1983); Janusz A. Ordover & Robert D. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8 (1981) [hereinafter *An Economic Definition of Predation*].

[44] United States v. Aluminum Co. of Am., 148 F.2d 416, 435–38 (2d Cir. 1945).

[45] Brief for American Antitrust Institute as Amicus Curiae Supporting Petitioner at 9–10, Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109 (2009) (No. 07-512) [hereinafter AAI *linkLine* Brief]; Brief for Comptel as Amicus Curiae Supporting Respondents at 16–18, Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc., 129 S. Ct. 1109 (2009) (No. 07-512). The amici did not present in their briefs the type of detailed analysis set out in this article.

[46] *linkLine*, 129 S. Ct. at 1121–22.

A. THE ECPR AND PROTECTED PROFITS BENCHMARK PRICE

In a previous article, I sketched the "Protected Profits Benchmark" (*PPB*) as part of the rule of reason standard for monopoly refusal to deal and price squeeze allegations.[47] The *PPB* is closely related to the ECPR and is identical to the ECPR when the monopolist and the entrant produce a homogeneous product.

The use of the *PPB* is administrable. For homogeneous products, the *PPB* requires only information on the defendant's price and costs. Suppose that the defendant-monopolist offers to sell the input to its competitor-plaintiff at some particular input price, which the plaintiff alleges was anticompetitively high. In these situations, the court would evaluate whether the defendant would be pricing below cost if the monopolist purchased the input from a hypothetical third-party at the input price, instead of producing the input itself at its cost. If the defendant could earn a profit if it had to pay the same input price as it offers to the competitor, then its conduct would not be considered a refusal to deal. However, if purchasing at this price would imply below-cost pricing by the monopolist, then the defendant's price offer would be considered a refusal to deal. The same benchmarks would be applied to price squeeze allegations. Indeed, this standard is a modern, rigorous interpretation of the test Judge Hand formulated in *Alcoa* for price squeezes.[48]

This standard can equivalently be seen as a comparison of the monopolist's price to its "opportunity cost" of selling to the competitor. For example, suppose that the competitor makes an input purchase offer at some price and the monopolist rejects the offer without countering. If the monopolist would earn a higher profit from selling a unit of the input to the rival at that price than it would earn from selling the output that it produces itself with a unit of the input, then its conduct would be considered a refusal to deal. This is because the monopolist's opportunity cost of selling the unit of the input to the competitor is the direct profit that it would have earned from using the input itself to produce and sell output at the going output price.

Applying this price benchmark standard is no more difficult than applying the *Brooke Group* below-cost pricing standard. The standard uses only information on the monopolist's price and costs, not any informa-

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[47] Salop, *supra* note 5.

[48] *Alcoa*, 148 F.2d at 435–38. It does raise the issue of whether the measure of costs should be marginal costs, average variable costs, or average total costs, the same issue identified in *Brooke Group. See* Herbert Hovenkamp & Erik N. Hovenkamp, *The Viability of Antitrust Price Squeeze Claims*, 51 ARIZ. L. REV. 273 (2009).

tion about the competitor's costs. In fact, the price benchmark standard is simply a variant of the *Brooke Group* below-cost pricing standard, using opportunity cost instead of out-of-pocket costs. Thus, the standard is administrable.

Moreover, sometimes the benchmark test would be particularly easy to apply. In *linkLine*, for example, it was alleged that, at least for some period of time, AT&T demanded a wholesale price for DSL service that exceeded its retail price.[49] This configuration of prices necessarily would fail the *PPB* standard as long as AT&T had any positive retail costs.[50]

B. The Protected Profits Benchmark and Section 2 Standards

The recent controversy over the proper standards for Section 2 has involved the proper role of evidence of profit-sacrifice and harm to equally-efficient entrants or other competitors in the rule of reason or as overarching standards for liability.[51] The *PPB* standard satisfies both the equally-efficient competitor standard and the profit-sacrifice standard, and it is an integral prong of the consumer welfare standard as well. In fact, those three standards can be used to explain the formulation of the *PPB*.

1. *Equally-Efficient Competitor Test*

If the dominant firm is pricing above its costs, then an equally-efficient competitor would not be forced to exit from the market and an equally-efficient competitor would be viable. In this sense, it is said that the below-cost pricing standard for predatory pricing in *Brooke Group* protects a hypothetical equally-efficient competitor from being excluded from the market.[52] The protected profits benchmark satisfies the

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[49] AAI *linkLine* Brief, *supra* note 45, at 30.

[50] AAI made this point in its Amicus Brief in *linkLine*. *See id.* Chief Justice Roberts opined that "If both the wholesale price and the retail price are independently lawful, there is no basis for imposing antitrust liability *simply because a vertically integrated firm's wholesale price happens to be greater than or equal to its retail price.*" *linkLine*, 129 S. Ct. at 1114 (emphasis added). Chief Justice Roberts' reasoning is circular and misses the point. The rationale for the wholesale price being "independently lawful" is that there is no illegal refusal to deal. But the main rationale for saying that there is no illegal refusal to deal is that there is no good administrable test for determining when a refusal to deal is anticompetitive. And, of course, a test that finds a refusal to deal when the wholesale price exceeds the retail price is simple to administer, even for a judge not schooled in economics or higher mathematics.

[51] Salop, *supra* note 5, at 312–14.

[52] POSNER, *supra* note 6, at 194–95. Posner would also require the plaintiff to prove that the defendant has monopoly power. The defendant could rebut by showing that the conduct is efficient. *See id (*for commentaries on this standard). *See also* Elhauge, *supra* note 5, at 273; Gavil, *supra* note 5, at 59–61; John Vickers, *Abuse of Market Power,* 115 ECON. J. F244

equally-efficient competitor standard. If the monopolist sets its input price at the level determined by this benchmark, a hypothetical equally-efficient competitor would be viable and a more efficient competitor would prosper.

The *PPB* and its relationship to the equally efficient competitor standard is straightforward to explain with a simple numerical example. Suppose that a vertically integrated monopolist is selling a retail product at the monopoly price ("output price") of $100. Suppose that the monopolist manufactures an input that is essential to the production of the retail product at a variable cost ("input cost") of $10 per unit. Suppose that the monopolist has other variable costs ("incremental output cost") of $30 per unit of retail output. This means that the monopolist's overall variable costs ("output cost") are $40 per retail unit sold and the monopolist earns a price-cost margin (i.e., the margin of price over variable costs) of $60 per unit on the marginal retail sales of its product.

Now, suppose that a highly efficient new entrant comes along that is unable to produce or purchase the input because of prohibitive barriers to entry. Suppose the entrant approaches the monopolist and offers to purchase the input for a price of $75, and that this offer is rejected by the monopolist.

The *PPB* would calculate the relevant price benchmark standard as the input price that would allow a hypothetical equally-efficient competitor to earn a zero price-cost margin at the pre-entry monopoly output price. In this example, that benchmark input price under the *PPB* standard would be $70. That is, if the hypothetical entrant were able to purchase the input for $70 and had other variable output costs of $30 (equal to the monopolist's), then it would have overall variable costs of output equal to $100 and so could earn a zero price-cost margin at that pre-entry monopoly output price of $100.[53] The monopolist's refusal to accept a $75 offer would therefore be deemed to be anticompetitive, and the court would need to move on to the next step of the rule of reason test.

In this example, at an input price of $75, a hypothetical equally-efficient entrant would earn only a negative price-cost margin at the monopoly retail price. This entrant would have variable costs of $105 (i.e., $75 + $30), which exceeds the $100 output price. This is also an eco-

(2005); Ken Heyer, *A World of Uncertainty: Economics and the Globalization of Antitrust*, 72 ANTITRUST L.J. 375, 419 n.64 (2005) (quoting Joseph Farrell, Comments at Antitrust Division Conference on the Developments in the Law and Economics of Exclusionary Pricing Practices (Mar. 18, 2004)).

[53] Economists view costs as including a competitive rate of return.

nomically valid, objective way to measure Judge Hand's "living profit" standard set out in *Alcoa*.[54]

Thus, the *PPB* satisfies the equally-efficient competitor standard: It deters entry by an inefficient entrant and would allow a more efficient entrant to survive in the market at the monopoly price.[55]

The *PPB* does not expropriate the monopolist's property with below-cost compensation. Under no circumstances would this price benchmark require the defendant to supply its product at a price below its incremental cost of supplying the purchaser. The *PPB* always exceeds the monopolist's input costs, often by a great deal. This can be seen by writing down the formula for the *PPB* in terms of the monopolist's price and costs.

PPB = Monopolist's input cost + [Monopolist's output price – Monopolist's output cost]

The monopolist's output cost is defined as follows:

Monopolist's output cost = Monopolist's input cost + Monopolist's incremental output cost

The term in the brackets in the first formula is the monopolist's profit margin on incremental output sales. That is always a positive number and often is quite significant. Thus, the *PPB* gives the monopolist a profit margin on its sales of the input equal to the profit margin that the monopolist would have earned from selling output. Using the numbers in the example above, the monopolist's input cost is equal to $10. The monopolist's profit margin on output is $60, that is, its $100 price less its $40 output costs. (The output cost of $40 is equal to the input cost of $10 plus the monopolist's incremental output cost—i.e., not including the input cost—of $30.) Thus, the *PPB* of $70 permits the monopolist to earn a profit margin of $60 on incremental output sales, over and above its incremental input costs of $10. In this way, the *PPB* adequately maintains the monopolist's innovation incentives.

2. *Profit-Sacrifice Test*

In *Trinko,* the Court stressed the fact that Ski Co.'s refusal to sell daily lift tickets to Highlands showed a "willingness to forsake short-term prof-

[54] United States v. Aluminum Co. of Am., 148 F.2d 416, 437 (2d Cir. 1945); *see also* AAI *linkLine* Brief, *supra* note 45, at 9–10.

[55] As discussed in more detail below, the monopolist might well respond to the entry of a more efficient entrant by competing on price. That competition clearly would be permissible and consumers would benefit from the lower prices.

its to achieve an anticompetitive end."[56] The Court treated this profit-sacrifice as evidence of anticompetitive intent, saying that the conduct "revealed a distinctly anticompetitive bent."[57] This is consistent with the *Colgate* Doctrine because profit sacrifice can establish a "purpose to create or maintain a monopoly."[58]

The profit-sacrifice test examines the profitability of the defendant's conduct relative to a hypothetical market outcome that is used as the nonexclusionary benchmark.[59] The *PPB* satisfies this profit-sacrifice standard. An input price above the *PPB* would generate more direct profit to the monopolist than it would earn by selling the output itself that would be produced with those units of the input. That is, if a monopolist rejects an offer to sell the input at a price above the *PPB*, the profit sacrificed from those input sales exceed the direct profit that it earns from selling the output produced at the monopoly price, sales that the entrant would have taken away from the monopolist.

Consider the numerical example given above. Suppose that the monopolist rejects an input price offer of $75. The monopolist would earn a profit margin of $65 on input market sales (i.e., $75 – $10). By rejecting the input market sales, however, the monopolist can sell more output itself. But the monopolist earns a profit margin (i.e., price – incremental cost) on its incremental output sales of only $60 (i.e., $100 – $40). Thus, the monopolist would be forgoing $5 per unit in profits by refusing to sell input to the entrant.

3. *Further Properties of the PPB*

The *PPB* satisfies concerns regarding judicial administrability, the monopolist's compliance costs, and the innovation incentives of the monopolist and potential entrants.

a. Judicial Administrability

The *PPB* is administrable by courts. The *PPB* uses the same type of price and cost information that the Supreme Court requires for the application of the *Brooke Group* standards. This can be seen by referring

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[56] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 409 (2004).

[57] *Id.*

[58] United States v. Colgate & Co., 250 U.S. 300, 307 (1919).

[59] For a sampling of commentary on the profit-sacrifice standard in Section 2, see the articles cited *supra* note 5. *See also* A. Douglas Melamed, *Exclusionary Conduct Under the Antitrust Laws: Balancing, Sacrifice and Refusals to Deal*, 20 BERKELEY TECH. L.J. 1247 (2005); Ordover & Willig, *An Economic Definition of Predation*, *supra* note 43; Mark R. Patterson, *The Sacrifice of Profits in Non-Price Predation*, 18 ANTITRUST L.J. 37 (2003); Werden, *supra* note 5.

back to the *PPB* example above, where the monopolist's profit margin on sales of its output was calculated (i.e., $100 output price – $40 output cost). That is precisely the price-cost margin at issue in predatory pricing allegations under *Brooke Group* when average variable costs (AVC) do not vary with output.

The other piece of information needed for the *PPB* is the monopolist's input cost (the $10 cost in the example). However, this information is not more difficult to obtain. In fact, it is needed in order to calculate the monopolist's overall variable costs under the *Brooke Group* standard. Moreover, this cost also would be needed to evaluate a predatory pricing claim involving input market pricing. Thus, it does not add a significant administrability concern. It might be argued that administrative costs would be higher for refusal to deal allegations than for predatory pricing because predatory pricing allegations are episodic, whereas refusal to deal claims are continuous. It is not clear why this would be the case. Predatory pricing claims could arise every time that the monopolist reduces its price, or every time that the monopolist's costs increase.

b. Monopolist's Compliance Costs

The *PPB* similarly does not create significant compliance costs for the monopolist. The *PPB* relies on information about the monopolist's own costs, not the costs of the firms that wish to purchase its input. This is an important distinction. The monopolist should know its own costs. It is necessary to know its costs in order to evaluate its profitability and set its profit-maximizing prices.

c. Impact on Consumer Welfare and Innovation Incentives

An antitrust focus solely on short-term consumer welfare would suggest an input price equal to the monopolist's costs. But short-term welfare is not the sole goal of the *PPB*. The *PPB* balances the goals of short-run consumer welfare, innovation/investment incentives of actual and potential monopolists, and innovation/investment incentives of potential entrants.

In constructing the *PPB*, the baseline is the monopoly profits that the monopolist would have earned on the sales lost to an equally efficient competitor. In the numerical example, the input sales at the *PPB* generate a benchmark input price of $70, which generates the same profit margin of $60 as the monopolist earns on output sales at the monopoly price of $100. In this sense, the monopoly profits on those sales are "protected" by the *PPB* standard.

However, the *PPB* does not immunize the monopolist from a possible reduction in profits that would flow from post-entry price competition by a more efficient entrant. Instead, it only compensates the defendant for profits on those output sales directly lost to the competitor, not for the reduced profits on the rest of its output caused by any price reductions arising from the entry of the more efficient competitor.

For example, suppose that the entrant is more efficient than the monopolist, with other costs of $15 (in contrast to the monopolist's other costs of $30).[60] Under these conditions, the entry would lead to downward price competition. To illustrate, suppose that the price competition caused price to fall to $86, a level slightly above the entrant's overall costs of $85 (i.e., $70 + $15). In this scenario, the monopolist's overall profit margin would fall to $46 (i.e., $86 – $40) as a result of the price competition from the more efficient entrant.[61]

The *PPB* is not designed to immunize the monopolist's profit margin from this normal price competition, nor should it be. To do so would violate the *Colgate* doctrine and fall victim to a variant of the *Cellophane* fallacy.[62] Instead, the *PPB* standard permits entry by more efficient competitors and does not immunize the monopolist from that competition because that price competition benefits consumers. Thus, the concept of profit-sacrifice would not include the profits lost from price competition.

The *PPB* will not interfere with the monopolist's subsequent innovation incentives. The monopolist earns as much profit from selling the input to the entrant at the *PPB* as it would have earned if it had sold the same number of units of output itself at its own costs. Competition from the entry by a more efficient competitor also will spur the monopolist to innovate to produce superior products at lower cost. This innovation competition will further benefit consumers. Thus, the *PPB* provides a good balance of innovation incentives and consumer benefits.

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[60] An analogous analysis could be applied to the situation of the entrant making a superior product.

[61] In the case of price squeeze allegations, the monopolist would not be required to reduce its input price further if the output price falls to a lower level as a result of this competition.

[62] The original ECPR has been criticized in the regulatory context for falling victim to the *Cellophane* Fallacy by taking the output price as given at the monopoly level. For example, see Nicholas Economides & Lawrence J. White, *Access and Interconnection Pricing: How Efficient Is the "Efficient Component Pricing Rule"?* 40 ANTITRUST BULL. 557 (1995). Baumol, Ordover, and Willig appeared to agree with this criticism, but argued that the ECPR should be used after the retail price is properly adjusted. William J. Baumol, Janusz A. Ordover & Robert D. Willig, *Parity Pricing and Its Critics: A Necessary Condition for Efficiency in the Provision of Bottleneck Services to Competitors*, 14 YALE J. ON REG. 155 (1997).

For the same reason, the *PPB* standard derived from the ECPR does not permit the integrated firm to charge a higher input price to a more efficient competitor that sells a fungible product. Absent antitrust constraints, the monopolist might want to extract the entrant's profits earned from its increased efficiency by charging the entrant a higher input price.[63] In the numerical example above, this would involve an input price of $85, which would drive the entrant's overall costs up to $100, the same as the monopolist's. In that way, the entry would not lead to price competition in the output market.

Allowing the monopolist to charge this higher input price would permit the monopolist to raise the costs of more efficient competitors solely on the anticompetitive rationale that the exclusion would eliminate efficient price competition. Such a policy would run counter to antitrust values, which encourage the entry and competition of more efficient competitors. That policy would deny consumers any benefit from the entry of those more efficient competitors. It also would eliminate any incentive for an entrant or competitor to reduce its costs, because the monopolist could simply respond by raising the input price in order to tax away the competitor's cost savings.[64] Such a policy would not provide the proper antitrust balance.

A concern might be raised that a *would-be* vertically integrated monopolist might invest less if it anticipates that it might eventually lose some monopoly power in the face of entry by a more efficient entrant demanding access to the input it produces. Commentators might argue that this contingency could so shorten the expected length of the temporary monopoly that significantly less business acumen would be attracted.[65] The *PPB* balances this concern against the increase in innovation incentives of the monopolist and entrants, and the increased consumer welfare that comes from a tighter price standard.[66]

A concern with innovation incentives does not justify giving monopolists such carte blanche. If it did, then monopolists would be permitted to disrupt existing voluntary supply agreements, despite a showing that

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[63] Melamed, *supra* note 59, at 1265.

[64] *See also* Hovenkamp & Hovenkamp, *supra* note 48, at 5–6; Joseph Farrell & Michael L. Katz, *Innovation, Rent Extraction, and Integration in Systems Markets*, 48 J. INDUS. ECON. 413 (2000).

[65] *See* Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 406–08 (2004).

[66] This need to balance is inherent in antitrust. Antitrust law has a monopoly maintenance offense even though *any restraints* on the conduct of the monopolist could similarly be claimed to reduce incentives to innovate. The length and breadth of patent monopolies also are constrained, despite this same concern.

the profit sacrifice would demonstrate an anticompetitive bent and prove that the refusal to deal harmed consumers and competition. That carte blanche also would imply that tying, raising rivals' costs, and other exclusionary conduct also should be per se legal. For that matter, horizontal price fixing could be defended on the grounds that the higher cartel profits would lead to additional investment.

4. *Consumer Welfare Standard*

The *PPB* approach also promotes consumer welfare, when combined with the other prongs of the rule of reason. To constitute an unlawful refusal to deal, the defendant must have refused to supply the input at the *PPB* price. In addition, the plaintiff also must satisfy the other prongs of the rule of reason, as discussed below. In particular, it also would be necessary to explain how the refusal to deal or price squeeze likely would harm consumers, either in the input market, output market, or a complementary product market. In short, a finding of consumer harm is not inevitable even if the *PPB* benchmark signals a refusal to deal or price squeeze.

5. *Differentiated Products*

The assumption of fungible (homogeneous) products is commonly made in discussions of exclusionary conduct under Section 2 of the Sherman Act. However, this is a simplifying assumption that does not fit many real world markets. In many markets, products are differentiated; for example, consumer products such as soft drinks, shampoo, and cigarettes. In the case of the retail DSL product discussed in *Trinko*, the entrant's product might have been differentiated on the basis of connection speed, frequency of outages, quality of customer service, and pricing structure. Industrial goods also may be differentiated by features, warranty and credit terms, delivery lags, seller reputation, and so on.

Product differentiation greatly complicates the concept of an equally efficient competitor. Consider a new competitor with cost and price equal to those of the incumbent monopolist, but selling a differentiated product. That entrant is "more efficient" than the incumbent monopolist in the eyes of those consumers that prefer the entrant's product and "less efficient" in the eyes of the consumers that prefer the monopolist's product at the identical prices. Even if the entrant has higher cost and a higher price than the monopolist, some consumers might prefer its product.

When products are differentiated, the accurate calculation of profit sacrifice would take into account the fact that some of the output sales gained by the entrant might not involve output sales lost by the monopolist. This is because some of the entrant's sales might involve new customers who did not previously purchase the monopolist's product. Similarly, in the situation where the "monopolist" is a dominant firm that faces a small fringe of competitors, some of the sales obtained by the entrant might come from other fringe competitors, not from the monopolist.[67]

These factors can be reckoned into the calculation of the *PPB* and the ECPR in a straightforward way.[68] When a fraction of the entrant's output sales do not involve output sales lost by the monopolist, the [bracketed] price/cost margin term would be discounted accordingly. Formally, suppose that a fraction *Div < 1* of the sales obtained by the entrant are diverted from the monopolist and the rest (a fraction *1- Div*) are generated from other competitors, including products outside the relevant market. The relevant *PPB* formula then would be adjusted as follows:

PPB = Monopolist's input cost + Div x [Monopolist's output price – Monopolist's output cost]

For example, suppose that 80 percent of the entrant's sales are diverted from the monopolist but 20 percent represent new customers buying into the market and customers diverted from the fringe. In this scenario, the *PPB* would be reduced accordingly. Extending the numerical example given previously, if the monopolist's input cost is $10 and its pre-entry profit margin on output is $60, the 80 percent diversion factor would reduce the *PPB* from $70 down to $58.[69]

This lower benchmark price coupled with the product quality competition inherent in product differentiation often would lead to price competition in the output market. This price competition may occur even if

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[67] The antitrust definition of a monopolist includes dominant firms with market shares that fall short of 100 percent. For example, Microsoft's Windows operating system faced some limited competition from Linux and Apple. At the time of the *Trinko* case, Verizon's DSL service faced some competition from cable modems and wireless modems; in fact, had the case gone to trial, it is not certain that Verizon would have been judged a monopolist.

[68] Mark Armstrong & John Vickers, *The Access Pricing Problem with Deregulation*, 46 J. INDUS. ECON. 115 (1998); Mark Armstrong, Chris Doyle & John Vickers, *The Access Pricing Problem: A Synthesis,* 44 J. INDUS. ECON. 131 (1996). These authors sometimes refer to a *modified*-ECPR. *See also* Baumol et al., *supra* note 62, at 145, 154–55 (1997); Brief of Amici Curiae Economics Professors in Support of Respondent at 22 n.9, Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004) (No. 02-682).

[69] That is, *PPB* = $10 + 80% x $60 = $58.

the entrant's costs are the same as the integrated firm's, unlike the situation when the entrant produces a homogeneous product and *Div* = 1.

Product differentiation and fringe producers complicate the calculation of the *PPB* to some extent. There are several ways in which the need to estimate the diversion factor could be taken into account, depending on the information reasonably available to the monopolist and the court. First, the diversion factor might be estimated on the basis of information about the entrant's product that is available at the time that the entrant offers to purchase the input. As a general matter, diversion is no more difficult to estimate than the standard calculations made in antitrust, such as market definition or demand elasticity.[70] Of course, this analysis typically is made in judicial or administrative proceedings, not in the context of negotiations over input sales. Thus, it is possible that this type of analysis might be contentious in the negotiation context, particularly if the monopolist is not well informed about the product being offered by the entrant. However, if so, there are good alternatives available that involve reduced informational requirements.

Second, a more easily calculated estimate would rely on the market shares of the monopolist and the fringe competitors. For example, if the vertically integrated monopolist has an 80 percent market share of the relevant market, then it could be assumed that 80 percent of the entrant's sales would come from the monopolist and 20 percent from the fringe.[71] This assumption of "proportional diversion" is commonly made in merger analysis.[72] This market share generally would be an overestimate of the diversion ratio because some of the entrant's sales would likely come from new customers currently purchasing products from outside the relevant market.

This approach would require the monopolist merely to know its market share. This does not seem a particularly high burden because the monopolist typically would know its own market share, and market

[70] In fact, the diversion ratio is used routinely in market definition and unilateral effects analyses. *See* U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines n.9 (1992, rev. 1997) [hereinafter Merger Guidelines], *available at* http://www.ftc.gov/bc/docs/horizmer.htm (value of diversion); *id.* § 2.2.1. (sales diverted to merger partner); U.S. Dep't of Justice & Fed. Trade Comm'n, Commentary on the Horizontal Merger Guidelines 27–28 (2006), *available at* http://www.usdoj.gov/atr/public/guidelines/215247.htm.

[71] A more refined analysis could be obtained from the knowledge or assumption that demand for the products in the relevant market is not perfectly inelastic. Price elasticity also reduces the fraction of the entrant's sales that would come from the monopolist.

[72] Merger Guidelines, *supra* note 70, § 2.211.

share likely also would be used in the evaluation of monopoly power.[73] While this estimate would be less precise than direct estimation of the diversion ratio, it might well be the more efficient estimation approach in practice.

Third, in lieu of any case-by-case analysis, the court could mandate a particular diversion factor to use in all cases, as an irrebuttable presumption. This approach obviously would impose no informational burden on the monopolist or the trial court. When products are differentiated, the diversion factor clearly would be less than 100 percent. Assuming a diversion factor of 100 percent would be systematically biased upwards. A diversion factor of 80–90 percent would be less likely to be systematically biased upwards.

To protect the monopolist further, the court instead could make this estimate a rebuttable presumption. That is, the monopolist could defend itself in court by showing that the actual diversion ratio would be larger than the judicially mandated diversion factor. Similarly, if the court used a diversion factor based on the defendant's market share, that presumption also could be made rebuttable. Or, if the court finds that it should be more concerned with false negatives, a lower diversion factor could be mandated, or the court could permit the plaintiff to attempt to rebut the presumption.

Product differentiation complicates the analysis in another way. The standard in this article only applies to refusals to deal with competitors, that is, where the refusal to deal is likely to reduce the competition faced by the monopolist. Thus, it would be necessary for the plaintiff to show that the competitor would place a significant competitive constraint on the monopolist, notwithstanding the differentiation between their products.

III. FALSE POSITIVES, FALSE NEGATIVES, AND THE RULE OF REASON

Evidence that the defendant's input price exceeds the *PPB* normally should be viewed as necessary but not sufficient for a finding of antitrust liability. Instead, the pricing issue is simply one of the prongs of a full

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[73] This approach would be coupled with the measurement of market share for the purpose of evaluating the monopoly power of the monopolist and could have interesting effects on the litigants' trial tactics. On the one hand, the plaintiff would want to argue that the defendant's market share is high to support the claim that the defendant has monopoly power. On the other hand, the plaintiff would want to argue that the defendant's market share is low to support a claim that the *PPB* should be set at a low level. Forcing the parties to confront this trade off might result in a more accurate estimate of the defendant's market share.

rule of reason analysis. By embedding the price analysis into a full rule of reason, the process will avoid the *Trinko* Court's concern about false positives. There will be a heavy burden on plaintiffs also to show the non-transitory monopoly power of the defendant and the likelihood of competitive harm.

At the same time, the rule of reason avoids the false negative problems of per se legality. While false negatives may not have been much of a concern in the 1960s world of broad rules of per se illegality, they are a more significant concern in today's more conservative climate. In order for a plaintiff to win a refusal to deal case today, the plaintiff would have to prove that the defendant has monopoly power in well-defined relevant input and output markets, that the desired dealing was feasible, that the refusal to deal was the product of anticompetitive purpose rather than a mere breakdown in bargaining, and that the refusal to deal would permit the defendant to achieve or maintain monopoly power and harm consumers in a relevant market, even after taking into account non-pretextual efficiency rationales for the monopolist's conduct.

This rule of reason approach would follow the basic structure set out in *Microsoft*.[74] It would place the burden on plaintiffs. It would not open a floodgate of litigation. The tightly structured rule requires evidence of consumer harm, unlike an *MCI*-type of "essential facilities" rule.[75] It is neither open-ended nor inadministrable. As a result, the standard would not lead to false positives or overdeterrence.

Refusal to deal and price squeeze cases may involve *conditional* refusals to deal, that is, situations where the vertically integrated defendant is willing to supply noncompeting firms but refuses to supply potential competitors or charges them much higher prices. Per se legality would raise a serious risk that a dominant firm could use refusals to deal as a way to enforce noncompetition arrangements. For example, a dominant firm could establish a reputation of only supplying rivals that target different market segments or charge high prices in the output markets in which they compete with the dominant firm. This might be a particularly serious concern in cases involving patent licensing, provision of interoperability information, or aftermarket parts sales. In all of these situations, it would not be necessary for the competitors to make a for-

[74] United States v. Microsoft Corp., 253 F.3d 34, 95–97 (D.C. Cir. 2001).

[75] In this regard, it is noteworthy that Professor Areeda appeared to approve of the result in *MCI,* despite his concerns about the essential facilities doctrine. Areeda, *supra* note 36, at 845 n.21 ("MCI . . . which rests on the essential facilities notion, is probably correct."). *See* Gavil, *supra* note 5, at 45.

mal agreement; the dominant firm simply could establish a unilateral policy and achieve a reputation of refusing to deal with rivals, or rivals that compete too vigorously.

Instead of per se legality for monopolistic refusal to deal and price squeeze allegations in unregulated monopoly markets, the better standard is a full rule of reason analysis structured around three separate evidentiary categories (in addition to monopoly power): actual refusal to supply or price squeeze; likely competitive harm; and insufficient competitive benefit.

A. Actual Refusal to Supply or Price Squeeze

The analysis so far has assumed that the plaintiff has shown that the vertically integrated defendant with monopoly power has refused to deal or has engaged in a price squeeze, as determined by the *PPB* or a non-exclusionary price benchmark equal to the input price charged to others or previously charged to the competitor. However, that showing may well be contested. For example, it may not be clear that defendant has refused to deal, as opposed to the competitor refusing to pay an adequate price. There may have been a bargaining failure, rather than an anticompetitive refusal to deal.

This was not the situation in *Aspen Skiing* and *Kodak*. In *Aspen Skiing*, Highlands apparently offered to pay the same bulk price for the daily lift tickets as others paid. With respect to the division of the joint ticket revenues, the court found that Ski Co. made an offer designed to be unacceptable to Highlands.[76] In *Kodak*, the defendant changed its previous policy to a flat refusal to deal with ISOs. Absent an efficiency rationale, a flat refusal to deal often indicates profit sacrifice and raises greater anticompetitive concerns.

Under the rule of reason, the burden would be placed on the plaintiff to establish that it has made a genuine offer to buy at or above the appropriate non-exclusionary benchmark price (whether the *PPB*, the price charged to others, or the price previously charged to the competitor), and the defendant has failed to accept such an offer or made a genuine offer to sell at or below that benchmark price. It might well be the fact that the competitor has rejected price offers by the defendant that are equal or below the price benchmark. Or, perhaps the competitor has offered a price significantly below the benchmark and the defendant has countered with a price above the benchmark, but the competitor has not accepted the offer.

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[76] Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 591–92 (1985).

The court needs to determine whether there was simply a bargaining failure, rather than a potentially anticompetitive refusal to deal or price squeeze. This raises a question about the burden of proof. A court normally would require the plaintiff to prove that there is a refusal to deal. However, in applying the *PPB*, the plaintiff lacks the necessary information. Only the defendant likely knows its own costs. In fact, the plaintiff might not even know the prices the defendant charges to other customers. Therefore, it seems reasonable to place the burden of production on the defendant. It also seems reasonable to place the burden on the defendant to negotiate, rather than make a flat refusal to deal.

B. Competitive Harm

Merely showing a refusal to deal or price squeeze under the *PPB* is not sufficient for liability under Section 2. It also would be necessary to explain how the refusal to deal likely would harm consumers. The plaintiff also would be required to make the following showings: (1) that the defendant has durable monopoly power in the input market (including a showing of entry barriers); (2) that the defendant has achieved or has a dangerous probability of achieving monopoly power in an output market in which it competes with the alleged victim of the refusal, or a related market for a complementary product; (3) that the failure to deal with the competitor would *materially* raise the competitor's costs; and (4) that the failure to deal with the competitor will significantly contribute to the maintenance of the defendant's monopoly power in the input market or achievement or maintenance of monopoly power in a relevant output market.[77] Only if there is evidence supporting these additional showings can a court be confident that consumers would be harmed by the refusal to deal or price squeeze. Such a conclusion is not inevitable for all allegations of refusals to deal or price squeezes.

C. Efficiency Benefits

If the plaintiff does carry its burden on these components of the liability standard, and the defendant is unable to rebut this evidence of harm, the defendant nonetheless should have the ability to defend its conduct

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[77] For analysis of impact in related markets, see Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, 33 RAND J. Econ. 194 (2002); Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 Harv. J.L. Tech. 85 (2003); Ordover & Willig, *Access and Bundling*, *supra* note 43; Steven C. Salop & R. Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 Geo. Mason L. Rev. 617, 646–47 (1999).

by showing that dealing with the competitor would not be technologically or economically feasible.

The analysis of efficiency benefits also addresses concerns that the input desired by the competitor exists "only deep within the bowels" of the defendant's production process and that it might not feasibly be supplied to outsiders, or that its costs cannot be discerned accurately.[78] If the firm lacks the technical ability to supply an entrant, then the refusal to supply clearly would be permitted. In carrying out this analysis, whether or not the defendant sells to others (or has previously sold to the competitor) would be relevant. Sales to others likely prove the feasibility of outside sales. Similarly, if the defendant lacks sufficient quantities of the input to supply the competitor, then dealing with the competitor may be economically infeasible. This analysis would require evaluation of capacity limitations. If the dominant firm's relevant costs somehow are unknowable, then the PPB cannot be calculated, though this normally seems unlikely to be the case in practice.

If supplying the entrant were to raise the costs of the dominant firm or expose it to reputational injury (e.g., due to free riding), the benchmark price would have to be adjusted upwards to take the cost increases into account. For example, suppose that the competitor produces a defective product that would destroy consumer interest in the category. Or, suppose that the entrant advertises that its product is just as good as the monopolist's product because it uses the monopolist's input; that advertising might be considered promotional free riding, as well as possibly being false or deceptive. Prohibitive cost increases suffered by the monopolist would immunize a refusal to deal. However, as mentioned earlier, it may not be claimed that the competitor is free riding solely because it is not entering the input market but entering only the output market.[79]

Suppose that the monopolist justifies a refusal to deal by saying that it wanted to preserve its long-term relationship with customers. This claimed justification by itself would not be acceptable. This is not an either-or proposition for the monopolist. Providing the input to a downstream competitor would not eliminate the defendant's customer relationship, but simply would require the monopolist to compete for the customer. That is the competitive process demanded by antitrust. A fear

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[78] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 410 (2004). Of course, Justice Scalia's concern in *Trinko* was somewhat speculative, as the case came to the Court on a motion to dismiss before real discovery.

[79] As the Court stated in *Kodak*, "this understanding of free-riding has no support in our case law." Eastman Kodak Co. v Image Technical Servs., Inc., 504 U.S. 451, 485 (1992).

of long-term competition is not a cognizable efficiency benefit. Only if the long-term relationship is disrupted by the type of inefficient free riding discussed just above would the refusal to deal be justified.

This analysis of competitive benefits does suggest a distinction between situations where the defendant refuses to sell the input to any desired purchaser, whether or not the desired purchaser competes with the monopolist in an output market. This type of "unconditional" refusal can be contrasted to a "conditional" refusal, that is, one that is targeted solely at competitors. Unconditional refusals are more likely to be efficiency based. They may be motivated by high set-up or other transactions costs of selling to outsiders or lack of sufficient capacity. For example, *Trinko* makes the point that it would have been necessary for Verizon to design and implement new systems at "considerable expense and effort" in order to provide access to rivals.[80]

This rationale may be seen to suggest a rebuttable presumption of legality. It certainly is an additional burden on a court to evaluate evidence on those transactions costs and capacity limitations. However, per se legality for unconditional refusals goes too far for three reasons. First, the unconditional nature of the refusal to deal provides no evidence of inefficiency if the input is useful only for competitors. Second, per se legality might lead the monopolist to refuse to deal across the board to disguise an anticompetitive motive. Third, and most important, a court generally will be able to evaluate the cost and feasibility of dealing, notwithstanding the absence of a history of dealing.[81]

D. Comparing Harms and Benefits

Suppose that it is shown that there is a refusal to deal or price squeeze satisfying the protected profits price benchmark, either by using the *PPB* or comparing the monopolist's input price to the prices charged to others or previously charged to the competitor. If the plaintiff (the ex-

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[80] *Trinko*, 540 U.S. at 410.

[81] In this regard, Verizon's situation may have been fairly unique. For example, if Otter Tail had not been wheeling, but was transmitting power to large retail customers, that conduct would suggest that wheeling was not prohibitively expensive. *See* Otter Tail Power Co. v. United States, 410 U.S. 366, 370–71, 378 (1973) (indicating that Otter Tail had wheeled energy in the past and that there were no engineering difficulties that prevented Otter Tail from continuing to wheel energy). If Kodak were delivering repair parts to its regional service centers, that would suggest an ability to deliver parts to ISOs. Even if Ski Co. were selling only *weekly* tickets to consumers and tour operators, it is not clear why there would be high transactions costs to selling *daily* tickets to Highlands. Similarly, it is not clear what set up costs there would be for a firm like Microsoft to disclose APIs or license its essential IP to downstream competitors, particularly if non-competitors are already being licensed.

cluded competitor, final consumer, or public agency) also can show that there is likely consumer harm, and the defendant is unable to show sufficiently offsetting competitive benefits, then it is reasonable for a court to conclude that the refusal to deal or price squeeze is anticompetitive. That ultimate comparison of likely benefits and likely harms would involve a determination of the likely effects on consumers, as formalized under the type of standard set out in *Microsoft*.[82]

If these showings regarding monopoly power, the *PPB* (where applicable), and anticompetitive effects are made, the court can confidently conclude that the defendant's conduct satisfies the general *Grinnell* standard for the offense, "the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of superior product, business acumen, or historical accident."[83]

This would not be a burdensome rule. It would apply to few defendants; only those with non-transitory monopoly power in the input market, a conclusion requiring evidence of substantial barriers to entry. It also would only apply to inputs truly required by the competitor in order to compete. An immaterial cost increase would not lead to antitrust liability.[84] If dealing with the competitor were infeasible or would lead to substantial free riding, the defendant also would not be liable.

Finally, it is important to emphasize that this legal standard would not expropriate the defendant's property without compensation. The defendant would be sufficiently compensated. It would earn at least at much from selling the input to the competitor as it would have earned directly from using that input in its own production process and selling the resulting output to consumers. That compensation also should put to rest concerns that this legal standard would cause a harmful reduction in investment and innovation incentives. To the contrary, the legal standard will maintain the monopolist's incentives to invest, while the entry of efficient downstream competitors spurs additional innovation competition. Therefore, there is no need to use a disproportionality standard or per se legality to maintain innovation incentives.

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[82] Because the *PPB* itself takes into account dynamic competition concerns, a simple comparison of benefits and harms would be appropriate. A "disproportionality" standard that would place a small thumb on the scale to adjust the comparison at the margin, could alter the outcome in close cases.

[83] United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).

[84] Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 254 (1986).

E. Two Potential Exceptions to the *PPB*

In two rare scenarios, the *PPB* approach outlined above might impose too high a burden on the plaintiff and over-reward the defendant.[85]

First, suppose that the defendant's monopoly power in the input market has been achieved through anticompetitive means. In this situation, a court might reasonably conclude that there is no cognizable competitive interest served by supporting the maintenance of the defendant's monopoly power in the output market (or the input market) through a refusal to supply the input. That is, there may be little or no competitive benefit in providing the monopolist the reward inherent in the protected profits benchmark.

It might therefore be appropriate in this situation for a court to apply a more intrusive refusal to deal rule (determining a price benchmark below the *PPB*) that also serves as an affirmative remedy to the defendant's illegitimate achievement of its monopoly power.[86] This approach raises the question of why it would not make more sense simply to attack the defendant's anticompetitive achievement of monopoly power more directly. However, there are situations where direct attack may be infeasible or second best. One situation would be the case where a merger led to the monopoly power and it is infeasible or inefficient to unscramble the eggs ex post.[87] Another situation might involve a monopoly that was achieved through exclusionary conduct but where the remedy failed to reestablish competition, say because the actual or potential competitors were no longer viable by the time that antitrust liability was established.[88]

Second, consider the case of a "failed deregulation." That is, suppose that government authorities were to deregulate a regulated monopolist in the erroneous expectation that there were no barriers to entry, but it then is discovered that there are significant entry barriers. In that situation, the integrated firm might control an input that could be characterized as an "essential facility." It also might be the case that the firm achieved its monopoly through regulation rather than through superior skill, foresight, and industry. Since the monopolist is no longer regulated, one cannot rely on the regulatory agency to correct its error. In

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[85] *See, e.g.,* Economides & White, *supra* note 62.

[86] For an analysis of monopoly maintenance remedies along the same lines, see Carl Shapiro, *Microsoft: A Remedial Failure*, 75 ANTITRUST L.J. 739 (2009).

[87] *See In re* Evanston Nw. Healthcare Antitrust Litig., No. 07-Civ.4446 (N.D. Ill. May 29, 2008) (order denying motion to dismiss).

[88] One interpretation of Judge Hand's difficulty in formulating the approach in *Alcoa* is that the earlier DOJ consent decree failed to establish effective competition.

this situation, as in the first situation described above, it might be appropriate for a court to determine a price benchmark below the *PPB*.

Of course, this price setting would be a very difficult task, for all the reasons discussed in this article. In setting a price benchmark different from the *PPB*, the court must balance the benefits of price and entry competition in the output market, along with the appropriate innovation and investment incentives for the integrated firm and its competitors. In this analysis, the court could recognize the potential for adverse innovation effects on the defendant, but might reason that a more interventionist antitrust policy would increase total innovation by driving increased innovation by the monopolist as well as the new entrant. This latter scenario—which amounts to the essential facilities doctrine—clearly is more difficult and less administrable than the more conventional refusal to deal and price squeeze scenarios set out here.[89]

IV. CONCLUSION

A rule of reason standard including the Protected Profits Benchmark test would allow the courts to evaluate refusals to deal and price squeezes in a way that is consistent with *Colgate*, *Brooke Group*, *Trinko*, and *linkLine*. This standard is administrable for courts and the monopolist because it uses a price benchmark that (at most) only requires information on the defendant's own prices and cost, and may not even require cost evidence in many cases.

The standard also maintains the defendant's investment and innovation incentives by ensuring that the monopolist will be fully compensated for it input sales, even after taking into account the profit margin that it would have earned from selling output instead.

The standard likewise does not deter innovation by the entrant because it requires the plaintiff to prove that the defendant has monopoly power in the input market, including showing barriers to entry. In fact, the standard facilitates competition by more efficient competitors. The requirements the plaintiff must satisfy are challenging, but are not insurmountable for conduct that truly harms competition and consumers.

Finally, this proposed rule of reason approach will be consistent with the larger body of antitrust law, which is particularly important here, where the conduct at issue can be characterized in multiple ways, for

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[89] For an interesting treatment of the essential facilities doctrine, see Hovenkamp, *Unilateral Refusals to Deal*, *supra* note 5.

example, as both tying and as a refusal to deal.[90] In that way, this approach will avoid the incoherence of a rule of per se legality for refusals to deal, while maintaining the illegality of conduct such as anticompetitive tying and exclusive dealing.

[90] For example, see *Kodak*, where the plaintiff alleged both tying and refusal to deal. Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992). This potential incoherence is similar to the problem created by having tying be per se illegal while exclusive dealing is analyzed under the rule of reason. *See* Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2 (1984).