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DISCOUNTS AND EXCLUSION

by Herbert Hovenkamp¹

Introduction

The discounting practices of dominant firms has emerged as one of the most problematic areas of private antitrust enforcement against single-firm conduct. At this writing the most important cases are the Eighth Circuit's decision exonerating Brunswick Corp.² and the Third Circuit's decision condemning 3M.³ In addition, several of the claims against Microsoft involved discounting practices.⁴

Discounting practices come in many varieties. As is so often the case for monopolization claims, the diversity of the practices has impeded the development of coherent theory for appraising them.⁵ Nonetheless, the ordinary tools of §2 analysis are usually sufficient to enable us to understand the likely competitive effects.⁶

More problematically, in recent years discounting practices have provided fertile soil for economic theory and the development of strategic rationales for discounting. The rationales are complex, however, and are often beyond the capability of a court to manage. In this respect 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. In the case of predatory pricing, the result of this concern was the development of the Areeda-Turner test that requires prices to be below marginal cost or average

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² *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1061 (8th Cir.), cert. denied, 531 U.S. 979 (2000).

³ *LePage's, Inc. v. 3M Corp.*, 324 F.3d 141 (3d Cir. 2003) (en banc), cert. denied, 540 U.S. 807 (2003).

⁴ One complaint against Microsoft was that it bundled the Windows operating system and the Internet Explorer browser and offered no discount at all for someone who wished to take only the operating system. That is, the bundled version was a package discount in which the price of the browser was zero. See *United States v. Microsoft Corp.*, 253 F.3d 34, 88, 97 (D.C.Cir. 2001), cert. denied, 534 U.S. 952 (2001).

⁵ On this point, see Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 Univ. Chi.L.Rev. 147 (2005).

⁶ For an exhaustive accounting of the literature, see Thomas A. Lambert, *Evaluating Bundled Discounts*, 89 Minn.L.Rev. 1688, 1709-1710 (2005).

variable cost, and the "recoupment" test which requires a showing that the defendant's investment in below cost pricing is likely to pay off with post-predation monopoly returns.⁷

The reason these tests for predatory pricing were adopted was manifestly *not* because there is widespread consensus that above cost pricing⁸ strategies can never be anticompetitive in the long run.⁹ Rather, it is because our measurement tools are too imprecise to evaluate such strategies without creating an intolerable risk of chilling competitive behavior.¹⁰

⁷. See *Brooke Group Ltd v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222 (1993) (requiring that the plaintiff show that the prices were below an "appropriate measure" of the defendant's costs); and *id.* at 224 (requiring the plaintiff to show that the defendant "had a reasonable prospect, or, under §2 of the Sherman Act, a dangerous probability, of recouping its investment in below-cost prices."). The Areeda-Turner test for predatory pricing was initially developed in Phillip E. Areeda and Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 Harv. L. Rev. 697 (1975); and subsequently developed in 3 Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶¶720 et seq (2d ed. 2002).

⁸. As used here the term "above cost" refers to an appropriate measure of cost, without getting into the debate over what that measure is. Ordinarily, the measure is thought to be either short run marginal cost or average variable cost. See 3 Antitrust Law note 7, ¶¶739-740.

⁹. On such theories, see e.g., Aaron Edlin, *Stopping Above Cost Predatory Pricing*, 111 Yale L.J. 941 (2002); Patrick Bolton, Joseph F. Brodley, & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy* 88 Geo. L. J. 2239 (2000); Jean Tirole, *The Theory of Industrial Organization* 367-374 (1992); Frederic M. Scherer & David Ross, *Industrial Market Structure and Economic Performance* 356-366, 405-406 (3d ed. 1990); Oliver E. Williamson, *Predatory Pricing: A Strategic and Welfare Analysis*, 87 Yale L.J. 284 (1977); Joe S. Bain, *Industrial Organization* 269-76 (2d ed. 1968). The theories, as well as the numerous problems of proof and remedies, are developed in 3 Antitrust Law, note 7, ¶¶736-737.

¹⁰. See *Brooke Group*, 509 U.S. at 223:

As a general rule, the exclusionary effect of prices above a relevant measure of cost either reflects the lower cost structure of the alleged predator, and so represents competition on the merits, or is beyond the practical ability of a judicial tribunal to control without courting intolerable risks of chilling legitimate price-cutting.

See also *Verizon Communications Inc v Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 414 (2004): "Mistaken inferences and the resulting false condemnations 'are especially costly, because they chill the very conduct the antitrust laws are designed to protect.'", quoting *Matsushita Electric Industrial Co v Zenith Radio Corp*, 475 U.S. 574, 594 (1986); and see *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990) (Breyer, J.) ("[A]ntitrust rules are court-administered rules. They must be clear enough for lawyers to explain them to clients. They must be administratively workable and therefore cannot always take account of every complex economic circumstance or qualification.").

Antitrust policy is facing a somewhat similar situation today in the law of discounting. The great majority of discounting practices are procompetitive. Discounts are the age old way that merchants induce customers to purchase from them and not from someone else or to purchase more than they otherwise would. The vast majority of them reflect hard bargaining. Many are explained by economies of scale or scope in either manufacturing or transacting.¹¹ Some, such as market share or quantity discounts, aid sellers in long-run output planning. Nearly all are output increasing, and thus procompetitive. The economic modeling showing that certain discounts can be anticompetitive tend to be highly complex, often making unrealistic assumptions.¹² The result can be proposed legal standards that make impossible informational demands on courts. For example, one proposal that has proven popular with plaintiffs' lawyers would require the fact finder to determine whether the bundled discount -- even if it increased output -- was greater than necessary to enable the discounter to achieve economies of scale or, presumably, scope; and second, if the discount practice operated so as to impair rivals' ability to achieve such economies.¹³ If the extent of scale/scope economies and the point at which they leveled off could be determined with such precision we could simply legislate firm size and be done with the law of monopolization. In fact, the measurement of scale economies across the full range

¹¹. See Daniel A. Crane, Multiproduct Discounting: A Myth of Nonprice Predation, 72 Univ. Chi.L.Rev. 27, 40-41 (2005) (summarizing the literature); Thomas T. Nagle and Reed K. Holden, The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making 306-12 (3d ed 2002); Yannis Bakos & Erik Brynjolfsson, Bundling Information Goods: In Pricing, Profits, and Efficiency, 45 Mgmt. Sci. 1613, 1619 (1999).

¹². E.g. The expert's model in *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1061 (8th Cir.), cert. denied, 531 U.S. 979 (2000), assumed a pure Cournot oligopoly in which price markups varied strictly with market share. The model assumed that the defendant and its rivals made identical products, when in fact they were differentiated. The model also assumed that the defendants were engaged in strict Cournot behavior, while much of the evidence showed that they were competing. For a critique, see 2 Phillip E. Areeda, Herbert Hovenkamp, and Roger D. Blair ¶309b (2d ed. 2000). Another example of a highly stylized model is Patrick Greenlee, David Reitman, and David S. Sibley, An Antitrust Analysis of Bundled Loyalty Discounts 22-24 (DOJ 04-13 Econ Analysis Group Discussion Paper Oct 2004), online at http://papers.ssrn.com/abstract_id=600799 (Oct. 2004), which models an anticompetitive bundled discount scheme involving a monopolist of product A and perfect competition in market B, where the seller knows the demand curve of every customer but is unable to offer a price quantity deal to each customer on product A alone, which would permit it to extract an even larger surplus. That is, ordinarily a monopolist that has perfect knowledge of its customer's demand curve could engage in perfect price discrimination.

¹³. See Einer Elhauge, The Exclusion of Competition for Hospital Sales Through Group Purchasing Organizations 18 (June 25, 2002), at http://www.law.harvard.edu/faculty/elhauge/pdf/gpo_report_june_02.pdf, and Einer Elhauge, Defining Better Monopolization Standards, 56 Stan. L. Rev. 253, 256, 283, 320-23;(2003).

of a firm's activities is extraordinarily difficult.¹⁴ A federal court could never apply such theories, particularly in a jury trial, without creating the "intolerable risk" that the Supreme Court feared in *Brooke Group*, of chilling procompetitive behavior.

These premises speak for the following conclusions:

First, no discounting practice should ever be unlawful per se. Discounting is a vertical practice that is presumptively procompetitive. It should be condemned only in the presence of significant market power and proven anticompetitive effects.¹⁵

Second, when a discount is offered on a single product (whether a quantity or market share discount¹⁶) the discount should be lawful if the price after all discounts are taken into account exceeds the defendant's marginal cost or average variable cost. That is, such discounts are covered by antitrust's ordinary predatory pricing rule. One of the factors driving the predatory pricing rule is that, as long as prices are above the relevant measure of cost the discounts cannot exclude an equally efficient rival. The same thing is true of single product discounts.¹⁷

¹⁴. See George J. Stigler, *The Economies of Scale*, 1 J.L. & Econ. 54 (1958); Leonard Weiss, *The Survival Technique and the Extent of Suboptimal Capacity*, 72 J.Pol.Econ. 246 (1964); and see Herbert Hovenkamp, *Federal Antitrust Policy: the Law of Competition and its Practice* §1.4 (3d ed. 2005).

¹⁵. A few package discounts in which the discount is so significant that virtually every customer is obliged to take the package fall into the realm of tying law. See 10 Phillip E. Areeda, Einer Elhauge, & Herbert Hovenkamp, *Antitrust Law* ¶1758 (2d ed. 2004). Tying is also said to be unlawful per se under appropriate circumstances. However, very few of the package discount cases are addressed as per se unlawful ties. Further, the per se rule against tying is misplaced in any event. See 9 Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶¶1720-1728 (2d ed. 2004).

¹⁶. A quantity discount is one that is tied to a specified quantity of product -- e.g., a 5% discount if someone takes 100 units or more, a 10% discount if someone takes 1000 units or more, and so on. The discount might be aggregated over a single shipment or over all purchases within a specified time period, such as one year. By contrast, a "market share" discount is one that is tied to the share of the buyers purchases that come from a particular seller -- e.g., a 5% discount if one takes 70% of its units from the seller, a 10% discount if one takes 80% of its units from the seller, and so on. The "market share" discount has the feature that the same discount can be claimed by smaller buyers, because it is the percentage rather than the absolute amount of goods that determines the size of the discount. "Market share" discounts can also face higher monitoring costs because the seller needs to know how many units the buyer is purchasing from other sellers.

¹⁷. See *Concord Boat*, 207 F.3d at 1062 (suggesting a rule that single product discounts be lawful per se unless priced at below cost).

This rule should also apply when the discount is aggregated across two or more items but the market contains one or more substantial rivals who produce the same range of items.¹⁸ If two or more firms in a market make a package consisting of products *A* and *B*, then one firm's package discount cannot drive out an equally efficient rival unless the price of the package as a whole is below cost. A rule condemning above cost package discounts in this situation would run into all the problems that predatory pricing law faces with respect to single product pricing.

Third, a different analysis is called for when the discount is aggregated across two or more items and *no rival* offers the same package of items. In this subset of discount cases an above cost discount can exclude an equally efficient rival.

Single-Item Discounts

In single-item discounting the discount applies to any one product. Although the buyer may in fact be purchasing two or more items, the discount is not "aggregated" over the multiple items. For example, a wholesale purchaser of tires and batteries from the same supplier might get a discount of 5% off either product if it purchases 1000 or more per time period, 10% off either product if it purchases 10,000 or more, and so on. In such a case the buyer suffers no penalty in the battery market if it decides to purchase tires elsewhere, or vice-versa. The price of batteries is a function of how many batteries it purchases from this seller, nothing more. A discount of this type was at issue in the Eighth Circuit's *Concord Boat* case, in which the defendant was accused of monopolizing the market by offering progressive discounts on boat motors sold to boat builders as the builders took a higher percentage share from the defendant.¹⁹ The Eighth Circuit quite properly dismissed the complaint after observing that rivals could take the defendant's business at any time simply by matching the defendant's price schedule.²⁰ As a result, the discount scheme should not be unlawful unless the prices were above some measure of cost, which they were not alleged to be.²¹

¹⁸. See discussion *infra*, text at notes 39-44.

¹⁹. *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039 (8th Cir.), cert. denied, 531 U.S. 979 (2000).

²⁰. *Concord Boat*, 207 F.3d at 1063:

Boat builders and dealers were free to walk away from Brunswick's discounts at any time, and the evidence showed that they did so when Brunswick's competitors offered better discounts, thus discrediting the boat builders' theory that the discounts created "golden handcuffs" and entry barriers for other engine manufacturers.

²¹. Indeed, the plaintiffs in *Concord Boat* were the wholesale customers, who were claiming that even the fully discounted price amounted to a monopoly overcharge. See *id.* at 1047.

Single-product discount schemes, particularly those related to market share, have been analogized to exclusive dealing. In the extreme case one might imagine a discount scheme that gives progressively higher discounts as a purchaser's percentage of the good bought from the defendant increases, all the way to the point that the purchaser takes 100% of the good from the defendant. This extreme case bears some resemblance to exclusive dealing. However, there are important differences.

First, the discount scheme excludes less than an exclusive dealing contract insofar as a buyer can earn the discount without purchasing everything from the seller.²² The impact of course varies with the percentage. But even an absolute requirement that the buyer take a specified share of purchases from a particular seller can foreclose much less than full exclusive dealing. For example, if 70% foreclosure²³ would occur when the defendant imposes absolute exclusive dealing, that number drops to 56% if the requirement is simply that the buyer take 80% of its needs from the seller.

Second, most discount programs lack the "lock in" feature that characterizes unlawful exclusive dealing. In a case of unlawful exclusive dealing the defendant seller enters into a contract for a specified period requiring the purchaser to take all of its product from that seller.²⁴ By contrast, the typical discount contract is typically

²² E.g., *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 237 (1st Cir. 1983), distinguishing quantity discounts from exclusive contracts:

There is "an important difference between a 'requirements' contract and a contract which calls for the purchase of a definite quantity over a period of time which the buyer estimates to be sufficient to meet his requirements." ... A true requirements contract flatly eliminates the buyer from the market for its duration; a fixed quantity contract leaves open the possibility that the buyer's needs will exceed his contractual commitment; he is free to purchase from others any excess amount that he may want. This flexibility is important here, for it left Grinnell the legal power to buy small (and then in 1979, larger) amounts from Barry should they have become available.

(internal citations omitted). See also *Virgin Atlantic Airways, Ltd. v. British Airways PLC*, 257 F.3d 256 (2d Cir. 2001); *Western Parcel Express v. UPS of Am., Inc.*, 190 F.3d 974 (9th Cir. 1999); *Fedway Assocs., Inc. V. United States Treasury*, 976 F.2d 1416, 1418 (D.C. Cir. 1992); and see 11 Antitrust Law, note 25 at ¶1807b2.

²³ Foreclosure is measured by looking at the percentage of the market that is "tied up" by the exclusive dealing contract, and thus by considering how much of the market is available to rival sellers.

²⁴ E.g., *United States v. Dentsply Int'l, Inc.*, 399 F.3d 181 (3d Cir. 2005) (condemning exclusive dealing agreements that applied to most of defendant's dealers for the lifetime of their dealerships).

conditional: if you want to obtain a 20% discount, then you must purchase all (or a specified percentage) of your goods from the contracting seller. The penalty for not taking the specified percentage is not a breach of contract suit or termination of a franchise. Rather, it is simply the loss of the discount. But the loss of the discount is not a penalty at all if a rival is willing to match the discounted price. As a result, the quantity discount case typically presents a contract of "zero" duration.²⁵

Are there any circumstances in which an above-cost single-item discount is anticompetitive? Perhaps. One can imagine situations in which a discount increases the dominant firm's sales so much that it denies rivals economies of scale because they cannot get their own output high enough.²⁶ Although that might be true as a matter of fact, any antitrust remedy must be denied on grounds of both principle and application. On grounds of principle, there is no way of drawing boundaries around the point. In any industry subject to significant economies of scale in production or distribution a firm with a high volume of sales may be able to

²⁵. On the relevance of duration, see 11 Herbert Hovenkamp, *Antitrust Law* ¶¶1802g, 1821d (2d ed. 2004). See, e.g., *CDC Technologies, Inc. v. IDEXX Labs., Inc.*, 186 F.3d 74, 80 (2d Cir. 1999) (exclusive dealing not unlawful where contracts are for short duration); *Western Parcel Express v. UPS of Am., Inc.*, 190 F.3d 974 (9th Cir. 1999) (same). The general consensus is that contracts that can be terminated in a year or less are lawful regardless of foreclosure percentage, and a few decisions so hold for period of up to three years.

The durational issue for discounts can become more complicated if the discounts are aggregated across a long time period. In that case a rival could match the discount at the beginning of the contract term but perhaps not if the rival's sales opportunity arises well into the contract term and the only way the rival can match the discount is by compensating the customer for lost discount on items that have already been purchased. Suppose a firm purchases 1000 units per month on a contract that give a 10% discount if the purchaser takes 12000 units over a year, but no discount if it takes less. In the sixth month, and assuming that this buyer needs precisely 12,000 units, the rival would have to match not only the current discounted price, but may also have to compensate for the five months of discount that the customer will lose by switching to the rival.

Such a contract might ending up having the same exclusionary effect as an exclusive dealing contract for one year, assuming, of course, that the buyer needed precisely 12,000 units -- that is, that the 12,000 unit requirement amounted to 100% of its needs. The illustrations showing that these practices can be anticompetitive assume either very static market conditions or a seller that has nearly perfect information about the demand functions of its buyers. See 11 Antitrust Law, note 25 at ¶1807b2.

²⁶. See, e.g., Einer Elhauge, *The Exclusion of Competition for Hospital Sales Through Group Purchasing Organizations* 18 (June 25, 2002), at http://www.law.harvard.edu/faculty/elhauge/pdf/gpo_report_june_02.pdf ("By denying rivals access to the market share they would need to achieve their minimum efficient scale, exclusionary agreements can thus raise rivals' costs."); see also *id.* at 24 n.68. And see Willard K. Tom, David A. Balto & Neil W. Averitt, *Anticompetitive Aspects of Market-Share Discounts and Other Incentives to Exclusive Dealing*, 67 Antitrust L.J. 615, 627-30 (2000).

undersell firms that have a lower volume of sales. But no firm, not even a monopolist, is a trustee for another firm's economies of scale. To force such a firm to hold a price umbrella over its rivals, selling at above cost prices in order to protect the rivals' inefficiently small production, would be a blatant example of protecting competitors at the expense of consumers.

Indeed, one of the problems of the theory that discount deprive rivals of economies of scale is that the theory does not require a *discount* at all. The seller who simply sold all of its product at the fully discounted price, without requiring any purchase commitment, would also be depriving rivals of economies of scale. Worse yet, it would be stealing from rivals even those smaller buyers who were unable or unwilling to take the volume of product necessary in order to obtain the discount.²⁷

This issue was played out many times in the 1970s and 1980s in a debate over whether "above cost" prices could ever be found predatory under the antitrust laws.²⁸ Briefly, the answer was (1) yes, it is possible to model situations in which above cost prices can be exclusionary, and certainly in the situation where the dominant firm had attained scale economies that lower output rivals could not; but

²⁷. For example, suppose the defendant's list price was \$10, with a discount to \$9 to those who took 70% of their requirements from the seller, and to \$8 for those who took 90%. The complaint would be that the \$8 price coupled with the 90% purchase requirement gave the defendant seller such a large share of the market that it denied rivals a chance to realize relevant scale economies. But a straight \$8 price would do so even more, because it would require rivals to match that price both for buyers who took the 90% and for those who did not.

The advocates of this approach do usually posit some additional facts. For example, suppose the defendant has a well recognized brand, such that a buyer/reseller must sell at least 60% of that supplier's brand in order to satisfy the national market. In that case, a discount that ratchets market share up to 90% sounds exclusionary. See Tom, Balto & Averitt, *supra* note 26 at 627-29. But the same critique applies: if the defendant simply charged the same low price to all, its price structure would exclude even more. Further, the inquiry that the authors suggest would require a jury to determine such things as the minimum market share that a reseller must sell of the defendant's product in order to remain viable, and identify the range of scale economies in rival's plants. See Lambert, note 6 at 1709-1710, who observes:

In practice, [this inquiry] would require antitrust counselors to predict whether a judge (or, worse yet, a jury) would conclude that an above-cost purchase target discount was merely "competition on the merits" or was likely to be so successful (i.e., to win so much business from rivals) that it would harm competition by reducing rivals' efficiencies. The crystal ball nature of this inquiry, coupled with the fact that a mistaken prediction could result in treble damages, would likely overdeter by chilling many proconsumer discounts.

²⁸. See discussion *supra*, text at note 7.

(2) the antitrust laws should not be used to attack above cost predatory pricing because (a) once the courts permit above cost prices to be condemned as predatory there will be no shortage of rivals who wish to attack them; and (b) antitrust is a blunt instrument for dealing with pricing claims, producing far too many false positives; so (c) a rule condemning above cost pricing as predatory would chill far too much behavior that is entirely procompetitive.

As a result, above cost discounts on single products should be regarded as lawful. The same logic applies when the discounts are "packaged" but at least one significant rival produces the same range of good as are contained in the defendant's discounted package.²⁹ More significant problems arise, however, when the defendant bundles, or packages, its discounts and there is no significant rival who can offer a competing package.

"Bundled" Discounts

Appropriate Analogy: Tying or Predatory Pricing?

While judicial experience with package discounts is still limited, the practice itself has been likened to two quite different practices, each of which has produced hundreds of judicial decisions -- namely, tying and predatory pricing. Tying is unlawful when the defendant "ties" two products together, thereby requiring the buyer to purchase its tied product rather than a rival's. Thus the injury is to competition in the tied product market. Tying requires that the two goods be "tied together," but it does not require that the goods be priced at below cost. Nor must the tying plaintiff prove "recoupment," or that the costs of the defendant's tying program will be recovered in some later period of monopoly pricing.³⁰ Of course, prices are relevant to exclusionary effect: if the defendant ties but also charges too high a price rivals will be able to compete for sales in both the tying and tied products.

By contrast, the plaintiff in a predatory pricing case need not show that two or more different products were linked or tied together. However, it must show prices below an appropriate measure of cost and provide proof that the defendant could reasonably expect that its investment in predatory pricing would be recouped during a subsequent period of monopoly prices.

In general, plaintiffs have brought these cases emphasizing their "tying," character, sometimes even requesting the court to apply a variation of tying's per se

²⁹ See discussion *infra*, text at note 38.

³⁰ On the "black letter" requirements of tying law, see 9 Antitrust Law, note 15 at ¶1702.

rule.³¹ In contrast, defendants have maintained that package discounting should be lawful per se unless the discount forces prices below the defendant's costs -- i.e., they have used a predatory pricing analogy.³²

Package discounts bear some characteristics of both predatory pricing and tying. Indeed, they are best analyzed by a model that draws a little from each area. A variation of the requirement that prices be "below cost" is essential for the plaintiff to establish one particular element of unlawful bundled discounting -- namely that there was actually "tying" -- that is, that the purchaser was actually "coerced" (in this case, by lower prices) into taking the tied-up package. As a result, this particular requirement of prices below cost operates as a necessary, but not sufficient, condition for illegal package discounting. As in tying law, it operates as a requirement that the products actually be "tied together," which means that buyers are either required to take them together or face significant penalties if they fail to do so. In the case of tying arrangements this requirement comes in numerous variations, ranging from the express tying contract requiring the buyer to take the tied product as a condition of getting the tying product, to "implied" contracts, and to technological ties and package discounts.³³ In addition to showing the existence of a "tie," however, the plaintiff must also show other anticompetitive effects normally associated with tying or exclusive dealing assessed under the rule of reason, as well as the absence of numerous defenses.

Safe Harbor: Price-Cost Relationships and "Coercion"

In an orthodox tying case the plaintiff is coerced into taking the tied-up bundle by a contract requiring combined purchases.³⁴ If such "coercion" cannot be established the tying complaint cannot proceed.³⁵ Among the most common

³¹. See, e.g., *SmithKline Corp. v. Eli Lilly & Co.*, 427 F.Supp. 1089, 1114 (E.D.Pa. 1976), *aff'd*, 575 F.2d 1056 (3d Cir.), *cert. denied* 439 U.S. 838 (1978), where the plaintiffs argued for a per se rule.

³². See, e.g., the defendant's petition for certiorari in *LePage's, Inc. v. 3M Corp.*, 324 F.3d 141 (3d Cir. 2003) (*en banc*), *cert. denied*, 540 U.S. 807 (2003), at 2003 WL 22428375, at *8-*10 (criticizing Third Circuit for failing to require below cost pricing or recoupment, and thus holding that Supreme Court's *Brooke Group* decision did not apply).

³³. On the numerous variations of the requirement that the two products be "tied together," see 10 Antitrust Law, note 15 at ¶¶1752-1758. In a "technological tie" the two products are tied together by virtue of technological design -- that is, one of them will work only with the other one. The classic example is Kodak's completely redesigned "Instamatic" camera that took only Kodak's redesigned film cartridge. See *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263 (2d Cir.1979), *cert. denied*, 444 U.S. 1093 (1980).

³⁴. See 9 Antitrust Law, note 15 at ¶1753.

³⁵. See, e.g., *Marts v. Xerox*, 77 F.3d 1109, 1112-13 (8th Cir. 1996) (no tie if defendant willing to offer items separately at reasonable prices); *Stephen Jay Photography v. Olan*

examples of explicit ties are the numerous franchise tie cases in which franchisors require the franchisee to purchase certain food products or other staples as a condition of receiving the franchise itself.³⁶ Not all these contracts are explicit, and sometimes tying must be proven by circumstantial evidence,³⁷ but the basic requirement in all of these cases is the same: the seller will not sell the tying product unless the purchaser agrees to take some of the tied product as well.

In a package discount case this "tying" requirement is established when the discounted price for the defendant's package makes it impossible for rivals to match the dominant firm's offering. As a result buyers are forced to purchase from the defendant or face a price penalty if they do not. Of course, most discounts, including most package discounts, do no such thing. Discounting is very common in most markets and firms compete against each other by offering discounts.³⁸ No one is forced to take one firm's discounted package if rivals can offer an equivalent deal.

This means that an essential question to establishing unlawful package discounting is that the purchaser be "forced" to take the bundle -- which means, that a rational, profit-maximizing buyer did not have good competitive options. This can occur under two sets of circumstances. The first one occurs when the defendant's price for its discounted bundle is lower than the cost of supplying the bundle. In that case no equally efficient firm can match the discounted price. As a result the purchaser is effectively obliged to purchase from the defendant. When the overall price of the defendant's discounted package is below cost, then the "coercion" element has been established. However, that situation is adequately

Mills, 903 F.2d 988, 991 (4th Cir. 1990) (no tie when buyers free to take yearbook with or without portraits); *Cia. Petrolera Caribe v. Avis Rental Car Corp.*, 735 F.2d 636, 637-638 (1st Cir. 1984) (no tie between rental cars and gasoline where customers had option of buying own gas); *CBS V. ASCAP*, 562 F.2d 130 (2d Cir. 1977) (blanket license of multiple copyrighted songs not a tie because buyers free to instead get separate licenses from individual copyright holders), rev'd on other grounds sub nom. *BMI v. CBS*, 441 U.S. 1 (1979); *Capital Temporaries v. Olsten Corp.*, 506 F.2d 658, 665 (2d Cir. 1974) (no tie if contract gave buyer option of taking allegedly tied product) *Waldo v. North American Van Lines*, 669 F. Supp. 722, 727-729 (W.D. Pa. 1987) (no tie between tractor and insurance where buyers had option of obtaining insurance on own or from defendant).

³⁶ E.g., *Queen City Pizza, Inc. v. Domino's Pizza, Inc.*, 124 F.3d 430 (3d Cir.1997), cert. denied, 523 U.S. 1059 (1998) (pizza franchise tied to purchase of defendant's pizza dough); *Krehl v. Baskin-Robbins Ice Cream Co.*, 664 F.2d 1348 (9th Cir.1982) (ice cream store franchisees required to purchase the defendant's ice cream); *Siegel v. Chicken Delight, Inc.*, 448 F.2d 43 (9th Cir.1971), cert. denied, 405 U.S. 955 (1972) (fast food chicken franchise tied to purchase of defendant's herbs, spices, and disposable products).

³⁷ See 10 Antitrust Law, note 15 at ¶¶1755-1756.

³⁸ See David S. Evans & Michael Salinger, Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law, 22 Yale J.Reg. 37 (2005).

addressed under the law of predatory pricing. Because such a practice is presumably rare and very costly, and the danger of false positives as high, it would require proof of below cost sales and recoupment.

But package discounting can also coerce buyers who do not accept the package in one other circumstance, which occurs only when no rival makes the full range of products as are offered in the defendant's discounted package and the rival cannot easily assemble a comparable package. In this case a package that is nominally "above cost" can coerce when the only way the rival can match the discount is to give an even larger per item discount.

To illustrate, suppose that the defendant makes products *A* and *B*, which have costs of \$12 and \$7 respectively. The defendant normally sells the products individually for \$14 and \$8, but it offers a price of \$12.50 and \$7.50, or a combined package price of \$20 (a little less than 10% off the full price), provided that the buyer purchases one of each. No significant rival makes both *A* and *B*, and the claim of exclusion comes from a rival who makes only good *B*.

Note that under the package deal in the illustration both of the defendant's prices are nominally above cost. An equally efficient rival who made both products could match the package price offer and even undercut it by \$1 without going below its own costs. If such a significant rival existed this package deal would not exclude. However, in order to sell product *B* to customers who used both *A* and *B*, a rival that made only *B* would have to match not only the discounted *B* price, it would also have to compensate the buyer for the lost discount on product *A*, which is an additional \$1.50. This would require the rival to sell product *B* at a price of \$6, which an equally efficient rival could not do, given its \$7 costs. This logic may have driven the Third Circuit's decision in *LePage's*, although the court's opinion on the issue is unclear.³⁹

Because a package price that is nominally above cost can exclude an equally efficient rival who makes only one of the two products, this is not a pure predatory pricing case and a simple requirement that the seller have sold the package at less than cost would be underdeterrent. However, discounts are a good thing and we must have a way of distinguishing that small subset of discounts that harm competition. In this case the potential for anticompetitive harm exists

³⁹ See *LePage's*, 324 F.3d at 155-156, which discusses the question whether an equally efficient rival could have matched the discount, but does not explicitly require it. The dissenter, *id.* at 175, believed that *LePage's* had not shown that an equally efficient rival could not have matched the discount, and that *LePage's* position was that such a showing was unnecessary. See also Daniel L. Rubinfeld, *3M's Bundled Discounts: an Economic Perspective*, 72 Univ. Chi.L.Rev. 243, 252-262 (2005). Rubinfeld examined the record and concluded that the requirement had not been established. See also the Petition for a Writ of Certiorari, *3M Co v LePage's Inc*, No 02-1865, *5 (June 20, 2003), 2003 WL 22428375 ("LePage's never sought to show that, regardless of how one allocated 3M's discounts to individual products, a resulting single-product price was below cost").

only because the defendant is able to make an offer that an equally efficient rival is unable to match.

But not every package discount has that quality. Suppose, for example, that the defendant reduced the price of the goods in the above illustration to \$13.50 and \$7.50 (\$21.00, or a little less than 5% off the full price of \$22.00), if the seller took the package. Now the rival in product *B* *could* match the full package discount simply by selling its product *B* at the competitive price, or \$7. The buyer could come out equally well by purchasing the defendant's *A* alone at the undiscounted price of \$14, and the rival's *B* at \$7.00, so there is no "coercion."

To see whether a package price is "exclusionary" in this sense, then, one simply attributes the entire discount on all products in the package⁴⁰ to the product for which exclusion is claimed.⁴¹ If the resulting price is less than the defendant's

⁴⁰. The text statement assumes a defendant that bundles two or more products and a plaintiff that makes only one product. If the defendant bundles three or more products while the plaintiff makes two or more (but less than the full range), then one asks whether the price of the plaintiff's full range of offerings would fall below costs, with costs measured from the defendant's perspective, if all discounts in the package were attributed to the plaintiff's range of products. To illustrate, suppose the defendant made and offered a package discount on products X, Y, and Z. The plaintiff made Y and Z, but not X. In this case the relevant question would be whether, when the full package discount was allocated to products Y and Z, the price of Y and Z combined fell below average variable or marginal cost. If the answer is no, an equally efficient producer of Y and Z would be able to sell them to a customer, who could then afford to buy the defendant's X at the undiscounted price. There would be no exclusion.

⁴¹. Several decisions have followed this reasoning or something reasonably close to it. See *Virgin Atlantic Airways Ltd. v. British Airways PLC*, 69 F.Supp.2d 571, 580 n. 8 (S.D.N.Y. 1999), *aff'd* on other grds, 257 F.3d 256 (2d Cir. 2001), which read that same federal district court's earlier *Ortho* decision as requiring the plaintiff to show that "the competitive product in the bundle" was "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*," (emphasis added) referring to *Ortho Diagnostic Systems, Inc. v. Abbott Labs., Inc.*, 920 F.Supp. 455, 467-470 (S.D.N.Y.1996). *Ortho* itself had stated:

[O]nly price cutting that threatens equally or more efficient firms is condemned under Section 2. In consequence, this Court holds that a Section 2 plaintiff in a case like this--a case in which a monopolist (1) faces competition on only part of a complementary group of products, (2) offers the products both as a package and individually, and (3) effectively forces its competitors to absorb the differential between the bundled and unbundled prices of the product in which the monopolist has market power--must allege and prove either that (a) the monopolist has priced below its average variable cost or (b) the plaintiff is at least as efficient a producer of the competitive product as the defendant, but that the defendant's pricing makes it unprofitable for the plaintiff to continue to produce. Any other rule would entail too substantial a risk that the antitrust laws would be used to protect an inefficient competitor against price competition that would afford substantial benefits to consumers.

cost, then the package discount is exclusionary as against a rival who makes only one of the two goods in the package. For example, in the first illustration above the defendant's cost of *B* was \$7 and its undiscounted price was \$8. The package generated a *total* discount on the *A/B* package of \$2. When the entire discount is attributed to product *B*, its effective price drops to \$6, which is below the defendant's cost. Such a package pricing scheme will exclude an equally efficient rival who makes only product *B*. By contrast, in the second illustration the aggregate discount on the two products was \$1 and the rival producing only *B* could match it.⁴²

A safe harbor test for bundling, or "coercion," based on price-cost relationships is essential to analyzing claims of package discounts because, as in the case of single-product predatory pricing, only an effective price that is "below cost" can exclude the equally efficient rival. Thus the first element in a package discount case is "coercion" or "exclusion" -- namely a showing that the defendant has priced its package in such a way that the only significant rivals available in the market are unable to make an equally attractive offer.

However, that is not the end of the inquiry. This cost/price test establishes only that the two products are "tied together," in the sense that the customer cannot reasonably be expected not to take them together. Once this test has been satisfied, from this point on the analysis resembles that in a rule of reason tying or exclusive dealing case.

Unreasonably Exclusionary Packages

When no significant rival produces the full range of products that are subject to the package discount, then the package "excludes" if the price of the "tied" component is below average variable cost when the discounts on all elements are attributed to that component. In effect, this establishes the requirement analogous

920 F.Supp. at 469-470.

The court in *Information Resources, Inc. (IRI) v. Dun & Bradstreet Corp.*, 359 F.Supp.2d 307, 307-308 (S.D.N.Y. 2004), concluded:

When price discounts in one market are bundled with the price charged in a second market, the discounts must be applied to the price in the second market in determining whether that price is below that product's average variable cost.

citing *Virgin Atlantic Airways, Ltd.*, 69 F.Supp.2d 571, 580 n. 8. At this writing the *IRI* case is on appeal to the Second Circuit.

⁴² See Rubinfeld, note 39, 72 Univ. Chi.L.Rev. at 248; accord Daniel A. Crane, Multiproduct Discounting: A Myth of Nonprice Predation, 72 Univ. Chi.L.Rev. 27, 38 (2005); Lambert, note 6 at 1734-1735.

to the requirement in tying cases that two products actually be "tied together," or the requirement in exclusive dealing cases that the purchaser agree not to deal in the good of a competitor.

But the requirement that two goods be tied together, or that a purchaser has agreed not to deal with competitors, is only the threshold. In any tying or exclusive dealing case under the rule of reason the plaintiff must also show that the tie or the exclusive deal injures competition and that there are not alternative explanations for it that do not depend on anticompetitive exclusion.

Without repeating the entire law of vertical foreclosure,⁴³ these requirements include a market that is structurally capable of being monopolized, with high entry barriers, a defendant with a dominant share of the market, adequate duration of the challenged arrangements, the absence of other rivals able to compete effectively with the defendant, and lack of business justifications.

A couple of observations are relevant. First, use of bundled discounts to create or maintain a monopoly is a "structural" offense. The success of such strategies depends on the ability of the *market* to respond to dominant firm strategies, not on the ability of any particular firm to do so. For that reason we ask in a case involving bundled discounts, not whether the plaintiff could match the bundle, but if any firm or group of firms in the market could do so, or are likely to do so. That question is answered against liability if the market contains at least one other significant firm that offers the same package that the defendant is discounting.

But the question might also be answered against liability if the market were able to match the discount by means of coordination of two or more firms. For example, suppose that only the defendant offers both products *A* and *B*, while other firms offer only *A* or only *B*. In that case exclusion is possible under the test suggested above if the price of *B* falls below the relevant measure of cost once all discounts are attributed to that product. But two firms together, or a broker that represented two firms, one of whom produced *A* and another who produced *B*, could match the offer.

The harder question is how much weight to give to such possibilities. It is easy to hypothesize that certain types of transactions could occur, but there may be many barriers that only knowledge or experience can discover. On the other hand, if the market exhibits a history of such combinations, then one must obviously ask why such a combination would not emerge in the present case.⁴⁴ This is

⁴³. In these contexts, see 9 Antitrust Law, note 15 at ¶¶1704, 1705, 1706, 1709, 1710 (tying); and 11 Herbert Hovenkamp, Antitrust Law ¶¶1802-1807 (2d ed. 2005) (exclusive dealing).

⁴⁴. Lambert, note 6, at 1742, 1746-1748, would put the burden of proof on the plaintiff to show that coordination with others to produce a package is impracticable. While that

particularly true in one of the many markets where packages are assembled by intermediaries such as brokers or distributors. Although no single rival *manufacturer* could produce the *A-B* bundle, a broker or distributor could and might be in a position to offer the same deal that the defendant is offering. Without going into these possibilities in too much detail, suffice it to say that the court must be satisfied that the defendant's discounted package is not likely to be matched, whether by a rival manufacturer who produces the same bundle or by some union of two or more firms each of whom make one component of the bundle.

Defenses and Rationales

Even when a "tie" is found, whether by contract, discount, or technological design, most tying arrangements are legal. Bundling serves a number of procompetitive or competitively benign purposes, including achievement of scale or scope economies, quality control, and many instances of price discrimination.⁴⁵

Consideration of competitively benign explanations is particularly critical when the challenged practice is a discount, because low prices are the most important goal of antitrust policy. Further, rivals are very quick to complain that a larger firm's price cut is anticompetitive. An express tying or exclusive dealing contract excludes by its own terms. But a discount is a discount, and excludes only because a rival is unable or unwilling to match the discount.

Economies of Scale or Scope

Any proven explanation for a package discount that does not depend on exclusion of rivals should indicate legality. The most obvious one is economies of scale or scope. Often firms offer discounts in exchange for a bundle simply because it is cheaper to produce or distribute them in bundles and the firm competes by passing these cost savings on to customers.⁴⁶ Alternatively, the bundled discount enables the firm to sell more, and in the presence of economies of scale it can then bid a lower price. A purchaser who receives a larger discount across the board for purchasing an aggregation of products *A* and *B* will very likely purchase more of each.

This fact explains why so many of the cases involving bundled discounts arise in relatively high tech markets. Scale economies are typically substantial in

requirement seems sensible, one still needs to know how much and what kind of evidence is required to meet the burden. He also notes that multi-seller bundles are in fact fairly common. See *id.* at 1746 & n.230.

⁴⁵. On the manifold procompetitive explanations of tying arrangements see 9 Antitrust Law, note 15 at ¶¶1711-1718.

⁴⁶. See Evans & Salinger, *Why Do Firms Bundle and Tie?*, note 38; see also 9 Antitrust Law, note 15 at ¶1717a-c.

any market that has a significant fixed cost component, particularly if R&D costs are relatively large. Indeed, when R&D is a significant component of cost, economies of scale are often *never* exhausted. R&D costs are typically fixed costs, paid up front, and amortized over the totality of units sold during the product's market life. For example, if R&D invested in a product is \$1,000,000, the per product costs will be \$1000 if 1000 units are sold; \$1 if 1,000,000 units are sold; and 1¢ if 100,000,000 are sold. A firm will then be induced to bid aggressively if it can be assured of a relatively larger output, and consumers will reap the benefits. This fact undoubtedly accounts for much of the discounting that goes on in markets such as those for medical devices or pharmaceuticals. Once a complex device or pharmaceutical has been developed the manufacturer has a large and reasonably certain investment, but an as-yet-to-be-determined demand. An appropriate and quite competitive strategy is to sell as much as possible as long as returns exceed variable costs. The more that is sold, the lower will be average costs of production.⁴⁷

For this same reason it is perverse to condemn package discounts at the behest of a rival who is earning high margins on its own output of the products upon which exclusion is claimed. Such a firm is telling us that it wants to use the antitrust laws rather than competition to guarantee its place in the market.⁴⁸

Price Discrimination and Attainment of Economies

Price discrimination is another explanation that explains many competitively benign package discounts.⁴⁹ Further, price discrimination schemes can also be

⁴⁷. The same phenomenon explains why software is often bundled onto a single CD, such as Microsoft Office, which combines a word processor, e-mail program, spreadsheet, and other programs and sells them at a significantly lower price than that of each program when sold separately. Production costs of putting everything on a single disc are lower, and because most of the development costs are fixed, costs decline steadily as volume increases.

⁴⁸. See, e.g., *Masimo Corp. v. Tyco Health Care Group, L.P.*, 2004 U.S. Dist. LEXIS 26916 (C.D.Cal. June 10, 2004), where the court observed that the plaintiff's profit margins were between 45% and 83% during the period of claimed exclusion. The court did not comment further on the observation. However, if true, the plaintiff was simply using the antitrust laws to protect its high profit margins rather than cutting price in order to retain business.

⁴⁹. See Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics* 408-12 (6th ed 2005), who provides illustrations from such everyday markets as cable television, where larger channel bundles are sold at lower prices than smaller ones; and McDonald's, where meals (sandwich + drink + fries) are sold at a lower price than the sum of the prices of the individual items. See also Richard A. Posner, *Vertical Restraints and Antitrust Policy*, 72 *Univ. Chi.L.Rev.* 229, 235 (2005) (suggesting that the "usual purpose" of bundling is price discrimination). Judge Posner cites George J. Stigler, *A Note on Block Booking*, in George J. Stigler, ed, *The Organization of Industry* 165 (Chicago 1983); and William James Adams and Janet L. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 *Q J Econ* 475 (1976).

driven by concerns for economies of scale, because they often can facilitate higher output. In brief, bundling may take advantage of the fact that different customers have different demand elasticities for individual goods. By bundling them and selling them at a single bundled price the seller can capture larger amounts of consumers' surplus from customers. In the process, output can go up as well, and production and distribution costs decline.

To illustrate, assume that a firm's marginal costs of producing goods *A* and *B* are \$100 and \$50, respectively. Customer 1 is willing to pay \$110 for *A* and \$40 for *B*. Customer 2 is willing to pay \$90 for *A* and \$60 for *B*. If the seller priced the goods individually at the competitive level or any higher amount customer 1 would buy *A* but not *B*. Customer 2 would buy *B* but not *A*. However, suppose the seller charged \$150 for a package of *A* and *B*. In that case both *A* and *B* would take the package because each one values the two units together by \$150, although their valuations on the individual items differs.⁵⁰

Note that in the illustration this is manifestly *not* an anticompetitive practice. First, the \$150 price for the two goods together is equal to their combined marginal cost; so the price of the package is competitive. Second, the strategy increases output.⁵¹ Without it, each customer would purchase only one of the two goods, but under it they purchase both. As a result, the ability to price discriminate in this fashion may enable the firm to bid an even lower price in anticipation of the higher output that will result.

Suppose that marginal costs in the above example declined by 10% as the firm's output went from one to two units. In the above illustration, if the seller sold *A* at the competitive price of \$100 and *B* at the competitive price of \$50, it would sell one unit of *A* to customer 1 and one unit of *B* to customer 2. By packaging the two products together, however, and selling them for a combined price the seller can get both buyers to take both products. As a result its costs decline to \$90 and \$45, and if constrained by competition it would be able to bid \$135.00 for the package. This is an efficient outcome that both increases output and results in a cost reduction that is passed on to consumers. Note also that in this case the efficient bundle flunks the "attribution" test previously laid out. If the entire \$15.00 discount were attributed to product *B*, an equally efficient rival could not match the price. Nevertheless, the bundle is highly efficient and should be permitted.

⁵⁰. This was George Stigler's important observation in his Note on Block-booking, note 49.

⁵¹. See Michael A. Salinger, A Graphical Analysis of Bundling, 68 J Bus 85, 86 (1995); Evans and Salinger, Why Do Firms Bundle and Tie?, note 38; Thomas T. Nagle & Reed K. Holden, The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making 306-07 (3d ed. 2002).

Of course, higher output injures rivals, because less of the market remains for them. But to protect rivals from a firm's output increasing strategies puts competitors ahead of consumers.

These same strategies work when prices are higher than marginal cost, which means that they can be adopted by monopolists as well as competitors. But the important point is that they have non-monopolistic, procompetitive explanations. Bundling explained by price discrimination and/or scale economies is "exclusionary" only in the quixotic sense that any practice that increases a seller's output is exclusionary. If this firm sells more, then very likely someone else is selling less.

While price discrimination often sounds suspicious to juries and sometimes even judges, the economic case for condemning price discrimination as such is close to nonexistent, and very few §2 decisions have ever found price discrimination unlawful.⁵²

Bundled Discounts in Brokered Markets

Many package discounts have another very simple and competitively benign explanation that does not apply to tying arrangements generally. Many such arrangement are a consequence of an intermediary's participation, where the intermediary maximizes its profits by maximizing aggregate sales.

To illustrate, suppose that mechanical yard equipment consists of lawn mowers, edge trimmers, and snow blowers, and that a major manufacturer of all three sells them to retailers through a broker. The broker gets a three percent commission on all sales, and it sells to a diverse variety of retailers that sell differing combinations of these goods. In that case the broker is likely to press for contracts that maximize aggregate sales -- perhaps giving the buyer a 5% discount for purchasing 60% of all of its needs of these three products through the brokerage contract, an 8% discount for purchasing 70% of its needs, and so on. Whether such contracts are negotiated depends on the extent of the sellers' and buyers' interest in high volume transactions.

This phenomenon almost certainly explains the strong prevalence of package discounts in the market for GPO-facilitated purchases of medical devices and supplies. Group Purchasing Organizations, or GPOs, represent a significant portion of the purchasing market for medical devices and supplies by hospitals, nursing homes, and similar institutions. The larger GPOs are very powerful forces

⁵² One possible exception is Judge Wyzanski's opinion in *United States v. United Shoe Machinery Co.*, 110 F.Supp. 295 (D.Mass.1953), affirmed per curiam, 347 U.S. 521 (1954). See Posner, note 49, at 236-237, who expresses some anguish over price discrimination, particularly because of its implementation costs, but notes that output gains offset these costs. In any event, he finds no persuasive reason for condemning price discrimination under the antitrust laws.

in this market because they represent a large number of purchasing institutions and promise extraordinarily high volume transactions. Further, they are typically compensated on a commission basis by a specified percentage of purchasing volume that applies across the entire range of products covered by a contract. As a result contracts are often negotiated that specify a large number of a supplier's various goods and that offer a discount for ever increasing purchases, with the discount aggregated over the full range of products covered by the contract.

Such discounts are output increasing strategies. Their profitability does not depend on anyone's exclusion from the market but only on a firm's willingness to accept a lower price in exchange for a larger volume of transactions. Indeed, one can find such "bundled" discounts across the full range of products, both those that are produced by dominant firms and those that are made under highly competitive conditions. The prevalence of the latter indicates that there are perfectly non-monopolistic explanations for a bundled discount.

Conclusion

The Sherman Act §2 law of discounting and bundling today is moving in the right direction. However, decisions such as *LePage's* in the Third Circuit indicate that the courts have yet to develop a set of concrete, administrable rules that will not deter firms from engaging in aggressive but procompetitive behavior.

For single-product discounts, or multiproduct discounts where significant rivals also manufacture the full range of products offered in the bundle, antitrust condemnation should be limited to cases that involve predatory pricing -- that is, where the price of the bundle is less than marginal or average variable cost and a realistic probability exists that the investment in low cost sales will be recouped through subsequent monopoly pricing.

In the case of multi-product discounts where there is no significant rival that also makes the full range of products offered in the bundle, the analysis becomes more complex, but not severely so. First, there must be "bundling," in the sense that customers do not have a viable option to purchasing the bundle from the defendant. A minimum condition for such bundling is that when the entire discount available from the package is attributed to the good(s) upon which exclusion is claimed, the price of that good falls below marginal or average variable cost. If the price does not fall below this level, then an equally efficient firm will be able to match the discount.

Once "bundling" is established under this test, then bundling is best assessed as any tying arrangement is, subject to the usual defenses for such arrangements when they are challenged under the rule of reason. In the special case of package discounts, however, some additional defenses are necessary as well. Economies of scale or scope, price discrimination and the potential it creates for increased output, and the presence of brokers may provide explanations that

are either procompetitive or competitively benign. Without consideration of such defenses antitrust ends up warning firms away from practices that result in higher output and lower prices for consumers.

Courts must face discounting practices humbly, just as they do predatory pricing practices. Anticompetitive theories are legion, but they are also complex. Litigants, courts and particularly jurors understand them poorly. Because the set of competitive explanations swamps the set of anticompetitive ones, the risk of false positives is exceedingly high. The social costs of an overly aggressive rule is not simply the damages paid by one unlucky defendant, but also the billions of dollars that consumers will subsequently lose when firms are warned away from aggressive but competitive price cutting.