

THE VIABILITY OF ANTITRUST PRICE SQUEEZE CLAIMS

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Introduction

Vertical Integration and the "Price Squeeze"

A "price" or "margin" squeeze occurs when a vertically integrated firm sells an input to unintegrated rivals who also compete with the vertically integrated firm in a downstream market. The claim is that the large firm "squeezes" the rival between a high wholesale price for the input and its own low price in the downstream market.¹

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1. See *LinkLine Communic., Inc. v. SBC California, Inc.*, 503 F.3d 876 (9th Cir. 2007), *cert. granted*, 128 S.Ct. 2957 (June 23, 2008) (recognizing price squeeze claim; Supreme Court granted certiorari after Solicitor General recommended review, while the FTC recommended against review). *Contrast Covad Communications Co. v. Bell Atl. Corp.*, 398 F.3d 666 (D.C. Cir. 2005) (rejecting price squeeze claim where defendant is free to refuse to deal and was not engaging in orthodox predatory pricing in downstream market); *Cavalier Telephone, LLC v. Verizon Virginia, Inc.*, 330 F.3d 176 (4th Cir. 2003) (similar). *And see Covad Communications Co. v. BellSouth Corp.*, 374 F.3d 1044 (11th Cir. 2004) (accepting a version of price squeeze which meets predatory pricing test, requiring prices below cost and likelihood of recoupment).

By contrast to a "price" squeeze, a "supply" squeeze occurs when a vertically related monopolist denies or limits its unintegrated rivals' access to some source of supply. See 3B PHILLIP E. AREEDA AND HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 767b (3d ed. 2008). The Supreme Court's decision in *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., Inc.*, 127 S.Ct. 1069 (2007), involved allegations of a kind of supply squeeze in which a firm that lacked power in the downstream market allegedly bid the price of an essential input up, thus squeezing rivals between input costs and the market price. The Supreme Court held that such a claim required a showing of predatory pricing -- namely, that the dominant firm bid the price up so high that it was required to resell at a loss; and that the market structure indicated that it would be in a position to recoup these losses once the rivals had exited from the market. *Cf. Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993). On *Weyerhaeuser*, see 3B *ANTITRUST LAW* *id.*, ¶ 747. On the predatory pricing recoupment requirement, see 3A *ANTITRUST LAW*, *id.* at ¶¶ 725-726; on the requirement of prices below cost, see *id.* at ¶¶ 739-740.

For example, in *Alcoa* Judge Hand condemned the defendant for selling raw aluminum ingot to unintegrated "rollers," a type of fabricator that formed aluminum into sheets of various gauges for use by manufacturers further downstream.² Alcoa also made its own rolled sheet. The government claimed that Alcoa charged the independent fabricators a high price for ingot but resold its own rolled sheet to customers at such a low price that the independent, unintegrated fabricators could not make a living on the margin that was left.

In assessing this claim Judge Hand looked at Alcoa's own costs for producing rolled sheet from raw ingot and assumed that the rivals' costs were the same as Alcoa's. He also assumed that the independents needed to sell their sheet at the same price that Alcoa sold sheet in order to survive in the market. He concluded on these numbers that the independent sheet rollers could not survive under Alcoa's pricing.³ While Judge Hand spoke of the independent fabricator's legal entitlement to a "fair price"⁴ from Alcoa, he in fact employed a cost-based test. The test was that the margin between the price at which Alcoa sold sheet to the independent rollers and its own resale price for rolled aluminum must be at least sufficient to

2. *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 437-438 (2d Cir. 1945).

3. *See Id.* at 436-437:

Between the years 1925 and 1937 inclusive `Alcoa's' books show the price of all these kinds of `sheet' for the `gauges' in question, together with the cost of making it from ingot. They also show the price of ingot, which was of course the same for all `gauges' and for all kinds of `sheet,' as it was the same for all uses of aluminum other than `sheet.' ...

The plaintiff's theory is that `Alcoa' consistently sold ingot at so high a price that the `sheet rollers,' who were forced to buy from it, could not pay the expenses of `rolling' the `sheet' and make a living profit out of the price at which `Alcoa' itself sold `sheet.' *To establish this the plaintiff asks us to take `Alcoa's' costs of `rolling' as a fair measure of its competitors' costs, and to assume that they had to meet `Alcoa's' price for all grades of `sheet,' and could not buy ingot elsewhere.* It seems to us altogether reasonable, in the absence of proof to the contrary, to suppose that `Alcoa's' `rolling' costs were not higher than those of other `sheet rollers'....

4. *Id.* at 438 ("... on this record the price of ingot must be regarded as higher than a 'fair price....'").

cover the costs that Alcoa itself incurred for the same set of processes. In other words, Judge Hand applied a somewhat primitive version of an "equally efficient rival" test, such as the one that Judge Posner has advocated for unlawful exclusionary conduct assessed under §2 of the Sherman Act.⁵

Judge Hand's test for a price squeeze was not technical about the cost measure it was employing. One cannot tell from the opinion whether he included fixed costs, and thus gave an average total cost measure, or included only variable costs.⁶ All we know from the opinion is that he pulled the data from various tables that Alcoa had submitted during the course of the litigation. The most likely measures are these: First, if the spread between Alcoa's wholesale price for raw ingot and its resale price of rolled aluminum was sufficient to cover its average total cost of rolling aluminum, then an equally efficient rival should have been able to earn a profit rolling Alcoa's ingot into sheet. Second, if the spread were sufficient to

5. Judge Posner's definition of exclusionary conduct requires the plaintiff to show:

that the defendant has monopoly power and ... that the challenged practice is likely in the circumstances to exclude from the defendant's market an equally or more efficient competitor. The defendant can rebut by proving that although it is a monopolist and the challenged practice exclusionary, the practice is, on balance, efficient.

RICHARD A. POSNER, *ANTITRUST LAW* 194-195 (2d ed. 2001); *and see* 3 PHILLIP E. AREEDA AND HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 651b4 (3d ed. 2008) (arguing that this test is a good one for pricing practices, although not for all practices that might be challenged under §2).

6. A variable cost is a cost that varies with the amount of output a firm produces, such as employed ingredients, production utilities and labor; further these costs can be avoided if the firm ceases producing. A fixed cost is constant over a large range of production and must be paid whether or not the firm produces. For example, a mortgage payment on the plant must be paid even if the plant is shut down and the size of the payment typically does not vary with the amount the plant is producing. In order to make a profit over the long run a firm must set a price high enough to cover its average total costs. However, it will continue to produce as long as it is covering average variable cost, for any contribution to fixed costs is better than nothing. If a firm cannot even cover its average variable costs it will ordinarily shut down. *See* HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* §8.2 (3d ed. 2005).

cover the smaller firm's variable costs⁷ of rolling, but not its fixed costs, then the smaller firm would probably continue producing, but it would probably not rebuild the rolling mill when it wore out. Third, if the squeeze did not even give the smaller firm a margin sufficiently wide to cover its variable cost of rolling, then it would be most profitable to shut down.⁸ This latter option is tantamount to a refusal to deal.

High fixed costs create more room for a "squeeze" in which the independent firm can cover its variable costs but not its fixed costs. A typical attribute of industries with high fixed costs is that a vertically integrated firm can profitably increase output by engaging in price discrimination, and this can lead to situations in which a large firm actually charges a lower "retail" price to its own customers than it charges its rival for the requisite input. For example, suppose I am a vertically integrated firm with a monopoly in an upstream market for Alpha, an input into the production of Beta, which is sold downstream to consumers. A downstream entrant wishes to buy Alpha from me. Because the inputs used in producing Beta are not homogenous, this rival invests in the specific production technologies required to make Beta from my Alpha. Suppose that every unit of Beta is sold downstream for \$100, and that it costs \$20 to fabricate Beta from Alpha. I sell Alpha to my rival for \$70, which includes a \$20 markup. At this price my rival earns a \$10 profit on each unit of Beta sold downstream. However, I learn that I can profit by offering a quantity discount of 10 units of Beta for \$650. This package price of \$65 per unit is \$5 less than the price I charge my rival for Alpha. However, it is profitable for me because I still earn a profit of \$150 on the bundle; I have simply used this bundle as a way of appealing to large-scale consumers that were not otherwise willing to buy my product. At this per-unit price level, my rival clearly faces a price-squeeze, yet I have every reason to impose it. The squeeze (which exists only with respect to customers of ten or more units) is merely the result of an independently profitable price discrimination strategy.

Controlling price discrimination in regulated industries subject to high fixed costs is a highly complex regulatory task. On the one hand, price discrimination in such cases clearly increases output and

7. Presumably the price of the ingot itself, plus the labor, utilities and other costs that varied with output.

8. For a detailed explanation, see appendix 1.

thus enables the regulated firm to charge less to everyone. That is, price discrimination enables a seller in such an industry to capture additional sales in a range where the contribution of a price to fixed cost is quite low but nevertheless positive.⁹ On the other hand, price discrimination often entails that the marginal sale is made at a much lower price than much more inframarginal sales to long-term customers.

The Price Squeeze and the Refusal to Deal

Should the antitrust laws ever impose liability for a price squeeze if the defendant had no duty to deal with the plaintiff to begin with? Under the Supreme Court's *Trinko* decision¹⁰ if such a duty to deal exists it is an extraordinarily narrow one. However, *Trinko* itself suggested some exceptions – namely, where the two firms had established a previous course of dealing,¹¹ and where the dominant firm was dealing with others on a regular basis.¹²

Price squeeze claims encounter all the problems that serve to limit antitrust liability for unilateral refusals to deal. The main problem is that forcing a dominant firm to share an input with a rival does not benefit consumers unless the court is also willing to regulate the price at which sharing occurs. If forced to sell an input to a rival a monopolist can be expected to charge the rival a price such that the full monopoly markup stays with the monopolist and the rival gets no more than a sufficient return to keep it in production.¹³ Further, such an order to deal has the perverse effect of removing

9. See Martin K. Perry, *Price Discrimination and Forward Integration*, 9 BELL J.ECON. 209 (1978); 1 ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 130 et seq (Cambridge, Ma.: MIT Press, rev. ed. 1988). See also Alexander C. Larson and Steve G. Parsons, *Telecommunications Regulation, Imputation Policies and Competition*, 16 HASTINGS COMM. & ENT. L.J. (COMM/ENT) 1, 11 (1993) (defending price discrimination policies that can lead to price squeezes).

10. *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004); see 3B ANTITRUST LAW, note 1 at ¶¶ 771-774, 787.

11. See *Trinko*, 540 U.S. at 410.

12. *Ibid.*

13. See 3B ANTITRUST LAW, note 1 at ¶ 771.

that rival's incentive to innovate, as it receives the same returns regardless of any improvements.¹⁴

One simple way of disposing of price squeeze claims is to regard them as completely encompassed within the law of refusal to deal. As this argument goes, a firm should never be condemned for selling to a rival at an unfavorable price when an absolute refusal to deal would have been lawful. If the input really is essential to the smaller firm's business then it could not survive at all under a refusal to deal. Except for loss of investment, the smaller firm cannot do any worse and consumers cannot be harmed any more by the dominant firm's willingness to sell but only at an oppressively high price in relation to output prices.

Such an approach would not necessarily eliminate all price squeeze claims. After all, *Trinko* placed very severe restrictions on the antitrust law of refusal to deal, but it did not explicitly abolish the cause of action altogether. The Court qualified but did not overrule its earlier *Aspen* decision.¹⁵ *Aspen* may still have some life remaining in situations where the defendant voluntarily developed a course of dealing with its smaller rival and then changed the terms in a way that disadvantaged its rival.¹⁶

Nevertheless, it is very difficult to find an antitrust rationale for condemning price squeezes in situations where the defendant has no obligation to deal under *Trinko*'s restrictive reading of *Aspen*. The discussion below considers some possible exceptions, and some of them might require a remedy of some sort. For example, the dominant firm might have somehow induced the smaller firm to make a significant specialized investment in the dominant firm's technology. This investment would be based on the dominant firm's promise to provide an essential but specialized input. Later on, when the dominant firm's own production capacity increased it might decide to starve out the smaller firm by reducing its margin to an amount sufficient to cover variable costs but insufficient to pay off

14. See appendix 2.

15. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 610-611 (1985); see 3B ANTITRUST LAW, note 1 at ¶772c.

16. *Id.*, ¶ 772e.

fixed costs. In this scenario the dominant firm might effectively "rob" the smaller firm's shareholders and creditors of the smaller firm's fixed cost assets.¹⁷ It would ordinarily do this by raising the price of the input being supplied to the rival. While such conduct might be regarded as reprehensible, one struggles to find a justification for condemning it in the *antitrust* laws. Indeed, consumer injury is not in prospect and antitrust creates no abstract duty on the part of firms to refrain from injuring their rivals, even by devious means.

In one instance consumer harm may be possible. Suppose that after supplying a smaller rival for some time the dominant firm realizes that the smaller rival is developing the capability to integrate into upstream competition with the dominant firm. If that were to happen the dominant firm would lose its monopoly position in the upstream market and would forgo profits resulting from upstream sales. Further, by integrating into upstream production the rival avoids double marginalization by obtaining the input at production cost. As a result it will be able to produce at a lower cost and will capture a greater portion of the downstream market.¹⁸ To prevent this, the integrated firm may impose a squeeze calculated to rob the smaller firm of the resources needed to develop independence in the upstream market. Such a scenario would injure consumers in the long run, as they would be denied the benefits of a more competitive overall market structure.

The balance of this paper explores the structural conditions for any viable claim of an anticompetitive price squeeze actionable under the antitrust laws. Then it examines the issue of price-cost relations and the well-nigh universal assumption that a useful test for an unlawful price squeeze must be "cost-based." Finally, it examines the problems of consumer injury and administrable remedies.

17. See appendices 1, 2.

18. Double marginalization occurs when a firm's variable costs include an above-cost markup set by another firm. The elimination of double marginalization greatly reduces costs and allows lower retail prices to be set. As a result, the foreclosure of one firm need not have an adverse impact on consumers if it allows another firm to avoid double marginalization. In fact, it is possible that consumers would benefit from such an occurrence. See 3B PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 758 (3d ed. 2008). In the context of price squeeze claims, see Dennis W Carlton, *Should "Price Squeeze" Be a Recognized Form of Anticompetitive Conduct?*, 4 J. COMPETITION L. & ECON. 271 (2008).

Structural Prerequisites

Conventional Power Lacking: Pre-Existing Relationships and the "Committed" Rival

The Antitrust Laws require proof of substantial market power before unilateral conduct can be condemned. Section 2 of the Sherman Act¹⁹ applies only to "monopolists," which generally requires a firm with a market share of at least 70 percent or so of a well defined market.²⁰ By contrast, §1 of the Sherman Act requires only that there be a contract "in restraint of trade."²¹ A purely vertical agreement must be assessed under the rule of reason.²² However, the market power requirements are still considerably less than they are for unilateral conduct.

The ability to impose narrow margins that are harmful to unintegrated rivals does not require market power in the classic sense at all. Indeed, price squeezes can occur in at least somewhat competitive markets where the smaller firm has made a substantial investment in a specific location or asset that inexorably links itself to the vertically integrated firm. For example, suppose that an aluminum fabricator locates its fabrication plant adjacent a vertically integrated aluminum ingot producer's plant.²³ While fabricated aluminum parts are costly in relation to transportation costs, aluminum ingot is not, so proximity between the ingot producer and the fabricator is valuable. At that point the adjacent vertically

19. 15 U.S.C. §2.

20. 3B ANTITRUST LAW ¶ 801 (3d ed. 2008).

21. 15 U.S.C. §1.

22. See *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128 (1998). (purely vertical agreement, even if intended to hurt a rival and deceive customers, must be assessed under rule of reason). See 11 Herbert Hovenkamp, ANTITRUST LAW ¶ 1902d (2d ed. 2005).

23. See, e.g., *Bonjorno v. Kaiser Aluminum & Chem. Corp.*, 752 F.2d 802 (3d Cir. 1984), *cert. denied*, 477 U.S. 908 (1986); and *Columbia Metal Culvert Co. v. Kaiser Aluminum & Chem. Corp.*, 579 F.2d 20 (3d Cir.), *cert. denied*, 439 U.S. 876 (1978), which involved such situations. In the first the court affirmed a judgment for the plaintiff and in the second it reversed a directed verdict for the defendant.

integrated firm has a significant transportation cost advantage and can raise the price of aluminum ingot to the small firm accordingly. Whether a true "squeeze" can be created is another matter. If the market is undifferentiated, the small fabricator has the option of purchasing ingot elsewhere, so the dominant firm can increase its ingot price only up to the transportation cost difference of the second best placed rival. If the smaller firm's location does not prevent it from dealing profitably with other fabricators then there cannot be a squeeze; the vertically integrated firm would simply be taking advantage of the transport cost difference, allowing it to capture some of its rival's rents. Indeed, depending on the circumstances, including the extent of the vertically integrated firm's ability to fabricate its own aluminum, the smaller firm might be in a good position to take advantage of the vertically integrated firm; that is, the firms might be involved in a bilateral monopoly.

If the smaller firm's commitment derives from its investment in a specific technology that is unique to the vertically integrated firm, then a form of price squeeze can also occur. For example, suppose that Kodak licenses a small firm to make aftermarket parts for its photocopiers.²⁴ Kodak also manufactures the same parts and sells them to service technicians. The parts are unique to Kodak copy machines, and the small firm makes a significant investment in the technology needed to produce Kodak's parts. At that point Kodak either (1) increases the patent license fees to the smaller rival significantly; or (2) reduces the price of its own parts; or (3) some combination of the two. As a result the smaller firm is squeezed between the price of a costly input (the patent license) and Kodak's output price of parts. In this case, if the squeeze is so significant that the smaller firm cannot recover its variable costs; it will either have to shut down or abandon its Kodak-specific technology. If the squeeze permits the small firm to recover variable costs but not amortize its fixed costs, then Kodak might be in a position to appropriate the value of the fixed cost investment to itself.²⁵

One is tempted to say that this case resembles market power

24. The facts are loosely adopted from *Eastman Kodak Co. v. Image Technical Serv.*, 504 U.S. 451 (1992). On market power in derivative markets and aftermarket, see 2B ANTITRUST LAW ¶ 564 (3d ed. 2007).

25. See appendices 1, 2.

derived from "lock-in," as the Supreme Court recognized in its *Kodak* decision in 1992.²⁶ There the Court held that a firm with a market share of less than 25% in the market for high speed photocopiers might have market power in its own parts if there was an installed base of buyers who were "locked in" to those parts and who were not in a position to calculate ownership costs over the life of the product at the time they made the initial purchase. This failure could occur because the buyers were "myopic," or more likely, because Kodak raised its parts prices after this installed base of buyers made their purchase.

But there may be important disanalogies to the *Kodak* case. Whatever one thinks about the "lock-in" theory under which the Supreme Court found power in *Kodak*,²⁷ the endgame included higher purchase prices for parts, or at least for a parts/service combination. In our price squeeze example that is not necessarily the case, although it could be. For example, suppose the small licensee ends up being a more efficient producer of parts than Kodak itself. In that case it might be able to sell parts at a lower price. By raising the license fee Kodak might appropriate to itself the efficiency savings of its rival. Injury to consumers is doubtful.²⁸ However, if no such price change occurs then the vertically integrated firm cannot be held responsible for its rival's inability to cover its own costs.

Finally, in the franchise context an open-ended franchise provision requiring the franchisee to accept goods supplied by the franchisor at an undetermined price can lead to a squeeze. Suppose that a franchise agreement between Dominos Pizzas and a franchisee requires the franchisee to accept the franchisor's pizza dough at an unspecified price. Such a contract may give the franchisor an incentive to set the price of the tied dough so high as to limit the franchisee's returns to a level insufficient to amortize fixed costs. In particular, this might occur if the franchisor also stipulates a

26. See note 24.

27. See Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COL. BUS. L.REV. 257 (2001) (arguing that *Kodak* should be overruled). See also 10 PHILLIP E. AREEDA, EINER ELHAUGE AND HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 1740 (2d ed. 2005) (arguing for severe limitations on *Kodak*).

28. See appendices 1, 2.

maximum price for the franchisee's pizzas.²⁹ That would create a situation in which the franchisee would be forced to accept infracompetitive margins or face termination of its franchise.

Significantly, these opportunities to take advantage of vertically related firms' irreversible investments³⁰ might be the result of a pre-existing understanding and the dominant firm's subsequent change of practice. But this need not be the case. For example, Kodak may have induced a smaller firm to invest in brand specific technology for making Kodak aftermarket parts and then subsequently raised input prices. But the smaller firm might have made the investment without relying on any arrangements made between the firms. This difference was regarded as relevant in both *Aspen* and *Trinko*.³¹ While misleading one's rivals might be tortious, it cannot be the basis of antitrust liability without a showing of consumer harm.

The best view of *Aspen* is that destination ski passes on the Aspen slopes were a natural monopoly in the sense that Aspen consumers preferred the "all-Aspen" ticket supplied by the joint venture between the plaintiff and defendant. Further, consumers

29. See, e.g., *Queen City Pizza, Inc. v. Domino's Pizza, Inc.*, 922 F. Supp. 1055, 1061 (E.D. Pa. 1996), *aff'd*, 124 F.3d 430 (3d Cir. 1997), *cert. denied*, 523 U.S. 1059 (1998) (rejecting this contract lock-in theory of power on claim of unlawful franchise/pizza dough tie); *Little Caesar's Enterp., Inc. v. Smith*, 34 F.Supp.2d 459, 506 (E.D. Mich. 1998) (similar). See also 2B ANTITRUST LAW ¶ 519 (3d ed. 2007).

And see *State Oil v. Khan*, 522 U.S. 3 (1997), where an oil company may have used a combination of high wholesale prices plus maximum resale price maintenance to impose a squeeze on retail dealers. See Benjamin Klein, *Market Power in Franchise Cases in the Wake of Kodak: Applying Post-Contract Hold-up Analysis to Vertical Relationships*, 67 ANTITRUST L.J. 283, 317 (1999) (disputing this theory).

30. The classic treatment of the subject is Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297, 298-99, 302-04 (1978), which observes the threat of opportunistic behavior when trading partners have made specific investments linking them to one another, the excessive transaction costs that may result, and arguing that in most cases ownership vertical integration is an efficient alternative.

31. See *Trinko*, 540 U.S. at 410 (distinguishing *Aspen* on this point).

could make only a finite number of ski runs on a given visit, so only that ticket maximized consumers' surplus. One way to achieve the monopoly would have been for the companies to merge -- something that actually happened eight years after the Supreme Court's decision.³² Another way would have been for them to develop the natural monopoly input -- the "all-Aspen" ticket -- jointly but to maintain the competitive portions of their business, such as ski lodges, instructors, equipment rental and the like, separately. Under this view the defendant's unilateral termination of the joint venture injured consumers by depriving them of the all-Aspen ticket, thus making the overall market smaller. However, it benefitted the defendant by giving it a larger share of the market as a result of the termination. This interpretation of *Aspen* is probably most consistent with a finding of consumer harm.

In all events, consumer harm requires a showing of either higher prices or of reduced output, quality, or variety in the downstream market. Whatever impact *Kodak* has in the future, pure technological lock-in will not create this kind of power as long as consumers are free to substitute from one supplier to another.³³ Significantly, in the typical price squeeze case the smaller firm's injury accrues from the very fact that consumers *are* able to substitute readily from the smaller firm's output to that of its larger supplier. That is, the premise of the cases is that the smaller rival will lose too many sales because it is unable to match the larger firm's resale price.

Perhaps consumers can switch, but only *between* the smaller firm and its vertically integrated supplier. This could happen in a *Kodak*-style lock-in case in which a large installed base of locked in consumers exists and the dominant firm supplies aftermarket parts to independent service firms, but only at an unreasonably high price in relation to the service prices that the smaller firm is able to charge.³⁴

32. See New York Times (Nov. 20, 1993). See also Kenneth L. Glazer and Abbott B. Lipsky, Jr., *Unilateral Refusals to Deal under Section 2 of the Sherman Act*, 63 ANTITRUST L.J. 749, 799 & n. 192 (1995).

33. See *Roy B. Taylor Sales, Inc. v. Hollymatic Corp.*, 28 F.3d 1379 (5th Cir. 1994), *cert. denied*, 513 U.S. 1103 (1995) (no consumer injury when tie is imposed on intermediary, but customers are free to purchase the tying and tied items wherever they please).

34. This was one of the claims in similar litigation that involved Xerox. See

Once again, simply squeezing the independent firm's margins will not harm consumers in the short run any more than would an outright refusal to deal. Perhaps the dominant firm is attempting to deny the smaller firm the resources necessary to expand into production of its own aftermarket parts. If proven, that particular claim may involve long run consumer injury.

Price Squeezes by Vertically Integrated Monopolists

Appropriation of Rival's Fixed Cost Investment

A vertically integrated monopolist can be a firm with monopoly power at either level or both. The assumption in most price squeezes is monopoly power in the upstream market. Otherwise the unintegrated rival would be able to procure the input in question from a rival. At the same time, the price squeeze requires consumer harm in the downstream market, and this is unlikely to occur unless the integrated firm has substantial market power there. So we are presumably looking for a firm that controls a dominant share of relevant markets at both levels.

The *LinkLine* dissent and the Eleventh Circuit's *Covad* decision both related consumer harm in the downstream market to predatory pricing. They reasoned that harm could occur if the defendant used a price squeeze that incorporated a below cost downstream price, which was presumably intended to drive the rival out of business and then permit the dominant firm to raise prices in that market to recoupment levels.³⁵ The obvious question that arises is, Why would the dominant firm undergo a costly period of predatory pricing when it could destroy the rival simply by refusing to deal? In virtually every scenario the simple refusal to deal would terminate the rival immediately and at lower cost and risk. One can imagine idiosyncratic exceptions. Perhaps the dominant firm has a ten-year

Independent Serv. Org. (ISO) Antitrust Litig., 989 F.Supp. 1131, 1133 (D. Kan. 1997) (claim that Xerox charged independent service technicians a very high price for product-specific aftermarket parts). The Federal Circuit ultimately concluded that Xerox had no duty to deal under the circumstances and that a patentee may charge any price that the market will bear. See *In re ISO Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).

35. *Covad Communications Co. v. BellSouth Corp.*, 374 F.3d 1044, 1052 (11th Cir. 2004), *cert. denied*, 544 U.S. 904 (2005); *Linkline*, 503 F.3d 876, at 886.

supply contract at a fixed price for the upstream input and thus cannot simply refuse to deal without paying a heavy penalty; however it could use downstream predatory pricing to shut the rival down. Furthermore, if the courts have reason to believe downstream prices were set below cost, such a scenario should simply be treated as a standard case of predatory pricing.

Suppose the monopolist wishes to stop supplying an input to its rival and could lawfully do so immediately; or perhaps it plans to do so in the foreseeable future when its own downstream capacity has increased. However, the rival has a costly, dedicated facility with many useful years remaining. The dominant firm might then pursue a strategy of squeezing its rival's margins so that they cover only variable costs, in effect appropriating its fixed cost investment.³⁶ While it could do this by cutting its downstream price, the more promising strategy would very likely be to raise the upstream transfer price. This allows the integrated firm to keep the downstream price at its profit-maximizing level, which may or may not change after the rival exits the market. During the time that this squeeze occurs the dominant firm would in effect be obtaining the use of the rivals fixed cost assets without paying for them. Eventually, of course, the smaller firm would go into bankruptcy or exit the market by some other means.

Assuming that the refusal to deal and "instant" termination of the smaller firm were legal to begin with, is there any incremental consumer harm that might serve to turn this price squeeze into an antitrust violation? Of course, there might be harm to the creditors or shareholders of the smaller firm, but this is hardly clear. An abrupt refusal to deal might result in the immediate closure of the plant and have the same effect or worse on shareholders and creditors. But in any event consumer injury would not obviously be any more severe when the small firm died a gradual death by squeezing rather than a sudden death caused by a refusal to deal. The *Linkline* majority may have contemplated such a scenario. However, it did not discuss consumer harm and it is difficult to see how the alleged squeeze in question could have caused it anyway.

36. See appendix 2. *And see* *Bonjorno v. Kaiser Aluminum & Chem. Corp.*, 752 F.2d 802 (3d Cir. 1984), *cert. denied*, 477 U.S. 908 (1986); *Columbia Metal Culvert Co. v. Kaiser Aluminum & Chem. Corp.*, 579 F.2d 20 (3d Cir.), *cert. denied*, 439 U.S. 876 (1978). See discussion, supra, text at notes 16-17.

Long-Run Exclusion: Threat of Integration into Primary Market

In the long run consumer harm could result from a price squeeze that was reasonably calculated to deny a rival the opportunity to integrate upstream into the dominant firm's primary market. Indeed, one of the purposes of the 1996 Telecommunications Act was to facilitate the expansion of small firms into more "facilities based" production.³⁷ For example, a firm might interconnect with an incumbent exchange carrier at a time when it has only the limited technology needed to purchase bundles of long distance minutes and repackage them for retail sale. However, it might use this market position as a base from which to purchase or develop additional backbone and eventually it might be able to deliver standalone service on its own. Thus, for example, the aluminum fabricator, once established, might integrate vertically into aluminum ingot production. Should it occur, such a development would surely benefit consumers.

Suppose that the unintegrated aluminum fabricator purchases its ingot from Alcoa. The fabricator has three elements of cost. C1 is its variable costs of fabrication, which includes the price it pays Alcoa for ingot. C2 consists of fixed costs necessary to maintain investment in plant and durable equipment. C3 consists of research and developmental costs associated with its long run plans to integrate vertically into ingot production. A price squeeze that gave the small firm enough margin to recover C1 and C2 might enable it to stay in production indefinitely, but deny it the resources needed to integrate vertically. The long run result might be to forestall the rise of competition in the monopolized ingot market, and this clearly could constitute consumer harm.

Conceding that long run anticompetitive strategies are possible does not necessarily entail that antitrust can do anything about it. For example, the antitrust law of predatory pricing manifestly does not rest on the premise that long-run, or

³⁷. See H.R. Conf. Rep. No. 104-458, at 113 (1996); Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Third Report and Order, 15 FCC Rcd. 3696, 3714 (1999); and see James B. Speta, *Antitrust and Local Competition Under the Telecommunications Act*, 71 Antitrust L.J. 99, 129 (2003).

"sustainable" predatory pricing strategies such as limit pricing are implausible. Such strategies are easily modeled and perhaps some have been historically observed.³⁸ The antitrust problem is administrative. There is no way to condemn such strategies without chilling procompetitive behavior.³⁹

The problem in the price squeeze case may be a little more manageable. Importantly, in order to decide whether an unlawful squeeze occurred, the antitrust tribunal would not have to determine how much margin between wholesale and retail prices would be necessary to create the appropriate incentives to innovate and how much would be just enough to cover existing production. It might have to determine only that (1) the smaller firm had made a realistic threat to integrate into the dominant firm's upstream market; and (2) knowing this, the dominant firm squeezed the smaller firm's margins to the point that it could no longer recover its fixed cost investment.

The *Microsoft* case provides an analogy.⁴⁰ If Microsoft feared that Netscape might eventually develop a computer operating system in competition with Microsoft's Windows, it might impose higher costs on Netscape in order to restrain its growth by squeezing its margins. In the real case Microsoft was not a supplier to Netscape. Rather it imposed other types of restraints that increased Netscape's distribution costs and which may have prevented Netscape from integrating into the operating system market.

Long-Run Exclusion and Efficiency Gains in the Secondary Market

The availability of a price squeeze might also limit the smaller

38. See Herbert Hovenkamp, *The Law of Exclusionary Pricing*, 2 COMPETITION POLICY INTERNATIONAL 21 (2006). Historically, see ALFRED D. CHANDLER, JR., *SCALE AND SCOPE: THE DYNAMICS OF INDUSTRIAL CAPITALISM* (1990) (arguing that U.S. Steel used limit pricing as a device for limiting the growth of rivals).

39. See HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION* 159-170 (2005).

40. *United States v. Microsoft Corp.*, 84 F.Supp.2d 9 (D.D.C. 1999) (findings of fact); 87 F.Supp.2d 30 (D.D.C. 2000), *aff'd in part, rev'd in part*, 253 F.3d 34 (D.C.Cir. 2001), *cert. denied*, 534 U.S. 952 (2001). See 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 617 (3d ed. 2008).

firm's incentive to innovate within the *secondary* market.⁴¹ In particular, there will be no incentive to reduce costs if the dominant firm can immediately capture the difference by squeezing the smaller firm's margins. For example, if the aluminum fabricator developed a process that reduced fabrication costs by 10 cents per unit, its supplier might respond by simply pricing ingot at 10 cents more per unit. In that case the full value of the efficiency gains would accrue to the vertically integrated supplier rather than the innovator. In the end, the total profits observed by the recipient of the squeeze are the same as before. By the same token, a quality gain that draws in more customers (but leaves price unchanged) also permits a price squeeze to intensify. In this case, the rival's margin can be reduced further so as to leave its total profits just as they were before the improvement. The vertically integrated firm, and not the rival, receives the benefits of the rival's progress. It may seem that the appropriation of a rival's efficiency gains would prevent prices from falling and would harm consumers, but this is not generally the case. By appropriating the smaller firm's efficiency gains the integrated firm will very likely be prompted to lower its own retail price. In the end, assuming equal efficiency, prices may fall by the same amount whether or not the rival's efficiency gains are appropriated.⁴² The consumer injury results not from the appropriation of efficiency gains, but rather from the reduced incentive that the smaller firm has to create efficiencies whose value will immediately be appropriated by another.

Hence, despite the somewhat malicious nature of this sort of price squeeze, it is not clear that it constitutes anticompetitive behavior. If we assume that the vertically integrated firm has no responsibility to deal with its rival, such condemnation would in effect require firms to ensure the well being of their own competitors. First, it would require that firms be able to estimate the cost structures of their competitors. Second, it would require that firms forgo potential profits and set sub-optimal prices in order to ensure that their competitors are able to sustain production. And even if these requirements are deemed acceptable, such policies do not seem likely to provide potential entrants with an incentive to innovate.⁴³

41. See appendix 2.

42. See appendix 3.

43. See appendix 2 (discussing Averch-Johnson-like effects).

That is, if a vertically integrated firm is prohibited from imposing an overall unprofitable margin on its rival, it will still be permitted to impose a margin that merely results in little or no positive profits. Hence, any above zero profits that could be earned by potential entrants could still be captured. As a result, firms would still have little incentive to innovate, as any increase in profits likely to result will still be captured by the rival. The only difference is that, in this case, the recipient of the price squeeze can sustain production.⁴⁴

Identifying the Anticompetitive Price Squeeze: Price/Cost Relationships, Efficiencies and Conduct

In his *Linkline* dissent Judge Gould objected that proof of an unlawful predatory price squeeze should require a showing of below cost pricing in the downstream market. He would have dismissed the complaint because there was no allegation that the defendant priced below cost in the downstream market, or that it had downstream market power.⁴⁵ The Eleventh Circuit assessed a similar requirement in *Covad Communications*.⁴⁶ In that case it is not precisely clear how the predatory price would have been measured. The court required both prices below cost and a likelihood of recoupment but did not specify whether these requirements applied to the upstream or the downstream market.⁴⁷

In *Brooke Group* the Supreme Court required that in an orthodox predatory pricing case, which involves selling a single product at below cost in order to destroy or discipline a rival, the plaintiff must show that the defendant's prices were below a relevant measure of cost (typically marginal cost or average variable cost) and that the predator had a reasonable prospect of recouping its

44. Cf. Joseph Farrell and Michael L. Katz, *Innovation, Rent Extraction, and Integration in Systems Markets*, 48 J.INDUS.ECON. 413 (2000).

45. *Linkline*, 503 F.3d 876, at 886. The district court had assessed a similar requirement. See J. Gregory Sidak, *Abolishing the Price Squeeze as a Theory of Antitrust Liability*, 4 J.COMPETITION L. & ECON. 279, 290 (2008).

46. *Covad Communications Co. v. BellSouth Corp.*, 374 F.3d 1044 (11th Cir. 2004), *cert. denied*, 544 U.S. 904 (2005).

47. See *Covad*, 374 F.3d at 1050.

predatory investment during a subsequent period of monopoly pricing.⁴⁸ In its 2007 *Weyerhaeuser* decision the Supreme Court reiterated these requirements and applied them to a claim of exclusionary purchasing.⁴⁹

One problem with applying orthodox *Brooke Group* style predatory pricing law in the downstream market is that in the price squeeze case the dominant firm typically controls a significant element of the rival's costs, as was almost certainly the case in *Linkline* itself, as well as *Alcoa*. An important rationale of the *Brooke Group* approach to predatory pricing is that one uses the defendant's costs as a reference point to see if the prices in question are capable of excluding an equally efficient rival.⁵⁰ But because the integrated firm forces its rival into double marginalization, the equally efficient rival standard does not provide a suitable baseline. Indeed, the test is perverse because the dominant firm effectively controls the unintegrated rival's costs. Of course, this difference could be offset by a difference in the firms' production efficiencies, but in that case the dominant firm would simply appropriate that difference as well. Any positive price/cost margin in the upstream market entails, *ceteris paribus*, that the rival will have higher costs than the dominant firm.

To illustrate, suppose *Alcoa* manufactures and self supplies ingot at a cost of \$10 per unit but sells the same ingot to an unintegrated rival sheet roller at \$13 per unit. Presumably the cost of the aluminum ingot is a significant component in the cost of sheet

48. *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993). On determining whether prices are below cost, see 3A ANTITRUST LAW, note 1 at ¶¶ 739-740. On assessing recoupment, see *id.*, ¶¶ 725-726.

49. *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., Inc.*, 127 S.Ct. 1069 (2007),

50. *Cf. Cascade Health Solutions v. PeaceHealth*, 515 F.3d 883, 907 (9th Cir. 2008) (bundled discounts case; applying predatory pricing logic and concluding that test is whether the pricing is capable of excluding an equally efficient rival); *MCI Communicat. v. AT&T Co.*, 708 F.2d 1081, 1113 (7th Cir.1983), *cert. denied*, 464 U.S. 891 (1983) (purpose of cost-based predation tests is to determine whether the price is capable of excluding equally efficient rival); *Meijer, Inc. v. Abbott Laboratories*, 544 F.Supp. 2d 995, 1003 (N.D.Cal. 2008) (similar to *Cascade*). On the price standard for bundled discounts, see Erik N. Hovenkamp & Herbert Hovenkamp, *Exclusionary Bundled Discounts and the Antitrust Modernization Commission*, ___ ANTITRUST BULL. ___ (2008) (forthcoming).

rolled aluminum. Further, the basis of the price squeeze claim is that the rival cannot obtain the ingot elsewhere. As a result the rival has input costs \$3 per unit higher than the dominant firm has.

By contrast, Judge Hand's "predatory margin" test in *Alcoa* would effectively have added \$3.00 to the dominant firm's "costs" in the above example by asking whether the dominant firm itself could profitably sustain production at the margin that it was imposing on the unintegrated rival.⁵¹

Both tests have severe shortcomings. The predatory pricing test given in the *Linkline* dissent properly identifies predatory pricing as based on a non-sustainable pricing strategy that requires some kind of explanation, given that prices are below cost. However, it creates the wrong set of incentives: a vertically integrated dominant firm bent on excluding its rival will simply raise the upstream price rather than lowering the downstream price. By contrast, Judge Hand's "predatory margin" test condemns an output price as predatory even though it is completely profitable to the defendant, provided that the upstream price is sufficiently high as well. Indeed, in the case of a dominant firm with market power in both the upstream and the downstream market, both prices could be well above cost and yet there would not be enough margin between them to permit an independent fabricator to survive, even based on the larger firm's fabrication costs.

Judge Hand's test does give a potential defendant a basis for measuring whether it is guilty of a price squeeze claim: Either do not sell your upstream product to a rival at all or, if you do, make sure that the margin between your wholesale price and your own downstream resale price is equal to your own costs for the intervening production. But that test tends to undermine the basis for the dominant firm's wish to sell to a rival to begin with. If the vertically integrated firm can produce just as efficiently as the rival can, it might as well produce internally. On the other hand, if the rival has lower costs, the vertically integrated firm can profit by selling to the rival; the sale is profitable precisely because the vertically integrated firm can capture a portion of these cost savings for itself. So Judge Hand's rule has the perverse effective of making

⁵¹. *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 437-438 (2d Cir. 1945). See discussion *supra*, text at notes 3-4.

it unlawful for the vertically integrated firm to sell to a rival in precisely those situations where it would have an incentive to do so.

One reason why the vertically integrated firm might voluntarily sell to the rival in the downstream market is that it lacks its own production capacity in that market. Suppose Alcoa has a production capacity of 50 units of aluminum ingot but fabrication capacity of only 30 units. Then it might wish to sell 20 units of ingot to an independent fabricator, charging a price just sufficient to give the independent a competitive rate of return. In such a case it would have no incentive to force the independent fabricator out of business. To be sure, consumers would be harmed if the output of fabricated aluminum fell back to Alcoa's own 30 units, but this would not be an output reduction that would benefit Alcoa.

Once again, if Alcoa were in the process of bringing 20 additional units of its own fabrication capacity on line, then during the time this capacity was being developed it might have an incentive to squeeze the independent by reducing its margin to variable costs, thus effectively appropriating the fixed cost portion of its investment. But it is not obvious that consumer harm results from this practice.

An AVC Test for Price Squeeze Claims?

As noted previously, Judge Hand condemned Alcoa's price squeeze after concluding that the margin between Alcoa's wholesale ingot price to sheet rollers and its own resale price for rolled sheet was lower than Alcoa's sheet rolling costs. Judge Hand did not specify what measure of cost he had in mind, and *Alcoa* was decided thirty years prior to the formulation of the average variable cost, or marginal cost, test for predatory pricing, as Areeda and Turner formulated it in 1975.⁵²

Some decisions and literature have concluded that price squeezes should be condemned, if at all, only under a cost-based test, presumably similar to Judge Hand's only with more specification as to the appropriate measure of cost. However, the issues are not

52. Phillip E. Areeda & Donald F. Turner, *Predatory Pricing and Practices Under Section 2 of the Sherman Act*, 88 HARV.L.REV. 697 (1975). On the price/cost tests for predation, see 3A ANTITRUST LAW, note 1 at ¶¶ 739-742 (3d ed. 2008).

entirely the same. First and foremost, in an orthodox predatory pricing case the price below cost is "non-sustainable," which means that the defendant loses money on each sale. A vertically integrated firm can impose a price squeeze by either lowering its resale price, raising its wholesale price to unintegrated rivals, or some combination of both. As a consequence, a price squeeze that flunks Judge Hand's test can be fully sustainable. For example, suppose the cost of ingot is \$10.00 per unit and rolling costs are \$3.00 per unit, yielding a minimum cost price for rolled sheet of \$13.00. Alcoa might charge customers of rolled sheet a price of \$14.00 and charge a rival \$12.00 for the raw ingot. In that case both the downstream price for the sheet and the upstream price for the ingot are above Alcoa's costs, but the \$2.00 margin between them is too small to permit the independent sheet roller to survive.⁵³

A guiding principle of predatory pricing law is that a price below either marginal cost or average variable cost is highly suspicious and requires an explanation, given that such prices are unprofitable in the short run as well as the long run.⁵⁴ By contrast, there is nothing inherently suspicious about a firm's charging a high price to an unintegrated rival for an input.

There is another reason for not applying predatory pricing standards to price squeeze claims. In an orthodox predatory pricing case we presume that the victim is a free-standing firm able to procure its own inputs and survive as an independent rival in the market, but for the predatory pricing. In the price squeeze case, by contrast, the claim is that the rival cannot survive at all unless it can procure the input from the vertically integrated dominant firm. While that firm is in fact supplying the input, the claim is that it is doing so on terms that make it impossible for the smaller rival to survive. Moreover, in contrast with price squeezing, the potential for price predation exists in *any* concentrated market, making it nearly impossible for potential entrants to distinguish and avoid those commitments which are likely to result in predation.

53. See appendices 1, 2.

54. There may be a very few exceptions, such as where "shut down" costs are very high -- but these can generally be taken into account by computing them as part of variable costs.

Joint Costs

Joint costs, or economies of scope, occur anytime it is cheaper to produce two goods together than separately. Common costs are ubiquitous and can occur in the simplest situations. For example, a small grocery store adding a new product to its inventory, such as chocolate covered macadamia nuts, will certainly have to incur the cost of wholesale purchase, stocking, the opportunity cost of the lost shelf space, and some sales expenses. However, it very likely costs no more to light and heat the store with the macadamia nuts than without them, and the incremental cost of the clerk's time is undoubtedly far, far less than the cost of hiring an additional clerk.

Joint costs often complicate predatory pricing claims when the plaintiff sells only a subset of the goods or services that the defendant sells. Plaintiffs invariably prefer that costs be "fully allocated," which means that a pro rata share of all relevant costs be assigned to the good upon which predatory pricing is claimed. In that case the defendant's joint cost savings are ignored because the plaintiff does not observe them. But this has the perverse effect of condemning behavior that is profitable at the margin without regard to the impact on any rival. In any event, full allocation is not a sensible way for a multi-product firm to assign costs. For example, the grocery store considering whether to add macadamia nuts to her inventory will consider only the *incremental* costs of doing so, against the incremental revenues that their sale will produce. A firm that enjoys joint cost savings in the combined production of A and B will very likely have a profit maximizing price that leaves rival producers of A alone unable to compete.⁵⁵

⁵⁵. The law of single product predatory pricing generally adopts this approach. See 3A ANTITRUST LAW ¶ 742. See, *Marsann Co. v. Brammall, Inc.*, 788 F.2d 611 (9th Cir. 1986). See *Morgan v. Ponder*, 892 F.2d 1355 (8th Cir. 1989) (pricing designed to capture only the incremental cost of special advertising for lawyers not predatory). See also *General Foods Corp.*, 103 F.T.C. 204 (1984), where the FTC noted the difficulty of measuring the cost of one product where the "firm produces several brands of a product from the same plants, with the same workers and with some of the same raw materials. ..." *Id.* at 343. In such cases "the precise allocation among brands of even the variable production costs can be arbitrary." Indeed, even promotion costs had to be allocated, for promoting Maxwell House Coffee resulted in higher sales of both Maxwell House regular and instant coffee, but predation was alleged only with respect to the former.

In the *Covad* decision the plaintiff claimed that the defendant had an obligation to allocate fully the cost of loops it was selling to the plaintiff for provision of DSL service, and if it did so it could not itself make a profit on the difference between the cost of the loop and the price it was charging to consumers. The Eleventh Circuit held that the issue could not be disposed of on summary judgment.⁵⁶

But the issue is critical in a situation where the vertically integrated firm produces multiple products subject to joint costs while the rival produces only one.⁵⁷ For example, suppose a vertically integrated airline company rents aircraft to rivals who organize tours, but also offers tour packages on its own scheduled flights. The airplane rental to the rival must be at a price sufficient to cover the cost of providing the plane, its fuel, its crew, and other associated costs. This might be \$40,000 for a 100 seat plane, or \$400 per seat per trip. But the airline sells tour packages that contemplate the use of otherwise unused seats on flights that are already scheduled. The incremental cost of filling an empty seat under these circumstances is much less than the fully allocated cost of a single seat on a plane that has not yet been committed. Suppose that the incremental cost of filling the empty seat on the already scheduled plane is \$40, and the airline responds by offering a tour ticket for \$50 -- a fully profitable transaction. In this case the small tour company would claim a squeeze and would even be able to show that the wholesale price it was being charged for a seat was significantly greater than the retail price that the airline was charging for its own tour packages.⁵⁸

For purposes of regulatory policy joint costs may have to be allocated, and perhaps under very complex regulatory formulas.⁵⁹

56. *Covad Communications Co. v. BellSouth Corp.*, 374 F.3d 1044, 1051 (11th Cir. 2004), citing Complaint, ¶¶ 93-95.

57. In the context of regulated industries, see Daniel F. Spulber and Christopher S. Yoo, *Mandating Access to Telecom and the Internet: the Hidden Side of Trinko*, 107 COLUM.L.REV. 1822, 1843 (2007).

58. Such a claim was alleged in the *LinkLine* case. *LinkLine Communic., Inc. v. SBC, Inc.*, No. 03-5265, at 6-7 (C.D.Cal. Apr. 1, 2005), cited in J. Gregory Sidak, *Abolishing the Price Squeeze as a Theory of Antitrust Liability*, 4 J.COMPETITION L. & ECON. 279, 300-301 (2008).

59. See Alexander C. Larson and Steve G. Parsons, *"Building Block" Cost Methods for Pricing and Unbundling Telecommunications Services: Implications for*

But allocation formulas of this sort of are not the business of antitrust law.⁶⁰ A firm necessarily earns profits from an additional sale whenever the incremental revenue exceeds the incremental cost. Antitrust policy cannot ask for more, whether or not regulatory policy sees it differently. In the above airline example, any incremental price above \$40 for a seat on an already scheduled flight is profitable to the dominant firm without regard to impact on rivals, and it certainly benefits consumers. This could also occur, for example, in the telecommunications industry, where a single hard wire "loop" may serve as a joint cost for both internet and phone service.⁶¹

Other Production and Transaction Cost Savings

The other kinds of cost savings that can accrue to the vertically integrated firm arise when some aspect of intrafirm production is cheaper than the same production that requires two firms plus a market transaction. In general, these savings involve either production costs or transaction costs.

Production cost savings occur most frequently when intraplant production costs are less than the costs of production in two different plants. For example, suppose that aluminum ingot must be hot before it can be rolled into aluminum sheet, and ingot is very hot when it is initially produced. Further, it must be transported from the refiner's plant to the fabricator's plant. By rolling its own aluminum

the Law and Regulatory Policy, 36 JURIMETRICS J. 59 (1995); Alexander C. Larson, *Pricing Principles in Telecommunications*, in TELECOMMUNICATIONS, LAW, REGULATION, AND POLICY (William H. Read & Walt Saprionov eds., 1996); Steve G. Parsons, *Seven Years After Kahn and Shew: Lingered Myths on Costs and Pricing Telephone Service*, 11 YALE J. REG. 149, 166 n.70 (1985).

60. Cf. *Town of Concord v. Boston Ed. Co.*, 915 F.2d 17, 25 (1st Cir. 1990) (price squeeze claim requires court to behave "like a rate-setting regulatory agency"). See also J. Gregory Sidak, *Abolishing the Price Squeeze as a Theory of Antitrust Liability*, 4 J. COMPETITION L. & ECON. 279, 296 (2008) ("...the judge's job as de facto rate regulator would never end because external forces will compel wholesale and retail prices to change over time...."); Dennis Carlton, *Should "Price Squeeze" Be a Recognized Form of Anticompetitive Conduct?*, 4 J. COMPETITION L. & ECON. 271 (2008).

61. See John Lopatka, *The Electric Utility Price Squeeze as an Antitrust Cause of Action*, 31 UCLA L.REV. 563, 578-581, 600 (1984) (noting extreme technical difficulty in allocating joint costs in context of regulated electric power markets).

ingot fresh off the line the vertically integrated firm can save the very considerable cost of reheating, as well as the additional cost of shipping the ingot by truck or rail to the sheet fabricator. Even in a competitive market a vertically integrated firm that sold ingot at its marginal cost and also fabricated sheet at its marginal cost would impose a squeeze on an unintegrated fabricator, who would face the additional costs of transporting and reheating the aluminum. Ronald Coase once famously observed that in fact two "firms" -- the refiner and the fabricator -- could share a common building. The refiner could sell the ingot to the fabricator as it rolled off the line and the fabricator could then roll it hot, saving both the reheating costs and the transport costs.⁶² But there are typically good reasons why the two firms would not want to be placed into such a situation -- mainly because it could create a bilateral monopoly between them.

Transaction costs are the costs of using the market,⁶³ and these can also be substantial, particularly when the good in question is made to specification or the market is not competitively structured. For example, ingot might be sold in an oligopoly market at a price significantly above cost. However, the firm that produces its own ingot necessarily receives it at its cost of production. So assuming that the vertically integrated producer is efficient it will obtain ingot at a lower cost than the firm that must purchase it. Again, this is the problem of double marginalization, which is inherent in price squeeze situations.

Judge Hand's price squeeze test in *Alcoa* should take both production cost savings and transaction cost savings into account by computing the allowable margin with respect to the defendant's rather than the plaintiff's costs.⁶⁴ An ordinary predatory pricing rule, which identifies predation on the basis of the predator's incremental or variable costs, does the same thing.⁶⁵ The important thing is that

62. See Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICS* (N.S.) 386, 388 (1937) (giving example of Lancashire cotton industry where participants in the various stages of cotton production rent space and purchase and sell the product from one production stage to the next).

63. Coase, *id.* at 390.

64. *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 437-438 (2d Cir. 1945). See discussion *supra*, text at notes 3-4.

65. See 3A *ANTITRUST LAW* ¶ 739-740 (3d ed. 2008).

we do not want to penalize a firm for having lower costs than its rival.

Upstream Transaction as Fixed Cost

The Alpha/Beta example in the previous section illustrates the most commonly used example of a price squeeze: the upstream transactions are variable costs for the unintegrated firm; each unit sold upstream corresponds to one unit sold downstream, and the firm does not incur the cost unless it produces a unit. This situation provides an integrated firm with the greatest control over its rival's margin. Price squeezes undoubtedly have the greatest potential for harm when the upstream transactions constitute variable costs to the unintegrated rival. However, this is not the only possibility.

The upstream transaction may constitute a fixed cost of the unintegrated firm. Suppose I am a vertically integrated firm operating in the market for GPS devices, and am the sole supplier of GPS satellites. My rivals in the market for GPS devices must pay me for satellite service, which I price at \$100,000 for 10 years of access. This price is a fixed cost to my rivals over the ten year period, because it does not change with the number of customers that the rival has or with usage rates. The average variable cost of producing the device itself is \$50 per unit for both me and my rivals. Assume that the market price for GPS devices is \$100, and that this price includes unlimited satellite service to customers. We also assume that my rival will determine whether to enter the market based on this information. Suppose I later decide that this new competition is more trouble than its worth. I have already provided rivals with ten year of service, but even after the upstream transaction I am free to lower downstream prices. Depending on my rival's production level, this has the potential to result in a price squeeze. However, I cannot manipulate my rival's margin with the same fluidity that is possible when upstream transactions occur on a per-unit basis. For example, suppose my rival increases its efficiency, allowing it to sell at a downstream price of \$50. I could not hope to appropriate any of my rival's new gains until the next upstream transaction occurs, at which time I could again raise the price of satellite usage. In this situation, my rival need not worry that I will immediately appropriate the benefits of its various innovations. As a result, the potential for both competitive and consumer harm is much less, if indeed any occurs otherwise.

This example tells us two things: First, the ability to impose a price squeeze depends on the integrated firm's ability to manipulate the margin of one's rival. Second, the ability to manipulate the margin of one's rival is greater when transactions occur frequently in both the upstream and downstream market.

Remedy Problems

Antitrust rules that give small firms guaranteed margins are sure to be counterproductive. Greg Sidak speaks of one particularly perverse result of judicial recognition of price squeeze claims, which is that they could encourage price fixing.⁶⁶ If anything, he understates the problem. In order to comply with such a duty in a regulatory context a firm would file a tariff with an agency which, to the extent of its jurisdiction and competence, would assess any potential for a price squeeze that would harm competitors. But outside of the regulatory context there is no relevant agency, so the smaller firm would have to "file" its information with the dominant firm so that the dominant firm would know the minimum resale price it could charge to avoid the squeeze. That is to say, recognition of such claims, if based on a rule that entitles the smaller firm to a profitable margin, would virtually require price fixing by the two firms. It is no answer to say that the margin depends on both the downstream price, where both firms sell, and the upstream price, where the two firms are in a buyer-seller relationship. Once the upstream price is established the existence of a squeeze depends on the size of the downstream price. This fact alone counsels strongly against an expansive price squeeze rule.

Beyond that, the most commonly given objection to judicial recognition of price squeeze claims is an administrative one: assessing such claims requires a court to predict the "correct" price, and doing so places it in the position of a public utility regulator. That objection was good when Judge Breyer uttered it in 1990 in the *Concord* public utility price squeeze case, and it remains so today.⁶⁷

^{66.} J. Gregory Sidak, *Abolishing the Price Squeeze as a Theory of Antitrust Liability*, 4 J.COMPETITION L. & ECON. 279, 297 (2008).

^{67.} Cf. *Town of Concord v. Boston Ed. Co.*, 915 F.2d 17, 25 (1st Cir. 1990) (price squeeze claim requires court to behave "like a rate-setting regulatory agency").

In the end, the plaintiff would be left with little or no incentive to innovate and, thus, the only real beneficiary of such a ruling would be the plaintiff itself. Consumers would not benefit and could be harmed in the long run.⁶⁸

We find very little room for anticompetitive price squeeze claims generally when the dominant firm has no underlying duty to deal with the rival. We find some basis for liability in the unique situation where the dominant firm discovers that a rival with an established dealing relationship with the defendant is bent on integrating vertically into the monopolized input market, and the dominant firm responds with a price squeeze intended to deny the rival the resources necessary for such vertical expansion. In that case, which would be very rare, damages would presumably consist of the lost profits or loss of investment that the smaller firm suffered. Damages in such a case pose a significant problem, but it is not the kind of problem that Judge Breyer contemplated.⁶⁹

Antitrust Liability for Unilaterally Imposed Price Squeezes: Tentative Conclusions and Recommendations

All antitrust tests for price squeezes must be “cost based” in the limited sense that there must be safe harbors for squeezes that fail to impose sufficiently small margins on rivals. Beyond that, however, cost based tests are less useful for assessing price squeezes than for assessing other forms of pricing behavior. In any event, the *Brooke Group* test suggested in the Eleventh Circuit’s *Covad* decision⁷⁰ and the Ninth Circuit *Linkline* dissent,⁷¹ which would look for prices below a relevant measure of cost and likelihood of recoupment in the downstream market is simply off point: it neither reflects likely anticompetitive strategies nor appreciates the impact of upstream price manipulation. Any rival which purchases the

⁶⁸. See appendix 2.

⁶⁹. On damages measurement for firms excluded by an antitrust violation, see 2A Phillip E. Areeda, Herbert Hovenkamp, Roger D. Blair and Christine Piette Durrance, ANTITRUST LAW ¶ 349 (standing issues) and ¶¶ 392f2, 397 (damages issues)

⁷⁰ See note 35.

⁷¹ *Ibid.*

upstream output at a price above cost necessarily has higher costs than the dominant firm, assuming that it does not have offsetting efficiencies in other portions of its production.

Our tentative conclusions concerning the use of cost-based tests for price squeeze claims are these:

- Defendants should enjoy a safe harbor, or per se legality, when the margin between the wholesale price to the rival and the output price of the finished product is greater than the total (fixed + variable) processing costs that the defendant occurs for production between the two stages.
- The defendant's downstream prices below marginal or average variable cost should be subject to ordinary predatory pricing rules and assessed without regard to the upstream transaction – that is, such claims are not of a price “squeeze” at all, but simply of predatory pricing.
- If the margin between the defendant's price for the upstream input to the rival and the defendant's own second stage output price is below either the defendant's average total or the average variable cost of intervening production, then some further inquiry may be necessary. The most likely explanations are joint costs (economies of scope) or price discrimination, in which cases we would not find liability, and we would not force an antitrust tribunal to assume the regulator's role of allocating fixed costs among multiple products. Liability is appropriate in the relatively uncommon situation when a margin squeeze has clearly been created by the dominant firm in order to prevent the smaller rival from integrating upstream into the defendant's monopolized primary market.
- If prices in both the upstream and downstream markets remain the same as before the plaintiff's entry, or if the plaintiff had good reason to expect the prices observed during the squeeze, there can be no Antitrust violation. An integrated rival cannot be punished simply because

the rival overestimated its ability to cover its own costs.

- Even if a firm appropriates the efficiency gains of its rival, we still expect prices to fall as a result. Thus, consumer harm is not likely to result from the fact that one firm has appropriated the gains of another.

Appendices

1. The general case

In the context of price squeeze claims a firm's "margin" could denote either the difference between the defendant's upstream price for the input and its own downstream price for the finished good, or else the marginal profitability of downstream sales. We use the latter meaning, as it is important to consider the affect of a squeeze on both costs and revenues. Because a vertically integrated firm can squeeze a rival's margin from two directions, it is important to consider the residual subjected to such pressures.

We assume a scenario in which a vertically integrated firm has a monopoly in the upstream market for Alpha (α). Alpha is an input used in the production of Beta (β), which is sold in the downstream market. We assume there is an unintegrated rival who buys wholesale Alpha in the upstream market, only to compete in the downstream market for Beta thereafter. For simplicity, we will assume constant marginal cost, so that marginal cost is equal to average cost. Also, we will consider a price squeeze scenario in which upstream prices for Alpha constitute variable costs to the unintegrated firm.

We define the margin faced by the unintegrated rival and potential victim of a price or margin squeeze as:

$$Mg = P - W - C_f$$

Where Mg is the firm's margin, P is the downstream market price, W is the upstream "wholesale" price, and C_f is the per-unit cost of intermediate processing or fabrication, which is the net cost of fabricating Beta from Alpha and preparing it for retail, etc..

Because we are now referring to marginal profitability, the standard squeeze test comparing average total and average variable costs is not relevant. Rather, the condition for a price squeeze (with respect to marginal profitability) is as follows:

$$0 \leq Mg < AFC$$

Where AFC is average fixed cost, which is equal to fixed costs over the quantity of Beta sold. Given explicitly, the condition for a price squeeze is as follows:

$$0 \leq P - W - C_f < F/Q_\beta$$

Where F is total fixed cost and Q_β is the quantity of Beta sold. This condition tells us first that marginal profitability is positive, so the rival will continue producing (for our purposes, this is equivalent to saying the downstream price is greater than average variable cost.) An important corollary of this condition is that if marginal profitability of Beta exceeds zero, then there necessarily exists some output level at which that margin exceeds average fixed cost. That is, if marginal profitability exceeds zero, then there necessarily exists some output level at which total profits are positive and thus no squeeze occurs (*ceteris paribus*).

2. Appropriating fixed costs, rents, or gains from innovation

When we say that a vertically integrated firm has “appropriated” the gains of its rivals, we determine the extent of this appropriation by comparing to the zero profit level. That is, we compare to that level of profits which is achieved at the lowest sustainable level of marginal profitability. Of course, because we assume marginal cost equals average cost, this implies that the lowest sustainable level of marginal profit is equal to average fixed cost, at which level total profits would be equal to zero.

We define the total profit function faced by the unintegrated rival:

$$TP = Q_\beta(P - W - C_f) - F$$

Alternatively, we can define total profits in terms of the rival’s margin. Again, the integrated firm can essentially control this margin through the manipulation of downstream and upstream prices. Accordingly:

$$TP = Q_\beta(Mg) - F$$

Appropriating fixed costs

Using the condition found in appendix 1, we see that zero is the lowest margin at which the rival will sustain production. In reality, the

rival is indifferent to production at this level, but we will assume it chooses to continue until marginal profits are negative. By substituting this value for Mg , we have that:

$$TP = Q_{\beta}(0) - F = -F$$

Hence, to impose the most effective price squeeze possible is to appropriate an amount equal to the rival's fixed costs.

Appropriating rents or efficiency gains

Let us suppose that, due either to unmatchable efficiency gains, perhaps resulting from a patent, the rival is able to reduce drastically its per-unit fabrication cost (C_f). We assume this cost decreases by a value of G . We will also assume that the integrated firm was already imposing a price squeeze which, before these new gains, allowed it to capture its rival's fixed costs. Accordingly, with the prevailing squeeze in mind, we can define total profits as the following:

$$TP = Q_{\beta}(P - W) - Q_{\beta}(C_f - G) - F = Q_{\beta}(G) - F$$

Hence, if the integrated firm does not increase the intensity of the squeeze, the rival's total profits increase by $Q_{\beta}(G)$. However, under ideal conditions, the integrated firm can completely adjust for this by increasing W by G dollars. It should be noted that if the integrated firm simply reduced P by G dollars, consumers would appropriate the resulting amount; the integrated firm would likely lose profits in that case.

This has important policy implications. If a defendant is alleged to have imposed a price squeeze in order to appropriate fixed costs investments or other gains, then it must have done so by increasing the upstream price, not by lowering the downstream one. The latter possibility would only be used maliciously by a defendant whose sole motivation was to force its rival into foreclosure. Of course, from the perspective of the unintegrated rival, it makes no difference; they are equally effective in reducing its marginal profitability.

Appropriating gains from increased sales

There is a final possibility that should be mentioned. If the prevailing squeeze does not reduce marginal profits to zero, then the unintegrated rival would achieve greater total profits if it sold more units while its margin went unchanged. However, just as before, the integrated firm can adjust for this by further reducing its rival's margin. In the end, under ideal conditions, the rival's total profits return to exactly the same level as before output increased.

Incentive changes and Averch-Johnson-like effects

The results in the above situations resemble somewhat those of the co-called Averch-Johnson effect in price regulated industries. See Harvey Averch and Leland L. Johnson, Behavior of the Firm under Regulatory Constraint, 52 Am. Econ. Rev. 1052 (1962). Principally, if the firm's rate of return is fixed externally, as by a government agency, then it substantially loses the incentive to innovate because it will be unable to pocket the resulting gains. Even the phrase "somewhat resembles" may overstate the similarity. Under rate-of-return regulation the agency presumably has the public interest in mind and may engage in significant adjustment in order to avoid Averch-Johnson effects by permitting the regulated firm to capture at least some of the returns to innovation. By contrast, the vertically integrated monopolist wishes to maximize its own profits and will presumably balance short run returns from reduced margins against the long run gains from allowing the smaller rival to innovate.

Suppose an antitrust tribunal orders a price squeezing defendant to afford the plaintiff a margin that allows it to cover its variable as well as fixed costs. In effect, this requires the integrated firm to ensure that its rival does not earn negative profits. As a result, it becomes the responsibility of this integrated firm to (1) estimate the cost structure of its rival and (2) forgo potential profits and set non-optimal prices in order to ensure that its rival does not earn negative profits.

In addition to these unreasonable requirements, such a ruling would have the perverse effect of eliminating the plaintiff's incentive to innovate. After all, the integrated firm can still capture any and all positive profits earned by its rival. Thus, the unintegrated rival is operating at a fixed level of return. It has no incentive to innovate

and, thus, the court's decision has not helped consumers, nor has it truly improved competition. Rather, such a decision would do little more than allow a single firm (the plaintiff) to sustain production under circumstances that would otherwise prevent it from so doing.

3. Appropriating efficiency gains: Impact on consumers

When a vertically integrated firm appropriates the efficiency gains of its rival, it is not obvious what the effect on downstream prices will be. To explore this, we apply a Bertrandian model of price competition in order to determine how such an efficiency gain would affect the optimal prices set by the two firms.

To begin, it will suffice to define total profit functions for both firms. Subscripts "1" and "2" refer to the integrated firm and the smaller rival, respectively. Profit functions are as follows:

$$\begin{aligned} TP_1 &= q_{\alpha 1}(W - C') + q_{\beta 1}(P_1 - C' - C_{f1}) - F_1 \\ TP_2 &= q_{\beta 2}(P_2 - W - C_{f2}) - F_2 \end{aligned}$$

Where, for any firm i (where " i " can denote either "1" or "2"), TP_i is the total profit earned by firm i , P_i is the downstream price set by firm i , $q_{\beta i}$ is the quantity of Beta sold by the firm i , $q_{\alpha i}$ is the quantity of Alpha sold by firm i , C_{fi} denotes the per-unit fabrication cost of firm i , and F_i denotes the total fixed costs of firm i . Finally, C' will denote the (constant) marginal cost of producing Alpha.

Moreover, we assume a downward sloping demand function in the market for Beta. For simplicity, we will assume it is linear and equal to the following:

$$Q_{\beta} = A - BP$$

Where Q_{β} is the total quantity of Beta sold in the market and A and B are arbitrary constants. But, given that there are two firms in the market for Beta, we have that:

$$Q_{\beta} = q_{\beta 1} + q_{\beta 2} = A - BP$$

Using this demand function, we can redefine total profits, allowing us to solve for the optimal price functions of each firm:

$$\begin{aligned}
TP_1 &= (A - BP_1 - q_{\beta 1})(W - C') + (A - BP_1 - q_{\beta 2})(P_1 - C' - C_{f1}) - F_1 \\
&= (A - q_{\beta 1})(W - C') - BP_1(W - C') + (A - q_{\beta 2})(P_1 - C' - C_{f1}) \\
&\quad - BP_1(P_1 - C' - C_{f1}) - F_1 \\
&= (A - q_{\beta 1})(W - C') + (A - q_{\beta 2})(P_1 - C' - C_{f1}) \\
&\quad - BP(P_1 + W - 2C' - C_{f1}) - F_1
\end{aligned}$$

By taking the derivative with respect to price, we can determine the optimal price for the vertically integrated firm. The first order condition gives us that:

$$\begin{aligned}
0 &= -2BP - BW + 2BC' + BC_{f1} + A - q_{\beta 2} \\
2BP_1 &= -BW + 2BC' + BC_{f1} + A - q_{\beta 2} \\
\mathbf{P_1^*} &= \mathbf{-(W/2) + C' + [(A + BC_{f1} - q_{\beta 2})/2B]}
\end{aligned}$$

Following the same process for the unintegrated rival's profit function:

$$\begin{aligned}
TP_2 &= (A - BP_2 - q_{\beta 1})(P_2 - W - C_{f2}) - F_2 \\
&= (A - q_{\beta 1})(P_2 - W - C_{f2}) - BP_2(P_2 - W - C_{f2}) - F_2
\end{aligned}$$

This gives us the following first order condition:

$$\begin{aligned}
0 &= A - q_{\beta 1} - 2BP + BW + BC_{f2} \\
2BP_2 &= A - q_{\beta 1} + BW + BC_{f2} \\
\mathbf{P_2^{**}} &= \mathbf{(C_{f2}/2) + [(A + BW - q_{\beta 1})/2B]}
\end{aligned}$$

Now, suppose the unintegrated rival undergoes an efficiency gain that brings its per-unit fabrication cost to $C_{f2} - G$. Hence, the fabrication cost of each unit has decreased by G dollars. According to the rival's optimal price function, this will reduce its optimal price by $G/2$ dollars.

But how will the integrated firm react to these efficiency gains? Indeed, as has previously been described in detail, the integrated firm has only to increase the upstream price (W) by an amount equal to the per-unit efficiency gain. Hence, following the integrated firm's reaction, the new upstream price of Alpha is $W + G$ dollars per unit. According to its optimal price function, the integrated firm will reduce its price of Beta by $G/2$ dollars. This is the same amount by which the rival reduced its own optimal price.

Hence, in the short run even if the integrated firm appropriates the efficiency gains of its rival, consumers will still receive the benefit of lower prices. Indeed, both firms would decrease their optimal price by exactly the same amount. Thus, we would expect consumer surplus to increase by the same amount as well.

Again, this raises important policy implications. The appropriation of a rival's gains from innovation will not likely have an adverse effect on consumers. Hence, that a firm has appropriated such gains from its rival does not *prima facie* imply that consumers have been adversely affected as a result.