

Reconsidering *Brooke Group*: Predatory Pricing in Light of the Empirical Learning

Sandeep Vaheesan*

I.	Introduction	82
II.	Predatory Pricing Is Not Uncommon	84
III.	The Supreme Court Ignores Reality in Asserting that Predatory Pricing Is “Rarely Tried, and Even More Rarely Successful”	94
IV.	A Revised Test for Predatory Pricing	98
	A. Defendant Meets a Market Share Threshold in a Relevant Market	99
	B. Defendant Has Priced a Substantial Volume of Commerce in the Relevant Market Below an Appropriate Measure of Cost	101
	1. Substantial Volume of Commerce	101
	2. Below Average Avoidable Cost.....	102
	3. Between Average Available Cost and Long-Run Average Incremental Cost and Reasonable Likelihood of Consumer Harm.....	102
	C. Business Justifications	104
	1. Promotional Pricing	104
	2. Learning-by-Doing	105
	3. Loss Leading Should Not Be An Independent Defense	105
	4. What about Network Effects and Two-Sided Markets?	106
	D. The Role of Intent Evidence.....	107
	E. Does <i>Brooke Group</i> Foreclose the Application of the Revised Test?	108
V.	Conclusion.....	109

Copyright © 2015 Regents of the University of California.

* Member of the D.C. Bar; Duke University School of Law, J.D. May 2010; Duke University Graduate School Department of Economics, M.A. May 2010; University of Maryland, College Park, B.A. 2005. I am deeply indebted to Bert Foer, Greg Gundlach and Jack Kirkwood for extensive discussions on predatory pricing and their feedback on drafts of this Essay. I would also like to thank Geoff Kozen, Bob Lande, Bob Skitol, and Randy Stutz for their thoughtful comments on earlier drafts.

I. INTRODUCTION

A large body of empirical research has found that predatory pricing¹ can be an attractive anticompetitive strategy. Businesses have employed deep, temporary price cuts to eliminate or discipline rivals and maintain or increase their market power. As a result of successful predation, consumers enjoyed near-term low prices but endured oligopoly and monopoly power in the medium and long run. Studies have found evidence that leading firms in the airline, coffee, oil, shipping, sugar, telecommunications, and tobacco industries, among others, have used predatory pricing to preserve or enhance their market power. Deep price cuts have been applied in product lines or geographic areas in which entry has occurred and have served to neutralize the competitive threat.

Yet, the Supreme Court asserted in 1986 that, “predatory pricing is rarely tried, and even more rarely successful.”² In doing so, it ignored empirical evidence dating back to the 1970s showing predatory pricing to be a reasonable and far from uncommon anticompetitive strategy.³ Doubling down, the Court in a 1993 decision, *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, articulated a stringent two-part test for establishing predation.⁴ Plaintiffs must show that the defendant’s price was below an appropriate measure of cost and that the defendant had a dangerous probability of recouping its upfront losses through enhanced market power. As a corollary to its belief that predatory pricing is rarely tried, the Court exhibited an unbalanced focus on potential legal risks and worried that a more plaintiff-friendly rule could deter pro-consumer price-cutting. In short, it obsessed about false positives—imposing liability on innocent defendants—and discounted false negatives—acquitting actual predators. The *Brooke Group* test has made it virtually impossible for plaintiffs with even meritorious predatory pricing claims to go to trial. In ignoring the large body of empirical literature on the subject and relying on “narrow and inaccurate conceptions of how businesses operate,”⁵ the Court has defied Justice Holmes’ famous observation that “[t]he life of the law has not been logic; it has

1. A technical definition of predatory pricing: “a reduction in the price in the short run so as to drive competing firms out of the market or to discourage entry of new firms in an effort to gain larger profits via higher prices in the long run than would have been earned if the price reduction had not occurred.” Paul L. Joskow & Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 YALE L.J. 213, 219–20 (1979).

2. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

3. Richard O. Zerbe, Jr. & Michael T. Mumford, *Does Predatory Pricing Exist: Economic Theory and the Courts After Brooke Group*, 41 ANTITRUST BULL. 949, 956–64 (1996).

4. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222–24 (1993).

5. Christopher R. Leslie, *Rationality Analysis in Antitrust*, 158 U. PA. L. REV. 261, 342 (2010) [hereinafter Leslie, *Rationality Analysis*].

been experience.”⁶

This Essay proposes a test for single-firm predatory pricing that follows the structured approach of *Brooke Group* while recognizing the economic logic of predation, and accordingly aims to strike a better balance between false positives and false negatives. A non-exhaustive review of empirical studies on monopolistic, oligopolistic, and buy-side predation demonstrates that the Supreme Court’s skepticism of predatory practices is not grounded in fact. The revised test, however, is intended to address only single-firm sell-side predation because oligopolistic predation and buyer-side predation are functionally distinguishable from monopolistic predation and likely call for a different analytical framework.⁷

Under the revised test, the plaintiff would first have to show that the defendant meets a market share threshold—forty percent may be an appropriate level—in the relevant market. Market share serves as an important initial screen and provides a safe harbor to firms that use aggressive pricing to enter new markets or increase their share from a small base. To establish a rebuttable presumption of predation, the plaintiff would have two routes. The plaintiff could prove that the defendant priced a substantial volume of commerce in the relevant market below its average avoidable cost. Alternatively, it could show that the defendant priced a substantial volume of commerce in the relevant market below long-run average incremental cost and that the defendant’s pricing conduct had a reasonable likelihood of harming consumers, whether through higher prices or reduced choice or quality. The substantial volume of commerce requirement provides a *de minimis* exception for sales made below average avoidable cost or long-run average incremental cost. For liability to be imposed, however, total sales in the relevant market in a given period need not have been made at a price below average avoidable or long-run average incremental cost.

If the plaintiff makes a *prima facie* case of predation, the defendant would have the opportunity to rebut the presumption by offering a credible business justification. Business justifications for below cost price-cutting would include promotional pricing for new products, learning-by-doing, and other explanations indicating that the profitability of the pricing strategy is not dependent on maintaining or obtaining monopoly power. The revised test retains the cost-based approach of *Brooke Group* because it provides relatively clear guidance for businesses and courts. This test, however, demands less onerous proof from plaintiffs and uses a burden-shifting approach to reduce the risk of both false

6. OLIVER WENDELL HOLMES, JR., THE COMMON LAW 1 (1881).

7. See Aaron S. Edlin, *Stopping Above-Cost Predatory Pricing*, 111 YALE L.J. 941 (2001); John B. Kirkwood, *Buyer Power and Exclusionary Conduct: Should Brooke Group Set the Standards for Buyer-Induced Price Discrimination and Predatory Bidding?*, 72 ANTITRUST L.J. 625 (2005).

positives and false negatives.

II. PREDATORY PRICING IS NOT UNCOMMON

Empirical research has found evidence of successful predatory pricing in a number of markets. Scholars have shown that dominant firms in industries ranging from shipping to sugar likely used aggressive, temporary price cuts to eliminate or deter competition and to preserve or augment their market power. This body of research includes confirmation of judicial findings of predatory pricing in some of the most famous cases in the history of U.S. antitrust law. Table 1 provides a partial list of companies that likely engaged in successful predation.

Several theories explain the use of predatory pricing in maintaining or acquiring market power.⁸ First, a firm may use predatory pricing to create the false impression that a rival is failing due to poor management and persuade lenders to terminate funding—an effective tactic against rival firms dependent on outside financing for their survival.⁹ Second, a firm may want to convey misleading signals of either low production costs or weak market demand and convince would-be rivals that entry (or continued competition) is fruitless.¹⁰ Third, it may want to demonstrate its reputation as a “tough” competitor in one market to discourage potential entrants in other markets in which it participates.¹¹

8. Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L.J. 2239 (1999).

9. *Id.* at 2285–86.

10. *Id.* at 2299–300.

11. *Id.* at 2300–01.

Table 1: Some Likely Cases of Predation

Likely Predator(s)	Industry	Location	Monopolistic or Oligopolistic Predation	Sell or Buy Side Predation	Time Period
Standard Oil	Refined Petroleum Products	United States	Monopolistic	Sell	Late 19th- Early 20th Century
American Tobacco	Plug Tobacco	United States	Monopolistic	Sell	Late 19th Century
American Sugar Refining Company	Refined Sugar	United States	Monopolistic	Sell	Late 19th- Early 20th Century
Southern Bell Telephone	Telephone Service	Southern United States	Monopolistic	Sell	Late 19th- Early 20th Century
American Airlines	Airlines	Dallas-Forth Worth	Monopolistic	Sell	1990s
Northwest Airlines	Airlines	Detroit	Monopolistic	Sell	1990s
General Foods	Ground Coffee	Eastern United States	Monopolistic	Sell	1970s
Cardiff Bus	Local Bus Travel	Cardiff, Wales	Monopolistic	Sell	2004
Canadian match monopolist	Matches	Canada	Monopolistic	Sell	1930s
Safeway	Supermarkets	Edmonton, Canada	Monopolistic	Sell	1970s
Big Four cigarette companies	Cigarettes	United States	Oligopolistic	Both	1930s
Brown & Williamson	Cigarettes	United States	Oligopolistic	Sell	1980s
British shipping lines	Shipping	Africa, Asia, Australia	Oligopolistic	Sell	Late 19th Century
Ketchikan Pulp Company and Alaska Paper and Lumber Company	Timber	Alaska	Oligopolistic	Buy	1960s and 1970s

In addition to its general fame in the history of antitrust jurisprudence, the 1911 case involving Standard Oil (Standard)¹² represents one of the most controversial examples of predatory pricing. The journalist Ida Tarbell and the Supreme Court each found evidence that Standard had engaged in aggressive price-cutting to eliminate rivals in many local markets for refined petroleum products.¹³ Many years later, however, University of Chicago scholar John

12. Standard Oil Co. v. United States, 221 U.S. 1 (1911).

13. IDA M. TARBELL, THE HISTORY OF THE STANDARD OIL COMPANY (1904); *Standard Oil*, 221

McGee claimed that the trial record did not indicate that Standard had engaged in predatory pricing.¹⁴ On this basis, McGee proceeded to make two general claims. He asserted that firms do not use predatory pricing and that predatory pricing is inherently unprofitable.¹⁵ McGee's article has had a profound influence on economic and legal thinking on predatory pricing.¹⁶

Recent scholarship reexamining the trial record and other evidence has discredited McGee's claim that Standard did not use predatory pricing.¹⁷ On multiple occasions, when firms tried to enter local markets for refined petroleum products, Standard responded with aggressive price cuts, including to levels below its average variable costs.¹⁸ The company often provided sizable discounts using front companies, which the public viewed as being distinct from Standard.¹⁹ These seemingly autonomous entities featured names like Southern Oil Company of Richmond, Davidson Oil Company, and Paragon Oil.²⁰ Through the use of bogus independents and so-called "fighting brands," Standard could target discounting narrowly—at price-sensitive customers who purchased product from rivals—and maintain price levels on its other brands.²¹ For example, in several Colorado markets, Standard used a front company for predatory pricing against a rival, the Rocky Mountain Oil Company.²² This campaign was successful and drove Rocky Mountain out of these markets, allowing Standard to raise its prices to pre-entry levels.²³ Standard's monopoly power in these markets was hardly ephemeral either. New entry did not occur for another eleven years after Rocky Mountain's exit.²⁴

American Tobacco, the other nationally renowned firm found liable for monopolization in the same year as Standard Oil,²⁵ likely engaged in predatory pricing in the market for plug tobacco, a form of smokeless tobacco.²⁶ The

U.S. at 1.

14. John S. McGee, *Predatory Price Cutting: The Standard Oil (NJ) Case*, 1 J.L. & ECON. 137, 153 (1958).

15. *Id.* at 157.

16. James A. Dalton & Louis Esposito, *Standard Oil and Predatory Pricing: Myth Paralleling Fact*, 38 REV. INDUS. ORG. 245, 253-59 (2010) [hereinafter Dalton & Esposito, *Myth Paralleling Fact*].

17. Christopher R. Leslie, *Revisiting the Revisionist History of Standard Oil*, 85 S. CAL. L. REV. 573 (2012) [hereinafter Leslie, *Revisionist History*]; James Dalton & Louis Esposito, *Predatory Price Cutting and Standard Oil: A Reexamination of the Trial Record*, 22 RES. IN L. & ECON. 155 (2007) [hereinafter Dalton & Esposito, *A Reexamination of the Trial Record*].

18. Leslie, *Revisionist History*, *supra* note 17, at 586.

19. *Id.* at 593.

20. *Id.*

21. Dalton & Esposito, *Myth Paralleling Fact*, *supra* note 16, at 263.

22. Dalton & Esposito, *A Reexamination of the Trial Record*, *supra* note 17, at 183-87.

23. *Id.*

24. Leslie, *Revisionist History*, *supra* note 17, at 591.

25. *United States v. American Tobacco Co.*, 221 U.S. 106 (1911).

26. Malcolm R. Burns, *Predatory Pricing and the Acquisition Cost of Competitors*, J. POL. ECON.

company used fighting brands and focused its campaign of predation on competitive markets, just as Standard Oil did.²⁷ In local markets where competitors were particularly strong, American Tobacco even gave away large quantities of plug tobacco for free.²⁸ Predictably, the company incurred significant losses on plug tobacco sales. The losses from the “plug wars” led to a more than 50 percent decline in American Tobacco’s profits in the years 1895-1898.²⁹ American Tobacco could withstand this economic sacrifice due to its profits from the monopolized cigarette market.³⁰ Predation ultimately paid off. American Tobacco organized a trust in the plug tobacco market by purchasing weakened rivals at reduced cost and thereby acquired monopoly power in this market.³¹

The American Sugar Refining Company (ASRC), the leading sugar producer in the Eastern United States in the late nineteenth and early twentieth century, used predatory pricing to protect and enhance its market power.³² When competitors threatened its profits, the company resorted to predation.³³ ASRC sometimes used recently acquired rivals, operating as sham independent competitors, to create the perception of a ruthlessly competitive market.³⁴ It sustained significant losses through below-cost pricing but also injured its smaller rivals.³⁵ By creating the expectation of indefinite losses, ASRC induced these rivals to agree to a lower buyout price than they would have otherwise accepted.³⁶ Looking at the “rate of return” from reduced acquisition costs, these predatory campaigns yielded anywhere from 4 percent to 19.5 percent per annum.³⁷ And this payoff represents only a part of the picture. Along with depressing buyout prices, ASRC’s predation strategy may have allowed it to obtain a larger market share in collusive arrangements while also convincing potential entrants that it was willing to sustain losses to maintain its long-term profitability.³⁸

Although AT&T’s rise to national dominance in telephone service has widely been attributed to the economies of scale and network effects in telephone systems, empirical research reveals a more complex story that includes

266 (1986); Walter Adams & James W. Brock, *Predation, Rationality, and Judicial Somnambulism*, 64 U. CIN. L. REV. 811 (1995).

27. Adams & Brock, *supra* note 26, at 818, 821.

28. *Id.*

29. *Id.* at 820–21.

30. *Id.* at 820.

31. *Id.* at 822; Burns, *supra* note 26, at 290–91.

32. David Genesove & Wallace Mullin, *Predation and Its Rate of Return: The Sugar Industry*, 37 RAND J. ECON. 47 (2006).

33. *Id.* at 53–59.

34. *Id.* at 63.

35. *Id.* at 66.

36. *Id.* at 63.

37. *Id.* at 61.

38. *Id.* at 63–64.

predatory conduct. Southern Bell Telephone Company (SBT), a predecessor to AT&T in the Southeastern United States, appears to have used predatory pricing to deter entry and eliminate competition in local markets.³⁹ With the expiration of the original Bell patents in 1894, independent telephone companies emerged around the country.⁴⁰ The Bell companies had a powerful incentive to eliminate these new rivals. In almost ninety percent of monopolized markets, the incumbent telephone operator enjoyed positive profits.⁴¹ In contrast, in competitive markets, only 35 percent of incumbents made money.⁴² In response to threatened or actual entry, SBT aggressively cut prices and, at times, even ran operating losses.⁴³

Predatory pricing appears to have been part of a larger strategy to establish dominance. SBT also engaged in network investments that resulted in short-term losses but increased the attractiveness of its network to customers in the long run.⁴⁴ Further, it undertook a successful political and public relations campaign to establish government utility regulation over the industry, which restricted (unwelcome) entry and competition.⁴⁵

In recent decades, multiple airlines appear to have used predatory capacity expansions to eliminate low-cost entrants and reestablish dominance on routes at their hub airports. Regression analysis has found that fare premiums at hubs rise as concentration increases, and that hub carriers have employed predatory pricing in response to entry.⁴⁶ In these cases, it is unclear whether the hub airlines offered fares below short-run costs, such as fuel, meal, and ticketing costs, during the predation period.⁴⁷ Yet, consumers likely paid for the temporarily lower fares from dominant carriers with higher fares in the long run.

Northwest Airlines (Northwest) appears to have used predatory strategies to protect its dominant position at hubs in Minneapolis-St. Paul and Detroit. In early 1992, Reno Air announced it would offer service from Minneapolis to its mini-hub at Reno, providing connectivity between Minneapolis and the West Coast in competition with Northwest.⁴⁸ In response to Reno Air's stated plans,

39. David F. Weiman & Richard C. Levin, *Preying for Monopoly? The Case of Southern Bell Telephone Company, 1894-1912*, 102 J. POL. ECON. 103 (1994).

40. *Id.* at 103-04.

41. *Id.* at 109.

42. *Id.*

43. *Id.* at 113-14.

44. *Id.* at 115-20.

45. *Id.* at 120-25.

46. Ashutosh Dixit, Gregory T. Gundlach, Naresh K. Malhotra & Fred C. Allvine, *Aggressive and Predatory Pricing: Insights and Empirical Examination in the Airline Industry*, 25 J. PUB. POL'Y & MKTG. 172, 184 (2006).

47. *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 945 (6th Cir. 2005); *United States v. AMR Corp.*, 335 F.3d 1109 (10th Cir. 2003); Edlin, *supra* note 7, at 981.

48. *Id.* at 980.

Northwest said it would introduce flights between Reno and several West Coast cities and offer *nonstop* service at the same fare as Reno Air's *connecting* options.⁴⁹ Reno Air went ahead with its plans in April 1993 but, due to intense competition from Northwest, sustained heavy losses, leading it to reduce the number of flights within just two months and soon after withdraw entirely.⁵⁰ Northwest promptly raised fares on Minneapolis-West Coast routes to above the pre-entry level and doubled its hub premium.⁵¹ Northwest used a similar strategy to protect its dominance at its Detroit hub, in response to Spirit Airlines entering the Detroit-Boston and Detroit-Philadelphia routes in 1995.⁵² It dramatically increased capacity and cut prices in response to Spirit's entry.⁵³ After Spirit left these markets, Northwest slashed the number of available seats and restored fares to pre-entry levels.⁵⁴

American Airlines (American) has protected its dominance at its Dallas-Fort Worth hub in a similar fashion. In 1994, Vanguard Airlines entered the Dallas-Fort Worth to Kansas City route and offered very attractive fares.⁵⁵ American responded with increased seat capacity on these routes and matched or undercut Vanguard's low fares.⁵⁶ After several months of vigorous price competition and heavy losses, Vanguard accepted its fate and withdrew from these routes.⁵⁷ Once Vanguard had exited the market, American reduced capacity on these routes and raised its fares.⁵⁸ Vanguard's second attempt to serve Dallas-Fort Worth was met with a comparable response and also ended in failure.⁵⁹

49. *Id.* at 980–81.

50. *Id.* at 981.

51. *Id.*

52. *Spirit Airlines*, 431 F.3d at 924 (Sixth Circuit reversed the district court's grant of summary judgment for Northwest Airlines finding that a jury could find Northwest liable for predation even in the absence of pricing below average variable costs).

53. *Id.*

54. *Id.*

55. Edlin, *supra* note 7, at 983–84.

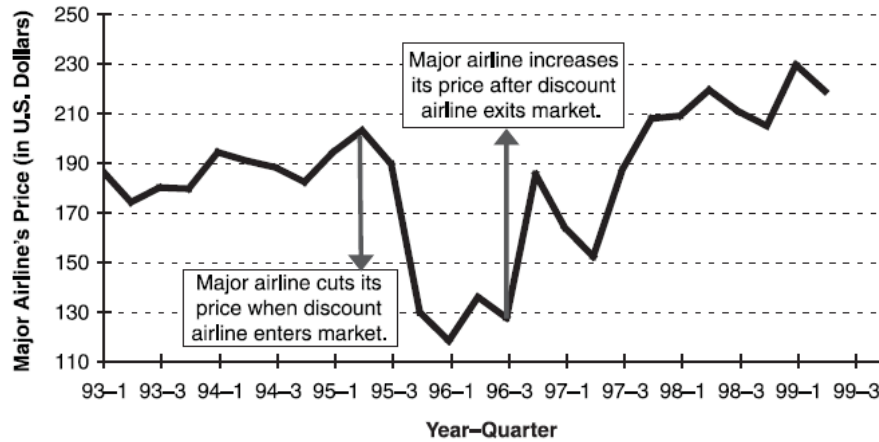
56. *Id.*

57. *Id.*

58. *Id.* at 984.

59. *Id.* The United States brought an unsuccessful predatory pricing case against American. *See United States v. AMR Corp.*, 335 F.3d 1109 (10th Cir. 2003).

Figure 1: Typical Pricing Strategy of Major Airlines at Hub in Response to Entry of Discount Carrier



Reprinted with permission from the Journal of Public Policy & Marketing, published by the American Marketing Association: Ashutosh Dixit, Gregory T. Gundlach, Naresh K. Malhotra & Fred C. Allvine, *Aggressive and Predatory Pricing: Insights and Empirical Examination in the Airline Industry*, 25 J. PUB. POL'Y & MKTG. 172, 181 (2006).

General Foods, once the leading seller of ground coffee in many cities in the Eastern United States, appears to have used predatory pricing to maintain its dominance in the 1970s.⁶⁰ In response to Procter & Gamble's entry into select Eastern markets, General Foods aggressively discounted its flagship Maxwell House brand and introduced a new economy coffee brand.⁶¹ At times, it sold Maxwell House at a retail price *below* the cost of raw coffee beans.⁶² Building on its first mover advantage, General Foods' predatory campaign apparently deterred or delayed Procter & Gamble's entry into many markets east of the Mississippi.⁶³ In the Youngstown, Ohio sales district, for instance, General Foods used a period of below variable cost sales to neutralize nascent competition and restore pre-entry prices and profit levels.⁶⁴

Evidence of single-firm predatory pricing has been found in other nations, as well. The Canadian match monopoly used fighting brands and aggressive

60. John C. Hilke & Philip B. Nelson, *Strategic Behavior and Attempted Monopolization: The Coffee (General Foods) Case*, in THE ANTI-TRUST REVOLUTION 208 (John Kwoka & Lawrence White eds., 1989).

61. *Id.* at 222.

62. *Id.*

63. *Id.* at 224.

64. *Id.* at 223. Controversially, the Federal Trade Commission ruled that General Foods did not engage in illegal predation, finding that there was not a dangerous probability of monopolization. *In re General Foods Corp.*, 3 Trade Reg. Rep. (CCH) ¶ 22,142 (Apr. 6, 1984).

price-cutting to punish actual entrants and deter future entry in the decades preceding World War II.⁶⁵ In Edmonton, Alberta in the 1970s and early 1980s, Safeway appears to have built new supermarkets in close proximity to competing stores as a means of “spatial” predation.⁶⁶ By establishing a reputation for this type of aggressive response, Safeway may have discouraged new entry into other parts of Edmonton, even during periods of robust grocery sales.⁶⁷

The United Kingdom’s Office of Fair Trading (OFT) held in 2008 that the incumbent bus company in Cardiff, Wales successfully used predatory pricing to eliminate a new low-cost rival. After the UK government deregulated local bus service in 1985,⁶⁸ Cardiff Bus enjoyed a monopoly position in the Welsh capital for many years.⁶⁹ In April 2004, 2 Travel Group entered the Cardiff bus market with a low-cost, no-frills service.⁷⁰ Anticipating 2 Travel’s entry, Cardiff Bus launched a no-frills service of its own on the same day and offered lower fares than 2 Travel.⁷¹ This aggressive price competition inflicted heavy losses on 2 Travel, forcing its exit in December 2004.⁷² The OFT found that Cardiff Bus’s fares on its discount service did not cover its operating costs—and were indeed not sufficient to cover the wages of its bus drivers.⁷³ The OFT’s factual findings also indicate that Cardiff Bus launched this service with strictly exclusionary intent. For example, the company did not undertake any analysis of whether the service would be profitable and was principally concerned with eliminating a nascent competitor.⁷⁴ Following 2 Travel’s departure from the market, Cardiff Bus increased its fares by 40 percent.⁷⁵ The OFT also found that Cardiff Bus’s pricing conduct served to deter future entry.⁷⁶

Research has also uncovered evidence of predatory pricing in oligopolistic markets. In the late nineteenth and early twentieth century, British shipping car-

65. Basil S. Yamey, *Predatory Price Cutting: Notes and Comments*, 15 J. L. & ECON. 129, 136–37 (1972).

66. Balder Von Hohenbalken & Douglas S. West, *Predation Among Supermarkets: An Algorithmic Analysis*, 15 J. URB. ECON. 244, 257 (1984).

67. *Id.*

68. Office of Fair Trading, *Abuse of a Dominant Position by Cardiff Bus*, Case CE/52181/04 (Nov. 18, 2008).

69. *Id.* at 6.

70. *Id.* at 17.

71. *Id.* at 17, 22.

72. *Id.* at 19.

73. *Id.* at 164.

74. *See id.* at 179 (“In relation to Cardiff Bus’ argument that expending resources on analysis would be antithetical to the nature of the services, the OFT observes, as described in paragraphs 7.131 to 7.136, that Cardiff Bus did devote time and resources to gathering data while it was running its white services as well as to discussing developments, but the evidence shows that the focus of this attention was not on whether the white services were successful as a new service for customers, but on the progress and strength of 2 Travel as a competitor.”).

75. *Id.* at 247.

76. *Id.* at 243.

tels, organized formally as conferences, used predatory pricing to eliminate or discipline competitors on routes in Africa, Asia, and Australia.⁷⁷ When a new shipping line entered a route, the incumbent lines often replied with aggressive price cuts to induce the new entrant to either exit or abide by collusive prices.⁷⁸ These price cuts were sometimes in excess of fifty percent and lasted anywhere from a few days to one year.⁷⁹ In *Mogul Steamship*, cartel members sent additional ships to Chinese ports in which entry had occurred and sought to retain shipping volumes “without any regard to whether the freight they should bid would be remunerative or not.”⁸⁰ Freight rates fell to levels “so low that if [the members of the shipping conference] continued it they themselves could not carry on trade.”⁸¹

Shipping lines selected their response based on the strength of the new firm. Incumbents were more likely to cut prices aggressively in response to entry by smaller and newer firms, vis-à-vis larger and older firms with a presence in multiple markets.⁸² Although one firm typically took the lead in targeting the new entrant, transfer payments among the cartel members ensured that the burden of predation was shared broadly.⁸³ Successful price wars ended with the new entrant either exiting or accepting the cartel’s pricing structure.⁸⁴ Under both scenarios, prices returned to, or close to, pre-entry levels.⁸⁵

Oligopolistic predation has been an episodic phenomenon in the U.S. cigarette market. In the 1920s, R.J. Reynolds, Lorillard, Liggett & Myers, and American Tobacco (the Big Four cigarette producers) reached a tacit understanding that they would follow the price increases of the market leader, R.J. Reynolds.⁸⁶ In 1931, despite low input costs and weak demand on account of the Great Depression, the Big Four still increased prices.⁸⁷ This price increase triggered the growth of so-called economy brands, with the (then-fringe) Philip Morris and Brown & Williamson (B&W) leading the expansion.⁸⁸ The two companies priced their products below the Big Four and captured significant market share.⁸⁹ The Big Four retaliated with a campaign of predation on the

77. Yamey, *supra* note 65, at 137–42; Fiona Scott Morton, *Entry and Predation: British Shipping Cartels, 1879-1929*, 6 J. ECON. & MGMT. STRATEGY 679 (1997).

78. Scott Morton, *supra* note 77, at 680–81.

79. *Id.* at 697.

80. *Mogul S.S. Co. v. McGregor, Gow & Co.*, 23 Q.B.D. 598, 602 (1889).

81. *Id.* at 610.

82. *Id.* at 714–15.

83. *Id.* at 692.

84. Scott Morton, *supra* note at 77, at 693.

85. *Id.*

86. Adams & Brock, *supra* note 26, at 832–33.

87. *Id.* at 833.

88. *Id.* at 835.

89. *Id.* at 835–36.

sell-side and buy-side. They slashed the price of their cigarettes and also bid up the price of the lower-cost tobacco varieties that Philip Morris and B&W used in their cigarettes.⁹⁰ The Big Four expanded market sales and sustained a significant decline in profitability due to the below-cost sales of certain brands.⁹¹ This prolonged predation, however, weakened the economy brands and led to the restoration of the coordinated pricing structure and bountiful profits in 1934.⁹²

In the early 1980s, with its market share small and falling, Liggett & Myers (Liggett) upended the cozy cigarette oligopoly by introducing low-cost generic cigarettes with simple black-and-white packaging and no advertising campaign.⁹³ Liggett rapidly doubled its market share and was projected to become the third largest cigarette manufacturer.⁹⁴ Recognizing the threat to its competitive position and accepting that other cigarette companies were unlikely to discipline Liggett,⁹⁵ B&W, which was now the number three player and in the position of incumbent, sought to limit Liggett's market expansion and the general growth of the generic segment.⁹⁶ B&W replied to Liggett's success with its own line of generic cigarettes and aggressive discounting, including pricing cigarettes at below its own variable costs.⁹⁷ This price war started in 1984 and continued for more than a year, with both companies sustaining losses.⁹⁸ In the end, B&W was successful: the much smaller Liggett could no longer endure the losses it had incurred during the price war.⁹⁹ Liggett "surrendered" with a price increase, and the pricing structure that existed in the pre-generic cigarette market was reestablished.¹⁰⁰

Timber purchasers in Alaska appear to have used predatory bidding to cripple new entrants and maintain saw log prices below competitive levels. In the 1960s and 1970s, Ketchikan Pulp Company and Alaska Paper and Lumber Company were the leading operators of pulp plants and sawmills in Southeastern Alaska.¹⁰¹ They jointly purchased 90 percent of the saw logs sold in the area.¹⁰² When a Japanese paper company set up a factory, the two incumbents

90. *Id.* at 836–39.

91. *Id.* at 839.

92. *Id.* at 839–40.

93. *Id.* at 843–44.

94. *Id.* at 845–46.

95. *Id.* at 847–48.

96. *Id.* at 848–49.

97. *Id.* at 849–51.

98. *Id.* at 851.

99. *Id.*

100. *Id.* at 852–55.

101. John B. Kirkwood, *Controlling Above-Cost Predation: An Alternative to Weyerhaeuser and Brooke Group*, 53 ANTITRUST BULL. 369, 387–88 (2008).

102. *Id.* at 388.

retaliated with a campaign of predatory bidding.¹⁰³ They increased their bids for saw logs to raise their rival's costs and reduce its profitability.¹⁰⁴ The two firms successfully eliminated the competitive threat through this strategy.¹⁰⁵ Notably, the two incumbents did not lose money in the process of waging this war of attrition against the new entrant.¹⁰⁶ Once the new entrant had exited the market for saw logs, the two incumbents lowered their bids on saw logs to "artificially depressed levels."¹⁰⁷ Predation was used to preserve market power among buyers, at the expense of timber sellers who subsequently sold their output at a lower price.

In examining a wide range of industries over the past one hundred-plus years, the empirical literature on predatory pricing reveals several patterns. First, predation can be an advantageous strategy that permits monopolistic and oligopolistic firms to eliminate, weaken, or discipline competitors and preserve their market power. Second, predators have often been large firms deriving revenues from multiple geographic markets or product segments. In contrast, the preyed upon firms have generally been smaller. Third, predators have targeted their aggressive price-cutting (or overbidding) in segments in which competition exists or has threatened to break out. Sometimes, predators have further restricted their pricing campaign through the use of front companies or fighting brands to minimize the losses they sustain. In other words, predators do not indiscriminately slash prices on their entire output; rather, they seek to concentrate their price-cutting "fire" on the competitive threat. Fourth, pricing *above* short-run costs has sometimes been used to achieve anticompetitive ends. Fifth, even in markets with low barriers to entry, a credible threat of predation can serve as an independent entry barrier that deters firms from entering new geographic markets or product lines.

III. THE SUPREME COURT IGNORES REALITY IN ASSERTING THAT PREDATORY PRICING IS "RARELY TRIED, AND EVEN MORE RARELY SUCCESSFUL"¹⁰⁸

Despite the large body of empirical evidence suggesting that predatory pricing has been an attractive strategy for many dominant firms, the Supreme Court has treated the hypothesis that predatory pricing is "rarely tried, and even more

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. Reid Bros. Logging Co. v. Ketchikan Pulp Co., 699 F.2d 1292, 1297 (9th Cir. 1983).

108. *Matsushita*, 475 U.S. at 589.

rarely successful”¹⁰⁹ as a scientific fact. Given this premise, the Court has articulated a two-part test for predation that makes it nearly impossible for plaintiffs to bring successful claims. And while the literature on predatory pricing is richer today than it was in 1993, an extensive body of research contradicted the Court’s doubts about the efficacy of predation even two decades ago.¹¹⁰

In *Matsushita Electric Industrial Co. v. Zenith Radio Corp.* (*Matsushita*), the Court offered theoretical arguments on why predatory pricing is unlikely to occur. Citing Robert Bork, the majority stated that predatory pricing involves a certain loss today in exchange for an uncertain profit tomorrow.¹¹¹ The loss incurred today may not eliminate or weaken the predator’s rivals.¹¹² Moreover, tomorrow’s uncertain profit discounted for present value must exceed today’s loss for the strategy to be profitable.¹¹³ And even then, higher prices and profits tomorrow may invite new entry that soon erodes the predator’s enhanced market power.¹¹⁴ Based on this syllogism, predatory pricing was treated as an unlikely strategy. As a result, the Court stated that, “there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful.”¹¹⁵ Of additional importance to the Court was that the plaintiff had alleged oligopolistic, rather than monopolistic predation, which the Court asserted is “incalculably more difficult to execute than an analogous plan undertaken by a single predator.”¹¹⁶

Based on its belief that predation is likely to be an unprofitable and uncommon strategy, the Court in *Matsushita* exhibited a lopsided focus on the competing risks of over-deterrence and under-deterrence. It feared that a less demanding standard for predatory pricing claims could discourage pro-consumer discounting. The Court stated that, “cutting prices in order to increase business often is the very essence of competition. Thus, mistaken inferences in cases such as this one are especially costly, because they chill the very conduct the antitrust laws are designed to protect.”¹¹⁷ In other words, the Court expressed a near-exclusive concern with false positives—imposing liability on firms that did not engage in predatory pricing. And it implicitly downplayed the risk of false negatives—acquitting firms that did, in fact, employ predatory pricing.¹¹⁸

109. *Id.*

110. Zerbe & Mumford, *supra* note 3, at 956–64.

111. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986) (quoting ROBERT BORK, *THE ANTITRUST PARADOX* 145 (1978)).

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.* at 590.

117. *Id.* at 594.

118. Notably, the Supreme Court in another decision in 1986 repeated many of the same themes as

The Court in *Brooke Group*—a case which addressed the cigarette price war between Liggett and B&W—recited the theoretical foundations laid out in *Matsushita* and established a strict two-part test for predation. According to the Court, “[l]ow prices benefit consumers regardless of how those prices are set, and so long as they are above predatory levels, they do not threaten competition.”¹¹⁹ Furthermore, the Court stated that, “[i]t would be ironic indeed if the standards for predatory pricing were so low that antitrust suits themselves became a tool for keeping prices high.”¹²⁰ On these grounds, the Court established a rule that creates high hurdles for establishing predatory pricing. Although *Brooke Group* involved a Robinson-Patman Act claim alleging predation in an oligopolistic industry, the Court stated its new legal standard would also apply to Sherman Act Section 2 claims against single-firm predation.¹²¹ To be liable for predation, the defendant must have (1) priced its products at a level below an appropriate measure of cost, and (2) had a dangerous probability in a Section 2 claim (or a reasonable prospect in a Robinson-Patman claim) of recouping its upfront loss through enhanced market power.¹²²

In 2007, the Supreme Court held in *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.* that predatory bidding allegations should also be examined using the *Brooke Group* framework.¹²³ Once again, the Court failed to consider the empirical evidence that contradicted its belief about predation.¹²⁴

The Court has formulated a predatory pricing test that has made it virtually impossible for plaintiffs to bring successful claims.¹²⁵ *Brooke Group*, in effect, encouraged courts to dispose of predatory pricing claims at or before the summary judgment stage.¹²⁶ The two factors of the test—below-cost pricing and dangerous probability of recoupment—are difficult for plaintiffs to satisfy.¹²⁷ Although both prongs tilt the scales heavily in favor of defendants, the recoupment test has arguably proven to be the bigger obstacle for plaintiffs. It calls for speculative and complex calculations concerning the defendant’s post-predation pricing and profits.¹²⁸ In addition, the recoupment prong fails—or, at a minimum, makes it very difficult—to consider the predator that seeks to deter

Matsushita but also stated that “there is ample evidence suggesting that [predatory pricing] does occur.” *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 120 (1986).

119. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993) (quoting *Atlantic Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328, 339-40 (1990)).

120. *Id.* at 226-27.

121. *Id.*

122. *Id.* at 222, 224.

123. 549 U.S. 312 (2007).

124. Kirkwood, *supra* note 101, at 378.

125. Edlin, *supra* note 7, at 941.

126. Leslie, *Rationality Analysis*, *supra* note 5, at 208.

127. Dalton & Esposito, *Myth Paralleling Fact*, *supra* note 16, at 259.

128. C. Scott Hemphill, Note, *The Role of Recoupment in Predatory Pricing Analyses*, 53 STAN. L. REV. 1581, 1585, 1597 (2001).

entry and competition in its other markets, not just the market in which predation was employed.¹²⁹

The recoupment requirement has, in effect, legalized predatory pricing.¹³⁰ As the Supreme Court desired, few plaintiffs in predatory pricing cases have made it past summary judgment since 1993.¹³¹ If predatory pricing were “rarely tried, and even more rarely successful,”¹³² the *Brooke Group* rule would be appropriate due to the threat of false positives. But copious evidence shows that predatory pricing is commonly attempted and reveals the need to take into account the harm to consumers from false negatives.

In claiming that a theoretical “consensus” existed about the infrequency and irrationality of predatory pricing,¹³³ the Court cited conservative scholars who had ignored the extensive literature that existed at the time of *Matsushita* and *Brooke Group*.¹³⁴ The *Brooke Group* test relies on a stylized theory about competition and entry that glosses over the potential long-term market harm from deep—but temporary—price discounting.¹³⁵ The empirical evidence undercuts the belief that predatory pricing is about as prevalent in the real world as a “white tiger,”¹³⁶ “unicorn,”¹³⁷ or “dragon.”¹³⁸ Research has shown that predatory pricing has been used to acquire and maintain monopoly power and punish firms seeking to undercut stable cartels.

In announcing a test that is hostile to predatory pricing claims, the Supreme Court fixated on the risk of false positives and discounted the very real threat of allowing false negatives—to the detriment of consumers. Particularly in industries characterized by rapid technological development, excusing the anticompetitive behavior of monopolists may create greater economic harms, such as reduced consumer choice and diminished innovation in the long run, than punishing innocent dominant firms, which may result in a loss of low prices in the short run.¹³⁹ In other words, the Court likely underestimated not only the prob-

129. Christopher R. Leslie, *Predatory Pricing and Recoupment*, 113 COLUM. L. REV. SIDEBAR 1695, 1728–32 (2013) [hereinafter Leslie, *Recoupment*].

130. *Id.* at 1741–42.

131. Bolton, Brodley & Riordan, *supra* note 8, at 2258–60; Ari Lehman, *Eliminating the Below-Cost Pricing Requirement from Predatory Pricing Claims*, 27 CARDOZO L. REV. 343, 344 (2005).

132. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

133. *Id.*

134. Leslie, *Rationality Analysis*, *supra* note 5, at 289.

135. Edlin, *supra* note 7, at 960–65.

136. *Federal Trade Commission Authorization: Hearing Before the Subcomm. on Consumer Prot., Prod. Safety, Ins., and Data Sec. of the S. Comm. on Commerce, Sci. and Transp.*, 100th Cong. 29 (1987) (statement of Commissioner Mary Azcuenaga).

137. *See id.* at 12, 23 (statement of Commissioner Terry Calvani).

138. Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 264 (1981).

139. *See, e.g.*, Jonathan B. Baker, *Exclusion as a Core Competition Concern*, 78 ANTITRUST L.J. 527, 559–62 (2013); Andrew I. Gavil, *Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance*, 72 ANTITRUST L.J. 3, 39–40 (2004); C. Scott Hemphill & Tim Wu, *Parallel Exclu-*

ability of false negatives, but also the magnitude of harm from these errors.¹⁴⁰

IV. A REVISED TEST FOR PREDATORY PRICING

A realistic predatory pricing test must reflect how predation can be an effective anticompetitive strategy. At the same time, it must recognize that dominant firms may resort to aggressive price-cutting for reasons other than augmenting or maintaining their market power. Accordingly, a rule should reflect the risk of both false positives and false negatives.

Under the revised test, plaintiffs would establish a rebuttable presumption of predation if they satisfied a market share and price-cost test.¹⁴¹ First, the defendant's market share would have to exceed a particular threshold—forty percent in a relevant market may be an appropriate screen. Because a credible threat of predation can serve as an independent entry barrier, the plaintiff would not be required to prove the existence of barriers to entry in the relevant market. Second, a price-cost test would have to be satisfied. The plaintiff would have to show that the defendant priced a significant volume of commerce in the relevant market at either (1) below average avoidable cost or (2) below long-run average incremental cost, and that this pricing strategy has a reasonable likelihood of inflicting harm on consumers. Prices below long-run costs but above short-run costs are less suspect from an antitrust perspective than prices below short-run cost. If they allege only pricing below long-run average incremental cost, plaintiffs would also have to prove a reasonable likelihood of consumer harm from the defendant's pricing strategy.¹⁴² Monopolists and would-be monopolists would not be able to use pricing above average avoidable costs as an absolute defense. Plaintiffs would also only have to establish below-cost pricing on a substantial volume of commerce, as opposed to below-cost pricing on average for total sales in the relevant market during the period of predation. And critically, the administratively unworkable recoupment requirement would be eliminated.

If a prima facie case is established, the defendant would have the opportunity to present procompetitive business justifications. It could rebut the presump-

tion, 122 YALE L.J. 1182, 1212–13 (2013).

140. Alan Devlin & Michael Jacobs, *Antitrust Error*, 52 WM. & MARY L. REV. 75, 79 (2010) (recognizing need to consider both likelihood and magnitude of harm from legal errors).

141. This structure-conduct approach borrows from the framework laid out by Paul Joskow and Alvin Klevorick. See Joskow & Klevorick, *supra* note 1, at 245–55.

142. Assigning the burden based on the alleged price-cost relationship follows the logic of the Eighth Circuit's decision in *Henry v. Chloride Inc.* The court stated that, "[w]e . . . believe that 'rigid adherence to a particular cost-based rule,' can produce injustice, and therefore hold [average variable cost] to be a marker of rebuttable presumptions, with the plaintiff holding the burden above and the defendant below." 809 F.2d 1334, 1346 (8th Cir. 1985) (quoting *William Inglis & Sons Baking Co. v. ITT Cont'l Baking Co.*, 668 F.2d 1014, 1035 (9th Cir. 1980)).

tion by showing that its pricing practices were part of, for example, a promotional pricing or learning-by-doing strategy. This list of business justifications is not exhaustive. As they acquire experience reviewing predatory pricing claims using the revised test, courts could establish additional defenses.

Even as it addresses the threat of false negatives, the revised predatory pricing test also accounts for the risk of false positives. To minimize the threat of false positives, the test includes a structural screen that immunizes from Section 2 liability the pricing decisions of firms with market shares below a particular threshold. Only a small fraction of all businesses would even have to worry about judicial scrutiny for predation, let alone the possibility of legal liability. The substantial volume of commerce requirement provides a safe harbor for defendants that have sold a *de minimis* volume of output at below average avoidable cost or long-run average incremental cost. Also, the price-cost test protects the competitive pricing decisions of all firms. In addition, even if a plaintiff establishes a presumption of predation, the defendant would have the opportunity to rebut it through the introduction of qualified business justifications for its pricing conduct.

A. Defendant Meets a Market Share Threshold in a Relevant Market

A minimum market share requirement serves as a workable screen to distinguish between aggressive price discounting that likely benefits consumers and price-cutting that has the potential to maintain or augment a firm's market power.¹⁴³ This screen allows courts to concentrate on "situations where predatory pricing may be a significant empirical problem."¹⁴⁴ A firm with a one percent share in a relevant market is unlikely to be able to acquire significant market power through below-cost pricing. And in the event it does obtain or threaten to obtain monopoly power through below-cost pricing, this firm would cross the market share threshold and be subject to scrutiny for predation. This screen would recognize that price discounting by the vast majority of businesses does not carry anticompetitive risk and ensure that their pricing decisions are immune from antitrust liability. On the other hand, even Judge Easterbrook—a skeptic of predatory pricing¹⁴⁵ and a strident critic of much of antitrust law¹⁴⁶—has implied that a dominant firm accused of predatory pricing should be investigated.¹⁴⁷

143. See, e.g., *United States v. Dentsply Int'l, Inc.*, 399 F.3d 181, 187 (3d Cir. 2005) ("Behavior that otherwise might comply with antitrust law may be impermissibly exclusionary when practiced by a monopolist.").

144. Joskow & Klevorick, *supra* note 1, at 245.

145. Easterbrook, *supra* note 138, at 264.

146. Frank H. Easterbrook, *Limits of Antitrust*, 63 TEX. L. REV. 1 (1984).

147. See *A.A. Poultry Farms, Inc. v. Rose Acres Farms, Inc.*, 881 F.2d 1396, 1401 (7th Cir. 1989) ("Only if market structure makes recoupment feasible need a court inquire into the relation between

Market shares have been criticized as a deficient measure of market power—the ability of businesses to raise or depress prices profitably.¹⁴⁸ Why not require plaintiffs to demonstrate that the defendant has market power instead of asking the plaintiff to show that the defendant possesses a particular share in a relevant market? Although it is an admittedly imperfect proxy for market power, a market share screen provides a (comparatively) bright line and involves less ambiguity than market power, which exists along a continuum. If market power is used instead, what is the degree of market power that a predatory pricing plaintiff would have to establish? It is doubtful whether a clear threshold could be defined. For predatory pricing doctrine, in which false positives are a real—but not the only—concern, a flawed but relatively clear screen is preferable to a perhaps more economically informative but also somewhat nebulous metric.

Although selecting a market share screen has a degree of arbitrariness, a forty percent screen may be an appropriate cutoff and is likely to distinguish benign price discounting from potentially predatory price-cutting.¹⁴⁹ This screen would capture dominant firms that could be using deep price cuts to punish or eliminate competitors and to preserve or augment their market power. It would also reach firms that are on the cusp of dominance who may use predation to obtain monopoly power. In other words, the forty percent screen would identify instances of both monopoly maintenance and monopoly acquisition. At the same time, the screen is sufficiently high that price-cutting by the overwhelming majority of businesses would not invite antitrust scrutiny.

A complicating factor is the prevailing assumption that anticompetitive conduct is unlikely in the absence of barriers to entry. If a defendant engages in anticompetitive conduct with the goal of raising prices, higher prices, in the absence of barriers to entry, are assumed to attract new competitors. This resurrected competition would defeat the defendant's attempt to exercise market power.

This well-worn theory is seriously flawed because anticompetitive practices themselves can serve as barriers to entry.¹⁵⁰ A credible threat of predatory pricing may “operate as an effective hindrance to new entry even in situations where the conventional barriers to entry are weak or absent.”¹⁵¹ A firm that has displayed a willingness to apply sharp, even loss-making, price cuts to elimi-

price and cost.”)

148. Louis Kaplow, *Why (Ever) Define Markets?*, 123 HARV. L. REV. 437 (2010).

149. 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 728A (3d ed. 2006-2013).

150. Gavil, *supra* note 139, at 37. Seemingly profitable entry has often failed to happen in markets with low entry barriers. Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 IND. L.J. 1527, 1558 (2011).

151. Yamey, *supra* note 65, at 142.

nate or discipline new entrants or competitors may acquire a reputation for being a predator.¹⁵² Even with the temptation of high prices in a market with low entry barriers, a firm may refrain from entry when it sees, in addition to the “no trespassing sign,”¹⁵³ “four or five corpses lying around”¹⁵⁴ due to past predatory conduct by the incumbent.¹⁵⁵ Consequently, a predation claim should not be dismissed for failing to establish entry barriers in the relevant market.

B. Defendant Has Priced a Substantial Volume of Commerce in the Relevant Market Below an Appropriate Measure of Cost

1. Substantial Volume of Commerce

The substantial volume of commerce requirement would not demand proof that the defendant sold total output in the relevant market at an average price below an appropriate measure of cost.¹⁵⁶ Rather, the plaintiff would have to show that the defendant priced a significant quantity of sales in the relevant market at below an appropriate measure of cost. As the empirical literature has revealed, incumbents have used predatory pricing successfully against rivals with a narrower product line or smaller geographic presence. They have often confined their aggressive pricing to the particular part of the market in which they faced new entry or competition. Moreover, these firms have sometimes relied on front companies or fighting brands in their predatory campaigns. Through these marketing tactics, they have aimed their predatory sales at price-sensitive customers who had either “defected” or threatened to defect to the “unwelcome” rival. If plaintiffs had to show that the defendant’s total output in the relevant market was sold at an average price below cost during a particular time period, targeted predation strategies would effectively receive antitrust immunity.

The substantial volume of commerce requirement would not denote an exact dollar amount. It would be a case-specific determination dependent on the size of the market and the fraction of sales that were made at below an appropriate measure of cost. This condition would serve as a safe harbor for defend-

152. Leslie, *Rationality Analysis*, *supra* note 5, at 302.

153. Irwin M. Stelzer, Lecture at Competition Appeal Tribunal 14 (Mar. 15, 2005).

154. *Id.*

155. See also Timothy J. Trujillo, *Predatory Pricing Standards under Recent Supreme Court Decisions and Their Failure to Recognize Strategic Behavior as a Barrier to Entry*, 19 J. CORP. L. 809, 821–24 (1994).

156. Measuring costs can be fraught with difficulties for litigants and courts. Some of these challenges may, however, be eased with the online collection and analysis of unprecedented amounts of data (popularly known as “Big Data”). See Jeff Thomson, *Emerging Big Data Opportunities for CFOs*, FORBES, Nov. 12, 2013, available at <http://www.forbes.com/sites/jeffthomson/2013/11/12/emerging-big-data-opportunities-for-cfos/>.

ants that engaged in *de minimis* below-cost sales. For instance, a defendant that made a below-cost sale to one small customer on one occasion in a relevant market with thousands of actual and potential buyers would not have priced a substantial volume of commerce below an appropriate measure of cost. Similarly, a defendant that sold \$1,000 worth of goods at a below-cost price in a relevant market that had annual sales of \$100 million would not have sold a substantial volume of commerce below an appropriate measure of cost.

2. *Below Average Avoidable Cost*

To establish a rebuttable presumption of predation, the plaintiff could show that the defendant sold a substantial volume of commerce in the relevant market at a price below average avoidable cost (AAC). Both AAC and average variable cost (AVC) are measures of short-run cost, but “unlike AVC, AAC does not require an allocation between fixed and variable costs.”¹⁵⁷ AAC “also more closely approximates marginal cost because it includes all costs, whether fixed or variable that could have been avoided had the defendant not made the predatory sales.”¹⁵⁸ In short, AAC represents costs that would *not* have been incurred in the short term in the absence of the predatory sales. Although a firm may not maximize profits at all times, incurring a deliberate loss on a substantial volume of commerce suggests an anticompetitive motive,¹⁵⁹ and that “the firm’s decisionmakers [may] have determined that recoupment is likely.”¹⁶⁰ When a large market share is combined with pricing below AAC, a rebuttable presumption of predation would be established.

3. *Between Average Available Cost and Long-Run Average Incremental Cost and Reasonable Likelihood of Consumer Harm*

At the same time, a firm with a market share in excess of forty percent and prices above AAC but below long-run costs should not be immune from scrutiny for predatory pricing.¹⁶¹ To create a presumption in its favor, a plaintiff would be allowed to show that the defendant priced a substantial volume of commerce below its long-run average incremental cost (LAIC), and that this pricing creates a reasonable likelihood of consumer harm. LAIC is “the per unit cost of producing the predatory increment of output whenever such costs were incurred.”¹⁶² In contrast to AAC, this measure captures all expenditures,

157. Bolton, Brodley & Riordan, *supra* note 8, at 2272.

158. *Id.*

159. Aaron S. Edlin & Joseph Farrell, *The American Airlines Case: A Chance to Clarify Predation Policy* at 10–11 (Univ. of Cal., Berkeley, Dep’t of Econ., Working Paper No. E02-323, 2002).

160. Leslie, *Recoupment*, *supra* note 129, at 1752.

161. Edlin, *supra* note 7, at 956.

162. Bolton, Brodley & Riordan, *supra* note 8, at 2272.

whether in equipment, energy, or labor, necessary for the predatory sales, irrespective of whether they were made yesterday or five years ago.

In addition to below-LAIC pricing, the plaintiff would have to demonstrate that this pricing conduct has a reasonable likelihood of producing consumer harm. This higher burden is appropriate because a defendant that prices below its LAIC (but above its AAC) is not incurring short-run losses. It is covering its avoidable costs and making a profit, or at least breaking even, in the short run, but still could be attempting to acquire or maintain long-term monopoly power. The airline industry offers multiple examples of dominant hub carriers reducing fares—but likely keeping them above average avoidable cost—to eliminate new entrants and restore their monopoly power. Even though the airlines may have covered their short-run costs in their predatory campaigns, the harm to consumers in the long run was no less real.

A plaintiff could demonstrate a reasonable likelihood of consumer harm in a number of ways. In some instances, the plaintiff may be able to show that once the defendant's pricing strategy eliminated rivals, it raised its prices back to levels that prevailed before entry. With these facts, the plaintiff could prove *actual* consumer harm. In other cases, the plaintiff may be able to show a reasonable likelihood of consumer harm, such as a likely price increase or reduction in quality due to the defendant's pricing conduct. Intent evidence can prove informative in this inquiry.¹⁶³ The plaintiff could also show that prospective entrants, in either the market in which predation occurred or in another market, canceled or postponed their entry plans in response to the predatory campaign.¹⁶⁴ Harm that is projected further out in the future is, by definition, more hypothetical and would accordingly be treated with greater skepticism.

The consumer harm requirement resembles the recoupment prong of *Brooke Group* but offers multiple advantages. First, the Supreme Court has held that the antitrust laws are a “consumer welfare prescription.”¹⁶⁵ When feasible, the Court has called for focusing on ultimate harm to consumers, instead of a surrogate for consumer injury like enhanced market power.¹⁶⁶ Second, the recoupment test requires courts to evaluate whether the alleged predator will recover its upfront loss and then some after the period of predation has ended. This is a complex inquiry: courts face great difficulties in quantifying both the

163. See *infra* Sec. IV.d.

164. Leslie, *Recoupment*, *supra* note 129, at 1731.

165. Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979).

166. See *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460–61 (1986) (“Since the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, proof of actual detrimental effects, such as a reduction of output, can obviate the need for an inquiry into market power, which is but a surrogate for detrimental effects.”).

losses in the initial period and the future gains from the alleged predation.¹⁶⁷ And when a dominant firm engages in reputational predation in one market to discourage entry in other markets, the recoupment test is very difficult to apply.¹⁶⁸ Which other markets should courts examine and how would they compute the gains from predation across a number of markets? Third, the recoupment test is paradoxically more forgiving toward deep price cuts than shallow cuts: the plaintiff must show a larger profit in the recoupment period to establish predation when the defendant has engaged in deep price cuts.¹⁶⁹ The result may be that courts “treat a deeper price cut more leniently rather than less so.”¹⁷⁰ The consumer harm test, in contrast, reduces these administrative difficulties and looks at whether there is a reasonable probability that consumers are going to pay more, experience fewer choices, or receive lower quality products in one or more markets as a result of the alleged predation.

C. *Business Justifications*

If the plaintiff establishes a presumption of predation, the defendant would be allowed to introduce evidence showing that its pricing strategy had benign or procompetitive justifications. These justifications would have to be more than assertions and would require detailed supporting evidence. To rebut the presumption, the defendant would be permitted to offer any justification establishing that the profitability of its pricing strategy was not tied to preserving or acquiring monopoly power. A non-exhaustive list of defenses is considered below.¹⁷¹

1. *Promotional Pricing*

A firm may engage in below-cost pricing when it introduces a new product to the market.¹⁷² Consumers are often reluctant to try a novel offering due to a general wariness of the unfamiliar. Since claims about quality or value are hard to verify and in-store sampling may be costly or ineffective, the firm may have to engage in aggressive pricing to attract buyers.¹⁷³ If the product is the first of its kind, the firm may have a one hundred percent share in the relevant market

167. Hemphill, *supra* note 128, at 1596–97.

168. Leslie, *Recoupment*, *supra* note 129, at 1728–32.

169. Hemphill, *supra* note 128, at 1593.

170. *Id.*

171. Other possible justifications include “if the monopolist was merely liquidating excess, perishable, or obsolete merchandise” or “if shrinking demand forced the monopolist to minimize its losses by selling at the best price-cost relationship available to it, or where the industry suffers from chronic excess capacity.” *In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965 (N.D. Cal. 1979), *aff’d sub nom.* Transamerica Computer Co. v. Int’l Bus. Machs. Corp., 698 F.2d 1377 (9th Cir. 1983).

172. Bolton, Brodley & Riordan, *supra* note 8, at 2278–79.

173. *Id.* at 2279.

and sell a substantial volume of its output at below an appropriate measure of cost. Punishing firms for introducing new products and marketing them aggressively would contradict the consumer welfare objective of the antitrust laws.

Firms that launch new products should have a time-delimited safe harbor—a period of one or two years seems appropriate—following the product’s introduction. This period of immunity would assure them that they could develop and sell innovative new products without fear of predatory pricing liability. But the time limitation on this defense would ensure that firms could not invoke it indefinitely to immunize aggressive pricing that is intended to deter entry and maintain monopoly power.

2. *Learning-by-Doing*

Firms can sometimes lower their costs through learning-by-doing.¹⁷⁴ A firm may increase its production volume and sell the output at below its avoidable cost without having a predatory motive. Through this type of output expansion, the firm may suffer a short-term loss but also lower its long-term costs of production.¹⁷⁵ The success of this strategy is not necessarily dependent on reducing competition and maintaining or augmenting the firm’s market power. Because of the difficulty in differentiating a learning-by-doing strategy from a predatory strategy, defendants would have to demonstrate that alternatives, such as “mentoring by other workers, class room training, process R&D, or producing to inventory,”¹⁷⁶ are significantly more costly or otherwise infeasible.

3. *Loss Leading Should Not Be An Independent Defense*

Retailers routinely sell select items at below cost to increase store traffic—so-called “loss leaders.”¹⁷⁷ Consumers may shop carefully for some goods but not others. For example, grocery shoppers may compare prices on eggs and milk at multiple supermarkets in a newspaper or on the internet but not do the same for prime cut steaks and red wine. A supermarket that sells milk or eggs at below cost as loss leaders and advertises this special in its weekly flyers may be able to increase the number of shoppers who visit its store. To avoid the inconvenience of traveling to multiple supermarkets, consumers who visit a particular store on account of its low prices on eggs or milk may also purchase other items there. If the supermarket attracts enough shoppers who purchase

174. *Id.* at 2280–81.

175. *Id.* at 2281.

176. *Id.*

177. Rajiv Lal & Carmen Matutes, *Retail Pricing and Advertising Strategies*, 67 J. BUS. 345 (1994).

both the below-cost loss leaders and other higher margin items, loss leading may be a profitable strategy.¹⁷⁸ Shoppers attracted to the store on account of loss leaders may still purchase a “basket of goods” that yields positive margins for the retailer. The profitability of loss leading may be immediate and independent of its effect on competition and market structure.

Defendants should, however, not be permitted to use loss leading as a justification to rebut predatory pricing. When a retailer has market power, the risk that an ostensible loss leading strategy may function as a predatory campaign against competitors with narrower product lines is high.¹⁷⁹ In addition, even if loss leading is a profitable short-run strategy, the practice’s desirability from a consumer perspective is questionable. The short-term profitability of loss leading depends on *misleading* consumers by creating the perception of all-around low prices. Stores capture consumer surplus from shoppers who purchase advertised loss leaders but also purchase unadvertised, high margin products.¹⁸⁰ Finally, regardless of the consumer merits of loss leading, the vast majority of retailers, with local market shares well below forty percent, would be free to practice loss leading under the revised test.

4. *What about Network Effects and Two-Sided Markets?*

In many high technology markets, network effects are an important determinant of market evolution.¹⁸¹ For example, a computer operating system with more users is likely to attract more third-party application developers. More applications, in turn, draw more users. This is a two-sided market: an owner of an operating system needs to get both users and application developers on board to succeed. For example, offering a low price on the operating system may be a practical way to build a user base and unleash a virtuous circle of network effects.

Two-sided markets pose difficulties for the revised (and any cost-based predatory pricing) test. To get two distinct groups to use its service, a participant in a two-sided market may need to price below-cost to one side and price above-cost to the other side.¹⁸² A court would be mistaken to look at the group that receives below-cost prices in isolation. This analytical framework would

178. *Id.* at 364.

179. Zhijun Chen & Patrick Rey, *Loss Leading as an Exploitative Practice*, 102 AM. ECON. REV. 3462 (2010). For an illustration of the difficulty between distinguishing harmful predation from benign loss leading, see the disagreement between the majority and the dissent in *Wal-Mart Stores, Inc. v. American Drugs, Inc.*, 319 Ark. 214, 891 S.W.2d 30 (Ark. 1995).

180. Chen & Rey, *supra* note 179, at 3465.

181. Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSPS. 93 (1994).

182. Amelia Fletcher, *Predatory Pricing in Two-Sided Markets: A Brief Comment*, 3 COMPETITION POL’Y INT’L 221, 224 (2007).

ignore the reality that inducing both sides to join is essential for the service to succeed and that one side may be unwilling to join in the absence of low prices, or sometimes, even free service.

Think of Google as an illustration. A search engine requires a large base of users and advertisers to be profitable. Most users, however, are unlikely to pay money for online search so Google provides search for free and earns revenue from advertisers.¹⁸³ To apply the revised test to two-sided markets, courts need to look at both sides of the market.¹⁸⁴ The defendant's share in both markets needs to be considered. One possibility for courts to consider: To avoid discouraging the growth of new platforms, a market share of below the required threshold on one side of the platform could be treated as insufficient for liability. In addition, combined revenues need to be compared to combined costs from both sides. If combined revenues are below AAC or LAIC, the defendant may be engaging in predation. To be sure, this calculation is not likely to be an easy one, but the alternative is to misunderstand the nature of two-sided markets and misapply the test.

While the revised test must be applied with care to two-sided markets, network effects are not needed as an independent business justification to rebut a presumption of predatory pricing. The promotional pricing defense covers competitively neutral or beneficial below-cost pricing for the purpose of exploiting network effects. Furthermore, a firm with a share below the threshold in the relevant market would enjoy an absolute defense to predatory pricing claims and would not be required to offer a business justification.

Absent the time-defined promotional pricing defense, a firm with a market share in excess of the threshold would not be allowed to invoke network effects as a defense to predation. A market in which multiple platforms compete is often preferable to a market with a single dominant platform. In some cases, network effects may be so strong that the market "tips" to a single platform. Firms with large market shares, however, should not be allowed to induce market tipping through predatory pricing.

D. The Role of Intent Evidence

Although the revised test would not require a formal showing of predatory intent, the defendant's intent would still play an important role in the judicial process. The revised test would offer significant guidance for businesses and

183. Although users do not pay for search, Gmail, and other Google services, they effectively "barter" vast quantities of valuable personal information. *Nathan Newman, Search, Antitrust, and the Economics of the Control of User Data*, 31 *YALE J. ON REG.* 401, 406 (2014). Newman also argues that online search is not a true two-sided market because advertisers need users, but users do not need advertisers. *Id.*

184. *Id.*

judges, but it would not eliminate the need for complex factual determinations. Intent evidence may play a particularly important role in evaluating the reasonable likelihood of consumer harm and the credibility of business justifications. Some documents may reveal “braggadocio on the part of employees”¹⁸⁵ and be uninformative or even misleading to courts. Others, however, may present “alternative strategies and expected results as part of a firm’s decision-making routine.”¹⁸⁶

Plaintiffs and defendants could cite intent evidence in support of their claims and defenses. Internal documents that described maintaining long-term monopoly prices on account of aggressive short-run pricing would bolster support for the allegations of consumer harm. Documents of this type would also undermine the reliability of the defendant’s proffered business justifications. On the other hand, operational documents that discussed a defendant’s learning-by-doing through temporary below-cost sales would confer credibility on its defense.

E. Does Brooke Group Foreclose the Application of the Revised Test?

In an ideal world, the Supreme Court or Congress would recognize the deficiencies of the current legal standard for predation and adopt a test for single-firm predation that is similar to the revised test. Yet, this is not likely to happen any time soon. The Roberts Court affirmed its commitment to the *Brooke Group* test in *Weyerhaeuser*¹⁸⁷—suggesting that a change of course on predatory pricing is improbable. And Congress, even looking beyond the current Republican majority in both houses, rarely enacts laws changing the substance of antitrust law.

Yet, in the meantime, predatory pricing plaintiffs should not resign themselves to defeat. The lower courts, especially in the area of monopolization, have not rigidly followed Supreme Court precedents. They have often treated Supreme Court decisions more as flexible standards than as rigid rules.¹⁸⁸ This history suggests that a lower court may be willing to consider lowering the unduly high requirements of *Brooke Group*.

While the revised test reflects a different balancing of legal risks, it can be reconciled with *Brooke Group*. As a basic matter, the Supreme Court, to date, has not applied the *Brooke Group* test to monopolistic predation and its stated intention to do so can be viewed as dictum.¹⁸⁹ And the revised test’s functional

185. Hilke & Nelson, *supra* note 60, at 222.

186. *Id.*

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

188. See generally J. Thomas Rosch, *The Common Law of Section 2: Is It Still Alive and Well?*, 15 GEO. MASON L. REV. 1163 (2007).

189. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222 (1993). *Weyer-*

approach is not entirely dissimilar from what the *Brooke Group* test aims to do. The second-prong of the revised test—proving pricing below an appropriate measure of cost—is identical to the first factor in *Brooke Group*. Notably, the Supreme Court has not defined what qualifies as an “appropriate” measure of cost, leaving open the possibility that a lower court could apply either average variable cost or average total cost (or similar short- and long-term cost measures such as AAC and LAIC, respectively).¹⁹⁰

The first factor in the revised test is operationally consistent with the *Brooke Group* requirement that plaintiffs must establish that the defendant has “a dangerous probability of recoupment.”¹⁹¹ The recoupment factor is, in large measure, an examination of market structure and the defendant’s market power.¹⁹² Does the structure of the market permit the defendant to recoup its up-front losses from predation? The market share screen serves to eliminate claims against defendants with small market shares—defendants who are unlikely to be able to recoup their losses from below-cost pricing. This prong recognizes that only a party with a large market share has a high likelihood of recouping its short-term losses through durable monopoly power.¹⁹³ And if a plaintiff can also establish a reasonable likelihood of consumer harm from the defendant’s pricing conduct, the gap between the revised test and *Brooke Group* may be more apparent than real.

V. CONCLUSION

Empirical research has found that predatory pricing can be a rational anti-competitive strategy for dominant or near-dominant firms. They can use aggressive, temporary price cuts to discipline or eliminate rivals as a means of maintaining or obtaining market power. Studies have found that leading firms in the airline, oil, shipping, sugar, telecommunications, and tobacco industries, among others, have used predatory pricing to preserve or enhance their market power. Price cuts have often been narrowly targeted at product lines or geographic markets in which entry has taken place in order to neutralize the immediate threat and deter would-be competitors.

In spite of the extensive empirical evidence showing that predatory pricing is a rational and not uncommon strategy, the Supreme Court has assert-

haeuser involved buy-side predatory bidding. 549 U.S. at 312.

190. Leslie, *Recoupment*, *supra* note 129, at 1753.

191. *Brooke Grp.*, 509 U.S. at 224.

192. *Id.* at 226 (stating that recoupment analysis includes an examination of “the structure and conditions of the relevant market”).

193. Justice Scalia has written that “[b]ehavior that might otherwise not be of concern to the anti-trust laws—or that might even be viewed as procompetitive—can take on exclusionary connotations when practiced by a monopolist.” *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 488 (1992) (Scalia, J., dissenting).

ed that, “predatory pricing is rarely tried, and even more rarely successful.”¹⁹⁴ As a corollary to its belief that predatory pricing is rarely tried, let alone successfully, the Court added that a more plaintiff-friendly rule could discourage monopolists and oligopolists from cutting prices and unwittingly preserve high prices. In other words, it feared the threat of false positives—punishing innocent defendants. In contrast, it implicitly downplayed the possibility of false negatives—acquitting predators—in spite of the empirical evidence indicating that profitable predatory pricing is not just an academic concern. On these grounds, the Court in *Brooke Group* articulated an unduly demanding two-part test for predation. Plaintiffs must prove that the defendant’s price was below an appropriate measure of cost and that the defendant had a dangerous probability of recouping its upfront losses through enhanced market power.

The revised test retains the structured approach of *Brooke Group* because it provides clarity and guidance for businesses and courts. However, it lowers the evidentiary standard for plaintiffs and uses a burden-shifting approach. The plaintiff has the initial burden of establishing that (1) the defendant has a share in a relevant market in excess of the threshold and (2) the defendant priced a substantial volume of commerce below an appropriate measure of cost. If the plaintiff establishes a presumption of predation, the defendant could rebut it by offering credible business justifications. The revised test would create a wide safe harbor for vigorous price competition but also deter aggressive price discounting that leads to or maintains monopoly power and harms consumers in the medium and long run.

194. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).