

CHAPTER 8

Bundling*

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§ 8.01 Introduction

Bundling is such a pervasive element of our economic environment that it may appear odd that it even arises in a discussion of anticompetitive conduct. It seems natural, and beneficial for customers, to be able to buy a hamburger bundled with fries and a drink at a single, discounted price, or a flashlight with batteries included, or season tickets to the local ballpark or theater. Some bundles are so obvious that their absence would seem quite peculiar: suppose cars were sold without tires, for example, to accommodate customers who prefer to use a particular brand of tires. Other bundles are less technologically obvious, but nevertheless may involve some cost savings and make sense either as a convenience for customers or as astute marketing, such as advertisements promoting the bundling of motorcycle or boat insurance with car insurance, or a “triple play” bundle of phone and internet service with cable TV.¹

The primary issue for antitrust policy is whether bundles, in which distinct products are packaged together at a discounted price relative to what each would cost on an à la carte basis, can ever be used as an exclusionary mechanism, and if so, how can exclusionary uses of bundled discounts be distinguished from the kinds of pervasive,

* The views expressed herein are the views and opinions of the author and do not reflect or represent the views of Charles River Associates or any of the organizations with which the author is affiliated.

¹ Economists distinguish between two main forms of bundling. “Pure bundling” refers to selling two or more products together in fixed proportions and not selling either of the products separately. With “mixed bundling,” the products are available separately as well as in a bundle. *See generally* DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 324 (4th ed. 2005).

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procompetitive bundling observed in many markets. Several other questions follow: even if the exclusionary use of bundling is theoretically possible, is it so rare that bundling should not even register on the antitrust radar? Would the risks of false positives from antitrust enforcement against bundling lead to a chilling of procompetitive uses of bundling, and if so, would this risk outweigh the benefits of enforcement, so that on balance bundling should be treated as *per se* legal? And if on balance there is a benefit to a rule of reason approach to evaluating potential exclusionary uses of bundling, what economic tests of pricing can be used to distinguish procompetitive bundled pricing from anticompetitive bundling?

§ 8.02 The Benefits of Bundling

Before turning to the potential for anticompetitive uses of bundling, it is useful to outline some of the procompetitive benefits of bundling.² In many cases there are efficiencies from selling products together. This is apparent in the tires and car example above, where the production, distribution, and marketing of a car are greatly simplified by selling a car with a particular brand and model of tire. The efficiencies of bundling can be on the supply side, the demand side, or both. The triple play bundle of telecommunications services likely entails substantial supply side efficiencies as all three services can be delivered over a single line to the home, but it also has demand side benefits to customers who pay a single monthly bill rather than two or three. Selling bundled products allows providers and customers to share in the benefits of these efficiencies through higher profits and lower prices.

Bundling can also be an effective tool for procompetitive price discrimination. Consider the market for tickets to a theater that puts on five plays over the course of a season. Customer preferences exhibit heterogeneity, both for individual customers, who are more interested in seeing some plays than others, and across customers, as different customers have different plays they are most interested in seeing. If the theater sets a separate price for each of the five individual plays, without any bundling, then the theater may decide to set a relatively high price that generates high revenue per ticket but leaves many seats unsold for some performances. The theater may prefer such a high-price strategy because setting a lower price that would fill more seats would generate less revenue per ticket and reduce the theater's total profit. Bundling in the form of a season ticket can help the theater fill more seats, while increasing profit, by inducing customers to buy tickets for plays they place less value on along with the plays they value most. Customers also can benefit from bundling because they obtain a discount from the full price for each ticket.³ Thus bundling can expand output

² For a detailed discussion, see David S. Evans & Michael Salinger, *Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law*, 22 YALE J. REGULATION 37 (2005). See also RICHARD A. POSNER, ANTITRUST LAW 253 (2d ed. 2001) ("If the practice is one employed widely in industries that resemble the monopolist's but are competitive, there should be a presumption that the monopolist is entitled to use it as well.").

³ For example, suppose that all customers value two plays at \$100 each and the remaining three plays at \$50 each, and assume that the two preferred plays are evenly distributed and vary from customer to customer. There are 1,500 potential customers and 1,000 total seats available for each play across all

and increase both the theater's profit and consumer welfare. However, as is generally true of price discrimination, the consumer welfare effects of bundling are ambiguous, as bundling can also extract additional revenue from customers.⁴

§ 8.03 Two Representative Cases

At its core, bundling involves discounted pricing: apart from efficiencies accruing directly to the customer, customers will only purchase a bundle if it offers a pricing advantage relative to buying individual products. But offering lower prices is also the defining characteristic of beneficial competition. Thus, US antitrust law is very cautious about characterizing discounted prices as anticompetitive for fear of chilling beneficial competitive pricing. Nevertheless, courts have found bundled discounts to be anticompetitive in particular cases.

Perhaps the best known example of a finding of anticompetitive bundling in recent years is the *LePage's* case, in which 3M was found to be using bundled discounts to maintain its monopoly in the market for transparent tape.⁵ 3M makes Scotch tape, which has a dominant share of the transparent tape market, and also sold private label tape to retailers like Wal-Mart. In addition, 3M sold a range of other tapes and adhesive products for things like painting, automotive, and health care applications. *LePage's* competed to sell private label tape to retailers. 3M initiated a bundled discount policy

performances. Without bundling, the theater can set a price of \$100 and sell a total of 3,000 tickets (i.e., each customer sees two plays). This amounts to sales of only 600 seats for each play (i.e., less than the 1,000 seats available), giving total revenues per play of \$60,000. Alternatively, the theater could set a price of \$50, sell all 1,000 seats to each play, and earn revenues per play of \$50,000. Without bundling, the theater prefers to sell only 600 seats per play at a price of \$100 and earn revenues of \$60,000 per play. If instead the theater offers a season ticket, customers would be willing to pay \$350 for the full season of plays (i.e., 2 x \$100 plus 3 x \$50). Selling 1,000 season tickets would fill all seats and generate total season revenues of \$350,000, or \$70,000 per play. In this simple example, bundling allows the theater to sell more seats and earn higher revenues, without inflicting any harm to customers (since they pay a price equal to their willingness to pay in both the scenario with bundling and that without bundling). The example can be changed so that bundling also benefits customers. To see this, assume that a small number of customers (within the 1,500 potential customers) are willing to pay \$100 for three plays (instead of for only two plays). The theater's profit-maximizing price in the absence of bundling is still \$100 (and the number of seats sold increases by a small amount). With bundling, the theater still charges \$350 for a season ticket, as only a small number of customers would be willing to pay \$400 (i.e., 3 x \$100 plus 2 x \$50). Those customers now benefit from bundling, as they each obtain a consumer welfare of \$50 (i.e., \$400 minus \$350).

⁴ In the example in the previous footnote, suppose that all customers value two plays at \$100 each and the remaining three plays at \$70 each (instead of \$50). In the absence of bundling, the theater charges a price of \$70, and thus each customer obtains a consumer welfare of \$60 (i.e., 2 x (\$100 - \$70)). With bundling, the theater charges \$410 (i.e., 2 x \$100 plus 3 x \$70), and customers obtain zero consumer surplus. See also George J. Stigler, *United States v. Loew's Inc.: A Note on Block Booking*, 1963 SUP. CT. REV. 152 (1963); Barry Nalebuff, *Bundling and Tying*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS (S. Durlauf & L. Blume eds., 2d ed. 2008).

⁵ *LePage's Inc. v. 3M*, 324 F.3d 141 (3d Cir. 2003). Discussion of the economic and legal issues in *LePage's* can be found in Daniel L. Rubinfeld, *3M Bundled Rebates: An Economic Perspective*, 72 U. CHI. L. REV. 243 (2005) and Roy Englert, *Defending the Result in LePage's v. 3M: A Response to Other Commentators*, 50 ANTITRUST BULL. 481 (2005).

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in which a retailer would get a percentage discount off the full range of 3M products purchased if it achieved a target level of sales across all products. The discount for each product was relatively small, but added across all products the total discount was quite substantial, on the order of a million dollars per year for some customers.

3M viewed the monopolization allegation from the perspective of predatory pricing and claimed that its pricing did not meet one of the key tests for predatory pricing, namely below cost pricing. Rather, 3M argued that its prices were above cost and therefore legal under the antitrust laws. LePage's did not challenge whether 3M prices were below cost. Instead, LePage's argued that 3M's conduct was exclusionary: retailers were forced to buy private label tape from 3M in order to hit the target, and as a result, LePage's was excluded from supplying those customers. The decision was eventually appealed to an *en banc* hearing in the Third Circuit, which upheld a jury finding that 3M's bundled discount policy was exclusionary without requiring any sort of price-cost test. Instead, the Third Circuit found that 3M's bundled discounts had an exclusionary effect and lacked a procompetitive justification.

The *LePage's* decision highlights several key aspects about bundling and its potential role as an exclusionary device. First is the central role of monopoly power. The primary differentiator between commonplace examples of bundling and uses of bundling that potentially could be considered anticompetitive is whether the firm offering bundles has monopoly power. It is important in evaluating this question (particularly if market share is used as a proxy for market power) to consider the extent of market power prior to or in the absence of bundling. It may be that a firm that successfully bundles several products and increases sales gains a substantial share of the market. But if another firm could offer a similar bundle (either by itself or in collaboration with another firm if it does not make the full product line on its own) then the relevant question is whether the firm alleged to be bundling had a dominant share of the market before engaging in bundling.⁶

Second is the question of whether the appropriate legal standard for analyzing bundling claims is predatory pricing or exclusionary conduct. Bundling could potentially be treated as a form of predatory pricing if the incremental price charged for some components of the bundle is less than the cost of producing those components. Alternatively, bundling could be considered exclusionary conduct if the impact of bundled pricing is to exclude some competitors from the market or a portion of the market. One critical difference between the two legal approaches is that allegations of predatory pricing must have a recoupment component: the monopolist prices below cost now, sacrificing profits to eliminate a competitor, in the expectation that it will charge higher prices in the future that will recoup those sacrificed profits.

⁶ In a Canadian abuse of dominance case involving bundled discounts, the Commissioner of Competition alleged that Canada Pipe used a loyalty program to exclude competitors. However, the Competition Tribunal found that, even though Canada Pipe had a dominant position and was the only supplier to offer a full line of products, the discount program did not prevent some distributors from piecing together a competitive alternative using several suppliers or importers. *See Comm'r of Competition v. Canada Pipe Co.*, 2005 Comp. Trib. 3 (Competition Tribunal).

With exclusionary conduct, there need not be a separate recoupment period. In the context of bundled discounts, the monopolist expects its pricing strategy to increase profits relative to the non-exclusionary market outcome even if competitors are not completely foreclosed, so that profits increase even if bundled discount pricing continues indefinitely. In part because of this difference with respect to recoupment, commentators and practitioners have generally focused on an exclusionary conduct framework to address bundling, both for theoretical reasons and also because of the practical difficulties in proving all the elements of a predatory pricing claim.⁷

Third, the Third Circuit found that 3M's bundled discount pricing was exclusionary but did not articulate a clear standard for what differentiates procompetitive from anticompetitive instances of bundled discounts. The *LePage's* decision finds that bundled pricing by a monopolist can be anti-competitive if it forecloses a rival from substantial portions of the market, while lacking a procompetitive justification. Note that this characterization does not specifically identify a harm to consumers from the use of bundled discounts. It also does not rely on any specific test for whether the bundled discount is anticompetitive.

The standard espoused in the *LePage's* decision has not been widely adopted in other circuits. A prominent example of another Circuit court using a different standard is the Ninth Circuit's decision in *PeaceHealth*, which involved the pricing of hospital services to insurers.⁸ The PeaceHealth hospitals in Lane County, Oregon offered a full range of primary, secondary, and tertiary care. The only competing hospital in the county, Cascade, offered primary and secondary services but not tertiary services such as neonatal intensive care. PeaceHealth offered discounts on the full range of services to insurers that agreed to make PeaceHealth the preferred provider in their networks. A jury (using jury instructions based on the *LePage's* decision) found for the Plaintiff on an attempted monopolization charge, meaning that the discounts were exclusionary, even though Cascade had not presented evidence that PeaceHealth priced below cost. The Ninth Circuit considered and rejected the standard for exclusionary conduct embraced by the Third Circuit in *LePage's*. Instead, the court determined that liability required a showing that PeaceHealth had priced below cost using a particular test that has been widely discussed in the context of bundled discounts: a discount attribution test. The case then settled without further adjudication.

§ 8.04 Anticompetitive Bundling

Before discussing the role of price-cost tests in assessing bundled discount pricing mechanisms, it is useful first to review some of the theories about how bundled discounts can be anticompetitive that are found in the economics literature.⁹ There are

⁷ See Timothy J. Brennan, *Bundled Rebates as Exclusion, Not Predation*, 4 J. COMPETITION L. & ECON. 335 (2008); Barry Nalebuff, *Exclusionary Bundling*, 50 ANTITRUST BULL. 321 (2005); Patrick Greenlee *et al.*, *An Antitrust Analysis of Bundled Loyalty Discounts*, 26 INT'L J. INDUS. ORG. 1132 (2008).

⁸ *Cascade Health Solutions v. PeaceHealth*, 502 F.3d 895 (9th Cir. 2007).

⁹ This discussion focuses on bundled discounts as used by a dominant firm. The potential for firms to use bundled discounts has also played a role in merger review when a merger combines complementary

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rent extraction theories, collusion theories, and exclusion theories. These theories of potential anticompetitive effects can be framed by asking the one-monopoly rent question: why does a firm that has monopoly power in one market benefit from bundling sales with a second market?¹⁰ If the discounts needed to increase sales of non-monopolized bundled products only cut into the profits earned on monopolized products, and profits on competitive products replace profits on monopolized products *dollar for dollar*, there would be no overall profit advantage to bundling products together. In such a case, it may be that bundling produces efficiencies such as savings in distribution costs, some of which can be passed on to consumers in the form of discounts, so that bundled discounts are procompetitive.

However, bundled discounts can increase the overall profits of a dominant firm by enabling it to extract monopoly rents more effectively. That is, under some circumstances, profits on competitive products can replace profits on monopolized products *more than dollar for dollar*. In particular, suppose that when the dominant firm does not use bundled discounts, it does not extract all consumer surplus in the monopolized product and sets a price above marginal cost that leads to lower sales. In that case, the dominant firm may be able to use bundled discounts to lower prices for the monopolized product and, at the same time, increase profits through higher sales of the monopolized product *and* higher prices in the bundled markets.¹¹ Under this type of *rent extraction theory*, consumers may benefit from a lower price for the monopolized product and be harmed from a higher price in the bundled markets. On balance, consumers may or may not be harmed depending on the circumstances.¹²

A different theory of anticompetitive bundling involves a form of “collusion” or “market division” between the dominant firm and its rivals. In particular, bundled discounts can change the competitive interplay between the firm using bundled

products. Such mergers typically are not challenged in the United States, but in some jurisdictions, there have been concerns that the merger would increase the likelihood of bundled discounts that could exclude competitors. Perhaps the best known such case was the proposed merger between General Electric (GE) and Honeywell, which was blocked in Europe after being cleared in the United States. The European concerns focused on the potential to exclude competitors by bundling GE jet engines and leasing services with Honeywell’s avionics. See David S. Evans & Michael Salinger, *Competition Thinking at the European Commission: Lessons from the Aborted GE/Honeywell Merger*, 10 GEO. MASON L. REV. 489 (2002). For a more recent example, see the discussion of MOFCOM’s review of the merger between Merck and AZ in Sébastien J. Evrard & Baohui Zhang, *Merger Control in China: Understanding MOFCOM’s Unique Approach*, COMPETITION POL’Y INT’L (May 29, 2014), available at <https://www.competitionpolicyinternational.com/merger-control-in-china-understanding-mofcom-s-unique-approach>.

¹⁰ See Einer Elhauge, *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory*, 123 HARV. L. REV. 397 (2009); Nicholas Economides, *Tying, Bundling, and Loyalty/Requirement Rebates*, in RESEARCH HANDBOOK ON THE ECONOMICS OF ANTITRUST LAW 121 (Einer Elhauge ed., 2012).

¹¹ The earlier literature on tie-in sales had noted a similar motivation based on improved extraction of monopoly rents. See Meyer L. Burstein, *The Economics of Tie-in Sales*, 42 REV. ECON. & STATISTICS 68 (1960); Frank Mathewson & Ralph Winter, *Tying as a Response to Demand Uncertainty*, 28 RAND J. ECON. 566 (1997).

¹² See Nalebuff, *supra* note 7; Greenlee et al., *supra* note 7.

discounts and its competitors.¹³ Suppose that a customer must achieve some minimal level of sales (say 70 percent) of one particular product bought from the dominant firm in order to obtain a discount on that product as well as on several other products bought from the dominant firm. If a competitor wants to capture more than 30% of sales of that particular product, it must cut price substantially to induce customers to forego the bundled discount. The terms of the bundled discount policy may be such that competitors get higher profits by not attempting to compete aggressively for sales that would force customers to lose their discount, and instead charging a higher price for the remaining sales volume. That may also allow the dominant firm to set higher prices than it would against aggressive competition. In this way, bundled discounts can potentially be used to soften competition and divide the market, allowing *all* firms in the market to earn higher profits.

Various commentators have also discussed circumstances under which bundled discounts could be used profitably to exclude potential competitors from one or more of the bundled products.¹⁴ A key element of *exclusion theories* is that there are some scale economies in the potential competitor's cost function. By foreclosing the competitor from some customers, the dominant firm can force the competitor to operate below minimum efficient scale, which leads the competitor either to exit the market, operate at inefficiently high costs and prices, or never enter the market in the first place. The dominant firm uses bundled discounts to alter the competitive landscape for products for which it did not have a dominant position, thus achieving a greater total profit from all its products than it earned in the absence of bundled discounts.

In these exclusion or monopolization theories, bundled discounts can be thought of as a form of raising rivals' costs strategy.¹⁵ While the dominant firm offers customers a discount across the various bundled products, firms offering only one of the bundled products must match the discount on that product alone if buying from the competitor means that customers would no longer qualify for the dominant firm's bundled discount. The full discount is akin to a cost of doing business, which cuts into the firm's ability to make profits on the single product where they compete with the bundling firm. The effect is similar to raising the rival's cost on the single product, in that it lowers the potential profits the rival can make by competing with the dominant firm.¹⁶ In this way, the analysis of whether bundled discounts are anticompetitive is

¹³ See Einer Elhauge & Abraham L. Wickelgren, *Robust Exclusion and Market Division Through Loyalty Discounts* (Harvard Public Law, Working Paper No. 14-12, 2014), available at <http://ssrn.com/abstract=2419722>.

¹⁴ See, e.g., Barry Nalebuff, *Bundling as an Entry Barrier*, 119 Q. J. ECON. 159 (2004); Dennis W. Carlton et al., *Assessing the Anticompetitive Effects of Multiproduct Pricing*, 53 ANTITRUST BULL. 587 (2008).

¹⁵ See generally Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

¹⁶ There is, however, an important difference: consumers generally benefit from the discount competing firms must offer to compete with the bundle, whereas consumers typically get no benefit if a

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similar to the analysis of other exclusionary practices, and focuses on whether the practice leads to sufficient foreclosure to result in harm to competition.¹⁷

§ 8.05 Price-Cost Tests for Bundled Discounts

Given that bundling is ubiquitous, is used by firms with and without monopoly power, and can have a variety of procompetitive benefits, there would be a great advantage to having a relatively simple test, analogous to the Areeda-Turner test for predatory pricing, that could be used to distinguish pro-competitive and anticompetitive behavior or to provide a safe harbor that would protect most uses of bundled discounts from the potential for antitrust litigation. The leading candidate is the test that was advocated in the *PeaceHealth* decision, commonly known as the discount attribution test.

The first step in applying the discount attribution test is to separate the products in the bundle into two groups: those for which the bundling firm has monopoly power, and those that are competitively supplied. The next step is to determine the total discount offered for the products in the bundle, which is the difference between the combined undiscounted prices for the products in the bundle and the bundle price. The last step is to compare the undiscounted price for the competitive products, less the total discount, to the bundling firm's cost of the competitive products. According to the discount attribution test, the bundled discount can only be anticompetitive if the undiscounted price for the competitive products less the total discount is below the cost of those products. This is equivalent to asking whether the incremental revenues earned on the competitive products are less than the cost of providing those products. The Ninth Circuit in *PeaceHealth* regarded this test as the logical extension to bundled discounts of the price-cost test endorsed by the Supreme Court for predatory pricing claims.

Various commentators have raised concerns, both theoretical and practical, about this test. On the theoretical side, the discount attribution test may not be either necessary or sufficient for exclusion.¹⁸ A bundled discount scheme intended only for more effective price discrimination can fail the discount attribution test. One reason is that the unbundled prices used for single product customers would not generally be the same as the prices that would be charged if bundled discounts were not used at all, and so do not give an accurate measure of the extent to which products in the bundle are being discounted. Conversely, a bundled discount can be exclusionary without failing the test; such can be the case, for example, if the competitive products are not offered by a single firm. Commentators have also questioned whether it is appropriate to use the costs of the firm offering a bundled discount in the test, since competitors may not

dominant firm raises rivals' costs by other means (such as forcing competitors to use a less efficient distribution channel or to buy from more expensive suppliers) that result in a higher competitive price.

¹⁷ See Joshua D. Wright, *An Evidence-Based Approach to Exclusive Dealing and Loyalty Discounts*, GLOBAL COMPETITION POL'Y, July 2009.

¹⁸ See Carlton et al., *supra* note 14; Greenlee et al., *supra* note 7.

have the capacity or the scale and scope economies of the dominant firm.¹⁹

On the practical side, there are the problems, common to price-cost tests in other contexts, of identifying the appropriate measure of price and especially of cost. In addition, the discount attribution test requires identifying which products sold within the bundle are competitively supplied. This can be difficult particularly for products where only some of the sales of the dominant firm are contestable, and the alleged monopolist would have a substantial share of the market even if it did not use bundled rebates.²⁰ For example, 3M would have had a dominant share of the transparent tape market even if it sold no private label tape because of its Scotch brand tape. But if the discount is to be attributed only to the competitive sales captured due to the bundled discount program, it is not generally easy to say how large that competitive segment is, and the discount attribution test is sensitive to changes in the portion of the bundle determined to be competitive.²¹

It is typical of bundled discount programs that the customer gets a discount on all products purchased if they meet the target of the discount program; such was the case, for example, in the 3M program at issue in *LePage's*. The target could be based on total sales or on the dominant firm's share of the consumer's purchases of some or all products.²² Because the discount applies to all items purchased, a small change in the total quantity purchased can trigger a large change in the total discount received by the consumer. A price cost test that attributes the entire discount only to these incremental sales could readily find that those sales were below cost. However, such a test would not necessarily capture whether another supplier (or a group of suppliers of the various products in the bundle) could profitably put together a package that would provide a viable alternative to the bundled discount program.

Several variations of the discount attribution test have been proposed by commentators, often in conjunction with additional requirements to establish that a bundled discount program is anticompetitive.²³ However, the theoretical and practical issues in applying the discount attribution test suggest that any one particular implementation of a price-cost test should not be a required element of a bundled discount monopolization claim, despite the potential advantage in clarity from having a single test used as

¹⁹ See Economides, *supra* note 10; Nalebuff, *supra* note 7.

²⁰ The Department of Justice, in reaching a settlement restricting the bundled discount program used by United Regional Health Care System, asserted that the discount should be attributed only to the "contestable patient volume." Complaint at 25, *United States v. United Reg'l Health Care Sys.*, No. 7:11-cv-00030 (N.D. Tex. Feb. 25, 2011).

²¹ See Giulio Federico, *The Antitrust Treatment of Loyalty Discounts in Europe: Towards a More Economic Approach*, IESE, Occasional Paper 186-E, 2011.

²² In many ways the analysis of bundled discounts does not depend on whether the target is based on sales levels or on the share of total purchases in some category of products. However, there may be practical differences, such as that market share discounts are more accessible to smaller customers. There may also be differences in the antitrust analysis of the discounts because market share discounts rely on information about sales by competitors.

²³ See Economides, *supra* note 10; Nalebuff, *supra* note 7.

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the standard for all allegations of anticompetitive bundled discounts. Commentators have also proposed other price-cost tests for bundled discounts. For example, one proposed test examines whether a bundled discount program increases or decreases consumer welfare.²⁴ Even if a particular price-cost test is not required to prove monopolization, some price-cost test is likely to be useful in many cases to help establish whether the pricing program at issue could or could not have been exclusionary and what impact it may have had on competition, in conjunction with other evidence.

²⁴ See Greenlee et al., *supra* note 7.