

## CASE 16

### Predatory Pricing in the Airline Industry: *Spirit Airlines v. Northwest Airlines* (2005)

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#### INTRODUCTION

In the late 1990s, Spirit Airlines was a regional airline that carried passengers to and from a small number of cities in the United States. Northwest Airlines was a major airline that carried millions of passengers each year all around the world. In 1996, when Spirit initiated service between Detroit-Philadelphia and Detroit-Boston, Northwest dropped its fares precipitously on these domestic routes. Finding itself unable to stay in business on those routes at such low fares, Spirit exited after only a few months.

In 2000, Spirit filed an antitrust suit that alleged that Northwest's fares were predatory and violated Section 2 of the Sherman Antitrust Act. Spirit claimed that Northwest's low prices forced Spirit's exit, and that afterward Northwest raised fares and harmed consumers. Northwest challenged this claim, arguing that Northwest's prices were not predatory and that consumers benefitted from the low fares. A federal district court agreed with Northwest; the U.S. Court of Appeals disagreed and sent the case back to the district court for a trial.

*Spirit Airlines v. Northwest Airlines* provides a case study of the nature of competition between airlines. But more than this, it offers an opportunity to examine the economics of predatory pricing.

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## PREDATORY PRICING

Predatory pricing is a business strategy that is designed to create or maintain a monopoly position for the predator. In the canonical predatory pricing episode, a monopolist uses temporarily low prices to impose financial stress upon a small rival to induce the rival to exit the market. Once the rival withdraws, the predator can increase prices. Although consumers enjoy low prices during the price war, they end up paying monopoly prices later. Overall: consumers would be better off if the rival survived rather than being driven from the market.

Predatory pricing presents this dilemma for antitrust: It is hard to distinguish a situation where low prices are sustainable and procompetitive from a situation where low prices are unsustainable and produce anticompetitive effects. To distinguish the difference, Ordover and Willig (1981) identify predatory pricing as an episode of low prices that would not be profitable for the monopolist unless they cause the target firm to exit the market (or, in some instances, accede to the monopolist's price leadership).

Three decades ago, in an influential Supreme Court opinion, Justice Lewis F. Powell observed, "there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful."<sup>1</sup> This view was informed by the theoretical contributions of Bork (1978) and McGee (1958, 1980), among others, who concluded that, as a rule, predatory pricing is unlikely because it is economically irrational.

Subsequent theories of predatory pricing have been advanced that are less vulnerable to the "irrationality" criticism. These theories generally assume that the targets of predatory pricing are handicapped by incomplete information. A predator with better information is thought to exploit this advantage to make the victim doubt its own prospects for success in the market. The predator escalates these doubts to persuade the victim to withdraw from the market. For example, a firm that aggressively cuts prices in response to entry may gain a reputation for being a "bully," which deters other entrants in the future or in other markets. Ordover and Saloner (1989) and Klevorick (1993) summarize these theories of predatory pricing. While they have caused some commentators to question the view that predatory pricing is uncommon,<sup>2</sup> little has happened in the courts that would challenge Justice Powell's earlier generalization. Indeed, the Supreme Court reinforced that generalization in its *Brooke Group*<sup>3</sup> decision and then in its *Weyerhaeuser*<sup>4</sup> decision.

<sup>1</sup> *Matsushita Electric Industrial Co. v. Zenith Radio*, 475 U.S. 574, 589 (1986). See also Elzinga (1999).

<sup>2</sup> For example, Bolton et al. (2000) suggest that strategic considerations such as reputation effects occur more frequently than the courts have recognized. For a different perspective, see Elzinga and Mills (2001).

<sup>3</sup> *Liggett Group, Inc. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993). For a discussion, see, e.g., Burnett (1999).

<sup>4</sup> *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., Inc.*, 549 U.S. 312 (2007). This was a case that involved allegations of predatory bidding. For a discussion, see Rausser and Foote (2014).

Some commentators have suggested that the airline industry may be an exception to Justice Powell's "rarely tried" observation. For instance, Kahn (1998, p. 1) stated that "[t]here are in fact strong reasons to believe that, at least so far as the airlines business is concerned, the Supreme Court's view . . . is simply incorrect." Characteristics that may predispose the airline industry to predatory pricing include the multiple city-pair markets in which airlines compete with each other; the price discrimination strategies that are available in the sale of tickets; and the unusual cost structure of airlines.

During the 1990s, as the low-fare carrier segment of the U.S. airline industry expanded, several entrants complained to the U.S. Department of Transportation (DOT) about allegedly predatory conduct by incumbent airlines.<sup>5</sup> The DOT released a report that concluded that incumbent airlines had used predatory practices against low-fare entrants, and the DOT proposed guidelines for identifying unlawful conduct (USDOT, 1998).

In May 1999, the U.S. Department of Justice (DOJ) sued American Airlines for predatory conduct against low-fare carrier entrants at American's Dallas-Fort Worth hub. In 2001, the trial court rejected the DOJ's applications of the "average variable cost test" for predation as well as the DOJ's recoupment theory, which was based on the alleged predator's acquiring a reputation as a predator. Because American's low fares only matched—and did not undercut—the low-fare entrants' fares, the court concluded that American was entitled to "meet" its new competition.<sup>6</sup> The Court of Appeals affirmed the trial court's decision in 2003.<sup>7</sup>

The DOJ's failure to win *American Airlines* was due primarily to the court's reasoning as to how a price-cost test and a recoupment test should be administered in a predatory pricing case in the airline industry. Notwithstanding the court's opinion, *American* did not persuade everyone that if an incumbent airline (1) cut its fares to match a low-fare entrant, (2) increased its capacity to reduce the number of occupied seats on the entrant's flights, and (3) then sharply raised fares and reduced capacity once the entrant exited, then this conduct should be outside the reach of the antitrust laws. On the heels of the DOJ's loss in *American Airlines*, *Spirit Airlines v. Northwest Airlines* offered a new antitrust opportunity to distinguish predatory conduct from legitimate competition in the airline industry.

<sup>5</sup> Bamberger and Carlton (2006, p. 2) report that the DOT received 32 such complaints between March 1993 and May 1999.

<sup>6</sup> *United States of America v. AMR Corporation, American Airlines, Inc., and American Eagle Holding Corporation*. 140 F. Supp. 2d 1141 (2001). See also Eckert and West (2006); Edlin and Farrell (2004); and Werden (2003).

<sup>7</sup> *United States v. AMR Corp.*, 335 F. 3d 1109 (10<sup>th</sup> Cir. 2003).

## DISTINGUISHING PREDATORY PRICING FROM COMPETITION

A few years before the *Spirit Airlines* case, the Supreme Court issued a predatory pricing opinion that involved two cigarette manufacturers. Neither firm was a recent entrant to the cigarette industry. Brown & Williamson's aggressive pricing of its newly introduced discount cigarettes prompted Liggett, which previously was the main supplier of discount cigarettes, to cry foul. In a lengthy antitrust battle, the Court set a high economic bar for plaintiffs to succeed in predation cases.<sup>8</sup> According to the *Brooke Group* opinion, proving a predatory pricing episode requires three analytical steps:

The first is to define the relevant market where the alleged predation took place and determine whether structural conditions make it plausible that—but for the target firm—the defendant firm could exercise market power over the long run. If the defendant's rivals are small and limited in their ability to discipline the defendant's prices, and if there are significant barriers to entry, the necessary market power is established, and the analysis moves to the second step. If significant market power in the relevant market, or a reasonable prospect of acquiring it, is not established, there is no reason to proceed.

The second step is to determine whether the prices that were charged by the alleged predator were below an appropriate measure of its costs. The most prominent cost benchmark used in predation analysis is the Areeda-Turner (1975) test. This test asks whether the prices, during the time of predation, were below a firm's reasonably anticipated average variable costs (AVC). If prices were below this benchmark, Areeda and Turner suggest that the low prices could be anticompetitive because prices that are this low would be unremunerative in the short run and below a firm's shut-down point. In addition, prices that are this low would be below the shut-down point of a predator's target if that firm were no more efficient than the predator. Prices below AVC might drive a rival out and make way for a period of unimpeded high prices.

Areeda and Turner propose that charging prices above AVC would be a safe harbor for defendant firms. If a defendant's prices were above this cost benchmark, then the pricing is presumed to be non-predatory. But if a defendant's prices were below the benchmark, predation becomes a more likely concern, and the analysis proceeds to a third and final step.

The last step investigates whether the defendant, after disposing of the target, could charge prices high enough (and long enough) to recoup the losses that it endured during the period of low prices. This is known as the recoupment test. This test creates a safeguard for courts against making

<sup>8</sup> *Liggett Group, Inc. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 231-232 (1993). The case is often called *Brooke Group* because the Brooke Group acquired Liggett in the course of the litigation. See also Burnett (1999).

"Type-I errors"—reaching false positive conclusions—in applying a cost-based test.<sup>9</sup> Errors of this kind occur if the defendant's costs were measured improperly or if the defendant's losses were inadvertent instead of strategic.<sup>10</sup> The likelihood that a defendant's prices were predatory is sharply reduced if a test for recoupment indicates that the payoff from ousting a rival would be insufficient to offset the losses that accompany the low prices. Under the antitrust laws, to prove that a defendant's prices were predatory, a plaintiff must show that there was a "dangerous probability" that the defendant could recoup its predatory losses by charging prices that are high enough and long enough after the rival withdraws from the market.<sup>11</sup>

## A BRIEF CHRONOLOGY OF EVENTS

Northwest Airlines was founded in 1926 as an air mail carrier between Minneapolis and Chicago. The firm began passenger service soon thereafter and became one of the five largest passenger airlines in the world. As its operations at Minneapolis grew, Northwest developed a passenger service hub there. In 1986, Northwest acquired Republic Airlines, which had hubs at Detroit, Memphis, and Minneapolis. Northwest's domestic hub-and-spoke route structure centered on these three airports during the period that is relevant to this case. Northwest also served many international destinations both directly and through global airline alliances with European and Asian carriers.<sup>12</sup>

During this time, Spirit Airlines was a low-fare carrier whose economic profile differed from Northwest's.<sup>13</sup> In 2000, Spirit operated 28 aircraft and had almost 2000 employees serving 2.8 million flown passengers.<sup>14</sup> The airline offered regularly scheduled air service to only 13 city-pairs. Its primary business was flying passengers from Detroit and other points in the Northeast to Florida and other recreation/leisure destinations.

Prior to December 1995, Northwest's share of the non-stop local passenger airline service between Detroit and Philadelphia (DTW-PHL)

<sup>9</sup> Katz (2006, p. 6) suggests that the recoupment test is a "reality check: If there was no reason for the firm that has been alleged to have engaged in predation to expect to be able to recoup, then it raises the question of why the firm would have ever tried to engage in predatory pricing."

<sup>10</sup> In addition, there may be limited circumstances that would induce a defendant to charge prices that are temporarily below benchmark costs for reasons that are not anticompetitive. For example, a firm may charge low prices while introducing consumers to a new product. Or the firm's production learning curve may be so steep that it initially charges below-cost prices while costs are falling with accumulated experience.

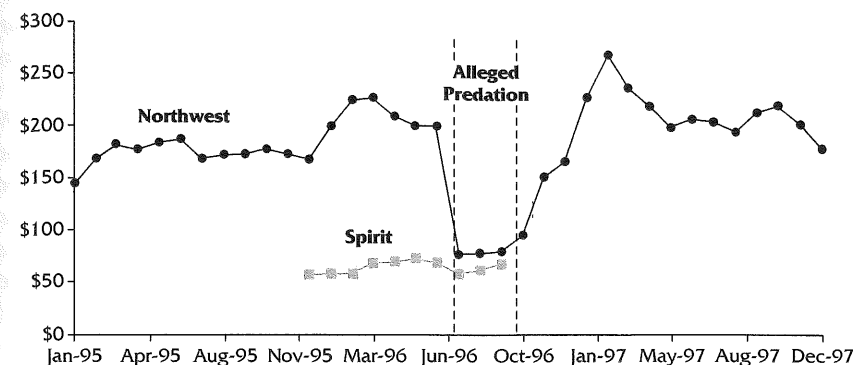
<sup>11</sup> This standard ignores the possibility that "recoupment" might be in the form of a reputation for being predatory, which would allow high prices to be unchallenged in other markets.

<sup>12</sup> Northwest Form 10-K, dated 4/2/01.

<sup>13</sup> Spirit Airlines grew out of Charter One, a Detroit-based charter tour operator that started in 1980. The Spirit Airlines name was adopted in 1992.

<sup>14</sup> Spirit Press Release, 9/5/00 and 1/12/01.

FIGURE 16-1 DTW-PHL: Northwest's and Spirit's Average One-Way Fares for True Local Passengers\*



\* Northwest defines 3 types of local passengers: true local, connecting local, and multi-destination local. True local passengers are nonstop local passengers.

Source: Northwest Airlines, Spirit Airlines

was about 70%.<sup>15</sup> US Airways accounted for the remaining local service between DTW and PHL.<sup>16</sup> Northwest's average (one-way) fares for local passengers on this route for every month during 1995-1997 are shown in Figure 16-1.<sup>17</sup>

In December 1995, Spirit introduced a single daily nonstop flight on the DTW-PHL route that used an 87-seat jet aircraft.<sup>18</sup> Spirit's average fares, also shown in Figure 16-1, were substantially lower than Northwest's. Northwest's lowest unrestricted fare on the DTW-PHL route prior to Spirit's entry was \$355, and its lowest restricted fare was \$125.<sup>19</sup> Spirit initially offered fares as low as \$49, and three months later was selling tickets for an average fare of \$57.<sup>20</sup>

At first, Northwest did not materially reduce its fares in response to Spirit's entry. However, when Spirit introduced a second daily nonstop flight in June 1996, "Northwest immediately and dramatically reduced its fares,

<sup>15</sup> A local passenger on the DTW-PHL route is a passenger whose original point of departure is either Detroit or Philadelphia and whose final destination is the opposite city. Passengers, for instance, who fly from Minneapolis to Philadelphia via Detroit, or who fly from Philadelphia to Columbus by way of Detroit, are *connecting* passengers on the DTW-PHL route.

<sup>16</sup> Source: Data Bank 1A Superset. Carriers other than Northwest and US Airways accounted for less than four percent of the DTW-PHL market.

<sup>17</sup> Northwest's average fares are constructed from Northwest's Local Passenger Data for the DTW-PHL route. Unless otherwise noted, all fares that are reported in this chapter are one-way fares.

<sup>18</sup> Spirit Airlines' Response to U.S. DOJ Antitrust Division Civil Investigative Demand No. 17702, p. 5.

<sup>19</sup> DOT Presentation Outline, Northwest Airlines, Inc., p. 20.

<sup>20</sup> Spirit Airlines' Response to U.S. DOJ Antitrust Division Civil Investigative Demand No. 17702, Attachment 2, p.12.

offering a lowest published fare that matched Spirit's \$49 one-way fare, and . . . expanded its capacity on this route by adding another flight."<sup>21</sup> As a result, Northwest's average fare fell to \$77 in July 1996 as shown in Figure 16-1. Northwest's DTW-PHL lowest fares were "less than Spirit's lowest fare for 92.5 percent of the days during the [alleged] predation period."<sup>22</sup>

As Northwest reduced its fares and increased its capacity on the DTW-PHL route, Spirit's passenger numbers fell, and its operations on the route became unprofitable. Spirit had load factors as high as 88 percent before Northwest responded to its entry, but Spirit's load factors fell to between 31 and 43 percent.<sup>23</sup> Spirit canceled one of its DTW-PHL flights in August 1996, and canceled the other in September 1996 (Kahan, 1998, p. 5). After Spirit canceled its flights, Northwest raised its fares sharply, as shown in Figure 16-1, and reduced capacity.

A similar sequence of events occurred on a second route: Prior to April 1996, Northwest was the only airline that offered non-stop local passenger airline service between Detroit and Boston (DTW-BOS). Northwest's only competition on this route consisted of flights by other carriers that required a connection at a third city between DTW and BOS. Figure 16-2 shows Northwest's average fares for local passengers on the DTW-BOS route for every month during 1995-1997.<sup>24</sup> Northwest was charging \$411 for an unrestricted ticket on this route, and its lowest restricted fare was \$129.<sup>25</sup>

In April 1996, Spirit introduced a single daily nonstop flight that used an 87-seat jet aircraft on the DTW-BOS route. Spirit's introductory fare was \$69, and its average fare while serving this route was in the range of \$67-75, as is shown in Figure 16-2 (Kahan, 1998, p. 7). Northwest responded to Spirit's entry by adding two additional daily nonstop flights on the DTW-BOS route and offering a matching fare. One of these flights used a larger aircraft than Northwest had previously used on the route.<sup>26</sup> Northwest's fare reductions are shown in Figure 16-2; the lowest fares were "less than Spirit's lowest fare for 93.9 percent of the days during the [alleged] predation period."<sup>27</sup>

After Northwest's price cuts, Spirit's load factors on the DTW-BOS route were between 17 and 31 percent, and the route became unprofitable.<sup>28</sup>

<sup>21</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 2003 WL 24197742 (E.D.Mich.), 2005-2 Trade Cases ¶ 75,002, p. 3 (March 31, 2003).

<sup>22</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 924 (6th Cir. 2005).

<sup>23</sup> *Ibid.* A flight's "load factor" is the fraction of available seats that are occupied by revenue passengers.

<sup>24</sup> These average fares are constructed from Northwest's Local Passenger Data for the DTW-BOS route.

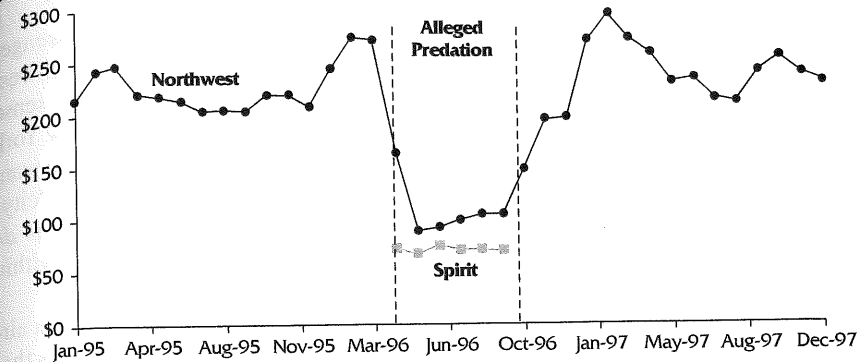
<sup>25</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 2003 WL 24197742 (E.D.Mich.), 2005-2 Trade Cases ¶ 75,002, p. 4 (March 31, 2003).

<sup>26</sup> *Ibid.*

<sup>27</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 924 (2005).

<sup>28</sup> *Ibid.*

FIGURE 16-2 DTW-BOS: Northwest's and Spirit's Average One-Way Fares for True Local Passengers



\* Northwest defines 3 types of local passengers: true local, connecting local, and multi-destination local. True local passengers are nonstop local passengers.

Source: Northwest Airlines, Spirit Airlines

Spirit canceled its DTW-BOS flights in September 1996 (Kahan, 1998, p. 8). Shortly thereafter Northwest raised its fares on the route, as shown in Figure 16-2, and reduced capacity.

## ECONOMIC ANALYSIS OF NORTHWEST'S CONDUCT

Seeking to establish that Northwest's conduct in these two city-pairs was predatory, Spirit's economic analysis followed the three-pronged approach that was suggested by the Court's *Brooke Group* opinion.

Consistent with Ordoover and Willig's (1981) definition of predation, Northwest's analysis endeavored to test whether Northwest's response to Spirit's entry on the two routes was motivated by profit considerations that were attributable to injuring competition. Implementing this test involved steps similar to those undertaken by Spirit. Because Northwest's analysis concluded that the carrier's revenues on the routes in question were not below cost, Northwest claimed there was no need to examine whether Northwest had market power or the ability to recoup predatory losses in the relevant markets.

### Market Definition

The first step in Spirit's analysis was to define the relevant markets and assess their structure in order to determine whether Northwest possessed enough market power to execute a successful predatory campaign. In



antitrust economics, relevant markets have two dimensions: the relevant set of *products* that are bought and sold in the market; and the relevant *geographic* extent of sales.

Spirit contended that the relevant geographic markets were passenger air travel between the city-pairs of DTW-BOS and DTW-PHL. Northwest agreed. Defining geographic markets as city-pairs makes economic sense because an increase in the price of a flight between Detroit and New York would have very little effect (if any) on the number of passengers who want to fly between Detroit and Boston. Defining geographic markets as "city-pairs" assumes that the substitutability of travel between city-pairs is *de minimis* compared to the substitutability of travel (between airlines) within city-pairs.

Defining geographic markets as city-pairs is generally accepted in airline industry circles. For example, Morrison (1998, pp. 150, 156) states that "the unit of output of a passenger airline is transportation of passengers between cities," and it "... is at the route level, after all, that airlines actually compete with one another." In comments before the U.S. Senate, a former head of the Antitrust Division (Klein, 2000 p. 21) stated, "... relevant airline markets are likely to consist of scheduled airline service between a point of origin and a point of destination, generally referred to as city-pairs. This market makes intuitive, as well as economic, sense."

While Northwest agreed with Spirit that the relevant *geographic* markets in the case were the DTW-PHL and DTW-BOS city-pairs, Northwest took exception to Spirit's proposed relevant *product* markets. Spirit offered two alternative definitions of the relevant product markets: The first defined the markets to consist of all local passengers who flew on the DTW-PHL route and, similarly, all local passengers who flew on the DTW-BOS route. Purchasing a DTW-PHL ticket is a poor substitute for a passenger whose trip begins in Indianapolis and ends in Philadelphia even if this trip involves a stop-over in Detroit.<sup>29</sup>

Spirit's second relevant product market definition included only leisure-oriented, *price-sensitive local* passengers on the two routes. Spirit claimed that price-sensitive passengers are a distinct class of travelers. These are vacation travelers and travelers flying for personal reasons who are more flexible about scheduling and who pay for tickets out of their own pockets. According to Spirit, business-oriented, *non-price-sensitive* passengers—who prize flexibility in their travel plans and are on expense accounts—generally purchase higher-price tickets with no restrictions. *Price-sensitive* passengers often purchase lower-price tickets with restrictions: advanced purchase, not fully refundable, or requiring Saturday layover.

<sup>29</sup> Also, given the distances that were involved, Spirit's product market alternatives limited the relevant markets to airline travel only and excluded other modes of travel between the cities in question. Although some passengers might drive to their destinations, take a bus, travel by train, or even charter a plane, Spirit deemed these alternatives as not being "reasonably interchangeable" with scheduled airline service.

Northwest disagreed that the relevant product markets included only local passengers, and instead contended that connecting passengers on the DTW-BOS and DTW-PHL routes also should be included. The fungibility of seats on the same plane that were occupied by passengers with different points of origin and or destination, Northwest claimed, meant that product markets should include all passengers who traveled these routes. Northwest's reasoning centered on the carrier's yield management system and supply-side substitutability more than demand-side substitutability.

Northwest cited several factors in support of defining the product markets to include all local passengers: Available data support this approach because isolating *price-sensitive* passengers from the rest requires drawing a line between passengers on the same plane who are traveling from and to the same cities. Defining all-local-passengers product markets also acknowledges supply-side substitution between passenger classes. An airline might choose to change, on short notice and at very little cost, the mix of seat prices on a given plane that serves a particular route. For these reasons and perhaps others, the conventional approach that is taken in the economics literature does not distinguish price-sensitive and price insensitive product markets.<sup>30</sup>

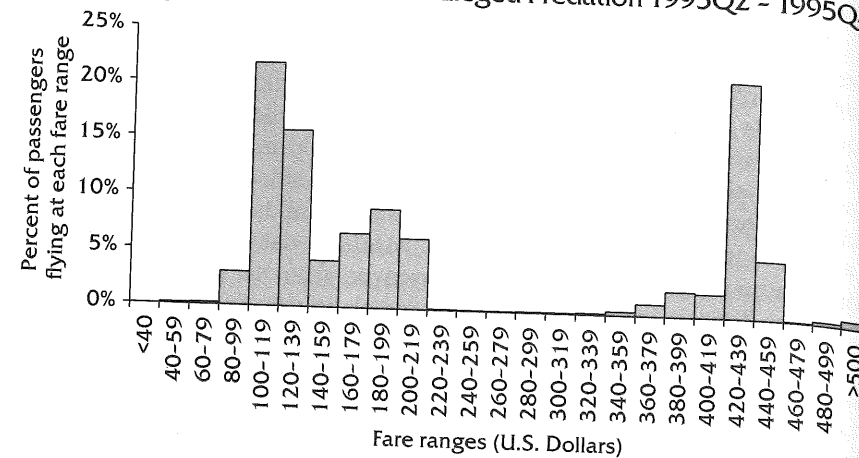
Spirit contended, however, that defining the product market expansively to include all local passengers exaggerates the substitutability of alternative tickets for many passengers who happen to be flying on the same route. One indication that many passengers in the two geographic markets do not regard all flight options as substitutes is the bimodal fare structure that Northwest maintained in the months immediately prior to Spirit's entry: As is shown in Figure 16-3, two-thirds of Northwest's passengers in the DTW-BOS market during the pre-entry period bought tickets in a lower ticket price range. The remaining passengers were in a much higher price bracket. Figure 16-4 indicates that the same general pattern held for Northwest's fare structure in the DTW-PHL market.

Spirit claimed that Northwest's bimodal fare structure illustrated weak substitutability between ticket options and supported its position that there were separate product markets for price-sensitive and price-insensitive passengers. Spirit reasoned that if all passengers were in the same product market, the price differential ought to be compressed or arbitrated away. That the price differential remained suggests that the same flight served different product markets.

The distinction between passengers based on price sensitivity is recognized by the airline industry and is often couched in terms of "business" versus "leisure" travelers. For example, a U.S. General Accounting Office study (2001, p. 17) noted that "[p]assengers on the same commercial airline flight may pay fares that vary widely. . . . The industry generally segments

<sup>30</sup> See, for instance, Borenstein (1989). However, Borenstein does exclude connecting or "through" passengers from the routes that he investigates.

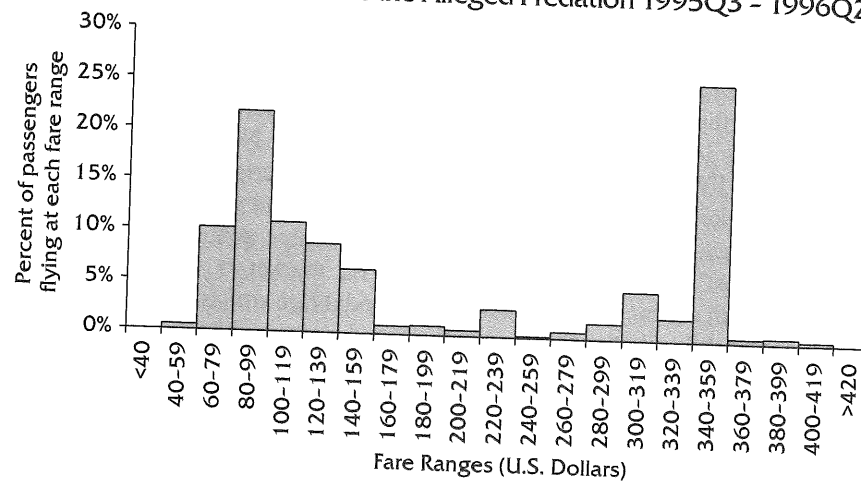
FIGURE 16-3 DTW-BOS: Northwest's Fare Distributions for Single-Coupon Local Passengers Period before the Alleged Predation 1995Q2 - 1995Q4



Note: Data were not available for 1996Q1.

Source: DB1A

FIGURE 16-4 DTW-PHL: Northwest's Fare Distributions for Single-Coupon Local Passengers Period before the Alleged Predation 1995Q3 - 1996Q2



Note: Data were not available for 1996Q1.

Source: DB1A

potential passengers into two categories—those traveling for business purposes and those traveling for leisure purposes.”

Here Northwest disagreed that there were separate product markets for price-sensitive versus price-insensitive passengers. While acknowledging the wide variation in the carrier's pre-entry fares, Northwest pointed out that after Spirit's entry, Northwest's fare structure became more compressed so that

the carrier could retain passengers. Also, noting that Spirit's fares on these routes were unrestricted, as were Northwest's higher fares, Northwest argued that Spirit competed just as much for passengers who previously paid higher Northwest unrestricted fares as it did for those who previously paid lower fares.

## Market Power

In their antitrust treatise, Areeda and Hovenkamp (2002) state, “. . . predation is usually assumed to be possible, if at all, only for a dominant firm with a very substantial market share. Given the variety of factors affecting the minimum size for plausible predation, no single market share number can be offered as a guaranteed minimum.”<sup>31</sup>

Spirit argued that Northwest's shares of the DTW-BOS and DTW-PHL markets were substantial enough to support its claim that Northwest possessed significant market power—regardless of how product markets are defined. In 1995, prior to Spirit's entry, Northwest had about 90% of the DTW-BOS market and about 69% of the DTW-PHL market, as measured by the number of non-stop or one-stop local passengers flown. US Airways accounted for the rest of the local flights on these routes.<sup>32</sup> In 2000, after Spirit had exited those markets, Northwest had a market share of about 86% in DTW-BOS and about 64% in DTW-PHL. By whatever metric—assets, revenues, seat-miles, or number of employees—Northwest's operations out of Detroit dwarfed all carriers during these years.

Having a large market share is a necessary but not a sufficient condition to be a successful predator. Entry conditions are important as well, because predatory pricing is unlikely to be successful if entry or reentry is relatively easy.<sup>33</sup> Spirit identified several barriers to entry in the DTW-PHL and DTW-BOS markets and argued that these barriers enabled Northwest to possess significant market power in those markets. Some of these barriers stemmed from Northwest's size and incumbency. For instance, Northwest enjoyed a degree of “brand loyalty” from many consumers because of the company's frequent flyer programs and promotional programs for business travelers and travel agents. An entrant into the relevant markets would have to overcome these incumbency advantages in order to compete with Northwest.<sup>34</sup>

<sup>31</sup> Areeda and Hovenkamp (2002, p. 341) hazard, “[n]evertheless, we suggest a strong presumption that Sherman Act predation is unreasonable at market shares below 60 percent.”

<sup>32</sup> Source: Data Bank 1A Superset. Other carriers than Northwest and US Airways accounted for less than four percent of the DTW-PHL market at the time.

<sup>33</sup> This is because the absence of barriers to entry makes it possible for entrants—including the entrant who is the predator's target—to enter (reenter) the market when the predator tries to raise its prices to exploit its market power. This response on the part of entrants undercuts the predator's ability to recoup the losses that it incurred while charging low, predatory prices.

<sup>34</sup> See Borenstein (1992) and Levine (1987).

Even though the mobility of planes and crews from one route to another generally facilitates entry in the airline industry, a limited supply of ground-based facilities can be a barrier to entry even if planes and crews are readily available. Important examples include ticket counter space, boarding gates, and takeoff and landing slots.<sup>35</sup> Spirit argued that these limitations undergirded Northwest's market power in the relevant markets.

According to a U.S. General Accounting Office (1996, p. 9) report, "In 1990, our survey of the 66 largest U.S. airports revealed that 85 percent of their gates were leased to established airlines under long-term, exclusive-use leases. At some airports, every gate was under an exclusive-use lease. We concluded that such leases limited entry because, in order to gain access to the airport, a non-incumbent would generally have to sublease gates from the incumbent airlines—often at less preferable times and at a higher cost than the incumbent pays on the master lease."

The GAO identified DTW as one of the most gate-constrained airports in the U.S. at the time. Of the 86 jet gates at this airport in 1990, 76 were under exclusive-use leases. And 64 of the gates at DTW were "leased to Northwest until the end of 2008, with all but 10 under exclusive-use terms" (GAO, 1996, p. 10).

The Vice Chairman and General Counsel of Spirit Airlines (Kahan, 1998, p. 9) testified before the Transportation Subcommittee of the Senate Appropriations Committee in 1998 that "Spirit Airlines emplaned over 19,000 passengers from Detroit in December 1997 without a gate. We go from one carrier to the next seeking unused space for which we may contract at odd times of the day. Because we lack a gate . . . under the rules of the local airport authority . . . we are assessed a 25 percent surcharge over the rates charged to other carriers including, obviously, [Northwest]. The scarcity of gates at DTW, and Northwest's dominance of existing gates, raised a barrier to entry into either of the relevant markets."

In sum, Spirit argued that structural conditions in the relevant markets—Northwest's market shares and entry conditions—indicated that Northwest possessed market power that was sufficient to warrant advancing the economic analysis of Northwest's pricing conduct to the second step.

Northwest did not challenge Spirit's market share calculations and did not undertake a detailed structural analysis of the relevant product markets. But the carrier disputed that it possessed significant market power in those markets. It cited US Airways as a competitor that was formidable enough to prevent Northwest's exercising market power in either market—especially DTW-PHL.

Northwest also contested Spirit's claims that entry barriers (such as airport facilities) were sufficient to impede new entrants. It argued that

<sup>35</sup> The scarcity of gates and take-off and landing slots—designated time "windows" for take-offs from and landings on an airport's runways—are generally recognized as barriers to entry in passenger airline markets. See, for instance, Morrison (1998, p.166 ff).

Spirit had demonstrated its ability to contract for airport facilities at DTW, PHL, and BOS, and was in a position to expand service on DTW-PHL or DTW-BOS by substituting airport facilities that Spirit used for serving other routes. Northwest noted that Southwest Airlines began operating at DTW in 1987, although it did not serve either of the relevant markets in this case. Also, in 2000 Pro Air started operations at a secondary Detroit airport and offered service to PHL until it was shut down by an order from the Federal Aviation Administration. Noting that neither PHL nor BOS were considered to be gate-constrained airports, Northwest reasoned that the Pro Air experience indicated that Spirit could have expanded its service to those airports by substituting another Detroit airport instead of, or in addition to, DTW (GAO 1996, p. 9).

## Revenues and Costs

The second step in predatory pricing analysis is to assess whether Northwest's fares in the DTW-PHL and DTW-BOS markets were below the firm's average variable costs. Northwest's charging fares below this benchmark would raise the likelihood that Northwest's response to Spirit's entry was predatory. In its regular course of business, Northwest produced a monthly record of its financial and operational activity on specific flights and aggregated these data by city-pairs.<sup>36</sup> Both Spirit and Northwest used these data in their analyses of Northwest's revenues and costs.

### Spirit's Analysis of Revenues and Costs

For purposes of analyzing predatory pricing, variable costs are those that the alleged predator might avoid by curtailing production of that quantity of output that is associated with its challenged activity. This means that to assess Northwest's conduct requires a comparison of the fares that Northwest charged the relevant passengers with the *incremental costs* that were caused by Northwest's response to Spirit's entry.

Northwest classified its flight-specific costs into three categories: passenger variable expenses, non-passenger variable expenses, and fixed expenses. Passenger variable expenses were costs that varied with the number of passengers on a given flight. These included the costs that were associated with issuing tickets, processing passengers through the gate, in-flight food and beverages, and insurance and other liability expenses. Non-passenger variable expenses were those that Northwest incurred when it added an additional flight or substituted a larger plane on an existing flight. These

<sup>36</sup> The source of these data was Northwest's Flight Profitability System (FPS), which is "the primary means by which Northwest evaluates its financial performance. . . ." Northwest Airlines, Inc.'s Motion for Summary Judgment, July 5, 2002, p. 11.



included items such as the cost of fuel, pilots, maintenance, and landing fees. Fixed expenses, such as corporate overhead, were costs that were unlikely to change when additional passengers and flights were added to the carrier's service on a given route.

Spirit's incremental cost calculations included passenger and non-passenger expense items that were identified in Northwest's cost data as variable.<sup>37</sup> The calculations also included certain items that Northwest classified as "fixed" costs. A critical item here was the cost of aircraft.<sup>38</sup> Northwest could add seats to its local service on a route in three ways: increase the number of local service seats on existing flights; switch to larger aircraft; and add flights and aircraft. Because Northwest used the same types of aircraft on other routes as it used on DTW-PHL and DTW-BOS, the company could and did consider alternative uses of those aircraft when it deployed them on flights in the DTW-PHL and DTW-BOS markets. This meant, in the short run, that the opportunity cost to Northwest of using a plane to offer service in one market was *not* using that plane to offer service in another market.

Accordingly, Spirit reasoned that the costs of aircraft that were used in Northwest's challenged activity were incremental *in the markets where this activity occurred*. That is, even though these costs may be fixed insofar as the airline as a corporate entity was concerned, Northwest could avoid incurring these costs in the DTW-PHL and DTW-BOS markets by using them in other markets instead. Northwest's response to Spirit's entry in DTW-PHL and DTW-BOS involved significantly increasing its passenger capacity on those routes. Spirit reasoned that the opportunity cost of aircraft that were diverted from uses on other routes in order to increase capacity on DTW-PHL and DTW-BOS were incremental to Northwest's challenged activity.

Spirit used a similar line of reasoning to estimate and allocate the rental value of airport gates, counter space, and similar airport assets to the incremental cost category. All of these assets were fungible and could readily be switched to other flights that originated or ended in DTW, PHL, or BOS. Northwest, by contrast, contended that the cost of aircraft and these other items were not incremental but fixed because they were only avoidable in a longer time frame than genuinely variable costs.

The period of time after Northwest expanded capacity and cut its fares in response to Spirit's entry in DTW-PHL was July to September 1996; in

<sup>37</sup> Although Northwest aggregated its passenger and non-passenger costs across all passengers (e.g., connecting and local), Spirit reasoned that these costs were the correct measures to use for local passengers because there was no material difference in the cost to Northwest of flying connecting versus local passengers on a given route. Northwest contested this assumption, noting that all flight-specific costs other than passenger variable costs were joint and common costs that should not necessarily be attributed pro rata to all passengers.

<sup>38</sup> For a discussion of how to treat aircraft and other capacity-related costs in predatory pricing analyses in the airline industry, see Kaplan (2000). Kaplan was a consultant to Spirit in this antitrust case.

**TABLE 16-1**  
**Comparison of Northwest's Revenues and Costs (\$/Passenger)**

	DTW-PHL July–September, 1996	DTW-BOS April–September, 1996
Incremental Cost incl. Aircraft*	53.47–60.17	65.87–85.24
<b>All Local Passengers Markets</b>		
Incremental Revenue with \$49 Fare	44.29	n.a.
Incremental Revenue with \$69 Fare	58.31	61.98
<b>Price-Sensitive Local Passengers Markets</b>		
Incremental Revenue	50.35	64.82

\* This excludes incremental facilities costs.

Source: *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 924 (2005).

DTW-BOS it was April to September 1996.<sup>39</sup> Spirit's estimates of Northwest's incremental cost of passenger service in the DTW-PHL and DTW-BOS markets are reported in Table 16-1. In DTW-PHL, these costs ranged from \$53.47 to \$60.17 per passenger during the months of July, August, and September 1996.<sup>40</sup> The corresponding monthly incremental costs in DTW-BOS during April to September 1996 ranged from \$65.87 to \$85.24.<sup>41</sup>

Table 16-1 also shows Spirit's estimates of Northwest's incremental revenues in the all-local DTW-PHL and DTW-BOS markets. Spirit argued that the appropriate fares to consider when calculating revenue in these markets were the fares that were commonly paid by Northwest passengers who were drawn to Northwest when it reduced fares and added capacity. In DTW-PHL, these fares were \$49 in July and part of August 1996, and \$69 in the remainder of August and September 1996. In DTW-BOS, these fares were \$69 from April through September 1996. These were not the fares that every Northwest passenger paid to fly on these routes, but most did: approximately 70 percent of DTW-PHL passengers and 75 percent of DTW-BOS passengers. Spirit reasoned that this constituted so much of the local traffic to justify the conclusion that Northwest's incremental revenues were based on these low fares.

Northwest's incremental revenues, shown in Table 16-1, were adjusted to net out commissions that the company paid travel agents to sell their

<sup>39</sup> The fact that a predator does not react immediately to a new entrant or other competitive threat suggests that predation is a costly strategy. A rational predator will want to weigh carefully the expected consequences before incurring the costs of expanded output and below-cost pricing.

<sup>40</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 940 (2005).

<sup>41</sup> *Ibid.*



tickets. The net revenue that was gained from the sale of a \$49 ticket in the DTW-PHL market was \$44.29; for a \$69 ticket in the DTW-PHL market, it was \$58.31. The net revenue that was gained from the sale of a \$69 ticket in the DTW-BOS market was \$61.98.

A comparison of Northwest's incremental revenues and costs in the DTW-PHL all-local-passenger market shows that incremental revenues fell short of incremental costs during the July to mid-August 1996 period when Northwest offered the \$49 ticket. Also, the incremental revenues from Northwest's \$69 ticket during mid-August through September 1996 period were less than incremental costs of \$60.17 in September 1996. In DTW-BOS, Northwest's incremental revenues fell short of incremental costs in every month from April to August 1996.

Spirit made a similar revenue-cost comparison for the price-sensitive local passenger markets. Because Northwest's business records did not distinguish price-sensitive from price-insensitive passengers (or even business versus leisure travelers), Spirit had to devise a method to identify price-sensitive passengers on the two routes so that the fares that they paid could be calculated. The bimodal fare distributions that are shown in Figures 16-3 and 16-4 enabled a plausible allocation of passengers to the price-sensitive and price-insensitive passenger categories for the pre-entry period in both markets. Spirit identified the number of non-price-sensitive passengers in the pre-entry period based on Northwest's bimodal fare structure in that period and extrapolated that number to the alleged predatory period, making an adjustment because demand elasticity would draw more non-price-sensitive passengers into the markets in response to Northwest's low fares. To identify the low fares that were paid by price-sensitive passengers, Spirit removed the high fares that were paid by the remaining passengers.

Northwest's average net revenue per passenger, after adjustments for commissions paid to travel agents, is shown in Table 16-1. These revenues were \$50.35 in the DTW-PHL market during July to September 1996 and \$64.82 in the DTW-BOS market during April to September 1996. Comparing these revenues with Northwest's incremental costs shows that revenues were below incremental costs in both markets during the periods of alleged predatory pricing. Spirit contended that the revenue versus cost comparisons in Table 16-1 established that Northwest's pricing and capacity expansion decisions were non-remunerative in the short run and that this meant that Northwest's conduct in both markets was predatory.

#### Northwest's Analysis of Revenues and Costs

The major difference between Spirit's and Northwest's analyses stemmed from different perspectives on market definition. Northwest did not exclude *connecting* passengers from the relevant product markets, as Spirit did. Nor did Northwest exclude those local passengers that Spirit designated as price-insensitive. Adopting all-passenger market definitions prompted Northwest

to include "behind and beyond contributions" of the connecting passengers on the revenue side of its analysis. These were the net revenues that Northwest attributed to a given route because they were earned on other legs of connecting passengers' flights, not on the DTW-PHL and DTW-BOS legs. If connecting passengers were included in the product markets, along with their behind and beyond contribution to revenue, Northwest argued that it was no longer necessary to estimate average variable costs and compare them with revenue because Northwest's revenue, by this metric, exceeded its fully allocated costs in DTW-PHL and DTW-BOS in every month of the alleged predatory period.

In fact, including connecting passengers in the product markets *without* including their behind and beyond contribution meant that revenues exceeded fully allocated costs in every relevant month except May 1996 (in DTW-BOS). In addition, setting aside behind and beyond revenues, Northwest's remaining all-passenger revenues in both markets exceeded several incremental cost measures that Spirit relied on in its analysis.

For these reasons, Northwest concluded that its response to Spirit's entry on both routes was profitable in the short run—and therefore non-predatory.

#### Recoupment

A rational predator would not be willing to charge prices below its costs and incur losses to drive a rival from the market unless the firm expected this "investment" to pay sufficient returns during a hoped-for period of recoupment.<sup>42</sup> The recoupment test assesses the likelihood that the investment strategy that is implicit in a plaintiff's predatory pricing complaint would be remunerative for the defendant, based on the post-predation market conditions that the defendant might reasonably expect to prevail. In order to test for recoupment, one estimates the loss that the predator might expect from charging prices that are low enough and for long enough to force the rival out of the market. Then one must gauge whether the monopoly profit that the predator might expect to earn after the rival withdraws is large enough and lasts long enough for the predator to recoup this loss.

Spirit's analysis of Northwest's fares and costs indicated that Northwest's fares were not remunerative in the short run and were unprofitable in the long run unless they served to drive Spirit from those markets, as Spirit contended they did. Consequently, Spirit proceeded to the third and final step in the analysis that is prescribed by *Brooke Group*: the recoupment test. Because Northwest's analysis of revenues and costs indicated that the carrier had no loss to recoup, Northwest did not offer a recoupment analysis;

<sup>42</sup> This perspective is more fully explained and illustrated using data from several prominent anti-trust cases in Elzinga and Mills (1989).

Northwest contended that this step was not necessary to discredit Spirit's predatory claims in that Northwest's revenue-cost analysis had already discredited them.

A recoupment analysis should take into account all of the alleged predator's prospective benefits and costs from an episode of predatory pricing—whether they occur inside the relevant product market or not. Spirit's implementation of the recoupment test considered only the all-local-passenger product markets in DTW-PHL and DTW-BOS. It did not offer a separate recoupment analysis for the price-sensitive local passenger markets. The reason for this omission was because the main benefits and costs of Northwest's pricing strategy would occur within the all-local-passenger markets, as Spirit defined them. Applying the recoupment test only to the price-sensitive local passenger market would be improper because it would disregard those financial implications of Northwest's alleged predation that were outside the price-sensitive markets.

To implement the recoupment test for DTW-PHL and DTW-BOS, Spirit assumed that Northwest, as a rational economic actor, would compare its anticipated loss during predation with its anticipated gain during subsequent recoupment. To make this comparison, Spirit had to estimate what Northwest's fares might have been were it not for Northwest's alleged predatory pricing. Spirit used two approaches to estimate these otherwise prevailing fares: One (cost-based) approach estimated those fares with the use of Northwest's fully allocated cost of service in the markets in question, and imputed the same relationship between Northwest's contemporaneous fares and costs in all other DTW-based markets where conditions were similar and where there was no allegation of predation. To estimate the number of passengers that Northwest would have flown under the otherwise prevailing fares, Spirit extrapolated from actual passenger loads and fares with the use of a range of plausible values for the price elasticity of demand for the service.

The other (comparable market) approach that Spirit used exploited the fact that Northwest and Spirit competed with each other on flights between DTW and New York's LaGuardia Airport (LGA). This methodology projected Spirit's fares in the DTW-PHL and DTW-BOS markets based on Spirit's fares in DTW-PHL during the last three months before Spirit added a second flight (which precipitated Northwest's alleged predatory response). Northwest's otherwise prevailing fares in the markets in question were then estimated by imputing the same relationship between the two airlines' fares as observed on the DTW-LGA route during the same time period.<sup>43</sup> Spirit used these estimates of Northwest's (actual and hypothetical) fares and passenger loads to calculate the month-to-month loss and gain that Northwest might anticipate from predatory pricing. An annual

<sup>43</sup> Corresponding estimates of the number of passengers that Northwest would have flown under these fares were constructed in the same way as before.

**TABLE 16-2**  
**Northwest's Months to Recoupment in DTW-BOS (months)**

Basis for Estimating Otherwise Prevailing Fares	DTW-BOS	DTW-PHL
<b>Cost Based</b>		
Anticipated 2 Months Predation*	n.a.	1
Anticipated 4 Months Predation*	3	2
Anticipated 6 Months Predation*	4	n.a.
<b>Comparable Market Based</b>		
Anticipated 2 Months Predation*	n.a.	3
Anticipated 4 Months Predation*	6	5
Anticipated 6 Months Predation*	9	n.a.

\*These estimates assume that the price elasticity of demand for service in DTW-BOS and DTW-PHL is  $-0.65$ .

Sources: Northwest Airlines, Spirit Airlines, DB1A data.

discount rate of 15 percent was used to put these gains and losses on a comparable basis.<sup>44</sup>

On the assumption that the price elasticity of demand for service in these markets is  $-0.65$ , Table 16-2 indicates how many months of recoupment Northwest would have required in order to break even on its investment in predatory episodes of two-to-four months in the DTW-PHL market and four-to-six months in the DTW-BOS market.<sup>45</sup> This period of anticipated predatory pricing reported in the table brackets the number of months that actually passed between the onset of Northwest's low prices and Spirit's exit: three months in DTW-PHL, and (almost) five months in DTW-BOS.

Based on these estimates, Spirit maintained that the entry (and reentry) barriers that were cited previously—especially the scarcity of gates at DTW, and Northwest's dominance of existing gates—meant that once Spirit withdrew from either market, Northwest would be unlikely to face another entrant within the time period that Northwest needed to recoup its predatory sacrifice. As a result, it was reasonable for Northwest to expect that a predatory pricing strategy would pay off.

<sup>44</sup> Ibbotson's Cost of Capital Quarterly information for the months of March, June, September, and December 1996 for the airline industry (SIC Code 4512) assigns a range of 11.68 to 12.90 percent for the industry composite weighted average cost of capital. Based on this, the use of 15 percent kept the analysis on the conservative side.

<sup>45</sup> Spirit used alternative estimates of the price elasticity of demand for service ranging from  $-0.3$  to  $-1.0$ . These values were taken from the testimony of a Northwest executive. See *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 924 (2005). Table 16-2 assumes that the price elasticity of demand is the mid-point of this range.

Spirit bolstered this conclusion by observing that no significant entry actually took place in DTW-BOS for many years after Spirit withdrew from the market. The only significant entry event in DTW-PHL in the years immediately after Spirit withdrew occurred when Pro Air introduced service between a secondary Detroit airport and PHL in May 1998. This happened 19 months after Spirit's withdrawal, which left ample time for Northwest to recoup its investment in predatory pricing before Pro Air challenged Northwest's dominance in that market.

Northwest disputed Spirit's assessment of entry (and reentry) barriers that purportedly facilitated recoupment on the two routes. Citing the Pro Air experience and Spirit's continuing operations to other cities out of DTW, Northwest claimed that entry conditions in DTW-PHL and DTW-BOS would not provide the shelter that was necessary for Northwest to recoup predatory losses. Northwest also contended that competition from US Airways would prevent it from recouping alleged predatory losses in the DTW-PHL market.

Northwest cited two reasons why it might reasonably have expected Spirit to remain in the DTW-PHL and DTW-BOS markets—notwithstanding Northwest's low prices: First, Northwest might have assumed that—having entered the two markets with low fares—Spirit would remain in those markets and charge the same low fares. Second, Northwest might have assumed that Spirit would remain in the two markets even if Spirit believed Northwest's fares were below costs, because Spirit would anticipate that Northwest eventually would raise fares to remunerative levels if Spirit remained.

## CONCLUSION

Ever since the Supreme Court's opinions in *Matsushita* (1986) and *Brooke Group* (1993), plaintiffs have had difficulty proving predatory pricing. The *American Airlines* case underscored that this difficulty extended to the airline industry. In *Spirit v. Northwest*, the district court's initial opinion was in the *Matsushita* and *Brooke Group* grain: Northwest won on summary judgment.<sup>46</sup> However, the 6<sup>th</sup> Circuit Court of Appeals found that a reasonable trier of fact could find Spirit's analysis of Northwest's conduct credible and remanded the case to the district court for a full trial.<sup>47</sup>

Unlike *Matsushita* and *Brooke Group*, the facts in *Spirit v. Northwest* featured the exit of a viable competitor and the subsequent increase in prices. Antitrust should not deter efficient entrants from displacing less efficient incumbents (*Matsushita*), or of incumbents that introduce new

<sup>46</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 2003 WL 24197742 (E.D.Mich.), 2005-2 Trade Cases ¶ 75,002 (March 31, 2003).

<sup>47</sup> *Spirit Airlines, Inc. v. Northwest Airlines, Inc.*, 431 F.3d 917, 924 (6<sup>th</sup> Cir. 2005).

products to compete with those pioneered by a rival (*Brooke Group*). *Spirit v. Northwest* sought to decide the question of whether antitrust should stand in the way of an incumbent airline's losing money by dropping its fares to match or undercut a low-fare entrant and flooding the market with capacity to reduce the entrant's load factors to unsustainable levels.

Because airlines typically operate in many markets and because they can redeploy planes and personnel from one market to another, predatory pricing cases in the airlines industry are complicated. Mastering the subtleties of market definition, price-cost analysis, and recoupment requires careful economic analysis. In reference to *Spirit v. Northwest*, Kahn (2006, p. 174) wrote: "One can only hope that the jury to which the Circuit Court has consigned the case will be presented with the question in plain English of which side represented preservation of the competitive process." But Kahn's hope would not be met.

Werden (2003) concluded that the much-watched predatory pricing trial in *American Airlines* ended with a "whimper."<sup>48</sup> Notwithstanding the economic analysis that was developed in the case, *Spirit v. Northwest* also ended with a whimper—but for a different reason: In 2005, the same year in which Spirit Airlines was successful before the Circuit Court of Appeals, Northwest Airlines filed for bankruptcy. Northwest was not the only major carrier to do so. During this period, Delta, United, and US Airways also were "flying bankrupt."

During the pendency of its lawsuit with Northwest, Spirit was recapitalized under new ownership and implemented a change in its business model. Seeking injunctive relief that would have prohibited Northwest from engaging in predatory pricing was no longer critical to Spirit's viability. To press its claims for treble damages based on Northwest's past pricing conduct was problematic because Spirit would have to vie with other creditors for recovery in the bankruptcy proceeding. For these reasons, Spirit elected not to pursue further action against Northwest.

In 2008, Northwest merged with Delta and thereby formed what is now the largest airline<sup>49</sup> in the world. But in the merger, the Northwest name disappeared. DTW, the focal point of the *Spirit Airlines* case, is now a Delta hub. Spirit—once driven from DTW-BOS and DTW-PHL by Northwest's pricing strategy—resumed service to these markets in 2015<sup>50</sup> and 2016.<sup>51</sup> The return of Spirit has again driven down prices but thus far without a

<sup>48</sup> See also Edlin and Farrell (2004).

<sup>49</sup> "World's Biggest Public Companies," *Forbes Magazine*, 2017, <https://www.forbes.com/global2000/list/#industry:Airline>, accessed September 13, 2017.

<sup>50</sup> "Spirit Airlines Adding More Flights from Boston," Spirit Airlines press release, Jan. 7, 2015, <http://ir.spirit.com/releasedetail.cfm?ReleaseID=890110>, accessed September 13, 2017.

<sup>51</sup> "Summer Savings Starts Now! Spirit Airlines Starts New and Seasonal Service," Spirit Airlines press release, April 14, 2016, <http://ir.spirit.com/releasedetail.cfm?ReleaseID=965162>, accessed September 13, 2017.

predatory response by the incumbent competition.<sup>52</sup> Spirit now competes in over 200 city-pair markets, with destinations in the Caribbean and Latin America, as well as offering service to many smaller destinations, such as Plattsburgh, NY, and Latrobe, PA.

Spirit bills itself as the "Ultra Low-Cost Carrier of the Americas" and is known for its low ticket prices and its edgy ads. Spirit also is known for the application of marginal cost pricing. The airline has incremental charges for checked luggage, for luggage placed in the overhead bins, for the printing of boarding passes by the agent, for all of the beverages that are served during a flight, and for aisle seats relative to middle seats.<sup>53</sup>

In airline passenger circles, Spirit is best known for providing no-frills service at low prices. But in antitrust circles, Spirit Airlines is best known as the plaintiff that won a victory (albeit a pyrrhic one) in a predatory pricing case against a once-dominant rival.

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<sup>52</sup> Maidenberg, Micah. "How Low-Cost Airlines Alter the Economics of Flying," *The New York Times*, Sep. 1, 2017, <https://www.nytimes.com/2017/09/01/business/budget-airlines-ticket-prices.html>, accessed September 13, 2017.

<sup>53</sup> As of this writing, Spirit has yet to charge for the restroom on its planes!

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## PART III

# Vertical, Network, and Related Market Issues