3M's Bundled Rebates: An Economic Perspective

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Bundling and tying arrangements are widespread in our economy. These practices have come under scrutiny by the courts, which have on occasion concluded that particular arrangements are anticompetitive.[1] One particular form of bundling, the bundling of rebates, has received a great deal of attention recently, in light of the jury's decision and the ensuing en banc opinion by the Third Circuit in *LePage's Inc v 3M (Minnesota Mining and Manufacturing Co)*.[2] In the district court case, the jury held 3M liable for engaging in practices that violated § 2 of the Sherman Act.[3] Despite substantial public criticism of the jury verdict and the Third Circuit opinion,[4] the Supreme Court was encouraged not to pursue the case by a joint submission from the Department of Justice (DOJ) and the Federal Trade Commission (FTC).

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1 See, for example, *United States v Microsoft Corp*, 253 F3d 34, 50–80 (DC Cir 2001) (en banc) (*Microsoft III*) (holding Microsoft liable for illegal monopolization of the Intel-based PC operating systems based on its technological tying of Internet Explorer to the Windows operating system). For an overview of the case, including the monopoly power issues, see Daniel L. Rubinfeld, *Maintenance of Monopoly: U.S. v. Microsoft (2001)*, in John E. Kwoka, Jr. and Lawrence J. White, eds, *The Antitrust Revolution: Economics, Competition and Policy* 476 (Oxford 4th ed 2004).

2 324 F3d 141 (3d Cir 2003) (en banc), cert denied 124 S Ct 2932 (2004).

3 See *LePage's Inc v 3M (Minnesota Mining and Manufacturing Co)*, 2000 US Dist LEXIS 3087 (ED Pa); 15 USC § 2 (2000).

4 The following commentaries appeared soon after the Third Circuit's decision: David Balto, *Antitrust Law: "LePage's v. 3M,"* Natl L J 25 (Aug 11, 2003) ("If the Supreme Court does not review *LePage's*, it will cloud the ability of large firms to compete aggressively."); James Keyte, LePage's v. 3M—*More Questions Than Answers for the Lawful "Monopolist,"* 17(3) Antitrust Mag 25 (2003) (arguing that the decision "provides little guidance for lawful 'monopolists'"); David Meyer, LePage's II*: The En Banc Third Circuit Revisits 3M's Bundled Discounts and Sees Unlawful "Exclusion" Instead of Above-Cost Pricing*, 2 Antitrust Source (July 2003), online at http://www.abanet.org/antitrust/source/july03/meyer.pdf (visited Dec 4, 2004) (offering suggestions for how monopolists can restructure future business practices to comply with the Third Circuit's decision). But see Mark R. Patterson, *The Sacrifice of Profits in Non-Price Predation*, 18(1) Antitrust Mag 37, 39 (2003) (arguing that the *LePage's* result looks right when analyzed under a profit-sacrificing framework).

The agencies argued against certiorari, encouraging the Court to wait until the economics literature had developed sufficiently to allow the Court to spell out the conditions under which bundling arrangements, including bundled rebates, are likely to be anticompetitive.[5] Ultimately, the Supreme Court chose not to grant 3M's petition for certiorari in the matter.

The economics literature on bundling is indeed in a state of continuing development, encouraged in part by the D.C. Circuit's opinions in a recent case relating to Microsoft[6] and by *LePage's*. While there clearly is more work to be done, a lot is known currently about the economics of bundling and its antitrust implications.[7] Bundling is ubiquitous in our society, and bundled rebates represent one particular type of bundling. While the literature on bundling continues to grow, it is sufficiently well developed to allow one to evaluate the merits of the case against bundled rebates in *LePage's*.

This Essay analyzes the bundled rebate programs that were among the monopolizing practices asserted by LePage's. It focuses on the jury's finding of liability against 3M in order to critique the current tests evaluating whether bundling is procompetitive or anticompetitive. Part I provides a brief review of some of the key facts that were either accepted or undisputed for purposes of argument in the case and some of the key conclusions reached by the jury in the *LePage's* trial. Part II reviews the relevant literature on the economics of bundling and bundled rebates. The Essay argues that 3M's programs do not satisfy any of the conditions suggested by various authors as necessary for one to conclude that the bundled rebate programs are anticompetitive. Part III comments on the possibility of developing a

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5 Brief for the United States as Amicus Curiae, *3M v LePage's Inc*, No 02-1865, *19 (S Ct filed May 28, 2004) (available on Westlaw at 2004 WL 1205191) ("U.S. Brief"):

> [A]lthough the business community and consumers would benefit from clear, objective guidance on the application of Section 2 to bundled rebates, this case does not present an attractive vehicle for this Court to attempt to provide such guidance. . . . While bundled rebates may be a common business practice, it is not clear that monopolists commonly bundle rebates for products over which they have monopolies with products over which they do not. The United States submits that, at this juncture, it would be preferable to allow the case law and economic analysis to develop further and to await a case with a record better adapted to development of an appropriate standard.

6 *Microsoft III*, 253 F3d 34. See also *United States v Microsoft Corp*, 1995-2 Trade Cases ¶ 71,096 (D DC 1995).

7 For a basic introduction to bundling as a form of price discrimination, see Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics* ch 11 (Prentice-Hall 6th ed 2005). For a more sophisticated development, see Barry J. Nalebuff, *Bundling as an Entry Barrier*, 119 Q J Econ 159 (2004) (using economic models to show that bundling can serve as an effective tool for a monopolist to block entry). For a more lengthy discussion of the relevant antitrust literature, see Part II.

workable test that would distinguish anticompetitive bundled rebate programs from legitimate procompetitive programs. Then, in Part IV, the Essay reaches its conclusion concerning the lack of economic foundation for the liability finding.

I. *LEPAGE'S INC V 3M*

A. The Market for Transparent Tape

3M has manufactured and sold Scotch-brand tape for home and office use for decades.[8] For purposes of appellate argument, the parties did not dispute the jury's conclusion that during the period at issue in the lawsuit (1993 through 1999), 3M had substantial market power, if not monopoly power, in what LePage's claimed was a single market for transparent tape (transparent and invisible tape for home and office use in the United States).[9] The market included 3M's Scotch-brand tape, 3M's Highland brand tape, other branded products, and private-label tape sold by 3M, LePage's, and others.[10]

LePage's, which was founded in 1876, had begun to sell its private-label product around 1980.[11] LePage's private-label strategy enjoyed sufficient success so that by 1992 LePage's was the dominant supplier of private-label transparent tape.[12] 3M responded to competition from LePage's and Tesa Tuck, Inc. in the early 1990s by offering its own private-label tape and by promoting Highland tape.[13] Stores on the "office" supply side of the business (such as Office Depot) sold Highland as a lower priced secondary brand, whereas 3M's private-label tape was sold primarily on the non-office-specific retail side of the business—to general retailers (such as Kmart), to drug store chains (such as CVS), to large grocery chains (such as American Stores), and to warehouse clubs.[14] These customers, which have sub-

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8 Brief for Appellees/Cross-Appellants, *LePage's Inc v 3M (Minnesota Mining and Manufacturing Co)*, Nos 00-1368 and 00-1473, *2 (3d Cir filed Jan 14, 2002) (available on Westlaw at 2002 WL 32157026) ("Brief for Appellees") ("After introducing transparent tape under the 'Scotch' brand name more than 70 years ago, 3M dominated the U.S. market with a share above 90 percent until the early 1990s.").

9 *LePage's*, 324 F3d at 144.

10 Id. Private-label products, which are sold under the name of the retailer that sells the product, should be distinguished from secondary generic brands, which are sold under a manufacturer's brand name, even if not heavily marketed. Tesa Tuck, Inc. also competed with 3M by offering a lower priced second-tier brand. See Brief for Appellees at *2 (cited in note 8). Aside from some possible minor exceptions, 3M did not begin selling its own private-label tape until 1992.

11 *LePage's*, 324 F3d at 144.

12 Id.

13 Id. There were also a number of foreign competitors, but they were deemed to be insignificant with respect to the U.S. market. See Brief for Appellees at *9 (cited in note 8).

14 *LePage's*, 324 F3d at 171–73 (Greenberg dissenting).

stantial buyer market power, typically carry *either* Scotch-brand tape only *or* Scotch-brand plus one non-Scotch brand (for example, private label or LePage's own brand).[15]

On the office side of the business, 3M competed not only through the pricing of its Highland product, but also by offering discounts that were based on either (a) the total volume of 3M purchases,[16] or (b) the "brand mix"—within the transparent tape category, the mix of Scotch versus Highland, with 3M offering greater discounts for purchasing a greater proportion of Scotch.[17] In its opinion, the Third Circuit appeared to describe only the retail-side programs as "bundling."[18] For this reason, the Essay focuses on the retail-side programs in the discussion that follows.

B. The EGF Bundled Rebate Program

Faced with increased competition and encouraged by some of its customers, 3M introduced a series of rebate programs.[19] The programs on the retail side of the business started in 1993 and 1994 as a customized pilot program.[20] The Executive Growth Fund (EGF) set individual growth targets for a small number of companies that were in the pilot program.[21] Discounts ranged from 0.2 to 1.25 percent of total sales.[22] Under the EGF program, each participating company had targets set, based on 3M forecasts, for purchases from each of six participating 3M divisions.[23] The amount of the rebate the company would earn depended on the number of division targets that were met—so

15 Retailers have changed their strategies over time. Today, for instance, Wal-Mart carries 3M, LePage's, and Manco brand tape, but no private-label tape.

16 At trial, LePage's challenged 3M's volume discounts through its economist's testimony, but LePage's did not continue to dispute them on appeal. Brief for Appellees at *16 (cited in note 8). The office-side brand-mix rebate program will not be discussed further in this Essay. Moreover, while some might characterize the discounting of a package of Scotch and non-Scotch transparent tape as bundling even though the products are in the same market, that issue will not be the focal point of discussion because LePage's did not allege a separate Scotch-brand market.

17 Id at *17. In the brand-mix program, rebates were given to companies such as Office Depot and Staples based on their ability to achieve growth in sales and to change the mix of sales towards Scotch and away from Highland. Id.

18 *LePage's*, 324 F3d at 162.

19 See id at 170–71 (Greenberg dissenting). See also Brief for Appellees at *11–12 (cited in note 8).

20 *LePage's*, 324 F3d at 170 (Greenberg dissenting).

21 The customers were significant retailers that operated in a variety of different channels. See Trial Transcript, *LePage's Inc v 3M*, No 97-3983, Vol 28 at 46 (Sept 22, 1999) (on file with author) (LePage's expert economist explaining that 3M set up EGF as a test program because 3M "did not know how this type of program would work across various channels, drug channel versus the mass merchandise channel, et cetera").

22 *LePage's*, 324 F3d at 170 (Greenberg dissenting).

23 Id.

that, for example, the highest discount on stationery products required meeting targets for purchasing household (for example, cleaning) products.[24]

C. The PGF Bundled Rebate Program

In 1995, the program was standardized as the Partnership Growth Fund (PGF), which like the EGF program covered a range of products from six participating 3M divisions. However, the PGF program offered discounts of up to 2 percent and was no longer customized to individual purchasers, as the pilot EGF program had been.[25] In order to receive a rebate, a customer had to increase its overall purchases from six separate 3M divisions by a particular amount (say, 15 percent). In addition to transparent tape, the product lines covered Stationery Products (including 3M's Post-it notes), Home Improvement Products (including sponges), Leisure Time (including audio/visual products), Home Care Products, Health Care Products, and Retail Auto Products.[26]

If a particular customer increased its purchases of transparent tape by 30 percent, it would receive no rebate unless it met its overall goals of increased purchases from 3M and increased purchases from at least one other division; in order to obtain the maximum 2 percent discount, it would have to increase its overall purchases and increase its purchases from at least four other participating 3M divisions. Thus, far from single-mindedly aiming at increasing tape purchases, the program restricted the availability of incremental discounts for tape purchases to customers that also met purchase targets in other product categories.

The program gave purchasers an incentive to buy a range of 3M products to maximize the size of their rebate. And because the program did not specifically set transparent tape targets—tape was only part of the larger stationery category, and that category-specific target could be met through purchases of Post-it notes or other products—customers could achieve the maximum rebate even if they purchased significant volumes of non-3M tape.[27] More generally, there were no

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24 Id ("3M linked the size of the rebates to the number of product lines in which the customers met the targets, an aggregate number that determined the rebate percentage the customer would receive on all of its 3M purchases across all product lines.").

25 Id at 171.

26 Id at 154 (majority).

27 3M's economic expert Gary Roberts testified that purchases of other brands of tape did not affect customers' rebates from 3M. See Trial Transcript, Vol 32 at 127 (Sept 29, 1999):

> [L]et's look at the year in which these companies decided to switch from LePage's to 3M, let's suppose that you took what they purchased from 3M in private label tape and de-

explicit or implicit penalties for customers that chose to purchase some volume of non-3M products.

D. The *LePage's* Trial

LePage's complained of injury from lost sales, and from having its own efficiencies of scale reduced.[28] However, neither 3M nor LePage's offered detailed testimony about the presence of economies of scale or economies of scope relating to the manufacture and distribution of transparent tape.[29] Both parties did agree that 3M was a more efficient, lower-cost producer of transparent tape than LePage's.[30] And, according to the Third Circuit, "3M states that its pricing was above its costs however costs are calculated, and LePage's has not contested 3M's assertion."[31] Indeed, LePage's did not put on a quantitative case about 3M's prices and costs at all.

There was no evidence that the bundled rebate programs represented a sacrifice of profits for 3M. In other words, LePage's did not show that 3M could have achieved its legitimate competitive goals more effectively and at lower cost using alternative business strategies (for example, a marketing/sales program that included single-product price discounts, coupons, or advertising). Similarly, LePage's made no claim of predatory pricing—or, as the Third Circuit said, that 3M sold its tape below cost, no matter how calculated. Specifically, LePage's made no showing that 3M sold its tape (or even the incremental units obtained from causing customers to switch from LePage's) at below-cost prices, even if the full discount (across products) was attributed to tape.

> ducted it, so that you put the customer back in the position as though they had purchased the same amount from LePage's or from other—some other supplier. . . . [W]hat I found is that in almost all cases it had no impact whatsoever on the rebate levels that were earned by the customer.

28 *LePage's*, 324 F3d at 161 (explaining that LePage's lost major customers because of 3M's rebate program and, thus, could not benefit from the "efficiencies of scale" that are essential to success in the tape manufacturing business).

29 3M's economic expert Gary Roberts testified that economies of scale were not substantial at 3M's higher volumes, citing the fact that "LePage's has been able to produce in this marketplace for a long time at relatively small scale." See Trial Transcript, Vol 32 at 86 (Sept 29, 1999).

30 *LePage's*, 324 F3d at 177 (Greenberg dissenting) ("LePage's economist conceded that LePage's is not as efficient a tape producer as 3M."). See also the testimony of LePage's economic expert, Trial Transcript, Vol 21 at 67 (Sept 13, 1999):

> There's a lot of evidence in this record that 3M perceived it had a substantial production cost advantage over smaller firms. And I think that is so. So that a new entrant or smaller firm is looking at having to invest a lot of money to get costs down lower to a level more comparable to the levels enjoyed by 3M.

31 324 F3d at 147 n 5.

LePage's initially included tying in its § 1 restraint of trade claim under the Sherman Act,[32] but it dropped the claim before trial. Thus, LePage's did not pursue a claim that the bundled rebate program coerced purchasers to buy some tied products in order to obtain the tying product (Scotch-brand tape). In its § 2 claim, LePage's argued that 3M's pricing programs, which included bundled rebates, served in effect as a monopoly maintenance strategy since the programs encouraged customers to switch from LePage's to 3M by offering a lower net purchase price for the combination of products that they bought. LePage's also claimed that certain pricing offers made to particular customers amounted to exclusive dealing.[33]

LePage's made no showing that 3M had market power with respect to any product except transparent tape. With respect to Post-it notes, 3M's highly successful repositionable note product, LePage's noted 3M's substantial market share, but did not put forward an economic analysis of market power based on market definition and entry barriers.[34]

E. The *LePage's* Decision

The jury found that the various challenged 3M pricing programs were not a form of anticompetitive exclusive dealing under § 1 of the Sherman Act (and § 3 of the Clayton Act[35]), but it also found that 3M's programs served as a means for it to maintain its monopoly in the transparent tape market in violation of § 2 of the Sherman Act.[36]

In light of the § 1 decision, it seems reasonable to infer that the jury believed that 3M had obtained no contractual purchase commitments that had foreclosed competition sufficiently to amount to exclusive dealing. Indeed, in a market where purchasers would buy only one private-label tape, the purchasing decision was intrinsically either-or (3M, not LePage's; or LePage's, not 3M), and with at most minor possible exceptions, no buying decision was for any period that was commercially out of the ordinary (up to a year at most). Given the finding of liability under § 2, the jury's verdict can best be understood as condemning the pricing structures offered to purchasers as a mo-

32 15 USC § 1 (2000).

33 See, for example, Brief for Appellees at *38 (cited in note 8) ("The magnitude of the rebate that a rival supplier had to offer to get even a sliver of the customer's tape business effectively foreclosed rivals from the market."). See also id at *44 ("3M offered Kmart a $1 million 'growth rebate' . . . designed to require Kmart to eliminate LePage's and Tesa to obtain the payment.").

34 LePage's characterized 3M's market share in repositionable notes as exceeding 90 percent. Id at *38 (cited in note 8).

35 15 USC § 14 (2000).

36 *LePage's Inc v 3M (Minnesota Mining and Manufacturing Co)*, 2000 US Dist LEXIS 3087, *3, *12 (ED Pa).

nopoly maintenance strategy—that is, 3M's programs were designed to allow the company to anticompetitively maintain its monopoly in transparent tape.

With respect to damages, the jury found that 3M's actions had caused LePage's to lose sales and/or to suffer price erosion. It awarded $22,828,899 in damages (before trebling).[37] Interestingly, while LePage's did suffer lost sales, it was not driven out of business. It remains in business today, as a subsidiary of Conros in the U.S.[38]

On appeal, the en banc Third Circuit—after an initial contrary panel decision[39]—upheld the jury verdict, finding that 3M's bundled rebate programs were designed to drive LePage's out of the market for transparent tape,[40] despite the fact that LePage's was not alleging (and the facts do not appear to support) predatory pricing.[41] Seen from the perspective of the Third Circuit, the bundled rebates represented an exploitation of 3M's monopoly power because (in some cases at least) the rebates were "considerable" in total dollar terms (3M sold large volumes to some large customers).[42] According to the court, 3M's pricing programs harmed LePage's because LePage's smaller volumes made it difficult for LePage's to compete. The Third Circuit opinion appears to condemn pricing programs even when such programs reduce prices for many customers and an equally efficient firm could match the reduced prices.

II. The Economics of Bundling and Bundled Rebates

This Part reviews economic arguments relating to the competitiveness of bundled rebates made in, or suggested by, recent academic commentary. The jury's decision in *LePage's* is then evaluated through the lens of the underlying economics. The bundled rebate issue is an important one because bundling generally and bundled rebates in par-

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37 Brief for Appellees at *1–2 (cited in note 8).

38 *Conros Fire Log Plant Nears Completion*, The Record (Kitchener-Waterloo, Ontario) E3 (May 1, 2004) (noting that "family-owned Conros Corp. also owns LePage's, a leading manufacturer of transparent tape").

39 *LePage's Inc v 3M (Minnesota Mining and Manufacturing Co)*, 277 F3d 365 (3d Cir 2002) (opinion withdrawn).

40 *LePage's*, 324 F3d at 157 ("The jury could reasonably find that 3M used its monopoly in transparent tape, backed by its considerable catalog of products, to squeeze out LePage's.").

41 Id at 151 ("LePage's, unlike the plaintiff in *Brooke Group*, does not make a predatory pricing claim."). The Third Circuit argued that, as a consequence, *Brooke Group Ltd v Brown & Williamson Tobacco Corp*, 509 US 209, 223 (1993), did not apply. *LePage's*, 324 F3d at 152 ("Nothing in any of the Supreme Court's opinions in the decade since the *Brooke Group* decision suggested that the opinion overturned decades of Supreme Court precedent that evaluated a monopolist's liability under § 2 by examining its exclusionary, i.e., predatory, conduct.").

42 *LePage's*, 324 F3d at 154 (noting that Kmart received $926,287 in 1997 and Wal-Mart received more than $1.5 million in 1996).

ticular are a common marketing tool; without clear guidance from the Court, legitimate marketing practices may be discouraged.[43]

Recall that the *LePage's* jury found that 3M had not foreclosed competition under § 1 of the Sherman Act. It was undisputed that the total output of transparent tape grew over the relevant time period. Consequently, there was no evidence that the bundled rebate programs reduced total tape output. With respect to prices, I am aware of no evidence in the public record that consistently characterizes changes over time in the prices of Scotch or Highland tape.[44]

However, in the *LePage's* case, the LePage's damage expert claimed damages due to both lost sales and price erosion. Moreover, in its condemnation of 3M's bundled rebate programs, the Third Circuit appears to attack price-cutting offers as foreclosing competition under § 2—whether below cost or not, and whether tying is involved or not. The lack of clarity in the jury case and in the Third Circuit's opinion is striking.

As a general rule, one might view bundled rebates as anticompetitive if they (a) reduce consumer welfare, and (b) do so by impairing rivals' ability to make competitive offers to potential customers.[45] Condition (a) ensures that any efficiencies generated by the programs will be taken into account; condition (b) ensures that a price increase by a monopolist, which may be harmful to consumers but which does not impair rivals' ability to compete, will not be deemed anticompetitive.

Unfortunately, this general principle does not offer sufficient specificity to allow one to detail whether and under what conditions particular programs may or may not be anticompetitive. To provide

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43 Bundled rebates are frequently used as marketing tools by firms, and "are likely, in many cases to be procompetitive. But the bundling of rebates (as distinct from any price reductions that may result) is not necessarily procompetitive." U.S. Brief at *12 (cited in note 5) (internal citations omitted).

44 Transparent tape is offered by 3M in hundreds of SKUs ("stock-keeping units"), there were a number of competitors other than 3M and LePage's, and the mix of products sold over time changes. As a result, obtaining a reliable series on average market prices would have been difficult.

45 For a recent discussion of this and related criteria for evaluating bundled rebates, see Patrick Greenlee, David Reitman, and David Sibley, *An Antitrust Analysis of Bundled Loyalty Discounts* 22–24 (DOJ 04-13 Econ Analysis Group Discussion Paper Oct 2004), online at http://papers.ssrn.com/abstract_id=600799 (visited Dec 4, 2004). The authors conclude that bundled rebates are a form of tying or exclusive dealing, not predatory pricing, and that as a general rule bundled rebates can either raise or lower consumer welfare. See also Daniel Crane, *Multiproduct Discounting: A Myth of Nonprice Predation*, 72 U Chi L Rev **XX**, **XX** (2005) (defining exclusionary conduct as conduct "that is (i) without social welfare justifications and (ii) capable of driving out competitors that society would prefer to remain in the market"). More generally, see Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 U Chi L Rev **XX, XX** (2005) (attempting to define multilateral exclusionary conduct).

further guidance, and to provide a basis for evaluating the jury's decision in *LePage's*, this Part spells out the specific conditions for bundled rebate programs to be anticompetitive. The Part goes on to explain why these conditions were generally not supported by the factual record concerning bundled rebate programs in *LePage's*.

A. Theory 1: Contractual Tying

Bundled rebates are a particular form of bundling, which may be technological (as when two complementary products are physically combined) or contractual. Bundled rebates could create an effective tie which would allow a firm with monopoly power in one market, through economic coercion, to extend its monopoly power into related markets.[46] The "contractual tying" scenario is one in which a firm with monopoly power raises the standalone price of its monopoly product—presumably to some above-monopoly level—and then introduces a bundled rebate program offering a "sham" discount.[47] In this particular case, purchasers of the bundle receive no benefit, yet nevertheless are induced to switch from the competitors' nonmonopoly products to the monopolist's nonmonopoly products. As a theoretical matter, one might conceive of a bundled rebate program combined with a sham price increase as being an effective means of disguising an otherwise predatory pricing strategy. Absent evidence of countervailing procompetitive benefits, such an effective contractual tie is anticompetitive.[48]

As a simple example of such a strategy, suppose that a firm is selling its monopoly product A at a price of $100 and its nonmonopoly product B at a price of $50. The firm then raises the standalone prices of products A and B by 10 percent to $110 and $55, respectively. At the same time, the firm offers a 10 percent rebate to all customers that buy the bundle of A and B. For those buying the bundle the combined

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46 As a matter of economics, it is important to distinguish *bundling*—the practice of selling two or more products as a package—from *tying*—the practice of requiring a customer to purchase one good in order to purchase another. See Pindyck and Rubinfeld, *Microeconomics* at 404, 414 (cited in note 7).

47 This theory was presented by Deputy Assistant Attorney General David Sibley in his comments at the March 18, 2004 DOJ Conference on "Developments in the Law and Economics of Exclusionary Pricing Practices." It was previously formalized in one of the cases considered by Patrick Greenlee and David Reitman, *Competing with Loyalty Discounts* 23–37 (04-2 Econ Analysis Group Discussion Paper Feb 2004), online at http://papers.ssrn.com/abstract_id=502303 (visited Dec 4, 2004) (considering whether "linking a loyalty program to an unrelated market is beneficial").

48 See, for example, Greenlee, Reitman, and Sibley, *An Antitrust Analysis of Bundled Loyalty Discounts* at 14 (cited in note 45) ("[P]areto-improving discount plans involve at least a small reduction in the price of the monopoly good.").

price remains $150. However, there is now an incentive for customers that bought A from the monopolist and B from a competitor to buy the bundle. Such a sham price-increase bundling strategy has the potential to foreclose a competitor's sales of product B.

The sham price-increase argument was not raised by LePage's. Specifically, LePage's did not claim that 3M introduced its brand rebate program after artificially increasing the price of its Scotch-brand product. Indeed, no evidence of an artificial price hike was presented by the expert report or the testimony of LePage's economist.[49] Moreover, LePage's did not detail the size of any price increases that were taken or, for example, whether any such increases responded to 3M's own increases in costs. Further, LePage's did not argue that sales of products other than transparent tape were foreclosed.

The court does cite to internal memos from 3M describing increases in the price of Scotch-brand tape, and the LePage's expert did claim in passing that there was a price increase following the institution of a rebate program.[50] These comments indicate only that there were some price increases on some branded products. They do not identify the magnitude of such increases, or show that they were unusual (out of the historical pattern) or linked as artificial price increases that impelled the acceptance of rebate offers. It is worth repeating that LePage's claims of damage were predicated in part on its belief that it suffered substantial damage from price erosion.

LePage's did not present a detailed, numbers-based case as to why 3M's pricing programs should be condemned. 3M also presented only a qualitative, not a quantitative, case for the bundled rebate programs serving efficiency interests. Efficiency claims might be associated with cost savings stemming from the economies of scope noted by the Third Circuit.[51]

Does the contractual tying theory apply to *LePage's*? The answer is no. As mentioned previously, LePage's dropped its explicit tying claim, citing inability to establish coercion.[52] But even apart from any

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49 LePage's expert economist did testify in passing that the (wide range of) conduct he considered anticompetitive eventually caused certain 3M prices for Scotch transparent tape to be higher than they would be otherwise, but he did not testify that there was a sham price increase. See Trial Transcript, Vol 21 at 163–64 (Sept 13, 1999). In contrast, LePage's damages expert agreed that the price per yard fell after the bundled rebates were put into effect. See Trial Transcript, Vol 20 at 80 (Sept 8, 1999).

50 324 F3d at 163 (noting that 3M's internal memoranda contained statements including, "Either they take the [price] increase . . . or we hold orders," and that "LePage's expert testified that the price of Scotch-brand tape increased since 1994, after 3M instituted its rebate program") (internal citations omitted).

51 Id at 161.

52 See *LePage's Inc v 3M*, 1997 US Dist LEXIS 18501, *19 (ED Pa).

consideration of "coercion" or market power in a second market, *LePage's* does not fit the contractual tie theory. Aside from the evidence of 3M's market share in repositionable notes cited previously, no evidence was presented that 3M had or achieved monopoly power with respect to any other product sold by divisions that were involved in either the EGF or PGF bundled rebate programs. More to the point, LePage's did not put forward an argument that the bundled rebate programs allowed 3M to gain significant market share in other nontape markets.

Could the contractual tie argument apply if the tying product was deemed to be Scotch-brand tape and the tied products other non-Scotch tape products? LePage's might have put forward an argument that the EGF program was coercive and therefore did effectuate a tie. To support such a hypothetical tying theory, LePage's would have had to posit two separate markets: a market for Scotch-brand tape and a market for private-label tape.[53] Under such a theory, the LePage's might have argued that the EGF program coerced a select set of customers to buy 3M private-label tape.

However, LePage's did not allege a separate Scotch tape market—and still did not prove any artificial hiking of standalone Scotch prices. Moreover, because the EGF program lasted only two years and applied only to a small number of retail customers, its ability to foreclose competition was limited at best. Consequently, the tying theory has no force with respect to the EGF program.

What about the PGF program? PGF was in effect for longer than the EGF program, and it offered rebates to everyone on the retail side. However, the PGF program did not have targeted goals that were customer specific. Consequently, it did not have the coercive potential of the EGF program. In a number of cases, the PGF program did cut the prices of 3M's tape products to large volume customers that also purchased products from other 3M divisions. There was no evidence that these price cuts lowered prices below 3M's costs, however. If direct price cuts of the same magnitude would not have been deemed predatory, it makes no sense to characterize as predatory a nontargeted program of price cuts such as PGF.

B. Theory 2: Predation Through Sacrifice

A bundled rebate program might be seen as a predatory act if it would not have been profitable in the long run without taking into account the supranormal profits that could be earned by forcing rival

[53] That market would also include Highland, 3M's secondary brand.

firms to operate below minimum viable scale. In other words, predation might occur if the firm engaging in the strategy deliberately sacrifices profits in order to obtain or maintain monopoly power. To be clear, neither a price reduction to some customers nor a volume discount available to all customers necessarily involves a sacrifice in profits. To show that profits have been sacrificed, one must show that there is an alternative competitive strategy that would be more profitable to the firm. As a theoretical matter, there can be special circumstances in which such a strategy could be used to exclude an equally efficient competitor.

The theory of predation has been developed in some detail in two recent cases. In *United States v Microsoft*,[54] the government's expert economist, Franklin Fisher, put forward a two-part definition of predation, explaining that a predatory act (1) involved a sacrifice of profit; and (2) would not be otherwise profitable, but for the foreclosure of competition that was achieved by that profit sacrifice.[55] More recently, in *Verizon Communications Inc v Law Offices of Curtis V. Trinko, LLP*,[56] the Court provided examples of decisions to forsake short-term profits that effectively drive competitors out of the market, while warning that errors in applying a predation test could discourage vigorous competition.[57]

LePage's does not fit this scenario. While there are claims to the contrary, there is no specific economic evidence that 3M priced below its costs or that 3M otherwise sacrificed profits.[58] LePage's did not of-

55 253 F3d 34 (DC Cir 2001) (en banc).

55 The test is spelled out in Franklin M. Fisher and Daniel L. Rubinfeld, U.S. v. Microsoft*: An Economic Analysis*, 46 Antitrust Bull 1, 11 (2001).

56 540 US 398 (2004).

57 Id at 414 (providing examples of anticompetitive conduct and noting that "[t]he cost of false positives counsels against an undue expansion of § 2 liability"). See Brief for the United States and the Federal Trade Commission as Amici Curiae, *Verizon Communications Inc v Law Office of Curtis V. Trinko, LLP*, No 02-682, *10–13 (S Ct filed May 23, 2003) (available on Westlaw at 2003 WL 21269559). See also Fisher and Rubinfeld, 46 Antitrust Bull at 28–35 (cited in note 55) (detailing Microsoft's "selling" its browser for zero or negative profit to preclude Netscape from the market). Problems with using sacrifice as either a *sufficient* or a *necessary* condition of illegality, at least without significant elaboration, have been raised by various commentators. See, for example, Einer Elhauge, *Defining Better Monopolization Standards*, 56 Stan L Rev 253, 271 (2003) (arguing that profit sacrifice is not necessary or sufficient to prove anticompetitive behavior because "sacrificing profits in the short run to drive out rivals and reap long-run monopoly profits is normally socially desirable" and "it is generally not necessary to sacrifice short-run profits in order to engage in undesirable exclusionary conduct").

58 *LePage's*, 324 F3d at 162, quoting *LePage's*, 2000 US Dist LEXIS 3087 at *19:

> Defendant concedes that "3M could later recoup the profits it has forsaken on Scotch tape and private label tape by selling more higher priced Scotch tape . . . if there would be no competition by others in the private label tape segment when 3M abandoned that part of the market to sell only higher-priced Scotch tape."

fer proof of 3M's profitability on what were undisputedly *increased* sales from the challenged pricing programs. Indeed, LePage's offered no proof about 3M's profitability other than some evidence about 3M's margins on tape sales.[59]

If 3M had intended to pursue a predatory strategy, 3M would not have needed to adopt a bundled rebate program and would not likely have adopted the programs it did—which *restricted* the availability of discounts to tape purchasers (by attaching conditions based on purchasing nontape products). It seems clear that 3M could have reduced the price of its private-label tape significantly, even to a point below LePage's cost, while still earning a positive profit.[60] Given that 3M was more efficient than LePage's, such a strategy could have been effective in driving LePage's production to a nonviable level without violating the predatory pricing standard set by *Brooke Group Ltd v Brown & Williamson Tobacco Corp*.[61] Indeed, as noted, the very structure of the EGF and PGF bundled rebate programs, as well as the explanation of their origins outside the stationery division of 3M, strongly indicates that they were not vehicles for a predatory "attack" on LePage's. There is also evidence that the introduction of price discounts, including the rebate programs, was encouraged by customers, and consequently did not reflect a sacrifice of profits.[62]

C. Theory 3: Monopoly Maintenance Through the Creation of Entry Barriers

A bundled rebate program could be used to create a new barrier to entry into a market or to raise an existing barrier. Suppose, for ex-

See also *LePage's*, 324 F3d at 164 ("There is considerable evidence in the record that 3M entered the private-label market only to 'kill it.'"). But see Petition for a Writ of Certiorari, *3M Co v LePage's Inc*, No 02-1865, *11 n 11 (filed June 20, 2003) (available on Westlaw at 2003 WL 22428375) (noting that 3M made no such concession, but in fact denied ability to recoup).

59 See Brief for Appellees at *74 (cited in note 8), citing Plaintiffs' Exhibit 1974 (on file with author).

60 See notes 30–31 and accompanying text. Whether or not this would represent an *economic profit* would depend on whether the firm suffered an opportunity cost when it pursued such a strategy. See the discussion of Theory 3 in Part II.C. See also Fisher and Rubinfeld, 46 Antitrust Bull at 11 (cited in note 55) (defining a predatory anticompetitive act as one that sacrifices profits that the firm could have earned if it had competed and profit-maximized rather than predated).

61 509 US 209, 222–23 (1993) (noting that a prerequisite to recovery is that "a plaintiff seeking to establish competitive injury resulting from a rival's low prices must prove that the prices complained of are below an appropriate measure of its rival's costs").

62 *LePage's*, 324 F3d at 171–72 (Greenberg dissenting) (showing that Kmart, at least, wanted to participate in the rebate program). Note, however, that Wal-Mart was not receptive to the EGF program, arguing instead for a simpler program. Wal-Mart did, however, take advantage of the PGF program. Id at 154 (majority) (indicating that Wal-Mart received a substantial rebate in 1996, after the introduction of PGF).

ample, that because of the existence of a bundled rebate program such as EGF, a new entrant must produce and offer for sale each of the products in the rebate program (that might not be the case, of course, if purchasers can readily turn to rivals of the defendant in these other markets). Suppose also that the target set by the program is approximately equal to the entrant's sales of a particular product (or, alternatively, to customers' total tape requirements). If the entrant were not able profitably to offer a competitive program, the bundled rebate program could make entry into the market for the product more difficult.[63]

Consider as an example, the "Big Deal" contractual offers made by large academic journal publishers to college and university libraries.[64] A typical Big Deal offer involves a contract in which the library agrees to keep its print subscriptions and to pay a surcharge for access to an electronic database. This typically involves a substantial discount below the price that would be paid if each print and electronic journal were purchased à la carte. In a recent paper, Aaron Edlin and I explain that because library budgets are often very tight, the Big Deal effectively creates a strategic barrier to entry into the market for academic journals.[65] If libraries have allocated most or all of their budgets to Big Deal contracts, there is no budgetary room for new entrants.

A bundled rebate program could also increase entry barriers by creating a two-level entry problem, forcing new entrants to enter a second (or third) market in order to compete for the monopoly profits in its initial market.[66] Such a strategy could arguably be successful even if the monopolist did not price below its own cost.[67] Depending on

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63 See, for example, Robert D. Cairns and John W. Galbraith, *Artificial Compatibility, Barriers to Entry, and Frequent-Flyer Programs*, 23 Canadian J Econ 807, 814 (1990) (using frequent flyer miles as an example of demand-side entry barriers that firms can establish by creating artificial compatibility between consumers and products through bundled rebates).

64 See Andrew Albanese, *Open Access Gains with PLoS Launch*, 128(19) Library J 18 (2003) (noting concerns with "the inflexibility of so-called 'big deal' e-journal packages").

65 Aaron Edlin and Daniel L. Rubinfeld, *Exclusion or Efficient Pricing? The "Big Deal" Bundling of Academic Journals*, 72 Antitrust L J 119, 134–39 (2004).

66 The two-level entry problem is developed in Michael Whinston, *Tying, Foreclosure, and Exclusion*, 80 Am Econ Rev 837, 840 (1990) (defending the leverage theory of tying, which courts use to criticize the practice of tying, and according to which "tying provides a mechanism whereby a firm with monopoly power in one market can use the leverage provided by this power to foreclose sales in, and thereby monopolize, a second market"). The argument was asserted in *United States v Microsoft*, 147 F3d 935, 946–47 (DC Cir 1998) (discussing Microsoft's tying of Internet Explorer and Windows and arguing that "products are distinct for tying purposes if consumer demand exists for each separately"). For a general discussion, see Daniel Rubinfeld, *Antitrust Enforcement in Dynamic Network Industries*, 43 Antitrust Bull 859, 877–81 (1998) ("[L]everaging can . . . be anticompetitive if it serves as a mechanism by which a dominant firm is able to raise its rivals' economic costs of competing in the marketplace.").

67 Nalebuff has developed this theory extensively, showing that under certain conditions bundling can be profitable because it can serve as a useful entry deterrent. See Nalebuff, 119 Q J

facts about efficiencies from the multimarket integration, an equally efficient firm might be kept out of the market by such a strategy.

The prototypical opportunity for anticompetitive bundling of this sort would arise if a monopolist in market A (for example, transparent tape) also produced and sold product B (for example, another office product). Suppose that the monopolist were to offer bundled rebates involving the sale of products A and B. Suppose also that the rebate program was such that the incremental payment that a significant number of customers (in terms of volume of sales) would have to make to buy the bundle over buying product A alone was less than it would cost a second firm (the "potential entrant" into the market for B) to offer product B. Suppose also that the second firm was actually more efficient in the production of B than the monopolist and that there were no efficiencies from producing and selling both A and B. On these assumptions, the bundling strategy might be anticompetitive in denying a more efficient firm enough customers (in product B) to achieve the scale needed to compete.[68]

Whether one is focusing on the office- or retail-side bundled rebate programs of 3M, there are several reasons why the *LePage's* case does not fit the entry barrier scenario. First and foremost, LePage's was an incumbent with a substantial share of sales of private-label tape, not a potential entrant. If there were any sunk expenditures that might have discouraged new entrants, those costs had already been absorbed by LePage's and would therefore be irrelevant. Second, while the most plausible argument in support of the entry barrier theory flows from an evaluation of the EGF program, neither the EGF program nor the PGF program would have inhibited new entry.

It seems clear that branded and private-label tape compete directly with one another, and therefore are in the same relevant market.[69] Suppose, arguendo, that one did allege separate Scotch tape and

Econ at 159 (cited in note 7); Barry J. Nalebuff, *Competing Against Bundles*, in Peter Hammond and Gareth D. Myles, eds, *Incentives, Organization, and Public Economics* 323 (Oxford 2000).

68 If the new entrant is less efficient in producing B than the monopolist, bundled rebates should not necessarily be seen as a monopoly maintenance strategy and thus anticompetitive, since a rule that protected smaller, less efficient firms might reduce social welfare. (The monopolist might still be pressured to lower its prices, but the incentive for firms to reduce costs and to otherwise innovate would be reduced.)

69 Product A is in the same relevant antitrust market as product B if product A provides a significant constraint on pricing of B. See *United States v E.I. du Pont de Nemours & Co*, 351 US 377, 404 (1956) (stating that a "market is composed of products that have reasonable interchangeability for the purposes for which they are produced—price, use and qualities considered"). Private-label products often provide such a constraint because they are the closest competitor to branded products. As an example, note that generic drugs are typically in the same market as the branded drugs with which they compete. Both products are nearly identical physically, and when introduced generic drugs typically take a substantial volume of the sales of branded counterparts. See, for example, Richard Frank and David Salkever, *Generic Entry and*

private-label tape markets. Then, one might argue that the EGF program had the potential to make it difficult or impossible for a new entrant (or for that matter LePage's) to compete in the private-label market, even if the entrant were more efficient.

LePage's did not put forward such a case;[70] rather, it suggested that the bundled rebates were predatory. It was acknowledged that there were efficiencies in producing and selling both Scotch and private-label tape, including common costs of manufacturing, and it was undisputed that 3M was more efficient than LePage's, not vice versa.[71] Further, the limited nature of the EGF program made it uncertain whether the EGF program alone could cause LePage's to lose sufficient volume so as to no longer be viable. Indeed, Wal-Mart, the largest retailer in the U.S., decided to give substantial tape business to 3M prior to the introduction of the EGF program.[72] While the Wal-Mart business may have increased 3M's market share, in this one important instance (and presumably others), the EGF program itself could not have strengthened 3M's monopoly power in transparent tape.

The Third Circuit opinion does invoke a monopoly maintenance theory, but as has been suggested, its underpinnings are weak. Although the Third Circuit in *LePage's* affirmatively relied on *SmithKline Corp v Eli Lilly & Co*,[73] the facts in *LePage's* about the multiproduct EGF and PGF bundling programs appear to be the very converse of the *SmithKline* facts. In *SmithKline*, defendant Lilly's sales of monopoly products (Keflin and Keflex) were arguably used to prevent SmithKline from competing in a nonmonopoly product market (Kefzol).[74]

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the Pricing of Pharmaceuticals, 6 J Econ & Mgmt Strategy 75, 75 (1997) ("During the 1980s [after the FDA lowered barriers to introducing generic drugs,] the share of prescriptions sold by retail pharmacies that were accounted for by generics roughly doubled.").

70 The Third Circuit suggested that 3M was motivated to force LePage's out of the private-label business, but the court focused on 3M's ability to recoup within the same market through higher prices on its Scotch-brand. 324 F3d at 158.

71 See note 30.

72 See Plaintiff's Exhibit 1986 (on file with author). See also the testimony of LePage's economic expert, Trial Transcript Vol 23 at 65 (Sept 15, 1999).

73 575 F2d 1056 (3d Cir 1978) (holding that by tying a product in a competitive market to a monopoly product, a manufacturer may violate the Sherman Act).

74 Id at 1065 ("[T]he act of willful acquisition and maintenance of monopoly power was bought about by linking products on which Lilly faced no competition—Keflin and Keflex—with a competitive product, Kefzol."). But see *Ortho Diagnostic Systems Inc v Abbott Laboratories, Inc*, 920 F Supp 455 (SD NY 1996) (rejecting a claim that Abbott violated the Sherman Act by tying monopoly products to nonmonopoly products). In *LePage's*, the only market power established was in the very market LePage's was in (transparent tape); there was no concern about leveraging such power to prevent competition in the various nontape markets involved in the bundled rebates, and no market power in the nontape markets being leveraged to prevent tape competition. See text accompanying notes 34 and 52. Herbert Hovenkamp suggests that 3M's discounts "were not only aggregated across multiple products, but also over a lengthy time pe-

In addition, the Third Circuit did not conclude that LePage's had shown that it was unable to contract with other producers to offer its own bundle of products to the marketplace, or that other firms were unable to assemble such packages, or that the large-volume buyers in the market were unable, should they have wanted to buy tape from LePage's, to make up some or all of the sacrificed rebate by obtaining lower prices from sellers of the nontape products in the package.[75] Moreover, as noted, there was no proof of barriers to entry into the markets for any products other than transparent tape.[76] In sum, there is no basis for believing that the "two-level entry problem" applies to the bundled rebate programs that were made available to retailers in *LePage's*.

Strikingly, no analysis was offered to show that LePage's cost of producing its private-label tape was greater than purchasers' incremental payments when buying an all-tape bundle over their payments when buying Scotch tape alone. Indeed, LePage's evidence showed its own margins to be over 30 percent.[77] And the Solicitor General, in its filing in the Supreme Court, observed that the Third Circuit "did not say there was sufficient evidence for the jury to conclude that LePage's could not have made comparable offers" to 3M's customers.[78]

LePage's claimed that the bundled rebate programs foreclosed its sales. LePage's also argued that the loss of key high-volume customers made it difficult to keep its plants in efficient operation. However, 3M was concededly more efficient than LePage's,[79] and LePage's did not put forward an empirical methodology that distinguished those sales that were lost as the result of anticompetitive behavior from those

riod" and, as a consequence, had the potential to be anticompetitive. Phillip E. Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* ¶ 749 at 182 (Aspen Supp 2004) (arguing that these discounts "could have significant effects on single product rivals," like LePage's). From my perspective, one year is not "lengthy." Customers often make their purchasing decisions based on a substantial time horizon, and in the case of office supplies such arrangements could be changed from year to year.

75 In a famous case, a strategy to put together a bundled rebate package was attempted by Aspen Highlands (purchasing lift tickets from Aspen Skiing and packaging them with its own product at a package-discounted price). However, the strategy failed when Aspen Skiing refused to sell its tickets to Aspen Highlands at the retail price, though that refusal was declared an antitrust violation. *Aspen Skiing Co v Aspen Highlands Skiing Corp*, 472 US 585, 593–94 (1985).

76 See text accompanying note 34.

77 See Plaintiff's Exhibit 1974 (on file with author). Note, however, that LePage's did claim that it suffered large operating losses from 1996 through 1999. *LePage's*, 324 F3d at 161 ("The impact of 3M's discounts was apparent from the chart introduced by LePage's showing that LePage's earnings as a percentage of sales plummeted to below zero—to negative 10%–during 3M's rebate program."). But see id at 175 (Greenberg dissenting) ("LePage's did not show the amount by which it lowered its prices in actual monetary figures or by percentage to compete with 3M and how its profitability thus was decreased.").

78 U.S. Brief at *6 (cited in note 5).

79 *LePage's*, 324 F3d at 177 (Greenberg dissenting).

that were not. In addition, there was no showing that LePage's lost sufficient volume when 3M's rebate programs were put into effect that LePage's was not a viable competitor in selling private-label tape.[80]

D. Theory 4: Other Pricing Conditions

A bundled rebate program *could* be used to weaken a rival, short of predation as characterized by Theory 2. Such a bundled rebate program, which effectively offered lower prices to larger, more economically powerful customers, could be seen as an effective price discrimination strategy if the strategy made it impossible for a competitor to compete at a price above its cost and if a more explicit price differentiation strategy could not be implemented. To see why, suppose, for example, that when the discounts associated with a bundled rebate program are applied to the monopolist's product, the monopolist is still pricing above its average variable cost. Suppose also that a smaller, less efficient competitor cannot operate at a viable scale in the face of such competition. The bundled rebate program might drive the smaller competitor out of business, which would then remove a constraint on the pricing of the monopolist. Whether such a strategy should be seen as anticompetitive remains open to debate.[81] Indeed, it would seem difficult to provide a workable rule that would distinguish legitimate procompetitive behavior from anticompetitive behavior.[82]

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80 LePage's damages expert projected lost sales and price erosion based on projections of past sales and prices, but did not utilize a methodology, such as multiple regression analysis, that would allow one to distinguish among alternative explanations. See Trial Transcript Vol 19 at 65–70 (Sept 7, 1999). For a description of the use of the regression methodology, see Daniel L. Rubinfeld, *Reference Guide on Multiple Regression*, in Federal Judicial Center, *Reference Manual on Scientific Evidence* 179–227 (West 2d ed 2000).

81 For a general discussion of this possibility in a broader context than bundled rebates, see Willard K. Tom, David A. Balto, and Neil W. Averitt, *Anticompetitive Aspects of Market-Share Discounts and Other Incentives to Exclusive Dealing*, 67 Antitrust L J 615 (2000) (arguing that companies offering any incentives to exclusive dealing should be guilty of antitrust violations if the incentives have an on-balance anticompetitive effect). See also Aaron S. Edlin, *Stopping Above-Cost Predatory Pricing*, 111 Yale L J 941 (2002) (arguing that parties alleging predatory pricing should not be required (as they are under *Brooke Group*) to show that a monopolist priced its goods below cost because strategies other than below cost pricing frequently bar entry and therefore amount to illegal predation). For a contrary view, see Einer Elhauge, *Why Above-Cost Price Cuts to Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power*, 112 Yale L J 681 (2003) (arguing that restrictions on above-cost reactive price cuts risk penalizing efficient pricing, generating no long-term benefits for the market, and creating a dangerous definition of market entry).

82 See William J. Baumol and Daniel G. Swanson, *Bundling and Tying in the New Economy*, in William J. Baumol and Daniel G. Swanson, *Antitrust in the New Economy* 22 (forthcoming 2005) (discussing various theories and their application, and ultimately concluding that one should not impose liability on any firm that is pricing above average variable cost after all of the rebates are assigned to the monopoly product). This restrictive test for predation—supported by

However, with respect to this Essay, what is important is that in *LePage's*, neither factual premise was supported by the record. First, as noted, it is not clear that LePage's itself lacked the ability to match all of 3M's discounts while remaining above its cost.[83] And, as also noted above, the Third Circuit accepted that LePage's failed to prove *any* below-cost pricing by 3M: that includes failure to prove that 3M went below its cost on incremental tape sales (where it displaced LePage's) even if the bundled rebates were fully attributed to such sales.[84] Second, price differentiation was the rule, not the exception, in the transparent tape market. Large, powerful buyers had negotiated individual contracts with 3M prior to the introduction of the bundled rebate programs.[85]

III. Toward a Workable Test

This Essay has offered a number of theories of the anticompetitive harm that might be associated with bundled rebates, none of which fits the facts of the *LePage's* case. It is worth pausing briefly to consider the difficulties that arise when one attempts to apply any of these theories to the behavior of individual firms.

The Essay has argued that because procompetitive conduct (such as "pure" above-cost low pricing or innovation) can weaken rivals, weakening rivals is not by any means sufficient to condemn a monopolist's conduct. And perhaps most strongly for monopolists that lack market discipline on their prices, it is very important not to have legal rules that deter price discounting. Any sensible price-discounting antitrust inquiry must proceed to a workable identification of the characteristics of pricing programs that are alleged to generate a rival-harming effect.[86] In the bundling context as with "pure" predatory pricing—whether it is volume discounts or per-unit price lowering on

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the uncertainties and discount-deterring dangers of a more interventionist approach—is clearly not satisfied in *LePage's*.

83 See text accompanying notes 60–62.

84 See text accompanying notes 30–33 and 92–93.

85 *LePage's*, 324 F3d at 171 (Greenberg dissenting) (citing Wal-Mart's decision, after negotiation, to buy private-label tape from 3M in 1992, before the introduction of the rebate programs).

86 David Balto has written specifically to criticize the Third Circuit's decision in this case, explaining among other things the importance of the pre-*LePage's* assumption—based on *SmithKline*—that some kind of below-cost pricing is required to condemn bundled pricing. Balto, Natl L J at 25 (cited in note 4) (citing *Brooke Group* for the proposition that low-cost pricing is "not anti-competitive unless it is below some measure of cost"). Note that Joshua S. Gans and Stephen P. King suggest in *Paying for Loyalty: Product Bundling in Oligopoly* (working paper 2004), online at http://papers.ssrn.com/abstract_id=504263 (visited Dec 4, 2004), that bundled rebate programs where the bundle involves unrelated products may be inefficient, but they offer no empirical test or empirical set of conditions under which their conclusions hold.

a single product—it has been suggested that this crucial function be performed by a price-cost test for illegality. Using an appropriate measure of cost, the test would support illegality if the cost to the defendant of its rebate program (in terms of discounts offered) would be greater than the benefit it achieved through increased sales.[87]

There is substantial room for debate as to exactly how such an incremental cost-benefit test should be applied.[88] One possible test would state that in order for a bundled rebate program to be anticompetitive, a necessary condition is that the incremental costs associated with the discounts offered by the particular program (above and beyond other discounts that were or would have been available) exceed the incremental profits associated with the additional sales that the firm achieves.[89] In principle, this approach could be used to evaluate bundling programs that are linked across multiple markets, or it could be applied to programs that are applied within individual markets. In either case, however, the approach might condemn too much: depending on its application, it could lead to the condemnation of nondiscriminatory price cuts in single markets, and it could penalize a policy that excluded a less efficient competitor from the market.[90] Furthermore, there remains a question as to what portion of the cost associated with the discount should be applied to each of the products whose price has been effectively reduced.

Regardless of this debate, and whatever the allocation, there was neither a finding by the Third Circuit nor an argument by LePage's, nor, in fact, proof by LePage's that 3M's programs would fail such a test. LePage's chose not to present price-cost proof. And the rebate numbers for particular large customers in the years they switched from LePage's to 3M, as characterized in the Third Circuit opinion,[91] are strongly suggestive that such a test could not be met.

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87 See Greenlee and Reitman, *Competing with Loyalty Discounts* at 22 (cited in note 47). The authors suggest that the same test was proposed for the plaintiff in *Virgin Atlantic Airways Ltd v British Airways PLC,* 257 F3d 256 (2d Cir 2001). In *Virgin Atlantic*, the trial court interpreted precedent as requiring that "the competitive product in the bundle [be] sold for a price below average variable cost after the discounts on the monopoly items in the bundle were subtracted from the price of that competitive product." *Virgin Atlantic Airways Ltd v British Airways PLC*, 69 F Supp 2d 571, 580 (SD NY 1999), citing *Ortho Diagnostic Systems Inc v Abbott Laboratories, Inc*, 920 F Supp 455 (SD NY 1996).

88 For a useful overview, see Crane, 72 U Chi L Rev at **XX** (cited in note 45) (considering bundled discounts from the perspective of "victim" and "predator").

89 Greenlee and Reitman suggest an incremental cost test, with incremental discounts counted as costs. Greenlee and Reitman, *Competing with Loyalty Discounts* at 22 (cited in note 47) (discussing the incremental cost test as it relates to the *Virgin Atlantic* case).

90 See id at 25. See also Baumol and Swanson, *Bundling and Tying in the New Economy* (cited in note 82).

91 See note 42.

Suppose, to be conservative, that all of the cost of those rebates is attributed as a cost of 3M's obtaining additional tape sales from those customers (actually, at most, only the incremental rebate costs over previous years should be included). There is nothing in the Third Circuit opinion suggesting that such rebate costs amount to more than 30 percent of 3M's increase in tape sales revenue from those customers; and the evidence indicates the contrary.[92] Yet the record is clear that 3M's margins were greater than 30 percent,[93] leaving 3M's prices above cost even by this overly conservative reckoning.

To put this more generally, suppose that LePage's had been able to show that the program of bundled rebates offered such high discounts that 3M was losing money on its incremental sales of transparent tape. Under that assumption, it might be appropriate to infer that the program was not profit-maximizing absent anticompetitive intent. No such showing was made, and the Third Circuit made no reference to any such showing. LePage's chose to put on a case devoid of any such price-cost showing, and there is every reason to conclude that the programs were profitable for 3M. An equally efficient tape producer, one with the same costs, could match such prices on tape.

CONCLUSION

In choosing not to grant certiorari in *LePage's*, the Supreme Court missed an opportunity to clarify how to approach monopolization cases involving the common practice of bundled pricing and at least to make clear the kinds of proof that should be required before discounts can be held illegal. While there remains much work to do to develop and fully understand each of the economic theories that might have been applied to evaluate 3M's practices, the record in *LePage's* does not support any of the theories that have been sketched out in this Essay. The decision the Court allowed to stand lacks a clear, coherent economic rationale and leaves unclear when package pricing—that lowers what purchasers must pay for multiple goods—will or should be condemned under the antitrust laws.

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92 See, for example, Plaintiff's Exhibit 1981 (on file with author) (showing that Kmart's purchases from 3M increased from $6.9 million in 1993 to $11.3 million in 1994). Compare the $4.4 million increase in sales to the $650,000 rebate. *LePage's*, 324 F3d at 171–72 (Greenberg dissenting).

93 As testified to by LePage's damages expert. See Trial Transcript, Vol 19 at 73 (Sept 7, 1999).