

Predatory Bundling and the Exclusionary Standard

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Abstract

Recent decisions—all relying on a stylized example first provided by the *Ortho* court—hold that a multi-product seller that uses a bundled discount in a way that excludes an equally or more efficient competitor engages in predatory bundling. According to these decisions, a bundle can be considered “predatory” even when the price of the bundle exceeds its cost. The article offers evidence demonstrating that the *Ortho*’s stylized example and its monopoly leveraging theory are erroneous. The article further shows that even when a bundle’s price excludes more efficient competitors and even when a component in the bundle is priced *below cost*, and thus sold *at a loss*, it may still have welfare enhancing effects. The result is that bundles that fail the discount allocation test and even bundles that fail the *Brooke Group* test for predatory pricing can still be desirable. The article provides a number of examples from the airline and telecommunication industries to illustrate that both exclusionary and below cost bundles can be not only welfare enhancing, but also very typical.

Keywords: Predatory Bundling, Bundled Discounts, Package Discount, Predatory Pricing, Exclusionary Behavior, Antitrust.

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I. INTRODUCTION

Mixed bundling, also referred to as a bundled or package discount, occurs when the seller of two or more products offers each product separately at full price and a package thereof at a reduced price.¹ Bundled discounts permeate a variety of markets. Restaurants often offer a choice between an a la carte menu (where each item is priced individually) and a discounted buffet-style or a “value meal”; cable companies offer consumers a discounted package if, in addition to cable, consumers are also willing to purchase Internet and phone services; and wireless services are often bundled with cell-phones (an example which is examined more closely below).

Despite its ubiquitous nature, however, the legal standard regarding bundling is far from settled.² A number of decisions, chief among them *Ortho*,³ *LePage’s*⁴ and more recently *Cascade*,⁵ have determined that, in some situations, package discounts can constitute a form of predatory pricing (called “predatory bundling”). Although each of these decisions offers a different test for predatory bundling, they all agree on one common principle: A multi-product seller that uses a bundled discount in a way that excludes or eliminates an equally or more efficient competitor unambiguously harms consumers and competition.⁶ Accordingly, these decisions (and the recent Antitrust Modernization Committee report⁷) hold that predatory behavior is *not* limited to situations in which the predator prices its bundle below cost (average or marginal); but rather, a seller’s bundle can be deemed “predatory” even where the bundle is priced *above* its cost. This occurs, as the argument goes, when the seller excludes more efficient competitors.

¹ The “discount” itself can take many forms. The most common of which are price reductions, rebates and coupons. A volume discount can also be considered as a bundle of two or more units of the same product. This article, however, focuses solely on bundles comprised of different products.

² See, for example, the Solicitor General’s amicus brief urging the denial of certiorari in *LePage’s*. Brief for the United States as Amicus Curiae at 14, 3M Co. v. LePage’s, Inc., 542 U.S. 953 (2004) (No. 02-1865), 2004 WL 1205191 (“*There is insufficient experience with bundled discounts to this point to make a firm judgment about the relative prevalence of exclusionary versus procompetitive bundled discounts.*”) (emphasis added); *Health Solutions v. PeaceHealth*, 515 F.3d 883, 908 (9th Cir. 2008) (“[T]here is limited judicial experience with bundled discounts, and academic inquiry into the competitive effects of bundled discounts is only beginning.”).

³ *Ortho Diagnostic Systems, Inc. v. Abbott Laboratories, Inc.*, 920 F. Supp. 455 (S.D.N.Y. 1996).

⁴ *LePage’s Inc. v. 3M*, 324 F.3d 141 (3rd Cir. 2003).

⁵ *Cascade Health Solutions v. PeaceHealth*, 515 F.3d 883 (9th Cir. 2008).

⁶ See also RICHARD POSNER, *ANTITRUST LAW* 194-5 (2d. ed. 2001); P. AREEDA AND H. HOVENKAMP, *ANTITRUST LAW* 323 (2d. ed. 2004 Supp.).

⁷ ANTITRUST MODERNIZATION COMM’N, *REPORT AND RECOMMENDATIONS* 97 (2007), available at http://govinfo.library.unt.edu/amc/report_recommendation/toc.htm).

This article shows that the standard enunciated by the line of cases beginning with the *Ortho* decision is over-inclusive. Further, it challenges the axiom underlying the predation jurisprudence that pricing below cost is unambiguously harmful. In deviation from the prior literature, the article argues that even when the bundle's price excludes a more efficient competitor and even when a component in the bundle is priced *below* cost, the bundle may nevertheless have a welfare enhancing effect.

A strand of the literature, it should be noted, recognizes that exclusionary bundles can be welfare enhancing; but it is limited to bundles which are sold *above* cost.⁸ Nalebuff, for example, shows that in situations where the multi-product seller profits from the sale of both products in the bundle (the competitive and the monopolized), the monopolist can use a bundle to take over the competitive product.⁹ This article goes even further. It contributes to this important literature in that it shows that even when the multi-product seller loses money from selling the competitive product in the bundle, it can nevertheless increase its (total) profits and consumers' welfare. The article reveals that a multi-product seller may have a legitimate business justification to price the competitive product in the bundle below its marginal cost of production (and thereby exclude equal or more efficient competitors) in order to discriminate between consumers of the monopolized product. The result is that bundles that fail the discount allocation test and even bundles that fail the *Brooke Group* test¹⁰ can still be socially desirable.¹¹

This article, therefore, revisits the standard for finding predatory bundling and calls for reconsideration of the "discount allocation" test most recently adopted by the *Cascade* court. At the very least, it calls for the explicit adoption of a "business justification" requirement (whether as part

⁸ See e.g., Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly* (Yale Sch. Of Mgmt., Working Paper No. ES-36, 2004) ("Nalebuff 2004a"), available at <http://ssrn.com/abstract=586648> at p. 13 (showing that by *inflating* the price of the competitive product above the market price and discounting the monopolized product the bundler can increase its profits and enhance welfare); Patrick Greenlee, David Reitman & David S. Sibley, *An Antitrust Analysis of Bundled Loyalty Discounts*, 26 INT. J. IND. ORGAN. 1132 (2008) (showing that exclusionary *above cost* bundles may increase or decrease welfare).

⁹ Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8. For a detailed discussion, see *infra* notes 63-68 and accompanying text.

¹⁰ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222-224 (1993) (holding that to prove predatory pricing the plaintiff must show that (i) the defendant priced its product below cost; and (2) that the alleged predator had "a dangerous probability of recouping its investment in below-cost pricing").

¹¹ Proponents of the exclusionary standard reject above cost exclusionary, yet welfare enhancing, bundling because of their ability to allow the multi-product bundler to leverage its monopoly power. See e.g., Barry Nalebuff, *Exclusionary Bundling*, 50 ANTITRUST BULL. 321, 340 (2005) ("[T]he problem is that [because the above cost welfare enhancing, yet exclusionary,] bundle... allows a firm to leverage its monopoly power from one market to another ... [a] monopolist can exclude a more efficient competitor....").

of the plaintiff's affirmative case or his opponent's defense) to allow exclusionary below-cost bundles that enhance total welfare.¹²

The remainder of the article proceeds as follows: Part II reviews the current standard for predatory pricing in the single product context. It shows that if a single product manufacturer can exclude more efficient competitors, it will unambiguously harm consumers and competition. The intuition is simple. By setting prices below cost, a seller can drive its competitors out of the market. Then, with competition vanquished, it may be able to charge supra-competitive prices. As a result, some consumers who purchased the product prior to the predation period will not be able to afford it post-predation. Others will have to pay more to purchase the same product that was available for less prior to the predation period. Focusing on this *exclusionary nature*, the Supreme Court held in *Brooke Group* that selling below cost is "predatory" if the predator can recoup its losses.¹³ This well established Exclusionary Standard is premised on the assumption that in the single product context, excluding more efficient competitors from the market can *only* harm consumers. As demonstrated below, however, this assumption does not hold in the bundling context.

Part III discusses the legal standard for finding predatory bundling. It shows that, with no exceptions, beginning with the *Ortho* decision, courts, drawing an analogy to the single product market, have equated predatory behavior with exclusionary behavior. This equation led them to adopt the Exclusionary Standard in the multi-product context to distinguish pro-competitive bundles from anti-competitive ones. Interestingly, in all of these decisions the fact-pattern was the same. The defendant was a multi-product seller that had a monopoly over one product, but competed with the plaintiff and others on the sale of the second product.¹⁴ It is not surprising

¹² This is indeed a true concern as at least one prominent scholar has suggested a per se rule against exclusionary bundles (even if welfare enhancing). See Barry Nalebuff, *Exclusionary Bundling*, *supra* note 11, at 343 ("When the foreclosure is significant and the monopolist could have reasonably understood the effect of its pricing, I am in favor of employing a per se rule against exclusionary bundling.").

¹³ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222-224 (1993).

¹⁴ *Ortho*, 920 F. Supp. 455 (defendant allegedly held monopoly power in the markets for the certain blood screening tests but competed with the plaintiff in the market for HCV tests); *Cascade*, 515 F.3d 883 (defendant held monopoly power over the tertiary care services market but competed with the plaintiff in the market for primary and secondary acute care hospital services); *Lepage's*, 324 F.3d 141 (plaintiff arguing that the defendant, 3M, had a monopoly in the transparent tape market and offered rebates to consumers who purchased (non-tape related) products in which 3M did not enjoy market power, in order to maintain its monopoly power in the tape market). See also, U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 96 (2008), available at <http://www.usdoj.gov/atr/public/reports/236681.pdf> (citing the *Ortho* example with approval).

then that *all* of these decisions rely on a stylized example first provided by the *Ortho* court.¹⁵

Focusing on this stylized example, Part IV shows that absent a more sophisticated story, a multi-product seller that enjoys a monopoly over product A but competes with other sellers on product B, has *no* incentives to monopolize the competitive market for B. Specifically, it demonstrates that the *Ortho* example (and the monopoly leveraging theory on which it is based) is erroneous and its conclusion faulty. Another major flaw in the *Ortho* example is the assumption that all consumers of the monopolized product have the same reservation price. This assumption did not allow the *Ortho* court to consider a situation in which the monopolist uses the bundled discount to discriminate between purchasers.

Part V uses a richer yet simple model that relaxes this unrealistic assumption. The model is related to models proposed by Adams and Yellen,¹⁶ Schmalensee¹⁷ and Carlton and Waldman.¹⁸ It shows that by offering consumers a bundled discount, the monopolist can cause consumers to reveal their reservation price, thereby allowing it to sell to a segment of the population that otherwise would not buy the monopolized product. The mechanism is simple. By offering a bundled discount and allowing consumers to choose to buy the monopolized A, the competitive product B or the package AB, the seller creates a mechanism that causes consumers to reveal their preferences and sort themselves into two groups: those who hold a high reservation price for the monopolized product (high value consumers) and those who do not (low value consumers). With the ability to distinguish between the low and high value consumers, the seller can use the bundle to offer each group a different price and even prevent arbitrage. Specifically, the seller will offer a lower price on the monopolized product to the lower value consumers while maintaining a higher price for the higher value consumers. As a result, the low value consumers will be able to purchase a product that, absent bundling, they would not have been able to afford.

Importantly, this article demonstrates that selling a component of the bundle *below cost*, and thus at a loss, allows the seller to engage in price discrimination which, under certain circumstances, can be welfare enhancing. Using variants of the *Ortho* example, Part V demonstrates that even when a bundle's price excludes more efficient competitors and even when one of the products in the bundle is priced *below cost*, the bundle may still have welfare enhancing effects. A key insight is that a monopolist will

¹⁵ See *infra* note 51 and accompanying text.

¹⁶ William James Adams & Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Q. J. ECON. 475 (Aug. 1976)

¹⁷ Richard Schmalensee, *Commodity Bundling By Single-Product Monopolies*, 25 J.L. & ECON. 67 (1982).

¹⁸ Dennis W. Carlton and Michael Waldman, *Safe Harbors for Quantity Discounts and Bundling* (2008), available at SSRN: <http://ssrn.com/abstract=1089202>.

be willing to sacrifice profits from sales of the competitive product in the bundle if the profits generated from sales of the monopolized product outweigh the losses. Because it is the competitive product in the bundle that serves as the sorting mechanism allowing the seller to discriminate between consumers of the monopolized product, the monopolist will be willing to sell the competitive product below cost, as long as the benefits from extracting the consumers' surplus from the monopolized product outweigh these losses. Thus, the losses from bundling the competitive product can be viewed as a "premium" that the monopolist incurs in order to price discriminate between consumers. Part V provides a number of examples demonstrating that such below cost bundles can be a profitable strategy. It concludes that in the bundling context, *selling a product below its actual cost can be not only profitable and sustainable but also welfare enhancing*. Put differently, in the bundling context exclusionary does not necessarily mean predatory. Part VI provides concluding remarks.

II. Predatory Pricing - The Single Product Setting

The typical case of predatory pricing occurs when a seller prices its products below cost in order to drive its competitors out of the market. Then, after competition has been vanquished, the predator raises its prices to a supra-competitive level.¹⁹ The losses and forgone profits during the predation period are considered a form of "investment".²⁰ By selling its product below cost, the predator hopes to monopolize the market (i.e., exclude its competitors), recoup the losses incurred during the predation period and then harvest monopoly profits.

Predatory pricing, however, is speculative in nature and inherently risky. While the loss during the predation period is certain, recoupment is possible only if the predation results in monopoly power. Achieving monopoly power, however, is a formidable task. If the predation period is too long or the predator cannot meet the high demand generated by the low (predatory) price, the predator will not be able to eliminate competition. Moreover, even if monopoly power is achieved, realizing monopoly profits and recouping the losses from the predation period is unlikely. Once the predator (now the only firm in the market) charges supra-competitive prices, other firms will be drawn back into the market by the high prices, and the revived competition will drive the price back down to its original pre-predatory level, thereby frustrating the predator's attempt to recoup. Thus, for predatory pricing to succeed, the predator must not only achieve, but also *maintain* its monopoly power. For these reasons, courts have been

¹⁹ *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312 (2007).

²⁰ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588 (1986).

very hesitant to find predatory pricing. “Predatory pricing schemes,” the Supreme Court noted, “are rarely tried, and even more rarely successful”.²¹

Not only is (successful) predatory pricing a rarity, but the consequences of an erroneous finding of predatory pricing are severe. Because “[t]he mechanism by which a firm engages in predatory pricing—lowering prices—is the same mechanism by which a firm stimulates competition,”²² erroneous predation findings deter lower prices and harm competition, the very essence of antitrust law. To separate competitive price-cutting from anticompetitive predatory pricing, courts have focused on the *exclusionary nature* of the behavior in question. Specifically, the Supreme Court held that to establish a predatory pricing claim under Section 2 of the Sherman Act,²³ the plaintiff must prove that the defendant priced its product below an appropriate measure of costs and that the defendant had a dangerous probability (or, under the Robinson Patman Act, a reasonable prospect) of recouping its investment.²⁴

In the single product case, the “below cost” requirement ensures that the predator’s conduct is in fact exclusionary. Pricing a widget at \$8, the cost to manufacture of which is \$10, will cause a more efficient competitor, which can manufacture the same widget for \$9, to exit the market. This “Exclusionary Standard” has become so widely accepted that today’s courts differ only as to the type of “below-cost” measure that they use (marginal or average) to identify predatory pricing.²⁵ As shown below, however, this standard has been wrongly imported to the multi-product context.

²¹ *Weyerhaeuser*, 549 U.S. 312 (quoting *Matsushita*, 475 U.S. 574). *But see*, *Cargill v. Monfort of Colorado, Inc.*, 479 U.S. 104, 121 (1986) (“While firms may engage in [predatory pricing] only infrequently, there is ample evidence suggesting that such practice does occur.”).

²² *Brooke Group*, 509 U.S. at 226.

²³ Section 2 of the Sherman Act makes it illegal to “attempt to monopolize . . . any part of the trade or commerce among the several States, or with foreign nations.” 15 U.S.C. § 2 (2004).

²⁴ *Brooke Group*, 509 U.S. at 222-224.

²⁵ *See* Phillip Areeda & Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. R. 697 (1975); RICHARD POSNER, ANTITRUST LAW 215-220 (2d. ed. 2001); U.S. v. AMR Corp. 335 F.3d 1109, 1115-1116 (10th Cir. 2003) (“For predatory pricing cases, especially those involving allegedly predatory production increases, the ideal measure of cost would be marginal cost.”); *Cascade*, 515 F.3d. at 910 (“[P]laintiff can establish a prima facie case of predatory pricing by proving that the defendant’s prices were below average variable cost.”).

III. Predatory Bundling - The Multi Product Setting

The seller of products A and B may engage in one of three forms of bundling strategies.²⁶ *Pure bundling* occurs when two products, A & B are sold only as one package. The consumer can purchase the bundle or nothing. Airlines, for example, bundle flights with a beverage service and some pharmaceuticals offer two medicines (which cannot be bought separately) in one drug. Note that these two examples are different. While in both the consumer must purchase the bundle AB (to enjoy product A or B or both), in the drug example the consumer must consume both medicines; whereas, in the airline example the consumer can forgo (decline consuming) one product (the beverage). *Tying*, is a situation in which the consumer can purchase product A separately, but if she wishes to purchase product B (the tied product) she must purchase the package AB. *Mixed bundling* (or a bundled discount)—the focus of this article—is a situation in which the seller offers products A and B separately and a package AB at a discounted price. Examples include restaurants that offer a la carte menus as well as value menus and wireless companies that offer a discount to consumers who purchase cell-phones and wireless services.

Producers may offer a bundled discount for a number of reasons, many of which are legitimate. A bundled discount enables the seller to economize on packaging, distribution and marketing costs; enjoy economies of scope; enhance brand loyalty and avoid double marginalization.²⁷ To the consumer it offers more options (after all, in mixed bundling the consumer can always buy products A and B separately) and lower prices. Mixed bundling, however, may have some detrimental effects. It may be used by a multi-product seller to impede single-product competitors from entering the market.²⁸ Under certain circumstances, it may even affect incentives to

²⁶ For purposes of simplicity in presentation, the paper discusses a seller of two products. The model and conclusions below apply to producers of $n > 2$ products, as well.

²⁷ Daniel Crane, *Mixed Bundling, Profit, Sacrifice, and Consumer Welfare*, 55 EMORY L.J. 423 (2006); Yannis Bakos & Erik Brynjolfsson, *Bundling Information Goods: Pricing, Profits and Efficiency*, MANAGEMENT SCIENCE Dec. 1999. P. AREEDA & H. HOVENKAMP, ANTITRUST LAW 307-308 (2d ed. 2004 Supp.); Brief of Law Profs. Daniel L. Crane, et al, as Amici Curiae Supporting Reversal at 1, *Cascade v. PeaceHealth* LEXSEE 2005 U.S. 9th Cir. Briefs 35627 (April. 19, 2007) (noting that “bundled discounts are ubiquitous in our national economy and are almost *always* procompetitive” and that “care should be taken in framing liability rules for the *rare instances* where bundled discounts could be anticompetitive”)(emphasis added).

²⁸ Barry J. Nalebuff, *Bundling* (Yale Sch. Of Mgmt., Working Paper No. 99-14, 1999), available at <http://ssrn.com/abstract=185193>; Yannis Bakos & Erik Brynjolfsson, *Bundling and Competition on the Internet*, MANAGEMENT SCIENCE Jan. 2000; Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253 (2003); Bruce H. Kobayashi, *Does Economics Provide a Reliable Guide to Regulating Commodity Bundling by Firms? A Survey of the Economic Literature*, 1 J. COMPETITION L. & ECON. 707 (2005).

innovate, decreasing them for competitors of the bundler and increasing them for the bundler himself,²⁹ and cause a misallocation of resources.³⁰

Another possible detrimental effect of mixed bundling discussed in *Ortho*, is predatory bundling. In *Ortho* the products at issue were blood assays used to screen for viruses. The defendant, Abbott Laboratories, was the only company that manufactured all five of the commonly used tests. The controversy arose when Abbott offered a bundled discount that included tests in which Abbott enjoyed a monopoly with tests that Abbott sold in competition with Ortho. The additional wrinkle was that Abbott set the price of its bundle *above* its cost ($C_A + C_B < P_{AB} < P_A + P_B$). The issue before the court, therefore, was “whether a firm that enjoys a monopoly on one or more products, but which faces competition on others, can price all of its products *above* average variable cost and yet still drive an equally efficient competitor out of the market.”³¹ Based on a stylized example discussed below, the *Ortho* court answered in the affirmative. Drawing an analogy to the single product market, the court equated exclusionary behavior with predatory behavior. This equation led the court to conclude that a bundle is predatory if it is exclusionary. Specifically, the court held that to prove predatory bundling the plaintiff must show that either (1) the defendant priced the package below cost³² or (2) that regardless of price (i.e., even if the package was priced above cost), the bundled discount made it unprofitable for an equally efficient plaintiff-manufacturer to produce the competitive product.³³ Both situations, the court held, meet the Exclusionary Standard (in both situations the bundler eliminates efficient competitors) and thus equally merit condemnation.

The *Ortho* test suffers from a number of limitations.³⁴ First, it provides no guidance to the multi-product seller who considers offering an above cost bundled-discount. Under the second prong of the *Ortho* test, the multi-product seller must determine whether the bundle will make it

²⁹ Yannis Bakos & Erik Brynjolfsson, *supra* note 28 at 2.

³⁰ *See infra* note 61.

³¹ *Ortho*, 920 F. Supp. at 467.

³² The first prong of the *Ortho* test compares the aggregate (average) cost of the bundle to the bundle’s price. For example, if the average cost to produce the bundle AB is \$10, but the bundle is offered at a discounted price of \$8, it should be deemed exclusionary ($P_{AB} < C_{AB}$). This “aggregate discount” rule was explicitly rejected by the *Cascade* court. 515 F.3d at 914.

³³ *Ortho*, 920 F. Supp. at 468.

³⁴ These limitations are discussed in *Cascade*, 515 F.3d at 915-916. *See also* U.S. FED.L TRADE COMM’N AND U.S. DEPT. OF JUSTICE, SHERMAN ACT SECTION 2 JOINT HEARING UNDERSTANDING SINGLE-FIRM BEHAVIOR: LOYALTY DISCOUNTS SESSION 27-37 (Nov. 29, 2006), *available at* <http://www.ftc.gov/os/sectiontwohearings/docs/transcripts/transcript-11-29-06.pdf>(last visited Mar. 6, 2009)(Professor Lambert noting that “the Ortho Diagnostic example is a good example” and finding that the *Ortho* exclusionary standard is “a great rule in theory but...a very difficult rule to administrate” and one that may be “underdeterrent because plaintiffs are going to have a hard time wining these cases” and offering a per se rule instead).

unprofitable for an equally efficient seller to manufacture the competitive product. Thus, the multi-product seller must know its rival's manufacturing costs—highly confidential information that is rarely publicly available. Second, and related, the *Ortho* test encourages wasteful litigation. It requires multiple suits to determine the legality of one bundled discount. To illustrate, assume that a monopolist of product A competes with three sellers on the production of product B. Assume further that the monopolist can manufacture product B at a cost of $C_{MB} = \$10$ per unit, and that the three competing sellers can manufacture the same at a cost of $C_1 = \$12$, $C_2 = \$11$ and $C_3 = \$9$. Unaware of each other's cost, a competitor may sue the monopolist if the latter offers the bundle AB at a discounted price ($P_{AB} < P_A + P_B$). Seller 1's suit will be dismissed because it is not as efficient as the monopolist in the production of product B ($C_{MB} < C_1$). A similar suit filed by seller 2 will be dismissed for the same reason. Only seller 3 would be able to challenge the bundle successfully ($C_{MB} > C_3$).

A different version of the Exclusionary Standard was adopted by the Third Circuit in *LePage's v. 3M*.³⁵ At issue in *LePage's* was a bundled discount that 3M offered consumers which included a product in which 3M enjoyed a monopoly position, as well as other products that LePage's did not manufacture.³⁶ LePage's could not offer the same discount simply because it was not a multi-product manufacturer. In fact, LePage's was not even as efficient as 3M in the provision of the competitive product.³⁷ LePage's brought a suit arguing that 3M's use of the bundled discount excluded it from the one market in which both competed. 3M did not deny that it bundled its monopolized product with other products or that the bundle had an exclusionary effect. Rather, 3M argued that the bundle was

³⁵ 324 F.3d 141.

³⁶ Both the plaintiff, LePage's, and the defendant, 3M, competed in the market for transparent tape which included both branded and private label tape (i.e., tape sold under the retailer's name). LePage's quickly became a major seller of private label tape but it remained a small seller in the entire market of transparent tape, over which 3M, the manufacturer of Scotch tape, enjoyed historically significant market power. Unlike LePage's, however, in addition to transparent tape, 3M offered other products lines. These product lines (in which 3M did not possess market power) included health care products, home care products, home improvement products, stationary product including transparent tape, retail auto products and leisure time products. 3M's bundle offered progressively higher discounts (in the form of rebates) when customers increased purchases across 3M's different product lines—discounts LePage's could not offer because it did not sell the same diverse product line as 3M. For a detailed review of the facts in *LePage's*, see Daniel L. Rubinfeld, *3M's Bundled Rebates: An Economic Perspective*, 72 U. CHI. L. REV. 243, 243-252 and the references in n. 4; Nalebuff, *Exclusionary Bundling*, *supra* note 11, at 358-64.

³⁷ LePage's economist testified that LePage's was not as efficient a tape producer as 3M. See *id.* at 175 (Greenburg, J., dissenting) (noting that LePage's argued "that it does not have to show that 3M's package discounts could prevent an equally efficient firm from matching or beating 3M's package discounts").

legal because it was never priced below cost.³⁸ In affirming the jury verdict, the Third Circuit held that “a monopolist will be found to violate Section 2 of the Sherman Act if it engaged in exclusionary conduct” without “a valid business justification.”³⁹ It concluded that 3M’s bundle was anticompetitive because a “monopolist [like 3M] may foreclose portions of the market to a potential competitor who does not manufacture an equally diverse group of products and who therefore cannot make a comparable offer.”⁴⁰ 3M’s gravamen, according to the court, was the linking of a product in which the seller had a monopoly with products on which it faced competition.⁴¹

The *LePage’s* standard was widely criticized by the Antitrust Modernization Committee (AMC)—a bipartisan committee created by Congress to examine the need to revise antitrust laws.⁴² As the AMC noted, the main problem with the *LePage’s* test is that it does not investigate whether a bundled discount is pro-competitive. Instead it simply declares that all bundled discounts offered by a monopolist are anticompetitive with respect to competitors who do not manufacture an equally diverse line of products.⁴³ Moreover, under the *LePage’s* per-se like test, the jury may conclude from the market structure alone that a bundle is “anti-competitive” even if the plaintiff was not as efficient as the defendant-bundler. Put differently, the *LePage’s* test may in fact protect a less efficient competitor (as *LePage’s* admitted to be).⁴⁴

The legality of a bundled discount was discussed more recently by the Ninth Circuit.⁴⁵ In *Cascade*, the defendant and plaintiff were the only providers of hospital care in Lane County, Oregon. Defendant held a monopoly over the provision of tertiary health care services, but competed

³⁸ *Id.* at 147 (“When asked whether its theory is that because no one contended that 3M sold below its cost, that is ‘the end of the story,’ its counsel responded, ‘with the exception of the inconsequential express contract, absolutely.’”); *id.* at 155 (noting that 3M’s central premise was that “it is not unlawful to lower one’s prices so long as they remain above cost”).

³⁹ *Id.* at 152. See also *id.* at 164. (“[A] business justification is valid if it relates directly or indirectly to the enhancement of consumer welfare.”).

⁴⁰ *Id.* at 155.

⁴¹ *Id.* at 156.

⁴² The AMC was created by the Antitrust Modernization Commission Act of 2002, Pub. L. No. 107-273, §§ 11051-60, 116 Stat. 1758, 1856-59.

⁴³ See ANTITRUST MODERNIZATION COMM’N, REPORT AND RECOMMENDATIONS, *supra* note 7, at 97.

⁴⁴ The AMC proposed the following three-part test to determine whether a bundled discount is in violation of the antitrust laws: “To prove a violation of *Section 2*, a plaintiff should be required to show each one of the following elements: (1) after allocating all discounts and rebates attributable to the entire bundle of products to the competitive product, the defendant sold the competitive product below its incremental cost for the competitive product; (2) the defendant is likely to recoup these short-term losses; and (3) the bundled discount or rebate program has had or is likely to have an adverse effect on competition.” *Id.* at 99.

⁴⁵ *Cascade*, 515 F.3d at 894.

with the plaintiff in primary and secondary acute care hospital services. At issue was defendant's bundled discount that offered insurers that made the defendant their sole preferred provider for all services: primary, secondary and tertiary—a package the plaintiff could not compete with. The district court based its jury instruction on the Third Circuit's en banc decision in *LePage's*. The instructions did not require the jury to consider whether the defendant priced the bundle below cost. Instead, the district court instructed the jury that a bundled discount is anti-competitive if, when offered by a monopolist, it forecloses the market to a competitor who does not provide the same diverse product line (and thus cannot make a comparable offer).⁴⁶ The Ninth Circuit agreed with *LePage's* basic assertion that “the primary anticompetitive danger posed by a multi-product bundled discount is that [it] can exclude a rival who is equally efficient.”⁴⁷ Yet, it declined to adopt *LePage's* test. Market structure analysis, the court noted, cannot provide guidance as to whether a bundle reduces or increases consumer welfare – a primary goal of antitrust law.⁴⁸ It thus adopted a below-cost measure. A bundled discount, the court held, cannot be deemed “exclusionary” unless the bundle is priced below an appropriate measure of the defendant's cost.⁴⁹ Under *Cascade's* so called “discount attribution” test (and the AMC test), the court attributes the bundle's discount to the competitive product. If the effective price of the competitive product is below the bundler's cost to produce it, the bundle is considered exclusionary. The court explained that “this requirement ensures that the only bundled discounts condemned as exclusionary are those that would exclude an equally efficient producer of the competitive product or products.”⁵⁰

Part IV below explains how this test is applied. It also proves that in adopting the “discount attribution” standard, the *Cascade* court relied on a stylized example and a monopoly leveraging theory that Part IV proves to be wrong. Part V(b) shows that the *Cascade*-AMC test is also over inclusive, thus creating a substantial risk of false positives (mistakenly condemning pro-competitive conducts). If applied strictly, it will undoubtedly subject pro-competitive bundling schemes to unnecessary and costly scrutiny. Moreover, this article questions the very premise on which *Cascade*, *LePage's* and *Ortho* rely. It argues that, in the bundling context, excluding a more efficient competitor can be welfare enhancing and often does not merit condemnation.

⁴⁶ *Id.* at 909.

⁴⁷ *Id.*

⁴⁸ *Id.* at 913.

⁴⁹ *Id.* at 914.

⁵⁰ *Id.* at 919.

IV. The Ortho-AMC-Cascade Fallacy

A. The Ortho—Cascade Example

As noted above, recent decisions have held that bundling can be considered predatory even if the seller has sold its products above cost (marginal or average). Specifically, these decisions argue that a firm which enjoys a monopoly over one product but also manufactures and competes in the market of another product, may be able to drive more efficient competitors from the market by offering bundled discounts. To show how an above-cost bundle can exclude equally or more efficient competitors, the *Ortho* and *Cascade* courts provided the following example.⁵¹ Assume that a seller enjoys a monopoly over the production of conditioners but competes with other sellers in the shampoo market. The monopolist's cost to manufacture shampoo and conditioner is \$1.50 and \$2.50 respectively. Competitors are more efficient than the monopolist in the production of shampoo. They can manufacture the same unit of shampoo at a cost of \$1.25. The market price for shampoos and conditioners is \$3 and \$5 respectively, and each consumer is assumed to need both products. In addition, the monopolist offers a bundled discount to consumers who purchase both a shampoo and a conditioner. Assume further that consumers who purchase both products from the monopolist will pay only \$5.25 (\$2.25 for a shampoo instead of \$3 and \$3 for the conditioner instead of \$5). Put differently, the bundle represents a discount of \$2.75 (8-5.25). The Monopolist's and competitors' costs and the market prices are summarized in Table 1 below.

⁵¹ See *Ortho*, 920 F. Supp. at 467; *Cascade*, 515 F.3d at 896-97 (9th Cir. 2008) (citing the *Ortho* example to prove that a multi-product monopolist, regardless of whether it engages in below cost pricing, can use bundled discounts to exclude equally efficient competitors who do not offer as great a number of product lines); *Meijer, Inc. v. Abbott Laboratories*, 544 F.Supp.2d 995, 1000-1001 (N.D. Cal. 2008) (citing the *Ortho* example to show that "a bundled discounter can exclude rivals who do not sell as great a number of product lines without pricing its products below its cost to produce them"); *Ramallo Bros. Printing, Inc. v. El Dia, Inc.*, 392 F. Supp. 2d 118, 138 (D.P.R. 2005) (citing *Ortho* to support its holding that a plaintiff must prove that the defendant's bundled discount makes it impossible for the plaintiff to compete); and *Virgin Airline Airways Ltd. v. British Airways PLC*, 257 F.3d 256, 272-273 (2nd Cir. 2001) (citing *Ortho* to suggest that Section 2 recognizes a claim against predatory bundling if it excludes an equally or more efficient competitor); U.S. DEP'T OF JUSTICE, *COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 96* (2008); Brief of Law Profs. Daniel L. Crane, et al., *supra* note 27, at 9-10) (noting that the much-cited and discussed example from *Ortho* illustrates how a bundled discount could be used to exclude an equally efficient competitor); Thomas Lambert, *Evaluating Bundled Discounts*, 89 MINN. L. REV. 1688, 1696 (discussing the *Ortho* example with approval).

	Monopolist's average cost	Competitors' average cost	Market Price
Conditioner (monopolized market)	\$2.50	N/A	\$5
Shampoo (competitive market)	\$1.50	\$1.25	\$3
The Bundle	\$4		\$5.25

Table 1: Summary of the Conditioner and Shampoo Market Data

The bundle's price of \$5.25 is above the monopolist's total cost of \$4 (2.5+1.5) and it yields a profit of \$1.25 (5.25-4). According to the *Ortho* analysis, the *above-cost bundle* will drive the more efficient competitors out of the Shampoo market. The argument is that when offered the choice between (a) buying a conditioner and a shampoo separately for \$8 (5+3) or (b) purchasing the same in a bundle for \$5.25, a consumer will of course prefer the bundle. The result is that competitors that can manufacture the shampoo at a lower cost (\$1.25 compared to the monopolist cost of \$1.50) will be excluded from the market. To compete in the shampoo market, a competitor must sell its shampoo at a price of \$0.25, in which case the consumer would be indifferent between (a) purchasing a shampoo for \$0.25 and a conditioner for \$5, or (b) purchasing the bundle for \$5.25. The competitors, however, cannot offer the shampoo for \$0.25 because such a price is below their cost (\$1.25). The result is that the Monopolist is able to exclude more efficient competitors.

The bundle will also be declared illegal under the *Cascade* and AMC tests. Under the "discount attribution" test, "the full amount of the discounts given by the defendant on the bundle is allocated to the competitive product or products. If the resulting price of the competitive product or products is below the defendant's incremental cost to produce them, the trier of fact may find that the bundled discount is exclusionary for the purpose of *Section 2*."⁵² Applying the *Cascade* test to the example, the court will subtract the entire discount on the package, \$2.75 (8-5.25), from the separate per unit price of the competitive product, shampoo, \$3. The resulting effective price of shampoo is thus \$0.25 (3-2.75), which is below the monopolist's incremental cost of producing shampoo (\$1.50). Because the monopolist's effective price of the shampoo (\$0.25) is below cost (\$1.50), the bundle is considered to be exclusionary (it excludes those who can manufacture shampoo at \$1.25) and, hence, predatory.

⁵² *Cascade*, 515 F.3d at 916.

B. The Exclusionary Standard Re-Examined

The *Cascade-Ortho* (and AMC) argument is unpersuasive to say the least. In fact, you may note that the Monopolist is actually losing money if it chooses to bundle. The monopolist can enjoy a markup of \$4—\$2.50 (5-2.50) for the conditioner and \$1.5 (3-1.50) for the shampoo—if it sells both products separately, but it can only profit \$1.25 (5.25-4) from selling the bundle. Of course, if the monopolist competes with others in the market for shampoos, the consumer may purchase the shampoo from other competitors. But even in such a case, even if the monopolist sells only the monopolized product (the conditioner), it will enjoy a profit of \$2.50 (5-2.50), which is still well above its profit from selling the bundle (\$1.25).

Thus the *Cascade* court's claim that "a bundled discount can achieve exclusion *without* sacrificing short-run profits" is erroneous.⁵³ The court's own example proves this statement false. A bundle will yield a profit of only \$1.25, whereas the unbundled products will yield a profit of at least \$2.50 (if it sells only the conditioner), and at most \$4 (if it sells the conditioner and the shampoo). Thus, the bundled discount results in both short-term and long-term profit losses.

Both the *Cascade* and *Ortho* courts fail to explain why a rational monopolist, whose sole concern is rent seeking and wealth maximization, would choose to bundle when bundling is clearly a losing strategy. One explanation is that such a behavior is reasonable when there are high barriers to entry. After all, if entry to the market is difficult, the monopolist can increase prices once its competitors are excluded from the market in order to extract the entire consumer surplus without fearing that the high prices would attract new entrants. An alternative explanation is that even if the shampoo market has low barriers to entry (in which case an increase in the price of shampoo would attract competitors), bundling can still be a successful exclusionary strategy if the monopolist offers the bundle each time it faces competition. In the latter case, potential competitors—aware of the monopolist's repeating behavior—would be deterred from entering the market of shampoo *ex-ante*, thus allowing the monopolist to extend its monopoly power.

Yet one important puzzle still remains. If consumers must use shampoo and conditioners in conjunction, then the monopolist can extract the entire consumer surplus by simply setting the right price for the monopolized product: the conditioner. For example, if the consumer is willing to pay (WTP) a total of \$12 for a shampoo and a conditioner, the monopolist can simply offer its conditioner for \$10.75 and enjoy a profit of \$8.25 (10.75-2.5). The consumer would then be able to purchase shampoo at a price of \$1.25 from the efficient sellers. If on the other hand the monopolist is able to take over the shampoo and conditioner markets, the

⁵³ *Id.* at 907 (emphasis added).

monopolist would charge the consumer \$12, incur a cost of \$4 and enjoy a profit of only \$8. Put differently, the monopolist has no interest in monopolizing the shampoo market even if monopolization is feasible. To show the weakness of the *Cascade-Ortho* example, even if offered or forced to “legally” monopolize the shampoo market, a rational monopolist would refuse and in fact challenge such a decision.

It should be noted that the argument advanced in this section is *not* that “monopoly leveraging” is infeasible – it often is.⁵⁴ Rather, the argument made here is that the *Cascade-Ortho* example fails to prove the one point it purports to demonstrate: that above cost bundling is exclusionary and anticompetitive. Indeed, without a more sophisticated story (absent in the *Ortho-Cascade* example) there is only one monopoly profit to realize and the monopolist does not need, nor can it use, a bundle to realize more than that profit.⁵⁵

⁵⁴ In fact, the example in Part V(b)(1) can be viewed as a form of monopoly leveraging (showing how a bundle allows a multi-seller product to exclude more efficient competitors while increasing its profits). Leveraging theories, it should be noted, have been subject to much debate. Celebrated proponents of the one monopoly theory include Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281 (1956); George J. Stigler, *United States v. Loew's Inc.: A Note on Block-Booking*, 1963 SUP. CT. REV. 152, 152-3 (1963); ROBERT H. BORK, THE ANTITRUST PARADOX 373-81 (1978). Recent scholarship has challenged the single monopoly profit as being premised on simplistic assumptions which the *Ortho* example seems to satisfy. *See infra* note 55. For a discussion of possible viable anticompetitive effects of bundling and situations that may give rise to “Post Chicago School of Thought” leveraging theories, see Einer Elhauge, *Tying, Bundled Discounts and the Death of the Single Monopoly Profit Theory*, 123 HARV. L. REV. (forthcoming Dec. 2009) at p. 4-5 (available at SSRN: <http://ssrn.com/abstract=1345239>) (showing that the single monopoly profit theory is valid only when certain assumptions hold); Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at p. 2, 18 (showing how bundling can enable leveraging, but noting that under certain conditions “leverage does not lead to higher profits”); Barry J. Nalebuff, *Bundling as an Entry Barrier*, 119 Q. J. ECON. 159 (2004) (showing that a multi-product seller that enjoys market power in two goods can bundle them together to make it harder for single producer manufacturers to enter the market without reducing the products’ prices); Brief of Professor Barry Nalebuff et al. as Amici Curiae Supporting Respondents at 26–28, *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, 545 U.S. 1127 (No. 04-1329), 2005 WL 2427646, at *2-4, *10-19. David Evans & Michael Salinger, *Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law*, 22 YAL. J. ON REG. 37, 39-40 (2005); Einer Elhauge, *Defining Better Monopolization Standards*, 56 STANFORD L. REV. 253, 320 (2003); Eric Rasmusen, Mark Ramseyer & John Shepard Wiley, *Naked Exclusion*, 81 AMER. ECON. REV. 1137 (1991); Louis Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515, 515 (1985) (discussing the monopoly leverage debate); Frank Easterbrook, *The Chicago School and Exclusionary Conduct*, 31 HARVARD JOURNAL OF LAW & PUBLIC POLICY 339, 441 (2009).

⁵⁵ In fact, the *Cascade-Ortho* example seems to meet the conditions of single monopoly profits discussed by Einer Elhauge in *Tying, Bundled Discounts and the Death of the Single Monopoly Profit Theory*, *supra* note 54, at p. 5 and Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at 10-12, 18. Note also that although the monopolist can merge or cause a more efficient seller to “merge” with it, such a merger will not help the monopolist when more efficient sellers can still enter the market.

The *Ortho*, *LePage's* and *Cascade* decisions fail to offer a reasonable explanation for a monopolist's decision to use a bundle in order to extend its monopoly power to other markets. The example they rely upon proves their own arguments wrong: Even if bundled discounts can be used to exclude a more efficient competitor, it still remains unclear why a rational monopolist would do so.

Moreover, as will be shown below, the legal standards enunciated by these decisions may find a behavior predatory, and thus illegal, even when such behavior is clearly pro-competitive. The examples provided in Part V(b) below show that a behavior that increases output, and enhances total welfare may be declared illegal.

V. PREDATORY BUNDLING CAN ENHANCE WELFARE

A. A Bundled Discount and Price Discrimination

If a seller loses money by bundling a product over which it enjoys a monopoly with a product in which it faces competition (as the *Cascade-Ortho* Fallacy demonstrates), why would a monopolist ever bundle? This section seeks to answer this question. It shows that the monopolist can use a bundle to discriminate between high value and low value consumers of the monopolized product.⁵⁶

The monopolist can extract the entire consumer surplus if it sets the price of its product at the level of the consumers' reservation price. The following example is illustrative. Assume that the cost to manufacture product A is \$1 and that there are two consumers. Consumer 1 is willing to pay \$4 for the widget, whereas Consumer 2 is only willing to pay \$2. If the monopolist knows each consumer's reservation price (and arbitrage is impossible) it would charge the high value consumer \$4 and the low value consumer \$2, realizing a profit of \$4 (6-2). Such "perfect" (often referred to as "first degree") price discrimination, however, is often infeasible. The monopolist cannot price discriminate between different consumers simply because it cannot distinguish between the different types of consumers. The seller often knows that there are two types of consumers (the high value and the low value), but is unable to identify the reservation price of each. A computer manufacturer, for example, knows that a business consumer is willing to pay more than a home user, but it may not be able to tell whether a specific consumer is a home or business user. In the example above, the monopolist does not know whether a specific buyer resembles Consumer 1 or Consumer 2. The monopolist has thus two options: it can either (a) set a

⁵⁶ Of course there are other reasons to bundle, some of which may result in anticompetitive effects. See *supra* note 54. Moreover, it is important to note that price discrimination can be welfare enhancing, reducing or neutral. See *infra* note 69 and accompanying text.

price of \$2 in which case it would sell two units (one to each consumer) and make a profit of \$2 (2+2-1-1); or (b) it can set a price of \$4 in which case it would sell only one unit to Consumer 1 and make a profit of \$3 (4-1). Faced with these options, the monopolist's decision is quite easy. To maximize its profit the monopolist would only sell one unit to Consumer 1 at a price of \$4.

Excluding Consumer 2 from the market for product A represents a loss to society, often referred to as a deadweight loss (DWL). Consumer 2, who is willing to purchase product A, if offered at the \$1 marginal cost of production, will not be willing to purchase it at the monopoly price of \$4. *To the monopolist, the DWL in Figure 1(below) represents a loss of opportunity.* It is a forgone surplus that the monopoly cannot harvest simply because it cannot distinguish between Consumer 1 and Consumer 2.

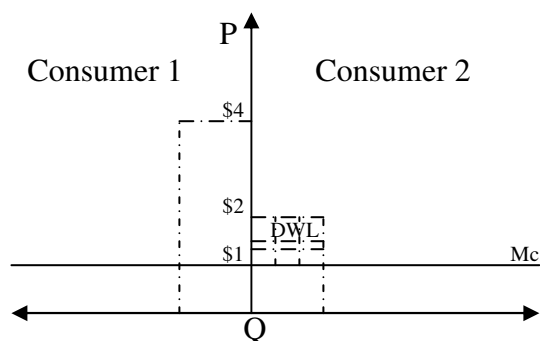


Figure 1: The Monopolist's Dilemma Where Price Discrimination is Impossible

Of course if the monopolist enjoys a monopoly in *two* products, the DWL can be even greater because some consumers may be excluded from both markets. The multi-product monopolist, however, enjoys (at least) one advantage over the single-product monopolist: *It can recapture some or all of the DWL by using a bundle.* Consider the following. Assume that a seller enjoys a monopoly in products A and B and that the (marginal) cost of production and the consumers' reservation price are described in Table 2 below:

	Marginal Cost	Consumer 1	Consumer 2
Product A	\$1	\$4	\$2
Product B	\$2	\$3	\$5
Bundle AB	\$3	\$7	\$7

Table 2: Consumers' Reservation Price for Products A and B and the Bundle AB

If the multi-product monopolist offers each product separately, it will sell product A for \$4 and product B for \$5.⁵⁷ Under this pricing scheme, Consumer 1 will purchase one unit of product A, Consumer 2 will purchase one unit of product B and the monopolist will make a profit of \$6 (4-1 + 5-2). Compared to full competition, monopoly pricing creates a DWL of \$2 (2-1 + 3-2). In full competition, sellers will offer their product at the marginal cost of production and make no profits. Consumer 1 would enjoy a surplus of \$3 (4-1) from purchasing product A and a surplus of \$1 (3-2) from purchasing product B. Consumer 2 would enjoy a surplus of \$1 (2-1) from purchasing product A and a surplus of \$3 (5-2) from purchasing product B. A competitive market would have therefore yielded a total surplus of \$8, \$2 more than monopoly pricing.

Instead of selling products A and B separately, the multi-product monopolist could increase its profits if it offered consumers the bundle AB at a discounted price of \$7 (representing a \$2 (4+5-7) discount). Both Consumer 1 and Consumer 2 would purchase the bundle because their reservation price would be equal to the cost of the bundle, allowing the seller to realize a profit of \$8 (14-6). The interesting result is that pure bundling (offering product AB together) can enable the monopolist to harvest the \$2 DWL that individual monopoly pricing created. In fact, in our example, pure bundling yields the same results that a competitive market would yield. In both situations four units would be produced (two units of product A and two units from product B) and total surplus would be the same: \$8. Pure bundling in this example, therefore, is a desirable strategy. It is a market mechanism that, in some situations, can remedy the very “unavoidable” ills of monopoly pricing.

	Output A	Output B	C1's welfare	C2's welfare	Ms' welfare	Total welfare
Competition	2	2	4	4	0	8
Monopoly	1	1	0	0	6	6
Pure Bundling	2	2	0	0	8	8

Table 3: Comparison of Monopoly Pricing to Pure Bundling and Competition

Selling the bundle AB is more profitable than selling each product separately (\$8 as opposed to \$6) because the bundle enables the seller to discriminate between consumers. Each consumer pays a different price for

⁵⁷ If the monopolist sells product A for \$2, it will sell 2 units and make a profit of \$2 (2+2-1-1). However, if the monopolist sets the price for product A at \$4, it will sell only one unit but will profit \$3 (4-1). Similarly, if the monopolist sets the price for product B at \$3, it will sell 2 units but only make a profit of \$2 (3+3-2-2), compared to a profit of \$3 if it charges \$5 (5-2).

the products in the bundle. Consumer 1 is paying \$4 for product A and \$3 for product B, while consumer 2 pays \$2 for product A and \$5 for product B. It is only the aggregate price of the bundle (\$7) which is the same. Thus, although the monopolist charges each consumer the same price for the same bundle, each consumer is paying a different price for its components.

The bundle AB increases the monopolist's profits, because by price discriminating between the two consumers the seller is able to harvest the DWL that would have occurred absent price discrimination. From the economist's standpoint, the bundle is "efficient" because it enhances total welfare and increases output (from 2 units to 4 units).⁵⁸

Figure 2(a) and 2(b) (below) build on the Adams and Yellen model to provide a graphical representation of these pricing schemes and their implications.⁵⁹ On the axes are the reservation prices of the consumers. For example, points C1 and C2 represent Consumer 1 and 2 respectively. If the monopolist charges \$4 for product A and \$5 for product B, consumers could be divided into 4 groups. Consumers located in quadrant I in Figure 2(a) would purchase only product A because they value product A more than \$4, but they value product B less than \$5. Consumers in quadrant IV would purchase only product B. Consumers in quadrant III would not purchase any of the products (their reservation price is lower than the monopoly prices charged for A and B); and consumers in quadrant II would purchase both products.

Compared to full competition, monopoly pricing creates a DWL: Consumers in quadrant III, those who value products A and B more than the marginal cost to manufacture these products, will not purchase either Product A or Product B at supra competitive prices (denoted by the area in dark gray); In addition, consumers in quadrant I and IV who value product

⁵⁸ Whether the goal of antitrust laws is to increase total welfare or focus solely (or mainly) on consumer welfare is, however, subject to debate. See Gabriel Feldman, *The Misuse of the Less Restrictive Alternative Inquiry in Rule of Reason Analysis*, 58 AMULR 562, 574 n. 66 (2009) ("The only real consensus is that there is no consensus regarding the definition of competition and the goals of antitrust law."); Robert H. Bork, *The Antitrust Paradox. A Policy at War with Itself* (New York: Basic Books, 1978), 72-74 (arguing that the appropriate goal of antitrust law is the maximization of total welfare); Herbert Hovenkamp, *Distributive Justice and the Antitrust Laws*, 51 GEO. WASH. L. REV. 1 (1982) (discussing the various alternative policy goals for antitrust law and concluding that total welfare is the appropriate goal). But see Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 50 HASTINGS L.J. 871, 876 (1999) (arguing that "antitrust laws embody a strong preference for consumers over firms with market power"); Thomas O. Barnett, *Substantial Lessening of Competition--The Section 7 Standard*, 2005 COLUM. BUS. L. REV. 293, 295-96 (noting that "one critical development during the last thirty years of antitrust enforcement has been the consensus that antitrust should focus on consumer welfare").

⁵⁹ William James Adams & Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Q. J. ECON. 475 (Aug. 1976) (extending George J. Stigler, *United States v. Loew's Inc.: A Note on Block-Booking*, 1963 SUP. CT. REV. 152 (1963)). For a survey of the literature, see Bruce H. Kobayashi, *A Survey of the Economic Literature*, *supra* note 28.

B and A (respectively) more than their cost would have to reduce their consumption (denoted by the area in light gray). If the monopolist offers the bundle AB, however, consumers located on the right of the line BD would be able to purchase the bundle.⁶⁰ This means that consumers located in the area CHI, those who would not purchase Product A or Product B at monopoly prices (they are located in area III), as well as those consumers who would purchase only one product (e.g., consumers located in the area GBCHK in quadrant I and those located in area JHIDF in quadrant IV) would be able to purchase both if the monopolist offered the bundle AB.

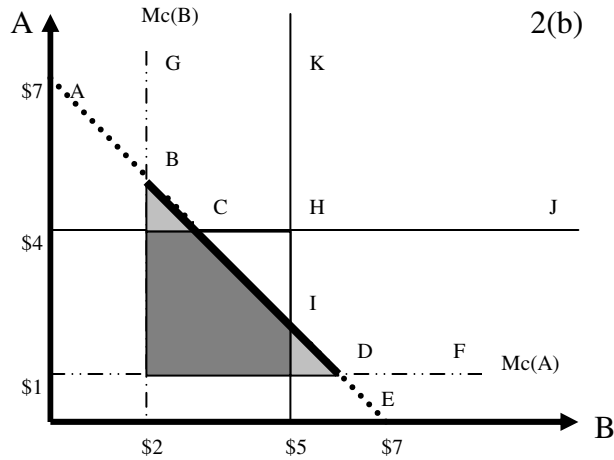
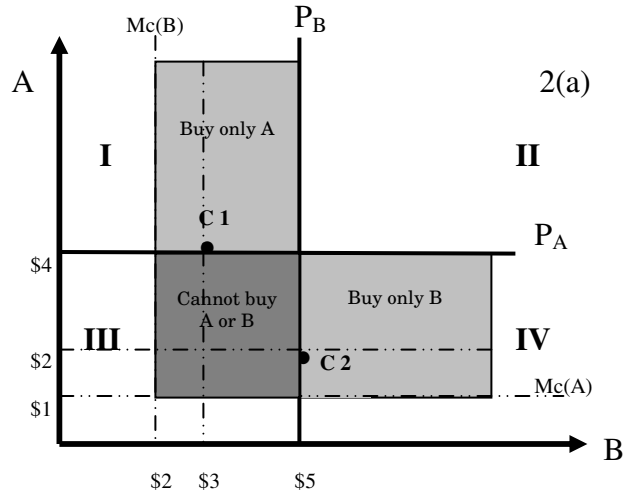


Figure 2: Monopoly Pricing v. Pure Bundling

⁶⁰ In some circumstances, mixed bundling can be even more profitable to the multi-product seller than pure bundling. Because this article focuses on mixed bundling in the competitive setting, the discussion on mixed bundling is deferred until *infra* Part IV(B).

The bundle in our example therefore has a welfare enhancing effect. It enables the monopolist to capture more of the consumers' surplus and thus reduce some of the DWL created by monopoly pricing.⁶¹

B. The Exclusionary Effect of Bundled Discounts

In the previous section, the multi-product seller enjoyed a monopoly in both products. The monopolist used a *pure bundling* strategy, offering consumers products A and B in a package only. Consumers who wanted to purchase only one of the products had to purchase both. Focusing on this form of bundling as a mechanism to price discriminate, the prior literature, has argued that bundling is very similar to tying.⁶² The model set forth below, however, focuses on *mixed bundling* and is fundamentally different. Unlike pure bundling, a mixed bundling strategy does not aggregate consumer values across products. Instead, consumers must choose whether to purchase product A, B or both at a discount. It is this consumer's "choice," absent in tying and pure bundling practices, that enables the seller to sort consumers and discriminate between high value and low value consumers of a specific product in the bundle. As the examples below demonstrate, a multi-product seller may have a legitimate business justification for offering an exclusionary bundle or pricing a product in the bundle below cost, if that product enables the seller to discriminate between consumer and extract additional surplus.

To show this, this section extends the analysis to a setting in which the multi-product seller enjoys a monopoly only in one product, A, but *competes* with others for the second product, B. It shows that the multi-product seller will often have a legitimate business reason to manufacture the competitive product, A (or purchase it from other manufacturers) and bundle it together with the monopolized product, B, even when such

⁶¹ Note that the bundle may also have a coercive and detrimental effect. Assume for example that Consumer 3 is willing to pay \$6 for product A and \$1 for product B. If the seller decides to sell each product separately, it will sell 2 units of product A at \$4 and one unit of product B at \$5, allowing it to realize a profit of \$9. If instead it offers only the bundle AB at the discounted price of \$7, it will sell 3 bundles and realize a profit of \$12 (7x3-3x3). The increase in output (from 3 units of A and one unit of product B to 3 units of A and 3 units of B), however, is inefficient for two reasons. First, it coerced Consumer 3 who was not interested in purchasing product B, not even at the marginal cost of production, to purchase it as part of the bundle. In this aspect, the bundle is similar to the coercive effect of tying. Second, and related, because Consumer 3 values product B less than the cost to produce that unit, the bundle leads to an inefficient allocation of resources. Although this article recognizes that bundling can lead to inefficiencies, it focuses on the benefits that bundling can confer to producers and society at large. Graphically, bundles offered to consumers on the dotted part of the line AE represent inefficient bundles.

⁶² RICHARD POSNER, ANTITRUST LAW 235 (2nd Ed. 2001) ("Bundling is analytically similar to tying.") (citing Adams and Yellen, *supra* note 6; Daniel Crane, *Mixed Bundling, Profit, Sacrifice, and Consumer Welfare*, 55 EMORY L.J. 423, 425 (2006) ("Bundling discounting is similar in many ways to 'tying' of two separate products.")).

behavior has an exclusionary effect, and even when the bundle is below a measure of cost.

This article is related to models proposed by Nalebuff and Greenlee in that it analyzes a multi-product seller that enjoys a monopoly in one market and competes in another on the sale of the second product.⁶³ Also, like Nalebuff and Greenlee, it shows that exclusionary bundles can be desirable. The model, however, differs from the prior literature in a number of important aspects. First, Nalebuff's and Greenlee models are premised on the assumption that neither product can be priced below cost.⁶⁴ Nalebuff shows that a bundler can increase its profits by pricing the monopolized product above cost but below monopoly price, while at the same time increasing the price of the competitive product.⁶⁵ The model advanced in this article relaxes Nalebuff's assumption. It shows that the seller can increase its profits (from the sale of the monopolized product) and consumers' welfare by pricing the competitive product below cost.

Second, in Professor Nalebuff's model "the source of the gain is neither extraction of consumer surplus nor price discrimination."⁶⁶ Indeed

⁶³ Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8; Greenlee et al., *supra* note 8.

⁶⁴ Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at p. 13 (this is Professor Nalebuff's first assumption - as he notes, "the result relies only on the assumption that the monopolist would like to charge more than c for the competitive good); Greenlee et al., *supra* note 8, at p. 1135-36; See also Bruce H. Kobayashi, *A Survey of the Economic Literature*, *supra* note 28. For this reason the model in this paper is also different than that of R. Preston McAfee, John McMillan & Michael D. Whinston, *Multiproduct Monopoly, Commodity Bundling, and Correlation of Values*, 104 Q.J. ECON. 371 (1989). In discussing their model, Nalebuff notes that "if $P_b=c$, the incremental sales would be at a loss and there is no advantage to bundling. McAfee et al. shows the general advantage of bundled pricing for all cases *except* where B [the competitive product] is sold in a competitive market"(emphasis added). *Id.* at 6-7. In two recent articles Herbert Hovenkamp and Erik Hovenkamp also concluded that certain above cost bundles while exclusionary can be welfare enhancing. See Herbert Hovenkamp and Erik Hovenkamp, *Exclusionary Bundled Discount and The Antitrust Modernization Commission*, 53 Antitrust Bull. 517 (concluding that "the attribution test... is unreliable and yields false positives in the presence of joint costs or economies of scope") and Herbert Hovenkamp and Erik Hovenkamp, *Complex Bundled Discounts and Antitrust Policy*. U Iowa Legal Studies Research Paper No. 09-07 at *25 available at: <http://ssrn.com/abstract=1344536> (focusing on complex bundles and noting that the Discount Attribution test "produces very severe false positives and should be regarded as nothing more than a starting point for analysis").

⁶⁵ Assuming the price for the monopolized product X is m and the price for the competitive price of product Y is c , the monopolist in Nalebuff's model can maximize profits by selling product A at a discount of $(m-e)$ and product B at a premium of $(c+l)$. Barry J. Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at 11.

⁶⁶ Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at 4 (devising a model in which "the source of the gain is neither the extraction of consumers' surplus nor price discrimination); See also Nalebuff, *Exclusionary Bundling*, *supra* note 11, at 341 (noting that "while bundling for the purpose of price discrimination is an interesting theoretical possibility, it may be of limited relevance to the bundling cases seen in the courts."). Kobayashi, *A Survey of the Economic Literature*, *supra* note 28, provides the

Nalebuff downplays the importance of bundling as a price discrimination device.⁶⁷ This article, however, builds on the literature of bundling as a discriminatory mechanism. A key insight is that the multi-product seller can use bundling as a sorting mechanism to recapture some of the DWL caused by monopoly pricing and increase its profits from the monopolized product. Specifically, this section uses four stylized examples to show that by making a choice between purchasing the monopolized product A, the competitive product B or the bundle AB, the consumer reveals its reservation price regarding the monopolized product and enables the monopolist to price discriminate between low value and high value consumers.⁶⁸

To be sure, the argument advanced in this article is not that bundling can only be used to discriminate between consumers or that bundling (or price discrimination for that matter) is always pro-competitive (they are

following example (based on Barry Nalebuff, *Exclusionary Bundling*, 50 ANTITRUST BULL. 321, 339 (2005)) to show the effect of such a bundle: “Suppose a representative individual’s demand for Y is given by $Q_Y = 100 - p_Y$, and the demand for X is inelastic at 20. Under these conditions, the monopolist that did not bundle... would price Y at 50 and sell 50 units. X is sold at [marginal] cost [assumed to be \$10/unit] in a competitive market. If Y is produced at zero marginal costs, total profits are $50 \times 50 = 2500$. Now suppose that the monopolist lowered the price of Y to 49 only to those who also purchased their 20 units of X at 11. At this price, profits from Y fall by 1 to 2499 (49×51). By taking the lower price on Y, the representative demander saves 50 (1 on the 50 units he would have purchased at the monopoly price). In addition, he gains the surplus associated with the 51st unit. He pays 20 more for the 20 units of X. In total, he is better off by at least 30. The monopolist is also better off. He gives up 1 when he lowers the price of Y, but now makes an additional 20 on sales of X at the higher price.” *Id.* at 730 n. 66.

⁶⁷ Nalebuff, *Bundling as a Way to Leverage Monopoly*, *supra* note 8, at 4, 7 (devising a model in which “essentially all consumers are attracted to the... bundle” and in which “the source of the gain is neither the extraction of consumers’ surplus nor price discrimination”); *See also* Nalebuff, *Exclusionary Bundling*, *supra* note 11, at 341 (noting that “while bundling for the purpose of price discrimination is an interesting theoretical possibility, it may be of limited relevance to the bundling cases seen in the courts”).

⁶⁸ Unlike most of the literature on price discrimination, the model does not focus on situations where the bundler enjoys a monopoly in multiple product markets or where the seller offers a pure bundle. Nor does it focus on bundles that aggregate consumer values across products. *See* Barry J. Nalebuff, *Bundling as an Entry Barrier*, 119 Q. J. ECON. 159, 160 (2004) (discussing how bundles can serve as an entry barrier in the hands of a multi-product seller that has market power in two goods and noting that “the literature on bundling as a price discrimination tool emphasizes that it works best when the bundled goods have a negatively correlation in value. This is when bundling most reduces the dispersion in valuation and allows a monopolist to capture the lion’s share of the consumer surplus.”). *See also* George J. Stigler, *United States v. Loew’s Inc.: A Note on Block-Booking*, 1963 SUP. CT. REV. 152, 152-3 (1963) and William James Adams & Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Q. J. ECON. 475 (Aug. 1976). Rather, this article shows that mixed bundling can be an effective strategy to discriminate between consumers of a monopolized product. In fact, this strategy can be so effective, that the seller may offer the bundle even if it “loses” money from selling the competitive component of the bundle.

not).⁶⁹ Instead, it argues that under certain circumstances, bundling can be a particularly strong strategy for allowing the seller to price discriminate among its consumers, avoid arbitrage, reduce the harm of monopoly pricing and enhance total welfare—even when the bundle is exclusionary or below cost.

This is illustrated by the examples below. Each of the examples is similar to the one given by the *Ortho* court in that each discusses two different product markets, one monopolized by a single firm and another in which firms compete. It is different in that it relaxes the assumption that the multi-product faces only one type of consumers. Instead, it shows that when different types of consumers are present, a below cost bundle, regardless of its potential exclusionary effects, can be used as a means to increase profits from the monopolized product, while at the same enhancing total welfare.

(i). Example 1: Exclusionary Bundles Can Increase Welfare

To receive wireless telephone services consumers must buy hardware (a cell phone) and also subscribe for service. Wireless telephone service providers often enjoy a monopoly (or some degree of monopoly power) over certain geographic areas. The monopoly can be complete (e.g., where only one company offers services) or partial (e.g., where one company enjoys a dominant position because it is the only one that provides complete coverage). Unlike the wireless market, however, consumers can purchase cell phones from a large number of manufacturers or from their wireless provider.⁷⁰ A common practice by service providers is to offer a bundled discount to consumers who commit to a two-year period.⁷¹ The bundle allows the consumer to receive the service at the regular rate, but the

⁶⁹ It is well known that the effects of imperfect (second or third degree) price discrimination are ambiguous and often welfare-decreasing. *See, e.g.*, Michael Katz, *Non-Uniform Pricing, Output and Welfare under Monopoly*, 50 REV. ECON. STUD. 37 (1983); Michael L. Katz, *The Welfare Effects of Third-Degree Price Discrimination in Intermediate Good Markets*, 77 AMER. ECON. REV. 154 (1987); Richard A. Posner, *Vertical Restraints and Antitrust Policy*, 72 U. CHI. L. REV. 229, 235-236; Kathleen Carroll & Dennis Coates, *Teaching Price Discrimination: Some Clarification*, 66 S. ECON. J. 466, 471-76 (1999); Brief of Professor Barry Nalebuff et al. as Amici Curiae Supporting Respondent *supra* note 54, at 18-23. *See also supra* notes 29-30, 61 and 63-67 and *infra* note 89.

⁷⁰ *See, e.g.*, AT&T, *Cell Phones & Devices*, available at <http://www.wireless.att.com/cell-phone-service/cell-phones/index.jsp> (last visited Mar. 6, 2008).

⁷¹ *See, e.g.* AT&T, *Cell Phones & Devices*, <http://www.wireless.att.com/cell-phone-service/cell-phones/cell-phones.jsp?wtSlotClick=1~001019~0~1&WT.svl=title> (July 28, 2008)(on file with author) (offering a bundled discount to consumers who purchase the Sony Ericsson W580i Walkman®, which includes features such as 2.0 MP camera, Video recording and playback, Stereo Bluetooth®, MP3s and streaming radio, FM Radio with customizable station presets, Pedometer and fitness applications and speakerphone. A different bundled discount is offered to consumers who purchase the very basic Pantech C150).

cell-phone is often offered at a discounted price and, in some situations, given away for free. Why would the service provider offer such a bundle? Is it legal? After all, the discounted bundle can exclude cell-phone manufacturers from the market. The example below seeks to provide one possible explanation. It shows that even when bundles are exclusionary and priced below cost, they can nevertheless be beneficial.

For simplicity, assume a local market with one wireless company, WireCo, that enjoys a monopoly over phone services but competes with others in the manufacture of cell phones. In this market there are two types of consumers, each requiring the same service but a different type of cell phone. Hip Consumers (HipC) require multimedia capabilities and other sophisticated options, such as a pedometer and other fitness applications; whereas Regular Consumers (RegC) require only basic wireless telephone functions. There are only two types of cell phones, Blueberries and Vanillas. The Blueberries are advanced devices that meet the needs of the HipC. The Vanillas are simple, basic devices that satisfy the RegC. Assume further that the cost of the cell phones and wireless service, their market price and the consumers' reservation prices (for a 2 year program) are as described in Table 4. Also note that there are only two consumers, the RegC and the HipC (each representing her group).

	HipC WTP	RegC WTP	WireCo's Avr. Cost	Competitors' Avr. Cost	Market Price*
Service	55	40	30	N/A	WTP
BlueBerries	60	22	60	60	60
Vanillas	5	22	20	18	20

Table 4: Summary of Consumers' WTP, Sellers' Costs and Market Prices⁷²

If price discrimination were feasible, WireCo could maximize its profits. Charging the HipC \$55 and the RegC \$40 would allow WireCo to realize a profit of \$35 (55+40-30-30). WireCo, however, cannot distinguish between the two consumers because they both buy the *same* service. Thus, to maximize its profits, WireCo must choose between one of two options: It can either offer its services for \$55 in which case it can realize a profit of \$25 (55-30); or it can offer its service for \$40 and make a profit of only \$20 (40+40-30-30). WireCo would of course set the price for its services at \$55. As a result, the RegC would not be able to buy services and therefore would be excluded from both markets (without the ability to purchase wireless services the RegC would not purchase a cell phone).

⁷² Because consumers must purchase both a cell phone and services (whether in a bundle or separately), the values in the table represent the consumers' willingness to pay for cell phones and services, assuming consumers can purchase both (and 0 otherwise).

A bundled discount can enable the seller to price discriminate between consumers. The mechanism is simple: The consumer receives the choice to purchase products A and B at a full price or a package that includes product A and product B at a discount. Product B is usually such that only a specific type of consumer would buy it (and arbitrage is impossible). *By making a choice, the consumer reveals its preferences and thus enables the seller to extract more profit.* In our example, WireCo will offer consumers the following options: (a) wireless services for \$55; or (b) a package that includes wireless services and a Vanilla phone for \$62, representing a discount of \$13 ($55+20-62$). In addition, the consumer would also be able to purchase from WireCo and other cell-phone manufacturers a BlueBerry for \$60 and a Vanilla for \$20.

A simple investigation shows that the bundle is Pareto efficient. The HipC, who requires multimedia capabilities, will continue to buy service for her Blueberry for \$55.⁷³ The RegC, on the other hand, will now be able to purchase the bundle because the cost of the bundle (\$62) is equal to her reservation price. Vanilla manufacturers are not worse off (they could not sell any Vanilla phones to the RegC before the bundle was offered) and WireCo is clearly better off. Its profits increase by \$12 (WireCo charges the RegC \$62 for a bundle that costs \$50). Total output will double and total welfare will increase by \$12.

The bundle is clearly efficient, but is it legal? Can the bundle be successfully challenged on the grounds that it excludes a more efficient competitor from the Vanilla market? Under the *Cascade* test, “to prove that a bundled discount was exclusionary or predatory for the purposes of a monopolization or attempted monopolization claim under § 2 of the Sherman Act, the plaintiff must establish that, after allocating the discount given by the defendant on the entire bundle of products to the competitive product or products, the defendant sold the competitive product or products below its average variable cost of producing them.”⁷⁴ In applying the *Cascade* test to the example, we must subtract the entire \$13 discount from the \$20 separate per unit price of the competitive price of Vanilla cell-phone. The result is \$7, meaning that in order to compete with the bundle, competitors must offer Vanilla phones at a price of \$7. In such a case, the RegC would be indifferent between (a) purchasing the Vanilla cell phone for \$7 and the service for \$55 separately; or (b) purchasing a bundle of both for \$62. Competitors, however, would not be able to offer a Vanilla for \$7 because it costs them \$18 to manufacture one unit. The result is that Vanilla

⁷³ The HipC will not pay \$62 for a bundle she only values \$60. Note that arbitrage in this example is impossible. The HipC cannot purchase the discounted bundle (which includes the Vanilla and service), resell the Vanilla and use the (cheap) service together with a BlueBerry. The reason is that the service is only provided to the cell-phone device registered with WireCo. This assumption is relaxed in Example 3, which demonstrates that a multi-product seller can use the bundle itself to prevent arbitrage.

⁷⁴ *Cascade*, 515 F.3d at 920.

manufacturers would be excluded from the local market in which WireCo enjoys a monopoly over services. Absent a business justification defense, this exclusionary effect is considered predatory and thus illegal.⁷⁵ WireCo's bundle excludes more efficient competitors from the market (competitors can manufacture a Vanilla at a cost of \$18, \$2 less than Wireco) and enables WireCo to "leverage" its monopoly power over the service market to the Vanilla market.

The *Cascade* (or "discount attribution") test is premised on the false assumption that "the primary anticompetitive danger posed by a multi-product bundled discount is that such a discount can exclude a rival who is equally efficient at producing the competitive product simply because the rival does not sell as many products as the bundled discounter."⁷⁶ But as shown above, excluding competitors—even more efficient ones—can be welfare enhancing. Unlike predatory pricing in the single product context, exclusionary bundles—those targeted by the *Cascade* decision—can be beneficial. Importantly, the *Cascade* court did not adopt the position advocated by many commentators that even after satisfying the discount allocation test the plaintiff must show that the discount was not only exclusionary but also one that cannot be justified by efficiencies or other business justifications.⁷⁷ While the *Cascade* court may not have been required to directly decide the issue, a number of its statements suggest that if the other elements of Section 2 are satisfied, bundles that fail the discount attribution test—that is bundles that exclude more efficient competitors—will be condemned as illegal.⁷⁸

Note that "monopolizing" the Vanilla market generated additional profits for WireCo. Absent bundling, WireCo would offer its services for

⁷⁵ Provided that "the other elements of a specific intent to monopolize and dangerous probability of success are satisfied." *Id.* at 915 n13.

⁷⁶ *Id.* at 919.

⁷⁷ *Infra* note 93-100 and accompanying text.

⁷⁸ *Cascade*, 515 F.3d at 916 ("This standard makes the defendant's bundled discounts legal unless the discounts have the potential to exclude a hypothetical equally efficient producer of the competitive product."); *Id.* at 919 ("Thus, a plaintiff who challenges a package discount as anticompetitive must prove that, when the full amount of the discounts given by the defendant is allocated to the competitive product or products, the resulting price of the competitive product or products is below the defendant's incremental cost to produce them. This requirement ensures that the only bundled discounts condemned as exclusionary are those that would exclude an equally efficient producer of the competitive product or products."); *Id.* at 920 ("In summary, we hold the following: To prove that a bundled discount was exclusionary or predatory for the purposes of a monopolization or attempted monopolization claim under § 2 of the Sherman Act, the plaintiff must establish that, after allocating the discount given by the defendant on the entire bundle of products to the competitive product or products, the defendant sold the competitive product or products below its average variable cost of producing them."). Moreover, although the *Cascade* court referred twice to the "legitimate business justification" element, once in describing the *LePage's* standard and again when relying on *Areeda* and *Hovenkamp* to reject the *Ortho* standard, it failed to include that business justification element as part of its test.

\$55 and would realize a profit of only \$25 (55-30). Had it been able to discriminate fully between its consumers, WireCo could have gained a profit of \$35. The bundle, on the other hand, allowed WireCo to earn \$37, \$35 from the services and \$2 from the Vanilla.⁷⁹ WireCo's conduct, however, was based on a *legitimate* business justification. This justification was not to push manufacturers out of the Vanilla market, monopolize that market or realize the extra \$2 from selling Vanilla phones. Instead, it was to increase profits (which it did) by discriminating between consumers in order to realize more profits on its *monopolized* product, the services. The bundle allowed WireCo to keep selling the monopolized product (wireless services) at the high price of \$55 to the HipC, while at the same time offering the exact same service to the RegC for only \$40 (in the eyes of the RegC, the service was sold at a price of \$40 and the phone at \$22). Indeed, as the next example demonstrates, even when a monopolist *loses* money from bundling a competitive product, bundling may nevertheless be profitable if the benefit from extracting the consumers' surplus from the monopolized product outweighs the loss from bundling a competitive product. Moreover, as shown above, the bundle not only increased WireCo's profit, but it also increased total welfare and output. To summarize, a bundled discount that fails the *Cascade* standard can be not only pro-competitive but also avoid some of the very ills that result from the multi-product power over the monopolized product.

But does WireCo really need to offer a bundle in order to engage in price discrimination? One may argue that there are *simpler* and *cheaper* ways to discriminate between consumers. A service provider, for example, can learn about consumers by checking the serial number of the consumer's phone (a number the consumer must provide in order to receive service). In our example, WireCo could offer a different price for its services according to the device the consumer owns. It could charge one price for Blueberry enthusiasts and a different price for Vanilla owners. Wireless companies, however, do not do so. AT&T, for example, offers the *same* service package to all users regardless of the device they own.⁸⁰ Why does not AT&T (or WireCo in our example) price discriminate consumers according to the cell phone they own? One reason is that price discrimination using a serial number (albeit technologically feasible) is too costly. Such an explicit and direct method can be simply bad public relation that is likely to upset consumers. Unconvinced? How about a real-life example: In September 2000, Amazon.com was accused of offering the same DVDs to different customers at discounts of 30-40 percent. According to news reports,

⁷⁹ \$25 from selling services to the HipC (55-30) and \$12 from selling the bundle to the RegC (40+22-30-20).

⁸⁰ With one exception: BlackBerries and iPhones users must pay an additional fee for a "data package." See Interview with AT&T's Online Live Agent and AT&T Website, <http://www.att.com> (July 28, 2008)(on file with author).

“Amazon said it was a random price test, but after criticism, it decided to refund the difference to anyone paying the higher price and pledged not to do it again”⁸¹ As Amazon learned, upsetting consumers can be very costly. This is especially the case when a firm (such as WireCo) enjoys a monopoly over one geographic market but faces fierce competition in others. Although the monopolist’s consumers might end up purchasing its services in the monopolized area, in markets where WireCo competes with other service providers, consumers may “punish” the monopolist by choosing to use other providers. For example, in the New York area where WireCo may compete with AT&T, T-mobile and Verizon, consumers, aware of WireCo’s behavior in the monopolized market, would prefer to purchase Verizon’s services.⁸²

It is important to note that this paper does *not* argue that price discrimination is the only reason to bundle. Indeed, there can be many reasons for bundling, some of which are mentioned above. It only argues that price discrimination, under certain circumstances, can be an important and pro-competitive justification for which courts should pay attention when applying the *Cascade* test.

(ii). Example 2: Predatory (Below-Cost) Bundles Can Enhance Welfare

In the example above, the bundle enabled WireCo to increase its profits from both phone (\$2) and service (\$35) sales. It is also possible to show that even a “classic predatory pricing behavior” – *selling a product below its actual cost, and thus at a loss, can be not only profitable and sustainable but also pro-competitive and welfare enhancing as well*. To illustrate, assume that the service and hardware market are the same as the previous example, except that WireCo’s cost of manufacturing a Vanilla is \$24. Remember that the Vanilla manufacturers offer their product nationwide at a price of \$20 a unit. Table 5 below summarizes the market conditions.

⁸¹ See Declan McCullagh, *Should Amazon.com be able to Charge You More than Someone Else?*, http://news.cnet.com/8301-10784_3-9715959-7.html?hhTest=1 (last visited Mar. 6, 2009).

⁸² A quick survey of AT&T’s website implies that AT&T engages in price discrimination by bundling services and phones in the method described above. On 7/28/2008 AT&T offered a refurbished Sony Ericsson W580i Walkman® for \$19.99, representing a discount of \$230 from its \$249.99 retail price. A Pantech C150, a less sophisticated phone valued at a retail price of 199.99, was being offered for “free.” Both “deals” were conditioned on a two-year service contract. AT&T offers the same service packages to all phone owners regardless of phone type. The discounts above are offered only on the “cell-phone” component of the package. See AT&T, *Cell Phones & Devices*, <http://www.wireless.att.com/cell-phone-service/cell-phones/cell-phones.jsp?wtSlotClick=1~001019~0~1&WT.svl=title> (July 28, 2008)(on file with author).

	HipC WTP	RegC WTP	WireCo's Avr. Cost	Competitors' Avr. Cost	Market Price*
Service	55	40	30	N/A	WTP
BlueBerries	60	22	60	60	60
Vanillas	5	22	24	18	20

Table 5: Summary of Consumers' WTP, Sellers' Costs and Market Prices

As discussed above, if price discrimination is infeasible (because it is impossible to distinguish between consumers), WireCo will charge \$55 for wireless services and RegC would be excluded from the market. Although selling a Vanilla is *not* profitable to WireCo (WireCo's manufacturing cost of \$24 is higher than the market price of \$20 and the consumers' WTP of \$22), bundling a Vanilla with its services is feasible, sustainable and profitable. Consumers would be able to buy the following products and services: (a) a Vanilla at \$20; (b) a Blueberry at \$60; and (c) services at \$55. In addition, WireCo would also offer a bundle that includes a Vanilla and services for \$62 (a \$13 discount: 55+20-62). Once again, the bundle would be socially desirable. The HipC would continue to purchase the same service at the same price of \$55 and would not be worse off. The RegC, on the other hand, would clearly be better off. She would be able to purchase a phone and service for her reservation price of \$62 (\$22 for the phone and \$40 for the service), something she could not do before the "predatory bundle" was offered. As a result, bundling would allow WireCo to increase its profits by selling its services to the HipC for a profit of \$25 (55-30), while and at the same time selling the bundle to the RegC for a profit of \$8 (62-30-24).

WireCo sells a Vanilla *below* its cost. The Vanilla is offered on the market for \$20 but it costs WireCo \$24 to manufacture (or buy⁸³) a unit. In the eyes of the consumer who buys the bundle for \$62, the service component in the bundle costs \$40 and the Vanilla component \$22. This means that WireCo is losing \$2 from selling a Vanilla (22-24) but profits \$10 from selling services (40-30). Selling Vanillas, however, is profitable because WireCo's total profits increase by \$8 (10-2).⁸⁴ Put differently, WireCo is "paying" a premium of \$2 to enable a price discrimination activity that yields an additional profit of \$10. Consequently, because the bundle enables more users (the RegC) to buy phones and services and thus

⁸³ Assuming that WireCo purchases the product on the market for \$20 and incurs additional costs (such as transportation and handling) of \$4.

⁸⁴ In the eyes of other producers (and under the Discount Allocation test) the effective price of Vanillas is \$7, well below the cost of efficient competitors. Because the bundle represents a discount of \$13 (55+20-62), in order to compete with WireCo, manufacturers would have to offer their Vanillas at \$7 (20-13), making consumers indifferent to (i) purchasing the bundle for \$62; or (ii) purchasing separately services for \$55 and Vanillas for \$7.

increase output and total welfare, the “predatory” behavior is both profitable and welfare enhancing. A quick survey of AT&T’s website reveals bundling below cost. Although the cost to manufacture a cell phone is clearly positive, AT&T offers discounted bundles in which some of the cell phones are offered for “free”- clearly below any measure of cost.⁸⁵

The bundle is socially desirable but it is exclusionary. It flunks the Exclusionary Standard enunciated by *Cascade*, *Ortho* and the AMC if strictly applied (for the reasons discussed in Example 1) and may thus be declared as predatory. In fact, the discounted package could be said to be predatory without even resorting to *any* bundling analysis. As Professor Crane notes:

In some cases, a multiproduct discount may result in below-cost pricing in one or more of the covered markets without any need to resort to complicated discount-reallocation accounting. If the marginal cost of items X, Y, and Z is \$ 8, their prebundled price was \$ 10, and the bundled offer is a 30% discount on each item if they are bought together, then the price of each item *may* be below its marginal cost. Ordinary predatory pricing rules could be applied to the package discount. The same *could* obtain if only one item in the bundle was below its cost after the bundled offer. May and could are italicized because the bundled discount may have arisen from transactional or cost savings from selling in the package.⁸⁶

In the example above, however, the competitive product in the bundle, the Vanilla, is priced below cost, not because of “transactional or cost savings from selling in the package.” Rather, selling the competitive product, even if at a loss, allows the bundler to discriminate between consumers and thereby increase its profits. The bundle, one which increases consumers’ and total welfare, may thus be considered predatory under the *Brooke Group* test for predatory pricing.

(iii). Example 3: Bundling Can Prevent Arbitrage

Price discrimination may be the wish of every monopolist, but it is not always feasible. Many times consumers can engage in arbitrage. To be able to price discriminate between consumers, the monopolist must make sure that the consumer with the high WTP will not purchase the discounted

⁸⁵ See *supra* note 25.

⁸⁶ Daniel Crane, *Mixed Bundling, Profit, Sacrifice, and Consumer Welfare*, *supra* note 27 at 473-4. Professor Crane warns “that further caution is warranted when the package discount result in a nominal below-cost price of a single item but revenues from other products continue to cover their costs” noting that “if the seller is using the package discount to play behavioral games or exploit client agency costs, it might hope that the presentation of one very low price in the package would help to stimulate demand”). *Id.*

bundle, dispose the second product and just consume the monopolized product. In some industries, as is the case with wireless service providers (where service is given to a specific phone identified by a unique ID), a monopolist can avoid arbitrage through the use of technology. In many industries, however, arbitrage is still possible. A monopolist may use bundled discounts to overcome this problem.

The following example is illustrative. Assume that an airline has a monopoly over a specific route (e.g., from Birmingham, AL to Chicago, IL) and that next to each airport there are two-star hotels that serve passengers. The airline services two types of consumers (each representing a different group of customers): a Business consumer (BizC) and a non-business consumer (NBC). The BizC values the airline ticket more than NBC, while the NBC values a night at a two-star hotel more than BizC. Assume further that the consumers' WTP, the manufacturers' costs and the market prices for airline tickets and hotel services are as described in Table 6 below.

	BizC WTP	NBC WTP	Airline AVC	Competing Hotels AVC	Market Price*
Airline (BHM-ORD)	100	70	50	N/A	WTP
Two-Star Hotel	25	80	60	59	60

Table 6: Summary of Consumers' WTP, Sellers' Costs and Market Prices

The airline can maximize its profits by charging each consumer a different price. By charging the BizC \$100 and the NBC \$70, the airline would realize a profit of \$70 ($100+70-50-50$). Price discrimination, however, is often infeasible. Even if the airline could distinguish between the two types of consumers (a daunting task in and of itself), arbitrage would still frustrate any attempt to price discriminate. The NBC who is offered the cheaper price (\$70) could purchase the ticket at a discounted price and then resell it to the high value consumer (the BizC in our example) below the monopolist's price (\$100). Moreover, the high value consumer could easily disguise herself as a low value consumer. When asked whether she is purchasing a ticket for business, she could simply say: "no."

If price discrimination is infeasible, the airline must decide between charging consumers \$100 or charging them \$70. If the airline charges \$70 for a ticket it will sell two tickets (one to each consumer) and make a profit of only \$40 ($70+70-50-50$); but if the airline charges \$100 it will sell only one ticket (to the BizC) and realize a profit of \$50 ($100-50$). Because selling a ticket at \$100 is more profitable (\$50 compared to \$40), the NBC,

although willing to pay \$20 more than the marginal cost of the flight, will not be able to fly from Birmingham (BHM) to Chicago (ORD).

A *bundled discount can help the monopolist achieve the two conditions necessary for price discrimination*. It enables the airline to (1) distinguish between the different consumers and (2) avoid arbitrage. The mechanism is simple: The airline will offer the consumer the option of purchasing (a) a ticket for \$100; or (b) a bundle of a ticket and a stay at a local two-star hotel at \$128.99. For simplicity assume that in order for the airline to offer the bundle, it must first acquire (or enter into an agreement with) a hotel that incurs a marginal cost of \$60 per night. In addition consumers would be able to make reservations directly with any two-star hotel for \$60 a night (the market price for similar hotel services).

The NBC, facing the option of (a) buying a ticket for \$100 and making a reservation at a two-star hotel for \$60 (a total expense of 160); or (b) buying a bundle of both for \$128.99, will of course choose the latter. The bundle allows the NBCs to purchase a ticket they could not have purchased absent the bundle and even enjoy a surplus of \$21.01 ($150 - 128.99$). At the same time, bundling enables the airline-monopolist to realize a profit of \$68.99 ($100 + 128.99 - 50 - 50 - 60$), \$18.99 (or 38%) more compared to a situation where it does not bundle. This is because the bundle offers the low value consumer a deal which is below the consumer's reservation price, while at the same time offering a higher price to the high value consumer. *The bundle also frustrates any attempt for arbitrage* because the BizC in our example has no incentive to purchase the bundle. She would purchase a ticket for \$100 and decline to purchase at \$128.99 a bundle she values for \$125.

The bundled discount is socially desirable but is it legal? Under a strict application of the *Cascade* test, it is *not*. Under this test, the discount given by the bundler is allocated to the competitive product. If the resulting price of the competitive product is below the bundler's average cost to produce them, the bundled discount is exclusionary for the purpose of § 2. Applying this test to the example, we need to subtract the entire discount of \$31.01 (the difference between the aggregate full price of the products, \$160, and the bundle's price, \$128.99) from the market price of hotel services, \$60. The result is \$28.99 ($60 - 31.01$), which is below the airline's average cost of supplying the hotel services (\$60). Thus, a court strictly applying the *Cascade* standard would hold that the airline's bundle—one which increases total welfare and output—excludes more efficient hotels which offer similar services (at \$59) but are not "affiliated" with the airline and is thus predatory.

The *Cascade* test is right in its conclusion that the effective price (in the eyes of competitors at least) of the hotel service component in the bundle is \$28.99. Indeed to make a customer indifferent to purchasing the bundle or purchasing each of its components separately, the competing

hotels must offer their services at \$28.99. The *Cascade* test is also correct to conclude that this price is below the airline’s average cost and that it excludes more efficient competitors (other hotels that can provide the same services at a lower price). Yet the airline behavior should not be considered “predatory.” The airline is not trying to leverage its monopoly to the hotel services market. It is simply trying (successfully) to maximize its profit on the monopolized product—the airline ticket—by price discriminating between high value and low value consumers. Under the Exclusionary Standard, by selling hotel services at the effective price of \$28.99, the airline is selling below cost and is incurring a loss of \$31.01 (28.99-60). But this is merely a small sacrifice that enables the airline to harvest a \$50 (100-50) profit from the low-value consumer of the monopolized product, and a net profit of \$18.99 (50-31.01). The result is that, in the bundling context, even when the bundler excludes (by either causing sellers to exit the market for the competitive product or by blocking entry to that market) a more efficient competitor, the bundle can be welfare enhancing and if so should not be condemned as predatory.

(iv). Example 4: Unrelated Products

The *Ortho* example focused on complements (shampoo and conditioners) and so did Examples 1-3 above. In these examples, consumers needed to buy cell-phones with wireless services and hotel services were provided to the airline’s passengers. The results of the model, however, are not limited to complements. The following example (a variant of the first example) is illustrative. Assume that a multi-product seller enjoys a monopoly over one product, A, but competes with others on the sale of a second product, B. Assume further that competitors in the B market are more efficient (they can manufacture B for less) and that there are three types of consumers. The consumers’ reservation prices, the market prices and the manufacturing cost are described in Table 7 below.

	C1	C2	C3	Multi Product Seller AVC	Competitors AVC	Market Price*
A	55	40	0	30	N/A	WTP
B	2	22	22	20	18	20
Bundle	57	62	22	50	N/A	57.99

Table 7: Summary of Consumers’ WTP, Sellers’ Costs and Market Prices

As in Example 1, if the multi-product seller cannot discriminate between consumers, it will charge \$55 for product A and realize a profit of \$25 (55-30). The result will be that type 2 consumers would be excluded from the A market (they will not pay \$55 for a product they value \$40).

Note that pure bundling (selling A and B only as part of the package AB) would be a losing strategy. If the pure bundle is offered at \$62 (to extract type 2 consumers' surplus) no one will purchase the bundle. Type 1 and type 3 consumers would not pay \$62 for a bundle they value \$57 and \$22 respectively. Type 2 consumers would not purchase the bundle because the bundle's price is equal to their reservation price and leave them without any surplus. They would rather purchase product B for \$20 and enjoy a surplus of \$2 (22-20). A pure bundle at a price of \$59.99 would also be a losing strategy. Type 2 consumers would purchase the bundle (type 1 and 3 consumers wouldn't) but the multi-product seller would only realize a profit of \$9.99 (59.99-50). Between monopoly pricing (selling product A for \$55) that yields \$25 in profits and a pure bundle that yields a profit of \$9.99, the multi-product seller would stick to monopoly pricing.

A mixed bundling strategy, however, can allow the multi-product seller to reduce and recapture some of the DWL caused by the monopoly pricing and even some of the DWL caused by the supra competitive prices charged in product B's market. The multi-product seller will continue offering product A for \$55 and product B for \$20. In addition, it will offer the bundle AB for \$57.99.⁸⁷

Type 1 consumers will keep purchasing product A for \$55 and will not be affected by the bundle at all. Type 2 consumers who could not purchase product A because of the monopoly pricing will purchase the bundle AB for \$57.99 and enjoy a surplus of 4.01 (62-57.99). The multi-product seller will also increase its profits by \$7.99 (57.99-50) from \$25 to \$32.99 (due to the sale of the bundle to type 2 consumers).

⁸⁷ The multi-product seller will not be able to offer the bundle AB for \$59.99 because such a price will result in a price war. If the seller offers the bundle for \$59.99 type 2 consumers will enjoy a surplus of \$2.01 (62-59.99) from purchasing the bundle. Competitors who manufacture product B will then reduce the price for B to \$19.98 (it costs them only \$18 to manufacture product B), which will allow type 2 consumers to enjoy a surplus of \$2.02 (22-19.98). Faced with the option of (i) purchasing the bundle AB from the multi-product seller for \$59.99 and enjoying a surplus of \$2.01 or (ii) just purchasing product B and enjoying a surplus of \$2.02, the consumer will prefer to purchase product B. As a result, the multi-product seller will reduce the price of the bundle to \$59.97. Competitors in the B market will then reduce the price of product B even further. This price war will continue until the price for product B is reduced to \$18. The multi-product seller will then offer the bundle at a price of 57.99, which allows type 2 consumers to enjoy a \$4.01 (62-57.99) surplus. Product B competitors will not reduce the price further (below \$18) because it costs them \$18 to manufacture product B. With type 2 consumers out of reach (due to the exclusionary bundle) product B competitors -- focusing on type 3 consumers -- will raise the price back up to \$20.

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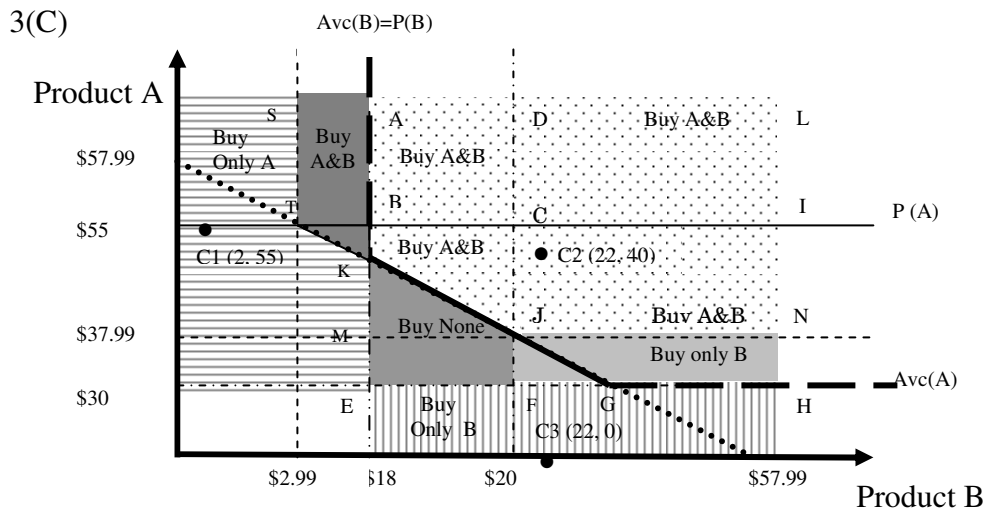
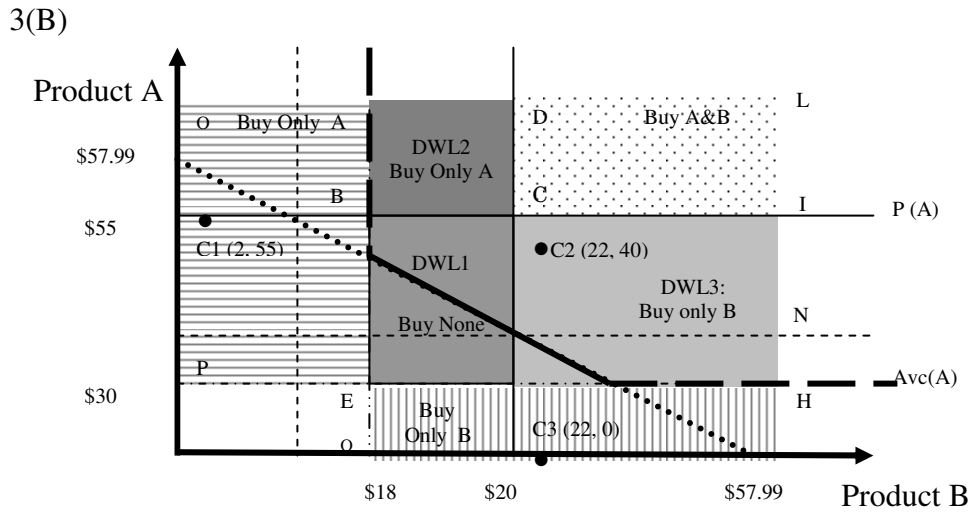
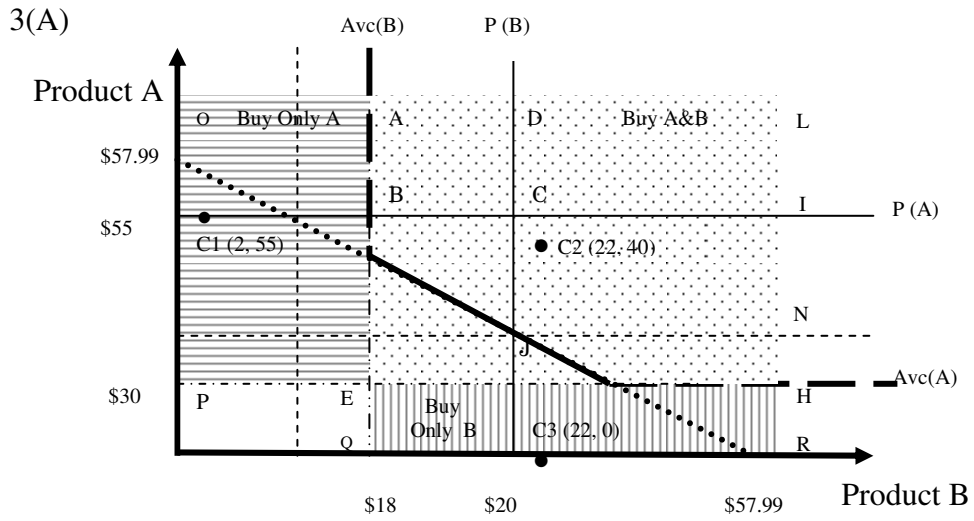


Figure 3: The Welfare Effects From Mixed Bundling

Once again, the bundle is welfare enhancing but it is exclusionary with regard to type 2 consumers. These consumers would not purchase product B from the more efficient competitors, but would instead prefer to purchase the bundle AB from the less efficient multi-product seller. Type 3 consumers – those who are only interested in purchasing the competitive product B, however, will still be able to purchase product B from the competitors or the multi-product seller. In fact, the more efficient competitors will be able to exclude the multi-product seller from selling product B to type 3 consumers if they offer product B for \$19.99 (below the multi-product seller’s cost to produce product B).

Graphically, the implications from offering a bundled discount are represented in Figure 3 (above). In a competitive market, described in Figure 3(A), consumers located in the (dotted) area AEHL (who value both products more than their cost of production) will be able to purchase both products. Consumers located in the area AEPO (marked by horizontal lines) will purchase only product A, and those located in area EQRH (marked by vertical lines) will purchase only product B. Product A and B are not priced, however, at the competitive level. Because both products are priced above their cost of production there is some DWL as shown by Figure in 3(B). Consumers located in the area denoted as DWL1 who could purchase both products will not be able to purchase any of the products. Consumers located in the area denoted as DWL2 will only be able to purchase product A and those located in the area denoted as DWL3 will only be able to purchase product B.

The bundle reduces some of the DWL caused by the monopoly pricing and even some of the DWL caused by the supra-competitive prices charged for product B. Specifically, consumers who value the bundle at \$57.99 (those located on the line KJ and outwards) will be able to purchase both. The increase in welfare is shown in Figure 3(C) by a transformation of some of the gray DWLs areas in Figure 3(B) to the white-dotted areas.⁸⁸ Specifically, consumers located in the area ABCD (DWL2) who could only purchase product A, those located in the area CINJ (part of DWL3) who could only purchase product B, and consumers located in the area BKJC (part of DWL1) who could not purchase any of the products – will be able to purchase both.⁸⁹

⁸⁸ Formally, there are two conditions that must be satisfied for the consumer to buy a bundle. First, the consumer must value the bundle more than the cost of the bundle. Second, the consumer will not purchase the bundle if purchasing a single product would leave her with more surplus. Denoting WTP_A and WTP_B as the consumer willingness to pay for each product, and P_M , P_C and P_B as the price of the monopolized good, the competitive product and the bundle respectively, these conditions can be reformulated as follows: (1) $WTP_M + WTP_C \geq P_B$; and (2) $WTP_M + WTP_C - P_B \geq WTP_M - P_M$ (or $WTP_C \geq P_B - P_M$) and $WTP_M + WTP_C - P_B \geq WTP_C - P_C$ (or $WTP_M \geq P_B - P_C$).

⁸⁹ Note that the bundle may have a welfare-decreasing effect. In a competitive market, consumers who are located in the area ABKTS in Figure 3(C) will not (and should not)

VI. CONCLUSION

As one leading treatise notes, the “theory of anticompetitive discounting is in much the same position as the theory of predatory pricing was in the 1970s: no shortage of theories, but a frightening inability of courts to assess them. It is one thing to develop a theory showing that a particular practice can be anticompetitive. It is quite another to show that this theory explains a particular practice without producing an unacceptably high number of false positives.”⁹⁰ The *Cascade* court was aware of the fact that its test may sweep too broadly. In fact, it invited the legal academy to investigate this very issue.⁹¹ This article accepts the invitation. It argues that the Exclusionary Standard adopted by *Cascade* and the AMC creates a real concern that pro-competitive bundles will be declared illegal,⁹² and that its strict application will harm consumers and stifle competition. It will undoubtedly subject certain welfare enhancing bundling schemes to unnecessary and costly scrutiny.

Under *Cascade* (and the AMC), “to prove that a bundled discount was exclusionary or predatory for the purposes of a monopolization or attempted monopolization claim under § 2 of the *Sherman Act*, the plaintiff must establish that, after allocating the discount given by the defendant on the entire bundle of products to the competitive product or products, the

purchase product B because they value product B less than its cost. The bundle, however, may lead to inefficiency if consumers have reservation prices that would locate them in this area. For example, in a competitive market, a consumer located in the area ASTB who values product A at \$60 and product B at \$10 will purchase only product A and enjoy a surplus of \$30 (60-30). With monopoly pricing and absent mixed bundling she would still be able to consume product A although her surplus would decrease from \$30 to \$5 (60-55). But if the seller offers the bundle AB at a discounted price of \$57.99 the consumer will purchase both products in order to enjoy a surplus of \$12.01 (60+10-57.99), more than twice the surplus absent bundling. A consumer who values product A at \$50 and B at \$17 (located in the area TBK) would be able to purchase product A in a competitive market but not product B (recall that the marginal cost of products A and B are \$30 and \$18 respectively). If the seller charges \$55 for product A she will not be able to purchase either product. But she will purchase a bundle of both if the seller offers a bundled discount of \$57.99 and enjoy a surplus of \$9.01 (50+17-57.99). Purchasing product A reduces the DWL from monopoly pricing but it creates inefficiency in the production of product B.

⁹⁰ P. AREEDA AND H. HOVENKAMP, ANTITRUST LAW 306 (2d. ed. 2004 Supp.).

⁹¹ *Cascade*, 515 F.3d. at 918.

⁹² A similar concern was raised by Commissioners Carlton and Garza. See ANTITRUST MODERNIZATION COMM’N, REPORT AND RECOMMENDATIONS, *supra* note 7, at 99 (“Commissioners Carlton and Garza join this recommendation, but are concerned that the first screen in the three-part test would still require many pricing schemes where exclusion is not at issue to receive further scrutiny under the second and third parts of the test. Bundled discounts that do not pass the first screen in the Commission’s proposed test can be used to price discriminate with no exclusionary effect on competition. Failure to recognize that price discrimination is a motive for mixed bundling implies that the incremental revenue is not correctly calculated by the Commission’s proposal. Commissioner Carlton elaborates on these points in his separate statement.”).

defendant sold the competitive product or products below its...cost of producing them.”⁹³ Pricing “below cost” is considered predatory because it excludes equal or more efficient competitors from market, thereby harming competition and consumers.⁹⁴

But while true in the single product case, this article argues that this assumption does *not* always hold in the multi-product context. A multiproduct seller may have a legitimate economic incentive to bundle a monopolized product with a competitive product. In fact, this economic incentive may be so strong that the multi-product seller may offer the bundle at a substantial discount and even “below cost”. Such bundled discounts may indeed exclude more efficient competitors, either because competitors cannot match the discount offered or simply because they cannot offer the same diverse line of products. Yet, the article shows that the benefits from the “below-cost-exclusionary” bundle can often outweigh the cost of excluding competitors.

By offering a bundled discount, the bundler may be able to discriminate between groups of consumers holding different reservation prices, and even use the bundle to prevent arbitrage. Under the conditions discussed above, the discounted bundle may mitigate the main harm of the monopoly: reduced output and deadweight loss. In fact, it may even reduce inefficiencies in the competitive product market. This is because the competitive product in the bundle serves as a self-sorting mechanism that enables the bundler to sell the monopolized product to consumers who would purchase the product had it been offered in a competitive market, but cannot and would not purchase it absent the bundle. This increase in welfare can often more than offset the exclusionary effect and may even be Pareto efficient.

This article recognizes that bundling (pure or mixed) may have anticompetitive effects.⁹⁵ But it warns against a strict application of the *Cascade* court under which a monopolist that excludes an equal or more efficient competitor harms competition and should therefore be liable under Section 2 of the Sherman Act. Instead, it argues that in the multi-product context, an exclusionary behavior and even pricing a product in the bundle below cost can be welfare enhancing. Therefore, if not wrong, the *Cascade-AMC* standard is, at the very least, overbroad.⁹⁶ It creates a real concern that

⁹³ *Cascade*, 515 F.3d. at 910.

⁹⁴ *Id.* at 909 (noting that the below cost “requirement ensures that the *only* bundled discounts condemned as exclusionary are those that would exclude an equally efficient producer of the competitive product or products”) (emphasis added).

⁹⁵ *See e.g.*, notes 61 and 89.

⁹⁶ *See Cascade*, 515 F.3d. at 908-909 (“[L]iability under the discount attribution standard has the potential to sweep more broadly than under the aggregate discount rule or the *Ortho* standard. However, there is limited judicial experience with bundled discounts, and academic inquiry into the competitive effects of bundled discounts is only beginning.”).

courts applying the *Cascade*-AMC test will declare illegal below cost (thus exclusionary) yet welfare desirable bundles. This will especially be the case if, when applying the test, courts fail to consider legitimate business justifications (whether as part of the plaintiff's prima facie case or as an affirmative defense).⁹⁷ How big is the concern and whether the Exclusionary Standard will produce "an unacceptable high number of false positives" (condemning desirable bundles) should be the subject of future empirical testing. But courts and policy makers should be aware that in the context of bundling exclusionary does not necessarily mean predatory. Rather, "predatory bundling," that is offering a bundle that excludes a more efficient competitor an even a bundle in which a product is priced below cost, can be not only sustainable and profitable but also welfare enhancing.

The possibility that courts may apply the Exclusionary Standard in a per-se manner was not ignored by Commissioner Carlton (although absent in the AMC report).⁹⁸ In a separate statement, Commissioner Carlton

See also Thomas Lambert, *Evaluating Bundled Discounts*, *supra* note 51, at 1730-43 (criticizing the test and offering an alternative approach).

⁹⁷ *See also* Frank Easterbrook, *The Chicago School and Exclusionary Conduct*, *supra* note 54, at 445 ("Only if the gains from the successful suits exceed the losses from the false positive can we say that litigation about exclusionary practices has been a success... In other words, judges and enforcers must be wary of claims that take the form: 'Here is a model in which bad results *can* happen; let's use the legal system to find out *whether* they happen.' That approach assumes away the costs of false positive.") (emphasis added).

⁹⁸ *See* ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS, *supra* note 7, at 94-100, 399 (2007). *See also* Virgin Atlantic Airways Ltd. v. British Airways PLC, 69 F. Supp. 2d 571, 580 n.8 (S.D.N.Y. 1999), *aff'd*, 257 F.3d 256 (2d Cir. 2001) (citing *Ortho* as holding "that there would be an antitrust violation if the competitive product in the bundle were sold for a price below average variable cost after the discounts on the monopoly items in the bundle were subtracted from the price of that competitive product"). *See also* Herbert Hovenkamp et al, *Exclusionary Bundled Discount*, *supra* note 64 (noting that the Discount Attribution test "has the potential to sweep far too broadly, particularly if it becomes a de facto prima facie test of illegality" and that in "*Cascade* the Ninth Circuit appeared to assume that any bundled discount that flunks the attribution test is at least presumptively anticompetitive") and Herbert Hovenkamp et al, *Complex Bundled Discounts*, *supra* note 64 (noting that the Discount Attribution test "produces very severe false positives and should be regarded as nothing more than a starting point for analysis"). In 2006 – 2007 the United States Department of Justice (DOJ) and the Federal Trade Commission (FTC) held joint hearings to study issues relating to Section 2 enforcement including bundling. The report, published on September 8, 2008, adopted the *Cascade*-AMC's Discount Allocation test as a safe harbor (in situations where bundle-to-bundle competition is impossible) and warned against a "presumption of anticompetitive conduct." U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT, *supra* note 14, at 103-104 (2008). The report was rejected, however, by the FTC. In a separate statement, Commissioners Harbour, Leibowitz and Rosch noted that the DOJ's report, if adopted, would lead to "radically weakened enforcement" and criticized the DOJ's interpretation of Section 2 jurisprudence noting that "the final report's descriptions and conclusion respecting how Section 2 is and should be enforced cannot be said to represent the consensus, or even the prevailing view." *See* <http://ftc.gov/os/2008/09/080908section2stmt.pdf> at p.1. Specifically, the Commissioners

warned against such application. If the discount attribution test “is adopted by courts,” warned Commissioner Carlton, “they must understand that a defense for the pricing based on legitimate business reasons unrelated to predation should be allowed so there should not be a presumption (as there is in the A-T price-marginal cost test) that failing the first prong should suggest that something odd is occurring.”⁹⁹ Interestingly, although previous formulations of the Exclusionary Standard included a “legitimate business justification” defense,¹⁰⁰ this element is absent in the *Cascade* test and it remains to be seen if such a defense will be available to future defendants.

rejected the DOJ’s safe harbor proposal and professed that the “Commission stands ready to fill any Sherman Act enforcement void that might be created if the [DOJ] actually implements [the Report].” *Id.* at p. 7, 11. The report was finally withdrawn by the DOJ on May 11, 2009 (see http://www.usdoj.gov/atr/public/press_releases/2009/245710.htm) See also Greenlee et al, *An Antitrust Analysis of Bundled Loyalty Discounts*, *supra* note 8 (warning that the *Ortho* test “should be used with care”); *But see* Barry Nalebuff, *Exclusionary Bundling*, *supra* note 11, at 343 (arguing in favor of “a per se rule against exclusionary bundling” when “the foreclosure is significant and the monopolist could have reasonably understood the effect of its pricing”).

⁹⁹ *Id.*

¹⁰⁰ See P. AREEDA AND H. HOVENKAMP, *ANTITRUST LAW* 323 (2d ed. 2004 Supp.) (“[A] requirement that the bundling practice be sufficiently severe to exclude an equally efficient single-product rival, and without an adequate business justification, seems to strike about the right balance between permitting aggressive pricing while prohibiting conduct that can only be characterized as anticompetitive.”). See also RICHARD POSNER, *ANTITRUST LAW* 194-5 (2d. ed. 2001) (“I propose the following standard for judging practices claimed to be exclusionary: in every case in which such a practice is alleged, the plaintiff must prove that the challenged practice is likely to in the circumstances to exclude from the 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.”) *But see* Thomas Lambert, *Evaluating Bundled Discounts*, *supra* note 51, at 1736-37 (criticizing the test and showing that it may condemn *above cost* exclusionary yet desirable bundles). Although the *Cascade* court relied on Areeda and Hovenkamp in deciding to reject the *Ortho* test, it did not adopt the “legitimate business justification” element that Areeda and Hovenkamp offered; and it is questionable whether this element (whether as part of the plaintiff’s prima facie case or the defendant’s defense) exists under *Cascade*. 515 F.3d. at 917. The omission to discuss relevant business justifications may indicate the court’s disapproval, but it may also be the result of the court’s focus on the plaintiff’s burden. After oral arguments, the *Cascade* court invited amicus curiae to submit briefs addressing the issue of whether a plaintiff who seeks to establish predatory bundling “must prove that the defendant’s prices were below an appropriate measure of the defendant’s costs.” *Cascade v. Peacehealth*, 479 F.3d 726 (2007). Because the focus was on the plaintiff’s burden, if considered by the court (the issue was not raised by the amici curiae in the context of §2) to be a defense – it may explain why the business justification element was absent. In any case, the question remains open. See also Brief of Law Profs. Daniel L. Crane, et al, *supra* note 27, at 5, 8 n.8. (arguing that a “plaintiff challenging a bundled discount scheme should be required to show *at a minimum*, that the competitive products in the bundle were priced below cost” and noting that “Amici do not discuss those further showings” a plaintiff may be required to show if the bundle fails the discount allocation test).