Competition Policy International

The Economics of Loyalty Discounts and Antitrust Law in the United States

Bruce H. Kobayashi

The Economics of Loyalty Discounts and Antitrust Law in the United States

Bruce H. Kobayashi

The courts' treatment of loyalty discounts under U.S. antitrust laws is broadly consistent with an approach that recognizes the high costs of erroneously condemning behavior that would lower prices and increase welfare, and the speculative nature of the anticompetitive harm that might result. Courts have used the U.S. Supreme Court's *Brooke Group* test for predatory pricing to evaluate loyalty discounts involving a single product. Under this test, loyalty discounts that result in above-cost prices are presumptively legal. While this presumption has not been carried over to cases involving multi-product settings or bundled loyalty discounts, the courts have generally rejected theories of anticompetitive harm that are not accompanied by sufficient proof that the conditions for anticompetitive harm exist. In two cases, the use of bundled loyalty rebates was found to be unlawful. However, the courts' analyses in both of these cases are flawed. In *SmithKline*, a flawed standard based on the exclusion of an equally efficient competitor was used. In *LePage's*, the court not only suggested use of the same flawed standard, it found liability without requiring sufficient proof that the standard even applied to the facts of the case.

The author is Associate Dean for Academic Affairs and Professor of Law, George Mason University, School of Law.

I. Introduction

This paper analyzes the use of loyalty discounts by firms and their implications for antitrust enforcement in the United States. The pricing conduct described by the term "loyalty discount" has not been precisely defined in the literature or in practice. Generally, loyalty discounts are a particular form of non-linear pricing in which the unit price of a good declines when the buyer's purchases meet a buyer-specific minimum threshold requirement.[1] The use of buyer-specific thresholds differentiates loyalty discounts from traditional quantity or volume discounts, which are offered on a nondiscriminatory basis to all potential buyers. The courts and economists have examined quantity discounts and volume discounts extensively. Yet, despite considerable interest by the courts, economists have given little attention to the use of loyalty or market share discounts.

In addition to the use of buyer-specific thresholds, other features have been used to characterize loyalty discounts.[2] One is the use of an all-units discount. That is, when the buyer's purchases meet the predetermined threshold, the discount or rebate d is applied to all units. Another is the use of buyer-specific thresholds that require a buyer to allocate a significant share of his total purchases to a single seller in order to obtain the discount or rebate. This threshold can be a specific volume of purchases made during a given time period (a traditional, discriminatory volume discount), or it can be based on the buyer's share of his total purchases of a defined group of products exceeding a target share (a market share discount).[3]

Programs labeled "loyalty programs" are used by firms both to sell directly to end users and to sell to those who distribute and sell their products. When used by manufacturers to sell their products and services to retailers and distributors,

---

1   Non-linear pricing occurs when the buyer's total expenditure on an item does not rise linearly with the amount purchased. *See* D. CARLTON & J. PERLOFF, MODERN INDUSTRIAL ORGANIZATION (1990), at 459.

2   *See* P. Greenlee & D. Reitman, *Distinguishing Competitive and Exclusionary Uses of Loyalty Discounts* (Dec. 22, 2004) (mimeo, U.S. Department of Justice).

3   In general, the choice of the particular form of the threshold is determined by the relative costs and benefits associated with each type of threshold. In the absence of transactions and information costs, the form of the threshold does not matter, as any market share target could be mimicked by an appropriately set volume threshold. For example, uniform market share discounts allow small as well as large firms to participate in the loyalty programs. However, volume-based thresholds could mimic such uniform market share targets by setting lower volume-based targets for smaller firms. Under uncertainty, the different thresholds imply a different set of risks for the market participants. The relative risk of share-based versus volume-based targets depends on whether the distribution of demand across brands is more or less stable than the overall level of demand. *See* P. GREENLEE & D. REITMAN, COMPETING WITH LOYALTY DISCOUNTS (U.S. Department of Justice, EAG Discussion Paper 04–2, 2004, *revised* Feb. 4, 2005), at 6. Moreover, market share thresholds may be harder to administer if the manufacturer cannot easily monitor and track all purchases by the retailer. In contrast, volume targets simply require that the manufacturer track his own shipments to a given retailer. *See* A. Heimler, *Below-Cost Pricing and Loyalty-Inducing Discounts: Are They Restrictive and If So, When?*, 1(2) COMPETITION POL'Y INT'L 149–71 (2005).

such loyalty discounts give retailers strong incentives to sell a given firm's product. Thus, loyalty discounts given to retailers and other distributors serve many of the same functions as other vertical control practices, such as tying and exclusive dealing.[4] Indeed, exclusive dealing can be thought of as the limiting case of a market share loyalty discount with the market share threshold set equal to one.

As is the case with vertical control practices generally, firms' use of loyalty discounts has the potential to be used for both pro- and anticompetitive purposes. Recent scholarship and U.S. case law have focused on whether loyalty discounts can serve as an exclusionary device that violates Section 2 of the Sherman Act.[5] In addition, firms' use of loyalty discounts in the distribution of their products has also been attacked as unlawful primary-line price discrimination under the Robinson-Patman Act.[6] In the U.S. federal courts, use of above-cost loyalty discounts in the single-product setting generally has been viewed as a pro-consumer form of price competition, and antitrust challenges to such programs have not been successful.[7] Antitrust challenges to above-cost loyalty programs involving multiple markets, however, have met with greater success. In two cases, *LePage's v. 3M* and *SmithKline v. Eli Lilly*, the U.S. Court of Appeals for the Third Circuit has upheld jury verdicts condemning the use of loyalty discounts under Section 2 of the Sherman Act that involved bundled multi-product rebates.[8]

At the retail level, programs called "loyalty programs" are ubiquitous. Pioneered by the airline industry, frequent buyer programs are now used in a wide variety of markets. Examples include those offered by grocery stores, book stores, sporting goods stores, and coffee shops. They are used by large chains and individually owned business in competitive and concentrated industries. While such frequent shopper programs can reduce both shopping and marketing costs, and may benefit both firms and consumers,[9] economic analyses of such programs have

---

4   *See* R. Epstein, *Monopoly Dominance or Level Playing Field? The New Antitrust Paradox*, 72 U. Chi. L. Rev. 49 (2005) (suggesting that use of bundled rebates in 3M's loyalty program falls "between the cracks" of tying, predatory pricing, and exclusive dealing). *See* P. Greenlee, D. Reitman & D. Sibley, An Antitrust Analysis of Bundled Loyalty Discounts (U.S. Department of Justice, EAG Discussion Paper 04–13, Oct. 2004) (suggesting analysis of bundled rebates as a form of de facto tying; W. Tom, D. Balto, & N. Averitt, *Anticompetitive Aspects of Market-Share Discounts and Other Incentives to Exclusive Dealing,* 67 Antitrust L.J. 615 (2000) (analyzing market share discounts as a form of de facto exclusive dealing); and, A. Gavil, *Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance,* 72 Antitrust L.J. 3 (2004) (examining loyalty discounts as vertical control devices).

5   15 U.S.C. § 2.

6   15 U.S.C. §13.

7   *See* § III.A, B, *infra.*

8   *See* § III.C, *infra.*

9   *See* D. Bell & R. Lal, The Impact of Frequent Shopper Programs in Grocery Retailing (Harvard Business School Review of Marketing Science, Working Paper, 2002).

generally focused on the effect the use of such programs has on increasing consumer switching costs. These analyses have shown that loyalty programs can cause consumers who would otherwise be indifferent to homogenous products to become brand loyal in order to qualify for discounts, prizes, or rebates based on their cumulative purchases. These increased switching costs make the demand for an individual firm's product more inelastic, resulting in higher equilibrium prices and lower consumer welfare.[10] Use of loyalty programs can also change the nature of competition and alter the intensity of price competition.[11]

While these economic analyses show that loyalty programs used to sell goods and services to end users can reduce welfare, such programs generally have not raised antitrust concerns. In addition, many of the ubiquitously used programs do not use customer-specific discounts, and thus lack the primary characteristic used in this paper to define loyalty programs. For these reasons, the focus of this paper will be on firms' frequent use of volume- and market-share-based loyalty discounts to sell their products and services to retailers and distributors, and not on programs used to sell goods and services to end users.

The organization of this paper is as follows. Section II examines the academic literature on loyalty discounts. Section III examines the antitrust treatment of volume and loyalty discounts in the United States. Section IV offers some conclusions.

II. The Law and Economics of Loyalty Discounts

A. THE ECONOMIC LITERATURE ON LOYALTY DISCOUNTS

The economic literature on loyalty discounts has been developed only rather recently. As noted above, loyalty programs have been analogized as a way to engage in de facto exclusive dealing, as a way to engage in predatory foreclosure, and as a way to engage in de facto tying.[12] And, in contrast to loyalty programs aimed at end users, loyalty discounts at the wholesale level have been successfully challenged under the antitrust laws and have generated interest in the academic community. The primary focus of this recent literature is on the use of loy-

---

10 *See, e.g.*, P. Klemperer, *The Competitiveness of Markets with Switching Costs,* 18 RAND J. ECON. 138 (1987); P. Klemperer, *Markets with Consumer Switching Costs,* 102 Q. J. ECON. 375 (1987); and R. Caminal & C. Matutes, *Endogenous Switching Costs in a Duopoly Model,* 8 INT. J. INDUS. ORG. 353 (1990).

11 *See, e.g.*, B.D. Kim, M. Shi, & K. Srinivasan, *Reward Programs and Tacit Collusion,* 20 MARKETING SCI. 99 (2001) and J. Gans & S. King, *Paying for Loyalty: Product Bundling in Oligopoly* (2004) (mimeo).

12 *See supra* note 4 and accompanying text.

---

alty programs as a way to exclude competitors. Loyalty programs exclude by giving strong incentives for distributors to purchase a large share from one supplier.

To see the strong incentives generated by loyalty discounts, suppose that Firm A offers a price P_A if the buyer purchases q_T or fewer units during a certain time period, and price $P_A - d_A$ on all units purchased if the buyer purchases more than q_T units during that time period. All-units discounts generate strong incentives with small per-unit discounts. From the perspective of the total discount given, for a buyer purchasing q' units above the threshold, such an all-units discount is equivalent to giving a incremental discount on the q' units of $d_i = d_A(q_T + q')/q'$ $> d_A$. Moreover, the non-linear prices yield strong marginal incentives to purchase at least q_T units, but lower marginal incentives for $q > q_T$.[13] This allows Firm A to give these strong discounts while keeping the nominal per-unit price of their products above cost.

The use of such discounts by Firm A also affects competing sellers. A competing Firm B that wants to compete away $q_B \leq q'$ units from Firm A would have to offer a price $P_B \leq P_A - d_A$. However, if Firm B wanted to compete away $q_B > q'$ units from Firm A, then it would have to compensate the buyer for the forgone loyalty discount on q_T units. As a result, Firm B would have to offer a price $P_B < P_A - d_A((q_T + q') / q_B)$. Thus, as long as q_B is less than or equal to $q_T + q'$, Firm B's price would have to be lower than Firm A's net per-unit price. Moreover, this effect is greatest for relatively small firms (i.e. when q_B is much smaller than $q_T + q'$).

To illustrate how offering such discounts affects marginal incentives, suppose that $q_T = 100$ and that a representative customer purchases 10 units over the loyalty threshold, so that $q' = 10$. In addition, suppose that the constant marginal cost of producing a unit of the good c equals 10. Let $P_A = 12$ and $d_A = 1$, so that Firm A's price of the good, net of the discount, equals 11 and is above the marginal cost of 10. Suppose that Firm B has a capacity of 20 units. Holding constant the number of units purchased, Firm B could sell up to 10 units to a representative customer without causing them to lose their loyalty discount. Moreover, holding Firm A's prices constant, it could make sales by offering them at a price lower than 11. However, if Firm B wanted to sell more than 10 units to a representative consumer, it would have to compensate the buyer for the loss of the discount $d_A = 1$ on $q_T = 100$ units. In addition, Firm B would have to match the discount $d_A = 1$ on the $q' = 10$ units. Spread over 20 units, matching the total discounts of 110 would require a per-unit discount of 5.5 relative to P_A to cover the lost discounts and would result in net price $P_B = 6.5$. Thus, in order to successfully compete away 20 units from Firm A, Firm B would have to price below marginal cost. Thus, even if Firm B could produce units of the good at the same marginal cost as Firm A, it would not be able to make sales at prices at or above the marginal cost of producing the good.

---

13 *See* Heimler, *supra* note 3.

Some have suggested that this shows that a hypothetical equally efficient competitor would be foreclosed by the use of an all-units discount. This foreclosure result, however, requires that Firm B is constrained in some way from selling a large number of the q_T units. To see this, consider an example where q_B = 55. In this case, the required discount shrinks to 2 and the price required to compensate consumers for the loss of the loyalty discount from A is P_B = 10. Thus, at current prices, Firm B would be able to make at-cost sales. Moreover, if Firm B could enter at the same scale as Firm A, then there would be no differential discount required. That is, suppose that q_B = 110. It is easy to see that in order to match the total discounts offered by A spread over q_B = 110 units, Firm B would only require a discount equal to 1—the same as that given to the firm with the all-units discount.

Besides capacity constraints, one way in which Firm B could be constrained from producing a large fraction of the q_T units is if Firm A currently produces goods for sale in multiple markets, while Firm B produces and sells goods in a subset of these markets. If the loyalty discount is based on meeting thresholds that span multiple markets—or if the loyalty discount in each market is bundled—a firm able to operate in only a subset of these markets would be in an analogous position to the severely capacity-constrained Firm B in the above numerical example.[14]

To see this, take the simple example where there are two separate markets—Market X and Market Y—where the representative customer participates in both markets. Suppose that Firm A offers a loyalty discount on all purchases of X and Y if a multi-market consumer's total purchases q_X + q_Y exceed q_T. Let q_X = q_Y = 55 and q_T = 100. Consider a consumer who currently purchases all of his demand for X and Y from Firm A and is currently receiving a loyalty discount. Under the assumption that Firm B is only in Market X and cannot enter the remaining Market Y, it would only be able to compete for q_X. And, if the consumer purchased his required X from Firm B, he would lose his bundled loyalty discount on both X and Y. As in the above example, such a setting would require Firm B to offer discounts twice as large as the per-unit discounts offered by Firm A, which would drive prices to marginal cost. Moreover, if Firm A bundled three products, X, Y, and Z, the discount required for Firm B to make X sales would drive its prices below cost. To see this, suppose that q_Z = 55 and q_T is raised to 150. If Firm B cannot enter the Y or Z markets, the required discount for Firm B to sell in Market X would equal 3 and would result in a below-cost price of P_B = 9.[15]

---

14 Under this theory, one must consider why the single-product firm cannot enter multiple markets. The analysis here assumes that such a consideration is possible. If not, Firm *B* could enter multiple markets and the bundled discounts would not provide any advantage.

15 Alternatively, the loyalty discount can be set so that it is awarded only if the consumer purchases 50 units each of *X, Y,* and *Z*. It is easy to show that such a program yields similar incentives.

While loyalty discounts can increase switching costs or be exclusionary, they also can be a powerful instrument of competition. Volume discounts and non-linear pricing are an equilibrium outcome in a variety of models where exclusionary motives are absent.[16] For example, Kolay, Schaffer, and Ordover (2003) show that all-units discounts can be used to address efficiently double marginalization problems in the presence of bilateral monopoly. Intuitively, the manufacturer can use the minimum threshold required to qualify for the discount to induce the retailer to choose the joint, profit-maximizing retail price. The all-units discount is used to divide the maximized surplus between the manufacturer and retailer. Use of the all-units discount eliminates the double marginalization problem and increases welfare relative to the use of linear pricing. Moreover, use of the all-units discount can increase welfare relative to the use of a two-part tariff—which also eliminates the double marginalization problem. They also note that an all-units discount can be used to engage in price discrimination.[17]

Loyalty programs can also be used to reduce the divergence in incentives that exist between manufacturers and those who distribute their products. The provision of promotional and other point-of-sale services for a manufacturer's products at the retail level may be necessary for the manufacturer to increase the demand for his products and reach his optimal level of output. However, retailers will often have divergent incentives to provide such promotional and point-of-sale services. The use of bundled rebates can ensure that distributors and retailers of a manufacturer's goods have strong incentives to promote and sell these goods. Bundled rebates can be used by manufacturers as a way to compensate retailers for their efforts on behalf of the manufacturer, and thus, can serve to mitigate retailer free-riding and hold-up problems.

---

16 *See* Greenlee & Reitman, *supra* note 3 (citing literature).

17 Marx and Shaffer examine the use of market share discounts, slotting allowances, and predatory pricing in a three-party sequential contracting environment. In their model, two sellers negotiate sequentially with one buyer. Market share discounts and slotting allowances are used to shift rents between the contracting parties, with no short-run consequences for social welfare. One result is that these rent-shifting equilibria generally result in both sellers remaining in the market. In the long run, they suggest that preventing the use of such devices results in the adoption of strategies that are more likely to result in one of the sellers being excluded. However, the model does not explicitly analyze the welfare effects of such long-term effects. *See* L. Marx & G. Shaffer, *Rent Shifting and Efficiency in Sequential Contracting* (2004) (mimeo).

Thus, loyalty discounts and rebates can serve the same efficiency-promoting vertical control functions as have been identified in the literature examining the use of tying, exclusive dealing, and other forms of vertical restraints.[18] However, unlike exclusive dealing, use of bundled rebates does not prevent retailers from offering consumers other manufacturers' products. This difference is likely to be important when retailers' point-of-sale services and consumers' demand for variety at the retail level are both important.[19] In this respect, discounts are often much cheaper for the discounting firm than other forms of incentives.[20]

Another difference between loyalty discounts and exclusive dealing is that formal analyses of efficiency-promoting uses of loyalty discounts have not been undertaken. There are no systematic empirical analyses of why or when firms use loyalty discounts to distribute their products, and the theoretical literature on loyalty discounts has not generally considered efficiency-based reasons for using loyalty discounts. One exception is Mills (2004), who presents a formal model of how market share discounts can be used by manufacturers to induce promotional effort by retailers.[21] In his model, promotional effort on the part of retailers allows consumers to make more informed purchasing decisions. Specifically, the promotional effort provides uninformed consumers with information about the availability of a premium brand that is more valuable, ceteris paribus, than the alternative brand. As a result of the promotion, more consumers choose the higher-quality and higher-value brand in equilibrium. Moreover, because it increases the proportion of consumers that make an informed decision, the use of market share discounts increase welfare. While market share discounts increase the market share of the firm offering the discounts and decrease the share of other firms, their use does not drive these competing firms out of the market except under extreme conditions.

> THERE ARE NO SYSTEMATIC EMPIRICAL ANALYSES OF WHY OR WHEN FIRMS USE LOYALTY DISCOUNTS TO DISTRIBUTE THEIR PRODUCTS, AND THE THEORETICAL LITERATURE ON LOYALTY DISCOUNTS HAS NOT GENERALLY CONSIDERED EFFICIENCY-BASED REASONS FOR USING LOYALTY DISCOUNTS.

---

18 *See, e.g.,* H. Marvel, *Exclusive Dealing*, 25 J.L. & ECON. 1 (1982); B. Klein, *Exclusive Dealing as Competition for Distribution "on the Merits"*, 12 GEO. MASON. L. REV. 119 (2004); and, J. Heide, S. Dutta, & M. Bergen, *Exclusive Dealing and Business Efficiency: Evidence from Industry Practice*, 41 J.L. & ECON. 387 (1998).

19 *See* B. Klein & J. Wright, *The Economics of Slotting Arrangements* (2005) (mimeo) (noting a similar dual function as an explanation for the use of category management).

20 *See* Heimler, *supra* note 3, at 4.

21 D. Mills, *Market Share Discounts* (2004) (mimeo, University of Virginia).

B. TESTS FOR ANTICOMPETITIVE LOYALTY DISCOUNTS

From an antitrust standpoint, the primary issue is how to distinguish pro-competitive from anticompetitive loyalty discounts. In the single-product setting, cost-based tests have been used to judge the lawfulness of loyalty discounts. Under these cost-based tests, the lawfulness of a firm's pricing conduct, including its use of loyalty discounts, is judged based on whether the resulting prices are above or below an appropriate measure of cost (usually marginal cost or long-run average variable cost).[22] Pricing below the appropriate measure of cost is presumed to be unlawful, while pricing above this benchmark is presumed to be lawful.

These cost-based tests, especially those implemented by the U.S. Supreme Court, have been shown to allow some anticompetitive behavior.[23] However, such tests have the virtue of minimizing the costs of false positives (i.e. they deter the chilling of legitimate price competition). Moreover, such tests are relatively easy to administer. Moreover, if one assumes that predatory pricing, while theoretically possible,[24] is rare, the costs of false negatives will not be large.[25] Thus, use of such tests can plausibly minimize the sum of error costs and direct costs.[26]

Economists have suggested more refined cost-based predation tests.[27] In theory, use of such tests lowers error costs relative to the use of cost-based tests. Several recent papers have suggested more refined tests that can be applied to loyalty programs. In a series of papers, Greenlee and Reitman (2004, 2005) and Greenlee, Reitman, and Sibley (2004) examine the use of loyalty discounts in both the single- and multiple-product settings.[28] In the single-product setting, Greenlee and Reitman examine loyalty programs as a form of predation and derive such a test. In order to derive their test, they first characterize the equilib-

---

22 *See generally*, P. Areeda & D. Turner, *Predatory Pricing and Practices Under Section 2 of the Sherman Act,* 88 HARV. L. REV. 697 (1975).

23 *See* the discussion in § III.A, *infra.*

24 *See, e.g.*, P. Milgrom & J. Roberts, *Predation, Reputation, and Entry Deterrence,* 27 J. ECON. THEORY 280 (1982).

25 *See, e.g.*, F. Easterbrook, *Predatory Strategies and Counterstrategies,* 48 U. CHI. L. REV. 263 (1981); J. LOTT, JR., ARE PREDATORY COMMITMENTS CREDIBLE? WHO SHOULD THE COURTS BELIEVE? (1999); and, J. McGee, *Predatory Pricing Revisited,* 23 J.L. & ECON. 289 (1980).

26 *See generally*, R. POSNER, ECONOMIC ANALYSIS OF LAW (6th ed. 2002), at 536, D. Evans & A.J. Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach,* 72 U. CHI. L. REV. 27 (2005).

27 *See generally*, J. Ordover & R. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8 (1981).

28 *See* Greenlee & Reitman (2004), *supra* note 2 and Greenlee & Reitman (2005) *supra* note 3 [together hereinafter Greenlee and Reitman], and Greenlee, Reitman, & Sibley, *supra* note 4 [hereinafter Greenlee et al].

rium under the assumption that firms are maximizing short-term profits. Specifically, they characterize the loyalty program that emerges in equilibrium when firms are maximizing short-term profits. Observed deviations from this equilibrium are then used to infer non-compensatory and presumably anticompetitive behavior.

Specifically, the model has duopoly Firms A and B competing with differentiated products. There is a constant unit cost of producing a unit of the product equal to c. The products are differentiated by a parameter q, which represents the consumer's preference for product B over A, ceteris paribus. Large or repeat consumers purchase multiple units of the product, and the consumer's relative value of q for each purchase is assumed to have a strictly positive support and is independently and identically distributed with cumulative distribution function $F(q)$. Large consumers may purchase products from both firms and simultaneously purchase products under and separate from the loyalty program. There are also consumers who only buy at the spot prices. Firms compete by setting non-loyalty unit prices P_i, i = A,B, and by defining a loyalty program with discount d_i and threshold q_i.[29] In equilibrium, one firm (e.g. Firm A) has a loyalty program, while the other does not. Relative to the equilibrium without loyalty programs, non-loyalty prices increase, so that small consumers are worse off with loyalty programs. Large consumers receive discounts through the loyalty program. Under some circumstances, consumer surplus for large buyers increases. However, the discount is based on an inflated, non-loyalty price, so it is possible that large consumers are not made better off. Moreover, the loyalty program can reduce consumer surplus by steering large consumer's purchases toward goods they view as inferior, ceteris paribus. Overall consumer surplus may rise or fall.

Assuming that Firm A is maximizing short-term profits, it would set the threshold of its loyalty program so that a buyer wishing to qualify for its loyalty discount must purchase from A for all values of $q \leq q_A = P_B - c$. Intuitively, Firm A's loyalty program would not attempt to include those purchases where the consumer's preference for Firm B's product is so great that there is no joint surplus for the buyer and Firm A to share. Thus, a firm maximizing short-term profits would set the threshold of its loyalty program so that the incremental profits equal the incremental increase in the discount—that is when $P_A - c = d$.[30]

The authors use the latter condition to set out a test that distinguishes "competitively motivated loyalty discounts from those that are potentially exclusion-

---

29 For Firm A, this threshold requires that the consumer make all purchases from Firm A where $q < q_A$ in order to receive the discount d. Setting a threshold q_A is equivalent to a market share requirement that $F(q_A)$ of the consumer's purchases of the good are from Firm A.

30 To see this, suppose that Firm A sought to induce an incremental purchase through the loyalty program by increasing the threshold to a point where $q_A > P_B - c$. In order to do this, Firm A would have to incrementally increase the discount so that $P_A - d + q_A = P_B$. But this implies that $P_A - d + P_B - c < P_B$, or, equivalently, $P_A - c < d$. Thus, such an incremental increase in the loyalty threshold would reduce Firm A's short-term profits.

ary."[31] Loyalty programs that set high purchase requirements—so that the profits on the incremental unit are less than the incremental increase in the discount required—are non-compensatory[32] and "suggestive of a motive beyond short-run profit maximization."[33] The authors note that the data required by the test might not be generally available. However, they suggest that such a test may be feasible when examining changes in loyalty programs, especially those that increase the thresholds above historical levels. Under these circumstances, one could look at revenue and cost data to test the hypothesis that the incremental profits from the change in the programs equaled the incremental increase in the discounts against the alternative hypothesis that incremental profits were less than the incremental discounts.

In the multiple-product setting, several tests have been suggested. First, some have advocated the use of cost-based tests. One issue is how to apply such tests to multi-product bundled rebates. One approach would be to compare the price of the bundle to the relevant cost of producing the bundle. Pricing conduct that results in bundled prices that exceed the relevant cost of producing the bundle would be presumptively lawful.[34] Some have criticized such a standard as too permissive and suggest allocating the bundled discount between the component goods and then examining whether the price of each component good, net of this allocated discount, is greater than the appropriate measure of cost. The problem with such an approach is that there is no consensus, in theory or practice, regarding how to make such an allocation.[35] Unless the allocation is done in an arbitrary way, such a task is likely to increase the costs of administering such a rule and may even increase both types of error costs.[36]

Greenlee and Reitman also examine the use of loyalty discounts in the case of parallel markets—that is, when Firm A is in all N markets and facing competition from single-product firms in each market.[37] In their model of parallel markets, each market has a duopoly structure, where Firm A is one of the duopolists in all markets. Firm A can link the loyalty programs across the N markets, so that

---

31 *See* Greenlee & Reitman, *supra* note 2, at 11.

32 *See* Ordover & Willig, *supra* note 27.

33 *See* Greenlee & Reitman, *supra* note 2, at 12.

34 *See, e.g.,* T. Muris, *Comments on Antitrust Law, Economics, and Bundled Discounts,* submitted on behalf of the United States Telecom Association in response to the Antitrust Modernization Commission's Request for Public Comments (Jul. 15, 2005).

35 For an example of this issue, *see* the text accompanying notes 102 and 103, *infra*.

36 *See* the text accompanying note 56, *infra*.

37 *See* Greenlee & Reitman, *supra* note 3, at § 3.

the loyalty discount is dependent on a buyer qualifying in all N markets. If all N single-market firms offer loyalty programs, then the equilibria in each of the N markets, including the loyalty thresholds, are the same as that in the single-market case studied above. The authors also consider the case where some of the single-product firms do not, for some reason, offer loyalty discounts. Greenlee and Reitman show that such a change only affects the equilibrium size of the loyalty discount. The optimal target levels for their loyalty programs remain the same. Under these conditions, they show that moving from a single market to multiple, parallel markets does not change the test used to distinguish between loyalty programs motivated by maximization of short-run profits and those that "are non-compensatory and only make sense if driven by something other than short-run profit maximization."[38] Thus, they advocate use of the incremental cost-based tests under these conditions.

Greenlee et al. and a recent paper by Nalebuff have suggested tests to distinguish pro- and anticompetitive uses of bundled discounts in markets where a monopoly seller in one market (Y) faces competition in a second market (X).[39] Both papers demonstrate how bundled discounts, including loyalty discounts, can be used by a monopolist in one market to exclude firms in a second market. Both papers use similar models where a monopolist in product Y engages in the bundling of Y and a competitively supplied product X. Absent bundling, the price of Y equals m, the stand-alone monopoly price, and the price of X equals c, the cost of production. If bundling is feasible, the monopolist can also offer a bundle with stand-alone prices (P_Y, c) and a bundled price $(P_Y - e, P_X)$.

To see how bundling serves as an exclusionary device, consider a bundled discount with prices $(m - e, c + d)$, where e and d are small, positive deviations from the non-bundled equilibrium prices. At the monopoly price m, the small decrease in the price of Y would have a second-order effect on profits. However, the small increase in the price of X would have a first-order effect on profits. Thus, for some small e and d, offering the bundled discount would increase the profits of the monopolist. Moreover, for some small e and d, the bundle would be preferred by consumers to the stand-alone prices m and c. Thus, such bundled discounts are welfare-increasing.

Because the bundle is preferred to the stand-alone prices m and c, such a bundled discount can exclude an equally—or even more—efficient competitor.[40] Moreover, such exclusion does not require the monopolist to price either the

---

38 *See Greenlee & Reitman, supra* note 2. at 13.

39 B. Nalebuff, *Exclusionary Bundling* (2005) (mimeo).

40 Exclusion does not result if the monopolist can source production of X from competitive suppliers. The monopolist is indifferent between producing X himself and purchasing X from an equally efficient competitive supplier at 10. Indeed, if the competitive supplier is more efficient, then the monopolist is better off purchasing these units at a price below 10 and reselling them in the bundle at 11. *See* R. Schmalensee, *Commodity Bundling by Single Product Monopolies,* 25 J.L. & Econ. 67 (1982).

product or the bundle below cost. Because this bundled discount would exclude a hypothetical equally efficient competitor, Nalebuff condemns these uses of bundling based on this outcome.[41] However, based on a consumer welfare standard, use of such a test under these circumstances would erroneously condemn a welfare-increasing use of bundling.[42]

However, not all forms of bundled discounts increase consumer surplus or total surplus. Consider a bundled discount where the bundle is priced at $m + c$, but the stand-alone price for the monopoly product is increased above m. Once again, consumers prefer the bundle to the stand-alone prices and the equally efficient competitor would be excluded as he would not be able to make sales at c. Moreover, in this case, consumer welfare unambiguously falls. Consumers who purchase the bundle are indifferent, as the bundled prices are equal to the non-bundled, stand-alone prices. The same is true for those who purchase X at the stand-alone price c. But consumers are made worse off when they purchase Y at the stand-alone price. Thus, consumer surplus must fall under these circumstances.

Because it would exclude an equally efficient competitor, this bundled offer fails the hypothetical equally efficient competitor test. Such a bundled discount does pass a cost-based test, as both X and Y, as well as the bundle, are priced above cost. Because consumer welfare falls, Greenlee et al. also condemn such a bundled offer on antitrust grounds. This leads Greenlee et al. to propose the following test for welfare-decreasing bundled discounts: Under the assumption that the bundled prices are optimal, a bundled discount would decrease consumer surplus if the stand-alone price for good Y is above the monopoly price of Y in the absence of bundling. Such welfare-reducing bundled discounts would be found to violate the antitrust laws. This test is more conservative than the hypothetical equally efficient competitor test, as it leaves bundled discounts that would actually yield lower prices to consumers alone and only condemns those where the bundled discount would only be a discount compared to inflated stand-alone prices. It is more aggressive than the cost-based tests, as it condemns welfare-decreasing, but above-cost, bundled discounts.

Taken as a whole, the paper provides a useful consumer welfare test for bundled discounts. On the other hand, such a test may be difficult to implement. Accepting the validity of the model for the moment, the test suggested by Greenlee et al. requires a comparison of the existing stand-alone price for the monopoly product Y offered as part of the mixed bundle with the optimal monopoly price of product Y that would have been charged in the absence of bundling. While this task is well-defined within the context of a theoretical model with known and stable demand, such a task is likely to be much more dif-

---

41 *See* Nalebuff, *supra* note 39. *See also,* P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶749 (2005 supp.), at 183–4 (advocating use of the hypothetical equally efficient competitor test in limited circumstances).

42 *See* Greenlee, Reitman, & Sibley, *supra* note 4.

ficult to administer in practice.[43] In addition, there may be no identifiable pricing regimen before the loyalty rebate program was implemented. Moreover, the test's results are ambiguous when the loyalty program involves an increase in the stand-alone price and a decrease in the discounted price relative to the previous monopoly price. It also depends on the assumptions that the monopolist fully extracts consumer surplus under the loyalty program and that, prior to the rebate program, the Market X equilibrium was at the perfectly competitive price. Thus, while Greenlee et al.'s test would, in theory, result in lower error costs than either the cost-based tests or the hypothetical equally efficient competitor test, the costs of implementing such a test may be higher. Moreover, potential errors in administering this test may reduce any theoretical error-cost advantage.[44] Both of these effects tend to favor the use of a simpler, easier to administer test.[45]

III. Loyalty Discounts and Antitrust Law in the United States

There have been several challenges to firms' use of market share and loyalty discounts under U.S. antitrust laws. While frequent buyer programs aimed at end users can, in theory, increase prices and decrease welfare, challenges under U.S. antitrust laws have not been successful. Reported U.S. antitrust cases with claims involving loyalty programs marketed to end users have not directly challenged the firms' use of the programs. Rather, these cases have attacked the firms' attempts to change the terms of the program[46] or firms' attempts to prevent resale of frequent-buyer rewards in a secondary market.[47]

---

43 The test would require the estimation of the but-for optimal bundled price of Y. One proxy for this would be the direct observation of the price of good Y before the monopolist began bundling. However, such prices are not always available, and changes in demand and cost conditions may make such a proxy unreliable. In such cases, estimating the but-for monopoly price would require an econometric estimation that controlled for these changing variables.

44 *See* text accompanying note 56, *infra.*

45 *See* text accompanying note 26, *supra*. For an explicit analysis of these issues, *see* B. Kobayashi, *Two Tales of Bundling: Implications for the Application of Antitrust Law to Bundled Discounts* (2005) (mimeo, George Mason University School of Law).

46 *See, e.g.,* American Airlines v. Wolens, 513 U.S. 219 (1995).

47 *See* TransWorld Airlines v. American Coupon Exchange, Inc., 689 F. Supp. 1476 (1988) (the airline's actions to prevent the brokering of frequent flyer miles did not violate the Sherman Act) and Haas, et al., v. Delta Airlines, et al., U.S. District Court, S.D.N.Y. 03 Civ. 0589, complaint filed Jan. 27, 2003 (class action complaint alleging that restrictions on the brokering of frequent flyer miles violate the antitrust laws). *See generally,* K. Braden, *Frequent Flyer Coupon Brokering: A Valid Trade?*, 55 J. AIR L. & COMM. 727 (1990). While allowing the resale of frequent buyer credits would mitigate the effects such programs have on consumer switching costs, it would likely reduce firms' benefits from offering such programs. Such an outcome would not necessarily be beneficial either. The overall effect of eliminating or restricting frequent flyer and other loyalty programs would depend on what form of

Most of the recent antitrust claims involving loyalty programs have involved use of such programs at the wholesale level. In the remainder of this section, we examine these recent cases and the economic theories of harm underlying the claims. These cases were chosen because they involve volume discounts with customer-specific thresholds. In Part A, we examine the single-product case with near-exclusionary volume discounts in *Barry Wright v. ITT Grinnell* and *Brooke Group v. Brown & Williamson*.[48] The first case involved an above-cost volume discount that was based on buyers agreeing to take nearly all of their requirements from one seller. In the second, the U.S. Supreme Court increased the burden on the plaintiff in predation cases involving individualized, below-cost volume discounts. Part B examines the use of market share discounts in *Concord Boat Corp. v. Brunswick Corp*.[49] All of the three cases resulted in judgments for the defendant, and all three cases focused on "the actual facts or realities of the marketplace rather than on hypotheticals."[50]

Part C examines the loyalty discounts in the multi-market or multi-product setting in *SmithKline v. Eli Lilly, Ortho v. Abbot, Virgin Atlantic v. British Airways*, and *LePage's v. 3M*.[51] The courts treated these cases differently from the cases involving single products. They did not extend the *Brooke Group* standard that yielded a safe harbor to above-cost pricing conduct to these multi-market cases. In *SmithKline*, the appeals court found that the bundled rebates would have foreclosed an equally efficient competitor and upheld judgment for the plaintiff. However, in *Ortho* and *Virgin*, the courts granted summary judgment for the defendant because the plaintiffs failed to present sufficient evidence in support of their theory. Finally, in *LePage's*, the court upheld a verdict for the plaintiff. However, unlike the other cases reviewed in this paper, the court did not require the plaintiff to demonstrate through sufficient evidence that the defendant's bundled rebates were exclusionary. Figure 1 summarizes the cases reviewed in this section.

---

footnote 47 cont'd

promotional expenditures replaced these programs. *See, e.g.*, E. Gellhorn, *Trading Stamps, S&H and the FTC's Unfairness Doctrine*, Duke L.J. 903 (1983) (discussing the economics of trading stamps and the FTC's oversight of them following FTC v. Sperry & Hutchinson, 405 U.S. 223 (1972)).

48 Barry Wright v. ITT Grinnell. 724 F.2d 227 (1983) [hereinafter *Barry Wright*] and Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993) [hereinafter *Brooke Group*].

49 Concord Boat Corp. v. Brunswick Corp., 207 F.3d 1039 (8th Cir. 2000) [hereinafter *Concord Boat*].

50 *Id.* at 1062.

51 SmithKline Corp. v. Eli Lilly & Co., 575 F.2d 1056 (3rd. Cir.1978) [hereinafter *SmithKline*]; Ortho Diagnostic Systems v. Abbot Labs, Inc., 920 F. Supp. 455 ((S.D.N.Y. 1996) [hereinafter *Ortho*]; Virgin Atlantic Airways, LTD. v. British Airways PLC., 257 F.3d 256 (2nd Cir. 2001) [hereinafter *Virgin Atlantic*]; and LePage's v. 3M, 324 F.3d 141 (3rd Cir. 2003) [hereinafter *LePage's*].

Case	Below Cost	Thres-holds = Near Exclus-ivity	Market Share Discount	All Units Discount	Multi-market	Bundled Rebates	Disposition of Case
SmithKline (1978)	N	N	N	Y	Y	Y	Judgment for plaintiff, Aff'd 3rd Cir.
Barry Wright (1983)	N	Y	N	Y	N	N	Judgment for defendent, Aff'd 1st Cir.
Brooke Group (1993)	Y	N	N	?	N	N	JMOL for defendant Aff'd 4th Cir., SCT
Advo (1995)	N	N	N	N	Y	N	Summary Judgment for defendant, Aff'd 3rd Cir.
Ortho (1996)	N	N	N	Y	Y	Y	Summary Judgment for defendant
Concord Boat (2000)	N	N	Y	Y	N	N	Judgment for plantiff. Rev'd 8th Cir.
Virgin Atlantic (2001)	N	N	N	Y	Y	Y	Summary Judgment for defendant, Aff'd 2nd Cir.
LePage's (2003)	N	N	N	Y	Y	Y	Judgment for plaintiff, Aff'd en banc 3rd Cir.

Figure 1

Recent U.S. loyalty discount cases

A. SINGLE-PRODUCT VOLUME DISCOUNT CASES WITH NEAR EXCLUSIVITY

Near-exclusive volume discounts were the subject of *Barry Wright v. ITT Grinnell*.[52] This case was decided before the U.S. Supreme Court's predatory pricing decisions in *Brooke Group* and *Matsushita*.[53] While its holding is consistent with these later U.S. Supreme Court cases, its analysis of the potential for above-cost pricing behavior to be anticompetitive and its treatment of near-exclusive thresholds are useful for evaluating whether the existence of these factors yield potential reasons to deviate from the *Brooke Group* standard.

In this case, Pacific was the only domestic manufacturer of mechanical snubbers, which are used in building pipe systems for nuclear power plants.[54]

---

52 *Barry Wright, supra* note 48.

53 Matsushita Elec. Co. v. Zenith Radio Co., 475 U.S. 574 (1986) [hereinafter *Matsushita*].

54 Foreign mechanical snubbers did not meet regulatory requirements and hydraulic snubbers were viewed as less reliable, so customers often required the use of mechanical snubbers.

Grinnell built these pipe systems and was a large consumer of Pacific's snubbers. Faced with the lack of a viable alternative to Pacific, Grinnell entered into a contract under which it would help the Barry Wright Corporation develop a full line of mechanical snubbers. Under the contract, Grinnell agreed to contribute to Barry Wright's development costs and to use them as its exclusive source for two years (1977 and 1978). While Barry Wright was developing its product, Grinnell continued to purchase snubbers from Pacific at the normal 20 percent off the list price.

At some point, Pacific realized that Grinnell was attempting to develop an alternative source of mechanical snubbers. It offered Grinnell larger discounts of 30 percent off the list price for small snubbers and 25 percent off the list price for large snubbers if Grinnell would agree to a large purchase of US$5.7 million—which would have satisfied Grinnell's demands for snubbers through the end of 1977. Grinnell initially rejected Pacific's offer and placed a small order of US$1 million at the standard 20 percent off the list price. Subsequently, Barry Wright failed to meet the agreed on production schedules and announced it would not be able to produce small snubbers until August 1977, and large ones until February 1978. As a result, in January 1977, Grinnell met with Pacific and entered into a contract to purchase US$4.3 million of Pacific's snubbers—enough to fill its demands through 1977. The contract price specified the large 30/25 percent discounts off the list price and gave Grinnell an option, open until July 1977, to buy its 1978 requirements at these prices. Grinnell also agreed to a non-cancellation clause and informed Barry Wright that it had breached its contract. In late May, Grinnell agreed to buy US$6.9 million of snubbers from Pacific in 1978 (estimated to be its entire demand for that year) and US$5 million of snubbers in 1979 from Pacific, both at the 30/25 percent discount off the list price. Soon thereafter, Grinnell notified Barry Wright that its collaboration was at an end. Barry Wright subsequently abandoned its efforts to develop mechanical snubbers.

Barry Wright brought an antitrust lawsuit against Grinnell and Pacific, alleging that the contracts between Pacific and Grinnell violated Sections 1 and 2 of the Sherman Act and Section 3 of the Clayton Act and that Pacific had tortuously interfered with Barry Wright's contract with Grinnell to develop snubbers. The U.S. district court entered judgment for the defendant on all counts. On appeal, the U.S. Court of Appeals for the First Circuit affirmed. One of Barry Wright's central claims under Section 2 of the Sherman Act was that the 30/25 discounts were "unreasonably low." The court found this argument unconvincing because the 30/25 percent discount, while "lower than normal," did not result in prices that were below average total cost.

The court then examined Barry Wright's argument that discounts that leave prices above total average cost may still prove unlawful. The court noted that economists had demonstrated that it was theoretically possible that above-cost

price cuts "might be viewed as lying outside the range of normal, desirable, competitive processes" if such price cuts were unprofitable but for their ability to:

(1) drive out competitors and

(2) allow the firm to charge higher prices later.[55]

The court, however, rejected this argument on the grounds that consideration of such claims would be difficult to administer and counterproductive. The court noted that:

> "[W]hile technical economic discussion helps to inform the antitrust laws, those laws cannot precisely replicate the economists' (sometimes conflicting) views. For, unlike economics, law is an administrative system the effects of which depend upon the content of rules and precedents only as they are applied by judges and juries in courts and by lawyers advising their clients. Rules that seek to embody every economic complexity and qualification may well, through the vagaries of administration, prove counter-productive, undercutting the very economic ends they seek to serve."[56]

The court also considered Barry Wright's claim that the contracts between Grinnell and Pacific were exclusionary, long-term contracts. The court noted that the contracts included fixed dollar amounts and not true requirements contracts. And, although the contracts for 1977 and 1978 were for dollar amounts that would have covered the entire demand and would have resulted in near exclusivity—the contract for 1979 was for significantly less than the total estimated market demand for that year (approximately 72.4 percent of total estimated demand). Thus, any de facto exclusivity was from a sequence of contracts, and these near-exclusive contracts would last two, not three, years. The court did not find such near exclusivity problematic. Moreover, the court noted that both Grinnell and Pacific had legitimate business reasons to enter into these forward contracts. Because there was often significant lead time between orders and their delivery, contracts specifying delivery at a later date were the norm. Furthermore, the contracts would give Grinnell a stable source of supply at a favorable price and allow Pacific to take advantage of production efficiencies.[57]

---

55 *See* Greenlee & Reitman, *supra* note 3 (discussing literature).

56 *See Barry Wright, supra* note 48, at 234.

57 *See also* Barr Labs, Inc. v. Abbot Labs, 978 F.2d 98 (3rd Cir. 1992) (holding that volume discount to large buyer with 15 percent of the market did not constitute unlawful exclusive dealing).

The issue of volume discounts or rebates was addressed by the U.S. Supreme Court in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*[58] This case involved competition between two cigarette manufacturers. Prior to the mid 1980s, both companies produced branded cigarettes. In the mid 1980s, Liggett, which eventually became a part of Brooke Group, pioneered the development of generic cigarettes, which were sold at a lower price (approximately 30 percent lower) than branded cigarettes. Liggett promoted its generic cigarettes at the wholesale level by giving rebates that increased with the volume of cigarettes ordered. In response, Brown & Williamson introduced their own line of generic cigarettes and also promoted them using volume rebates.

After a price war developed in which successively larger volume rebates were offered to wholesalers, Liggett filed a suit alleging, among other things, that Brown & Williamson's "discriminatory volume rebates to wholesalers violated the Robinson-Patman Act by furthering a predatory pricing scheme designed to purge competition from the economy segment of the cigarette market."[59] Both the price war and the filing of the suit occurred prior to the actual market introduction of Brown & Williamson's generic cigarettes.

The volume discounts in *Brooke Group* had several features that differentiated them from standard volume discounts. First, the volume discounts were discriminatory, as the largest volume rebates were targeted to wholesalers currently carrying Liggett's generic cigarettes. Moreover, there was evidence that the prices, net of the rebates, were below the average variable costs of production. Further, the incentives given by the volume discounts often led to de facto exclusivity. However, it is not clear that the exclusivity resulted from Brown & Williamson's setting of near-exclusionary thresholds. Given the undifferentiated nature of the generic products and the volume discounts, distributors commonly preferred to purchase their entire demand for generic cigarettes from one supplier.

After a lengthy trial, a jury returned a verdict in favor of the plaintiff on the primary-line Robinson-Patman claim and awarded Liggett US$49.6 million—which was trebled to US$146.8 million. However, the U.S. district court judge granted the defendant's motion for judgment as a matter of law and set aside the jury verdict on three separate grounds: lack of injury to competition, lack of antitrust injury to Liggett, and lack of a causal link between the discriminatory rebates and Liggett's alleged injury.[60] The U.S Court of Appeals for the Fourth Circuit affirmed. The U.S. Supreme Court granted certiorari in the case. Under then-existing precedent, most courts applied a rebuttable presumption of legali-

---

58 *Brooke Group*, *supra* note 48.

59 15 U.S.C. § 13a. This type of injury, which harms direct competitors of the discriminating seller, is known as primary-line injury.

60 Liggett Group, Inc. v. Brown & Williamson Tobacco Corp., 748 F.Supp. 344 (M.D.NC. 1990).

ty to pricing below average total cost, but above average variable costs. Pricing below average variable costs was generally held to be presumptively unlawful, subject to the existence of market conditions (such as the absence of barriers to entry) that would make predatory pricing "implausible." Pricing above average total cost was almost always held to be lawful.[61]

The U.S. Supreme Court in *Brooke Group* further increased the burden placed on the plaintiff in predatory pricing cases. Noting that "primary-line competitive injury under the Robinson-Patman Act is of the same general character as the injury inflicted by predatory pricing schemes actionable under § 2 of the Sherman Act,"[62] the Court held that the two prerequisites to recovery remain the same whether the claim alleges predatory pricing under Section 2 of the Sherman Act or primary-line price discrimination under the Robinson-Patman Act. Although the Court declined to set out a rule of per se non-liability when recoupment is alleged to have taken place through supra-competitive oligopoly pricing, it set out two not-easy-to-establish prerequisites for recovery in predatory pricing cases. First, a plaintiff seeking to establish competitive injury resulting from a rival's low prices must prove that the prices it objects to are below an appropriate measure of its rival's costs. Second, it must show that "the competitor had a reasonable prospect, or, under § 2 of the Sherman Act, a dangerous probability, of recouping its investment in below-cost prices."[63] The high burdens placed on the plaintiff were appropriate, in the Court's view, because "predatory pricing schemes are rarely tried, and even more rarely successful,"[64] and because of the high costs of an erroneous finding of liability—the deterrence of pro-competitive price competition.

Applying these two prerequisites to the facts of the case, the U.S. Supreme Court found that despite evidence of anticompetitive intent and evidence that Brown & Williamson's prices net of the volume discounts were below the appropriate measure of cost,[65] they were entitled to judgment as a matter of law because the plaintiff failed to demonstrate competitive injury as a matter of law. The Court, focusing on the actual facts of the marketplace rather than on hypotheticals, held that the evidence in the case was "inadequate to show that in pursuing this scheme, Brown & Williamson had a reasonable prospect of recovering its

---

61 *Matsushita, supra* note 53.

62 *Brooke Group*, *supra* note 48, at 221.

63 *Id.* at 224.

64 *Id.* at 226 (*citing Matsushita*, *supra* note 53, at 589).

65 *Id.* at 231 (noting that: "There is also sufficient evidence in the record from which a reasonable jury could conclude that for a period of approximately 18 months, Brown & Williamson's prices on its generic cigarettes were below its costs...and that this below-cost pricing imposed losses on Liggett that Liggett was unwilling to sustain, given its corporate parent's effort to locate a buyer for the company").

losses from below-cost pricing through slowing the growth of generics."[66] Specifically, the Court rejected the theoretical possibility of harm as a basis for liability, noting that "[w]hen an expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict."[67]

B. THE COURTS TREATMENT OF ABOVE-COST MARKET SHARE DISCOUNTS IN *CONCORD BOAT*

The Court's evaluation of the volume rebates in *Brooke Group* placed a high burden of proof on plaintiffs alleging that pricing conduct, including discriminatory volume discounts, violated either Section 2 of the Sherman Act or Section 2(a) of the Robinson-Patman Act. As noted above, loyalty discounts, however, can have additional features that differentiate them from standard volume discounts. The volume discounts in *Barry Wright* and *Brooke Group* had many of these features, including the use of all-units discounts and volume discounts with customer-specific thresholds that require or result in near exclusivity. However, other features of loyalty discount programs can, in theory, distinguish the use of such loyalty discounts from the case of the near-exclusive, discriminatory, all-units volume discounts considered in *Brooke Group*, and they can provide a reason to deviate from the *Matsushita* and *Brooke Group* rule and condemn above-cost pricing.

One additional feature is the use of market share discounts. Market share discounts were considered by the U.S. Court of Appeals for the Eighth Circuit in *Concord Boat Corporation v. Brunswick Corporation*.[68] Brunswick produced stern drive engines for boats, and was the market leader with a 75 percent market share in 1983. Beginning in 1984, Brunswick offered market share discounts. To receive these discounts, boat builders could agree to purchase a certain percentage of their engines from Brunswick for a fixed period of time. These agreements specified a 3 percent discount to boat builders who bought 80 percent of their engines from Brunswick, a 2 percent discount for a 70 percent share and a 1 percent discount for a 60 percent share. In 1994, Brunswick attempted to increase its market share requirement to 95 percent, but was unsuccessful due to complaints from boat builders. Beginning in 1995, the top two share requirements were lowered. The program was changed to a 3 percent discount for a 70 percent share, and a 2 percent discount for a 65 percent share. The program was discontinued in the middle of 1997.

---

66 *Id.* at 231.

67 *Id.* at 242.

68 *Concord Boat, supra* note 49.

The plaintiffs, who were boat builders, filed an antitrust suit in 1995 alleging, among other things, that Brunswick's market share and volume discounts were de facto exclusive dealing contracts that violated Section 1 of the Sherman Act. Moreover, the plaintiff argued that the discount programs and acquisitions violated Section 2 of the Sherman Act because they were part of a deliberate plan to exclude competitors from the stern drive engine market, and that this exclusion would enable Brunswick to charge supra-competitive high prices for its engines.[69]

The boat builders' primary evidence used to establish Brunswick's antitrust liability was the testimony of their expert economic witness. He testified that Brunswick had market power, and that its market share discount programs were used to impose a "tax" on boat builders and dealers who purchased engines from other manufacturers equal to the all-units discounts these purchasers gave up by not buying from Brunswick.[70] This tax forced Brunswick's competitors to charge substantially lower prices in order to convince customers to purchase from them and forgo the all-units discounts. He testified that the discount programs, combined with the market power Brunswick acquired by having purchased two boat builders, enabled Brunswick to capture a large share of the stern drive engine market, which in turn deterred entry into the market.

A jury found for the plaintiff on all of the antitrust claims and counterclaims, and the judge denied the defendant's motion for judgment as a matter of law. The U.S. Court of Appeals for the Eighth Circuit reversed. The court evaluated the testimony of the plaintiff's expert economic witness, and found that this testimony should have been excluded.[71] Specifically, they found that the plaintiff expert's testimony "was not grounded in the economic reality of the stern drive engine market, for it ignored inconvenient evidence."[72] Because of the deficiencies in the foundation of the opinion, and because the expert's opinion did not separate lawful from unlawful conduct, the court concluded that the expert's resulting conclusions were "mere speculation." As a result, the court held that

---

69 They also alleged that Brunswick's acquisition of two boat builders in 1986 violated Section 7 of the Clayton Act. The Eighth Circuit disposed of these claims by ruling that the statue of limitations had tolled.

70 For a discussion of this effect, *see* text accompanying note 13, *supra*.

71 *See Concord Boat, supra* note 49 (applying the Court's test for admissibility in Daubert v. Merrill Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)).

72 For example, the plaintiff's expert's damage calculations ignored that fact that boat builders often exceeded the volume discount thresholds. Moreover, his theoretical model did not reflect the realities of the market, including other plausible reasons that caused Brunswick to attain a high market share (such as a recall of their competitor's engines). *See Concord Boat, supra* note 49, at 1055–7.

the plaintiffs failed to carry their burden of proof and that Brunswick's motion for judgment should have been granted for this reason.[73]

Of particular interest is the court's analysis of the legality of above-cost price cuts. The court noted that no one had argued that the discounts drove Brunswick's prices below costs, and that the "decisions of the U.S. Supreme Court in *Brooke Group* and *Matsushita* illustrate the general rule that above cost discounting is not anticompetitive."[74] The court then discussed Brunswick's theory that "any pricing practice that leads to above costs prices is *per se* lawful under the antitrust laws."[75] In discussing several cases that had explicitly rejected a rule of per se legality, the court noted that these cases "examined by the district court all involve bundling or tying."[76] Because "only one product, stern drive engines, is at issue here and there are no allegations of tying or bundling with another product," the court did not find these cases persuasive.[77]

3. Multiple-Market Volume Discounts

As set out in the previous part of this paper, the U.S. federal courts have set out broad rules for pricing conduct involving single markets. These rules have set out "hard to satisfy conditions" for plaintiffs to prevail, or even survive, summary judgment with predatory pricing claims. And, given the facts and evidence in the cases reviewed by the federal appellate courts, above-cost volume discounts,

---

73 In contrast, the European Community has generally condemned the use of market share discounts. *See*, *e.g.*, Case T-203/01, Manufacture française des pneumatiques Michelin v. Commission (Sep. 30, 2003, not yet reported) [hereinafter *Michelin II*], upholding Commission Decision 2002/405/EC, Michelin, 2002 O.J. (L 143). For a discussion of EC law, *see* Heimler, *supra* note 3 and RBB Economics, Selective Price Cuts and Fidelity Rebates (U.K. Office of Fair Trading, Economic Discussion Paper, Jul. 2005). For a discussion of the differences between EC and U.S. approaches to vertical antitrust policy, *see* J. Cooper, L. Froeb, D. O'Brien, & M. Vita, A Comparative Study of United States and European Approaches to Vertical Policy (Vanderbilt University, Working Paper No. 05–11, 2005).

74 *Concord Boat, supra* note 49, at 1062.

75 *Id.*

76 *Id.*

77 Market share discounts are similar to the use of promotional payments in exchange for specific percentages of total display space. *See*, *e.g.*, R. J. Reynolds Tobacco Co. v. Phillip Morris Inc., 199 F. Supp 2d 362 (2002); *aff'd per curiam*, 67 Fed. Appx. 810 (4th Cir. 2003) (granting summary judgment for the defendant in antitrust challenge to promotional payments in exchange for near-exclusive shelf space allocations). *See also* Bayou Bottling v. Dr. Pepper, 725 F.2d 300 (5th Cir. 1985) (rejecting a monopolization claim based on shelf space requirement not exceeding firm's market share). Such programs have also resulted in challenges under the Robinson-Patman Act with differing outcomes. *See*, *e.g.*, FTC v. McCormick, FTC file No. 961–0050 (FTC challenge to payments by McCormick in exchange for near-exclusive shelf space allocations as secondary-line price discrimination under the Robinson-Patman Act). For a discussion of these cases, *see* J. Wright, *Antitrust Law and Competition for Distribution* (2005) (mimeo, George Mason Law School).

including those that have near exclusivity and those that use market share discounts, have resulted in judgment for the defendant.

However, the U.S. Supreme Court did not adopt a rule of per se legality for above-cost pricing conduct. And courts examining loyalty discounts in cases involving multiple markets or products have distinguished the single-product case from the multiple-product or multliple-market case, and have not extended the above-cost safe harbor in *Brooke Group* to the latter set of cases. Thus, while above-cost pricing is presumptively legal in the single-product setting, the courts have generally considered allegations that above-cost loyalty discounts can have anticompetitive effects and violate the antitrust laws in the multiple-market setting. Moreover, they have also considered alternatives to the cost-based *Brooke Group* test that attempt to more accurately differentiate between pro- and anticompetitive bundled loyalty discounts. However, while the courts have considered the plaintiff's theoretical arguments, they generally have not ruled for the plaintiffs based on the theoretical possibility of harm. Rather, these cases have turned on the sufficiency of the evidence offered in support of a theory or test. Thus, the vast majority of cases are consistent with the Court's focus in *Brooke Group* on actual market realities over hypotheticals.

> WHILE THE COURTS HAVE CONSIDERED THE PLAINTIFF'S THEORETICAL ARGUMENTS, THEY GENERALLY HAVE NOT RULED FOR THE PLAINTIFFS BASED ON THE THEORETICAL POSSIBILITY OF HARM. RATHER, THESE CASES HAVE TURNED ON THE SUFFICIENCY OF THE EVIDENCE OFFERED IN SUPPORT OF A THEORY OR TEST.

This requirement, if taken seriously, is not a trivial one. The theoretical literature on loyalty discounts reviewed above does not go beyond showing that such effects are possible. The models reviewed in Section II contain many restrictive assumptions. For example, the models assume that the firm using the bundled loyalty program has an actual monopoly. In practice, firms rarely are monopolists protected from entry with a market share equal to one. Little attention has been paid to considering how the existence of competition in the market for the assumed monopoly good might affect their results. This latter point is important given that under the antitrust laws, firms that face some competition in all markets can be found to possess market power, which is often erroneously equated with monopoly power.[78] And because of the lack of empirical work analyzing loyalty discounts, there is little or no evidence that harm is likely under these conditions.

Moreover, these papers suppress the large and varied reasons for why bundling might be used. For example, none of these papers raises the possibility that bun-

---

78 *See, e.g.,* B. Klein, *Market Power in Antitrust: Economic Analysis After Kodak,* 3 SUP. CT. ECON. REV. 43 (1993).

dled discounts are being used to price discriminate in the face of heterogeneous consumers.[79] Nor do these models consider how their results may be affected by efficiencies from bundling. Moreover, while the use of bundled rebates has been analogized to tying and exclusive dealing, they do not consider the pro-competitive reasons why manufacturers adopt such policies. And, while others have studied these pro-competitive uses in the context of exclusive dealing and tying, this work has not been undertaken in the context of bundling and bundled rebates.[80] As a result, these models do not provide a reliable way to gauge whether the potential for harm would outweigh any demonstrable benefits from the practice.

Despite the relative lack of knowledge regarding their effects, bundled discounts were held to violate Section 2 of the Sherman Act in *SmithKline Corp. v. Eli Lilly & Co.*[81] In this case, decided before the U.S. Supreme Court's decisions in *Matsushita* and *Brooke Group,* both SmithKline and Lilly sold cephalosporin antibiotics to hospitals. Lilly was the dominant seller of cephalosporin antibiotics. Beginning in October 1972, Lilly instituted a Cephalosporin Savings Plan (CSP) which gave volume rebates of 2 to 12 percent, based on a hospital's total purchases of Lilly cephalosporins. The original program covered four patented cephalosporins.[82] In October 1973, Lilly added Kefzol, an unpatented cefazolin cephalosporin antibiotic to the CSP program. By this time, SmithKline was selling a competing cefazolin under the brand name Ancef. In April 1975, Lilly came out with a revised CSP, which contained a base dividend with a schedule of volume rebates based on total purchases.[83] However, compared to the initial CSP volume discounts, the percentage rebates under the revised CSP base dividend were generally reduced by 3 percent across the board.[84] To compensate for this, Lilly allowed hospitals to obtain an additional 3 percent bonus rebate if they met individual target volumes for three out of the five cephalosporins sold by

---

79 Consideration of such issues further complicates application of the Greenlee et al. test, as the stand-alone prices for *X* and *Y* associated with mixed bundling are often higher than the optimal prices for *X* and *Y* in the absence of bundling. For an example, *see* W.. Adams & J. Yellen, *Commodity Bundling and the Burden of Monopoly,* 90 Q. J. Econ. 475 (1976) (containing an example of mixed bundling with these characteristics).

80 *See, e.g.,* J. Heide, S. Dutta, & M. Bergen, *Exclusive Dealing and Business Efficiency: Evidence from Industry Practice,* 41 J.L. & Econ. 387 (1998) and H. Marvel, *Exclusive Dealing,* 25 J.L. & Econ. 1 (1982).

81 *SmithKline, supra* note 51.

82 These included Keflex, Keflin, Loridine, and Kafocin. *See* SmithKline Corp. v. Eli Lilly & Co. 427 F. Supp 1089, 1094 (E.D.P.A.1976).

83 *Id.* at 1104–5.

84 For example, a hospital purchasing over 96,000 grams per quarter would have received a 12 percent rebate (the maximum) under the CSP. Under the revised CSP, the same hospital would have received a 9 percent rebate.

Lilly. Thus, a hospital could generally receive the same rebate under the revised CSP as it did under the initial CSP. However, to do so, it would have to meet the new product-specific targets.[85]

On its face, the added requirement for the bonus rebate does not seem exclusionary or targeted at SmithKline. However, the court noted that in most cases, the bonus-rebate thresholds set by Lilly made it unlikely that a hospital would meet the individual thresholds for its low-volume products, Loridine and Kafocin. Thus, in order to get the bonus rebate, most hospitals were required de facto to meet the individual targets for Keflex, Keflin, and Kefzol. The U.S. Court of Appeals for the Third Circuit noted that the rebates were "actually paid largely in Keflin and Keflex."[86] Moreover, the individual thresholds could be set so that meeting the threshold for Kefzol would be difficult if a hospital purchased Ancef from SmithKline.[87]

SmithKline challenged Lilly's use of bundled discounts (in the form of rebates) and its revised CSP. The U.S. district court, after a bench trial, held that Lilly's revised CSP violated Section 2 of the Sherman Act. The court, confronting the fact that Lilly's volume discounts did not result in net prices below cost, noted that:

> "[A] monopolist does not receive immunity merely because it has priced the product in issue above its average cost. For that immunity is lost when it uses a pricing scheme linking the monopolistic products (Keflin and Keflex) with another competitive product (Kefzol) to deter SmithKline from entering or effectively competing in the cephalosporin market. We should be ever mindful that the gravamen of this complaint and my holding are not that the price which Lilly separately charges for Keflin or Keflex are unreasonable

---

85 Thus, the hypothetical hospital in the prior note, *supra*, would have received a 9 percent rebate under the revised CSP. However, if it bought over 2,000 grams of three different Lilly cephalosporins in a given quarter, its total rebates would have risen back to 12 percent.

86 *SmithKline, supra* note 51.

87 In a case decided after *Brooke Group,* the same circuit court applied the *Brooke Group* standard to the use of discounts in the monopoly product (in this case, run of the press advertising) based on total purchases from the defendant (including ROP and direct mail advertising). *See* Advo, Inc. v. Philadelphia Newspapers, Inc., 51 F.3d 1191 (1995). The plaintiff in the case sold only direct mail advertising. The court differentiated this case from *SmithKline* on the grounds that the discounts in that case were "tied to the purchase of specific items," whereas the discounts in *Advo* were "total quantity" discounts (at 1203). From the standpoint of direct mail marketing, such a discount structure would disadvantage the single-product plaintiff, so, in theory, such total market discounts could exclude. However, even if one rejects this distinction, the same result could have been reached by holding that the plaintiff filed to provide sufficient evidence of such an exclusionary effect.

> from an antitrust standpoint; the nub of this case is the linkage of these latter products in a pricing scheme to deter competition in Kefzol.”[88]

While the district court did not find that the revised CSP constituted an illegal tying arrangement, it did find that “the effect of Lilly's revised CSP was likely the same as if a tie-in was used namely, the expansion of Lilly's monopoly power into previously competitive areas of the cephalosporin market.”[89] In analyzing the substantive effect of the revised CSP on SmithKline, the court noted that “the revised CSP raised substantially the discount Smith-Kline would have to offer hospitals on sales of Ancef,” resulting in a negative return on sales on both average and large accounts.[90] The court noted that even if SmithKline were able to reduce the costs of goods to Lilly's levels, it would be unable to compete successfully for larger accounts without extraordinarily high rebates.

Thus, in finding liability, the district court adopted a form of the hypothetical equally efficient competitor test.[91] The court found that the plaintiff, through evidence of profits and the likely size of the rebates necessary to match Lilly's bundled rebates, had met its burden of proof. From an economic standpoint, the hypothetical equally efficient competitor test is flawed, as it focuses on the harm to competitors and does not distinguish between bundled rebates that decrease welfare from those that do not. Thus, use of such a test, as noted above, can be over-inclusive and condemn welfare-increasing bundled rebates.

On the other hand, Greenlee et al. note that the facts of the case are consistent with a welfare-decreasing use of bundling and would likely fail their consumer welfare test. They note that the change from the initial CSP to the revised CSP generally resulted in a 3 percent decrease in the rebate if a hospital did not meet its bonus rebate, but that there was no change from the initial CSP to the revised CSP for those that did qualify for the 3 percent additional bonus rebate. Thus, the revised CSP resulted in higher prices, ceteris paribus, for those who did not meet the bonus rebate thresholds and the same prices with more conditions for those who did. Thus, relative to the CSP, Lilly's revised CSP was a de facto tie and likely reduced welfare. Thus, while they do not agree with the district court's use of the hypothetical equally efficient competitor standard, Greenlee et al. suggest that the court reached the correct result, but for the wrong reasons.

---

88 SmithKline Corp. v. Eli Lilly & Co. 427 F. Supp 1089, 1094 (E.D.P.A.1976), at 1129.

89 *Id.* at 1121.

90 *Id.* at 1122–3.

91 *See* text accompanying note 40, *supra*.

Other courts have considered similar above-cost pricing behavior, but have come to the opposite conclusion. The equally efficient competitor test was used by the district court in *Ortho Diagnostic Systems v. Abbot Labs, Inc.*,[92] decided after *Brooke Group*. In this case, Abbot Labs sold five tests used to detect viruses in the blood supply. These tests included the HCV (a test for Hepatitis C virus), the Anti-core (tests for the core of the Hepatitis B virus), the HTLV (test for a virus associated with leukemia), the HIV 1/2 (tests for two strains of the HIV virus), and the HBsAg (tests for the Hepatitis B surface antigen). The tests were not interchangeable and tested for the presence of different viruses. The plaintiff, Ortho, sold only the HCV test.

Ortho sued Abbot over a contract between Abbot and the Council of Community Blood Centers (CCBC). Under the terms of this contract, CCBC's members were entitled to advantageous pricing if they purchased a package of four or five tests from Abbot. Ortho argued that the terms of this contract served to foreclose or impair competition by Ortho. Specifically, the contract specified prices such that a buyer that only purchased three tests would pay more than a buyer that purchased all five tests. Ortho argued that this resulted from the de facto penalty structure built into the prices of the HTLV and HIV 1/2 tests when three, rather than four or five, tests were purchased.[93]

The judge granted the defendant's motions for summary judgment on the Section 2 claims. While the plaintiff conceded that Abbot had priced each component of the package above average variable costs,[94] the court held that this alone was not sufficient to shield it from Section 2 liability. Rather, the court ruled that the existence of package pricing prevented it from disposing of the case under the *Brooke Group* test, as such pricing could be used to exclude an equally or more efficient competitor.[95] However, the judge found that in this case, Abbot's package discounts would not have in fact excluded an equally efficient competitor, as even its most discounted prices were above both its and Abbot's average variable costs.

The judge also considered the deposition testimony of Ortho's expert economic witness, who suggested using an incremental profit test to examine whether or not the incremental discounts on the five product package, while resulting in net prices that were above costs, were compensatory.[96] The plaintiff's expert argued

---

92 *Ortho*, *supra* note 51.

93 Purchase of only the HTLV, HIV 1/2, and HCV tests from Abbot cost US$7.57, while purchase of all five tests, plus data management services, only cost US$7.37 when purchased as a bundle. *Id.* at 461.

94 *Id.* at 470.

95 *Id.* at 467–8.

96 For a fuller discussion of incremental predation tests, *see* the text accompanying notes 29 and 30, *supra*.

that if the incremental discounts were not compensatory, Abbot would not have used such discounts absent an anticompetitive motive. While the court did not reject the compensatory pricing theory as a matter of law, it did reject application of the theory because of a lack of rigorous data and analysis showing that Abbot's bundled pricing was in fact non-compensatory, noting that:

> "[I]n order to defeat a properly supported motion for summary judgment, a party may not rest on economic theories that may or may not apply to the facts of the case or on conclusory or incomplete expert analyses any more that it may rest on unsubstantiated allegations of its pleadings."[97]

A similar example is contained in *Virgin Atlantic Airways, LTD. v. British Airways PLC*.[98] In this case, the plaintiff, Virgin, sued British Airways under Sections 1 and 2 of the Sherman Act, alleging that the defendant used anticompetitive volume discounts with travel agents and corporate clients. The district court granted the defendant's motion for summary judgment, principally on the grounds that the plaintiff failed to support its expert's theories of anticompetitive practices with factual evidence. The U.S. Court of Appeals for the Second Circuit affirmed. With respect to the Section 2 claims, the court held that the volume discounts did not constitute below-cost pricing, nor did they constitute an attempt by British Airways to leverage its monopoly at London's Heathrow Airport to other markets.[99]

The incentive agreements used by British Airways were based exclusively on measures such as sectors flown or revenue earned. The agreements were not uniform, with some of the agreements having all British Airways travel count toward the thresholds, while in other agreements only certain routes were specified. The discounts, once reached, were applied to all units.[100]

Virgin charged British Airways with engaging in predatory foreclosure and the bundling of ticket sales in an attempt to foreclose transatlantic competition by diverting passengers from Virgin and other airlines to itself. The plaintiff's economic expert testified that incremental sales induced by the volume discounts were priced below the incremental cost of the program. This foreclosed entry or

---

97   *Ortho, supra* note 51, at 471.

98   *Virgin Airlines, supra* note 51.

99   The same loyalty discounts for travel agents were successfully challenged under Article 82 in EC courts. *See* Heimler, *supra* note 3.

100 *Virgin Airlines, supra* note 51, at 261.

expansion by competitors, and allowed British Airways to immediately recoup any losses on these below-cost sales by maintaining supra-competitive prices on routes that were protected from more vigorous competition.

To show incremental below-cost pricing, the plaintiff's expert attempted to implement an incremental cost test.[101] Specifically, he estimated that British Airways' incremental cost of adding an additional transatlantic flight was approximately 90 percent of incremental revenue. Based on British Airways' incentive payment schedule, he then calculated the ratio of incremental incentive payments to incremental revenues. He found that, in many cases, this ratio exceeded 10 percent. Under these circumstances, the incremental revenue net of the incremental incentive payments would not have covered their incremental costs.[102]

The U.S. Court of Appeals for the Second Circuit did not explicitly reject the plaintiff's theory of predatory foreclosure, nor did it reject the expert's proposed incremental cost test. Rather, it found that the plaintiff had failed to present sufficient evidence in support of its theory and test. The court noted that the plaintiff's economic expert assumed that the entire cost of an additional flight was attributable to the use of incentive agreements. It was not clear to the court, for several reasons, that this was the correct measure of incremental costs. In addition, the court noted the lack of specific market data regarding the use of incentive agreements on the particular routes where antitrust harm was alleged to have occurred. As a result, the court held that "summary judgment was properly granted, for where 'deficiencies in proof would bar a reasonable jury from finding that the scheme alleged would likely result in sustained supracompetitive pricing, the plaintiff's case has failed.'"[103]

While the courts have not extended the above-cost safe harbor in *Brooke Group* to cases involving bundled discounts, they have, in general, followed the Court's focus in *Brooke Group* on the facts rather than on hypotheticals. This latter focus was not, however, followed in *LePage's v. 3M*.[104] In *LePage's*, the U.S. Court of Appeals for the Third Circuit upheld a jury verdict that found that 3M's use of bundled rebates violated Section 2 of the Sherman Act. 3M's bundled rebates gave large retailers (such as Wal-Mart, K-Mart, and Target) discounts if they purchased

---

101 *See* text accompanying notes 29–30, *supra.*

102 For a loyalty discount program to be compensatory, the incremental revenues net of the incremental discounts must exceed any incremental costs. If incremental discounts were 10 percent of incremental revenues and incremental revenues equaled 90 percent of incremental costs, the plaintiff's expert's calculations imply that incremental revenues net of incremental discounts were about 0.81 percent of incremental costs and, thus, were non-compensatory.

103 *Virgin Atlantic*, *supra* note 51, at 273 (*citing Brooke Group*).

104 *LePage's*, *supra* note 51.

certain volumes of various 3M products. The size of the bundled rebates increased when retailers met volume goals across six product categories—with the largest rebates given to retailers that met the volume targets in all six categories. The use of bundled rebates was challenged by LePage's, the leading manufacturer of unbranded transparent tape. LePage's alleged that 3M's use of bundled rebates caused retailers to drop LePage's as a supplier not because of competition on the merits, but rather, because of the possibility that they might fail to qualify for the largest rebates. A jury found that 3M's practices violated Section 2 of the Sherman Act. A panel for the U.S. Court of Appeals for the Third Circuit reversed, but the court, sitting en banc, upheld the jury's verdict on the bundling claims.[105]

Despite noting that the court's en banc decision rested on an incomplete record and a poorly articulated theory of economic harm, the U.S. Department of Justice (DOJ), representing the United States, urged the U.S. Supreme Court not to take the case in its brief to the Court.[106] While the DOJ recognized that "the business community and consumers would benefit from clear, objective guidance on the application of the Section 2 to bundled rebates," it had little confidence that this case would provide the Court with "a suitable vehicle" for providing such guidance.[107] In addition to the identified shortcomings of the case record and decision, the DOJ's position was influenced by the judiciary's relative lack of experience with this issue and the underdeveloped nature of the "relatively recent and sparse" academic literature on bundled rebates.

The U.S. Supreme Court declined to review the case.[108] By deferring consideration of the issues presented in *LePage's*, the Court implicitly chose to await a case that had a record better adapted to development of an appropriate standard and, as urged by the DOJ in its brief, one that would allow "the case law and economic analysis to develop further." In principle, the cautious approach urged by the DOJ in its brief—and implicitly chosen by the Court—is understandable, and is consistent with the cautious approach taken by the courts generally in the expansion of Section 2 liability.[109] Even in cases where the economic literature on vertical practices is relatively developed, the ability of courts to distinguish between pro- and anticompetitive vertical restrictions is not so easy in practice. And, without a reliable way to distinguish pro- and anticompetitive uses, any rule that condemns ubiquitous business practices without a showing of likely

---

105 For a detailed discussion of the economics of the case, *see* D. Rubinfeld, *3M's Bundled Rebates: An Economic Perspective,* 72 U. Chi. L. Rev. 243 (2005).

106 *See Brief of the Unites States as Amicus Curiae,* 2004 W.L. 120591 (May 28, 2004).

107 *Id.* at 8.

108 LePage's v. 3M, 124 S. Ct. 2932 (2004) (*cert. denied*).

109 *See* Evans & Padilla, *supra* note 26.

harm to competition would result in the widespread condemnation of efficient practices. Such a result would be particularly damaging to the economy as it would chill the very conduct the antitrust laws are designed to protect.

Given the courts' lack of experience with the practice of bundled rebates, and given the lack of empirical evidence regarding the relative prevalence of exclusionary versus pro-competitive uses of bundled rebates, these arguments for a cautious approach seem to apply a fortiori to bundled rebates. The problem with the cautious approach taken by the DOJ and by the U.S. Supreme Court is that the U.S. Court of Appeals for the Third Circuit, in its en banc opinion in *LePage's*, failed to exercise such caution. The court concluded that it was sufficient for *LePage's* to prove that it could not compete with 3M's bundled rebates because "they may foreclose portions of the market to a potential competitor who does not manufacture an equally diverse group of products and who therefore cannot make a comparable offer."[110] Although the court suggested that 3M's bundled rebates could exclude an equally efficient competitor, it did not cite any specific evidence. Thus, in contrast to its approach in *SmithKline* (and the other circuit courts' approach to cases involving multi-product discounts), the court's approach in *LePage's* would allow a jury to find a dominant firm liable under the antitrust laws based on the possibility that bundled rebates, including those that yield customers discounts, could exclude an equally efficient competitor that produces a less diverse set of products. The plaintiff would not have to show that it was an equally efficient competitor, nor would it have to prove that the bundled rebates in question would have, in fact, excluded a hypothetical equally efficient competitor.

> WITHOUT A RELIABLE WAY TO DISTINGUISH PRO- AND ANTICOMPETITIVE USES, ANY RULE THAT CONDEMNS UBIQUITOUS BUSINESS PRACTICES WITHOUT A SHOWING OF LIKELY HARM TO COMPETITION WOULD RESULT IN THE WIDESPREAD CONDEMNATION OF EFFICIENT PRACTICES. SUCH A RESULT WOULD BE PARTICULARLY DAMAGING TO THE ECONOMY AS IT WOULD CHILL THE VERY CONDUCT THE ANTITRUST LAWS ARE DESIGNED TO PROTECT.

As a result, *LePage's* has generated much uncertainty over the legality of using a ubiquitous practice. The U.S. Court of Appeals for the Third Circuit has exposed to potential antitrust liability any firm that possesses sufficient market power and offers discounts on a bundle of products also sold by rival firms that sell only a subset of these products. The potential for liability could deter such firms from using bundling that would have otherwise led to reduced prices for consumers and higher welfare. Thus, this decision is likely to impose the high Type I error costs the court has been so careful to avoid in the past.

---

110 *LePage's, supra* note 51, at 155.

IV. Conclusion

While there have been recent advances in the economic analysis of loyalty discounts, the literature is still relatively recent and sparse. Though some of these papers provide tests that serve either to identify deviations from short-run profit maximization or—in the case of bundled discounts—a reduction in consumer welfare or the exclusion of a hypothetical equally efficient competitor, these tests have several shortcomings. The incremental cost tests and the consumer welfare tests may be difficult to implement and administer. And tests based on whether an equally efficient competitor could be excluded may condemn welfare-increasing behavior. Furthermore, the literature on loyalty discounts is almost exclusively theoretical, and the models and their specific assumptions have not been subjected to rigorous empirical testing. Moreover, these theoretical models, and the academic literature in general, have not rigorously examined pro-competitive reasons that firms might use loyalty programs. As a result, the economic literature currently does not provide a reliable way to gauge whether the potential harm from the use of loyalty discounts outweighs any demonstrable benefits from their use.

A review of the major cases involving loyalty and other volume discounts suggests the following general observations. In the single-product case, courts have consistently applied the U.S. Supreme Court's holding in *Brooke Group* and its not-easy-to-establish, two-part test. As a result, they have generally ruled that above-cost volume discounts, including those that use market share discounts and near-exclusive thresholds, are lawful and do not violate the antitrust laws. In cases involving multi-market or bundled rebates, however, courts have not generally followed the Court's presumption in *Brooke Group* that above-cost bundled discounts are presumptively legal. However, they have generally followed the Court's preference in *Brooke Group* for the actual facts or realities of the marketplace rather than on hypotheticals. Thus, while the lower courts have considered the theories and tests contained in the recent theoretical literature on loyalty discounts, they have generally refused to find liability, absent sufficient proof that the conditions required by these tests apply and that the underlying tests reflect market realities. This approach is consistent with the federal courts' generally cautious approach to expanding Section 2 liability and the underdeveloped and untested state of the academic literature.

> WHILE THE LOWER COURTS HAVE CONSIDERED THE THEORIES AND TESTS CONTAINED IN THE RECENT THEORETICAL LITERATURE ON LOYALTY DISCOUNTS, THEY HAVE GENERALLY REFUSED TO FIND LIABILITY, ABSENT SUFFICIENT PROOF THAT THE CONDITIONS REQUIRED BY THESE TESTS APPLY AND THAT THE UNDERLYING TESTS REFLECT MARKET REALITIES.

Moreover, there are significant flaws in the two cases where courts have found the use of bundled loyalty rebates to be unlawful. In *SmithKline*, the court did focus on data and concluded that an equally efficient competitor would have

been excluded by the bundled discounts evaluated in the case. However, economic theory suggests that the court may have used a flawed standard and should have instead focused on the fact that changes to the bundled rebate programs served to increase rather than decrease prices. And the court's decision in *LePage's* not only suggested use of the same flawed standard, it found liability without requiring sufficient proof that the standard even applied to the facts of the case.

In this area, the challenge for both antitrust law and economics is the same. In order to reliably distinguish between pro- and anticompetitive uses of loyalty discounts, a broader understanding of this area is required. Systematic research on why loyalty discounts are used should consider pro- as well as anticompetitive theories and should focus on verifiable hypotheses and the data required to test them. Until this is done, the courts are likely, in many more cases, to be forced to make uninformed decisions and to choose flawed over- or under-inclusive tests based on incomplete theories and insufficient facts.▼