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Predation in Aviation: The North-American Divide*

David Gillen
Sauder School of Business
University of British Columbia
Vancouver, BC V6T 1Y8
Email: David.Gillen@Sauder.ubc.ca

and

Ashish Lall
Nanyang Business School
Room S3-B1A-28
Nanyang Technological University
Singapore 639798

Email: alall@ntu.edu.sg
Tel: +65.6790.4917
Fax: +65.6791.3561

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1. Introduction

The aviation industry continues to be in a state of upheaval as emerging business models are buffeted by external shocks. Largely, this has been due to factors such as the events of September 11, 2001 and the subsequent wars in Afghanistan and Iraq. Heightened security concerns and more recently, SARS have led to declining profitability. Changes in the industry landscape however, preceded these events. In the domestic United States prices of air travel have declined by more than 50% since deregulation in 1978. Low cost carriers continue to successfully challenge full-service incumbents even in Canada where a single carrier dominates domestic air travel. In both countries, the increased competition has been accompanied by allegations of predation and other exclusionary conduct by dominant network carriers. In the United States, the Department of Justice brought charges against American Airlines and in Canada; the Commissioner of Competition took Air Canada to task. The allegations were broadly similar, with both full-service carriers being accused of increasing capacity on routes where they faced entry from low cost competitors. Both governments alleged that the capacity additions were predatory because revenues from the incremental capacity did not cover associated costs. However, the outcomes were quite different, as were the tests for predation, their application and the underlying approaches of Courts in the United States and the Competition Tribunal in Canada.

The differences in the historical development of antitrust in the United States and Canada have perhaps been as stark as the differences in the market structure of their domestic aviation sectors. The Sherman Act was passed in 1890; one year after Canada's single provision (conspiracy) legislation, and remains the same to this day. Canada on the other hand, has always pursued a policy of continual amendment – adding offences and changing the law to suit economic circumstances. To its merit however, unlike the United States, Canada continues to have one federal antitrust statute – The Competition Act. The incremental approach and weaker enforcement have prevented the development of a body of law in many areas of antitrust in Canada. As a result, Canadian law is heavily influenced by American jurisprudence and until recently the predation doctrine was very similar in both countries. In the year 2000 the Canadian government amended the law yet again, to include aviation specific provisions in the Competition Act. These are based on a set of administrative rules which list aviation specific exclusionary practices; the tests to be applied; and how they should be applied. In addition, the amended statute provides the Commissioner

of Competition with sweeping powers to issue temporary cease and desist orders if there is suspicion of misconduct by the dominant domestic carrier. Two months after the amendments, the Commissioner exercised these powers against Air Canada.

In the United States the doctrine has not changed and was most recently enunciated by the Supreme Court in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*¹ The most recent application in an aviation context was the American Airlines case. This paper compares both the doctrine of predation and its application to aviation in the United States and Canada. There is now a major divide between the two countries on both counts. Section 2 summarizes what has come to be known as the “Brooke standard” in the United States. The Canadian approach and the recent aviation related amendments are discussed in section 3. Section 4 discusses the American Airlines case in the United States and section 5 is devoted to Phase I of the Air Canada inquiry. This is followed by concluding remarks.

2. The Brooke Standard in the United States

The predation doctrine in the United States is enunciated in the *Brooke* case, which provides an example of alleged predation in an oligopoly setting.² The case related to the cigarette industry in the United States, which was highly concentrated and profitable since the 1920s.³ Firms spent heavily on advertising and instruments of competition included product differentiation and brand proliferation.⁴ In the early 1980s the cigarette industry was facing an unfavourable market environment. Demand was declining partly due to health concerns but also because firms had excess capacity. Such situations are ideal for disruption of conscious parallelism in oligopolies as firms are tempted to play market share games. Brooke was on the verge of bankruptcy when it introduced a generic line of “black and white” cigarettes. The product brought price competition to the market and competitors

¹ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* 509 U.S. 209 (1993) (henceforth *Brooke*).

² One peculiarity of *Brooke* was that neither firm involved in the case was dominant. Brown & Williamson was the third largest firm with a market share of approximately 12% during the time frame relevant to the case. Brooke was the smallest of the six firms, with a market share of 2.3% in 1980 and 5.7% in 1984 (Table 10-1 in Burnett (1999) at 240). Predatory pricing complaints usually involve dominant firms and economic models of predation generally assume that the incumbent or predator is a monopolist.

³ According to Table 10-1 in Burnett (1999), the four-firm concentration ratio was 88.0 in 1980 and increased to 90.2 in 1988.

⁴ Scherer and Ross (1990) provide a brief history of the industry at 250-251.

responded in kind; introducing their own low-priced economy brands. A discount or rebate war ensued at the wholesale level and Brooke alleged that Brown & Williamson was offering to sell its generics below cost. In addition, it filed a suit under § 2(a) of the *Clayton Act* alleging that Brown & Williamson practiced illegal price discrimination between its full-priced branded product and low-priced generics.⁵ Brooke contended that the predatory pricing scheme was a means of coercing it to reduce the price gap between generic and branded cigarettes, which would facilitate the return to oligopoly pricing.

The Supreme Court ruled that regardless of whether a complaint of predation was brought under § 2 of the *Sherman Act* or § 13(a) of the *Robinson-Patman Act*, to establish injury, the plaintiff must first show that:⁶

... a rival's low prices ... are below an appropriate measure of its rival's costs.

The difference between the two statutes arises in the second element, which is recoupment. In this regard, the Court ruled:⁷

... we interpret § 2 of the Sherman Act to condemn predatory pricing when it poses "a dangerous probability of actual monopolization," ... whereas the Robinson-Patman Act requires only that there be "a reasonable possibility" of substantial injury to competition before its protections are triggered, ...

The Court did not deal with the issue of the appropriate cost test for predation because Brooke did not meet the second hurdle.⁸ It was unable to show that its competitor Brown & Williamson had a "reasonable prospect" of recouping its investment in predatory pricing. Citing *Matsushita* the Court observed:⁹

⁵ Sections 2(a) through 2(f) of the *Clayton Act* were amended as sections 13(a) through (f) of the *Robinson-Patman Act* 15 U.S.C.A.

⁶ *Brooke* at 222.

⁷ *Brooke* at 222. With respect to § 2 of the *Sherman Act*, the Court cited *Spectrum Sports* 506 U.S. 447 (1993). In *Spectrum Sports* (at 459) the Court required both, a dangerous probability of monopolization and specific intent to monopolize. Intent alone is insufficient to establish a dangerous probability of success (at 448).

⁸ However the Court ruled out above cost predation (*Brooke* at 222, n. 1 and 223).

⁹ *Brooke* at 224. *Matsushita Electric Industrial Co., Ltd., et al. v. Zenith Radio Corp. et al.*, 475 U.S. 574 (1986) (henceforth *Matsushita*). Elzinga (1999) provides a good discussion.

Recoupment is the ultimate objective of an unlawful predatory pricing scheme; it is a means by which a predator profits from predation. Without it ... consumer welfare is enhanced ...

In *Matsushita*, not only did the Court view predation as an investment, but also as an “inherently uncertain scheme” because the short run losses or costs of predation were certain, but the benefits in terms of future monopoly profits were uncertain. The Court required evidence of both, the ability to attain and maintain monopoly power to allow the predator to recoup losses and “harvest some additional gain”.¹⁰

In both *Brooke* and *Matsushita* the Court was not convinced that there was a possibility of recoupment; without which there can be no predation. In both cases, the predator was not a monopolist; in *Matsushita* the alleged vehicle for recoupment was explicit collusion or a price fixing conspiracy between major Japanese electronic goods producers. In *Brooke*, the supposed vehicle was tacit collusion, which in the opinion of the court was “the least likely” method of recouping losses from predation.¹¹

Brooke set a particularly high barrier for plaintiffs and the Court identified three essential elements for a conviction. Firstly, the plaintiff must show either a “dangerous probability” or a “reasonable prospect” of recoupment via subsequent monopolization.¹² Secondly, to prove that prices were below costs and lastly, that the predatory pricing scheme would likely injure competition in the relevant market. The *Brooke* standard conforms to the Chicago view of antitrust and critics such as Edlin (2002) contend that it represents a very narrow interpretation of the law. Nonetheless, the doctrine is clear.

3. Sector Specific Administrative Law in Canada

Unlike the United States, Canada has a single Federal antitrust statute. The *Competition Act* (henceforth the *Act*) has both criminal and civil provisions. Predatory pricing is mentioned explicitly as an “offence in relation to competition” under the criminal provisions of the *Act*, but a complaint may also be brought under the civil provisions as an exclusionary practice by

¹⁰ *Matsushita* at 589.

¹¹ *Brooke* at 227-228.

¹² The former applies to § 2 of the *Sherman Act* and the latter to § 13 (a) of the *Robinson-Patman Act*.

a dominant firm.¹³ Under the criminal provisions, the offence of predation is described as a “policy” of selling products at “unreasonably” low prices, leading to a substantial lessening of competition or the elimination of a competitor. Conviction may result in imprisonment of up to two years.¹⁴ Under the civil provisions, predation is listed as one of many exclusionary practices that may be used by a dominant firm. Here, predation is described as the selling of articles below acquisition cost for the purpose of disciplining or eliminating a competitor.¹⁵

The Commissioner of Competition used the civil provisions in *Nutrasweet*, which was the first case brought before the Competition Tribunal under the abuse of dominance provisions of the *Act*. In *Nutrasweet* the Tribunal ruled that this provision did not lend itself to manufacturing situations. Instead the Tribunal interpreted it as being applicable to distribution or where goods are purchased for the purpose of resale. The Tribunal did rule however that the term “anti-competitive act” in § 78 could be interpreted broadly enough to encompass other types of predatory conduct.¹⁶ Though the Commissioner did not present any evidence on costs, the Tribunal was of the view that the Areeda-Turner standard or comparing price with marginal cost would be appropriate in predation cases. Average variable cost would be an acceptable proxy for marginal cost if *Nutrasweet* were producing to the left of the minimum point of the average [total] cost curve. At the minimum point the appropriate proxy would be average [total] cost since this would equal marginal cost. Further, the Tribunal observed that showing recoupment was an essential element to support a claim of predation:¹⁷

Even if NSC was pricing below cost after 1988, it is highly unlikely that NSC would be able to recoup from Canadian consumers the foregone profits resulting from below-cost pricing.

In a more recent case, the Tribunal reiterated its earlier position:¹⁸

The essence of an allegation of predatory pricing is that the firm foregoes short-run revenues by cutting prices, driving out rivals and

¹³ No cases have been brought under the criminal provision of the *Act*. The most recent case *R v. Hoffman-La Roche Ltd. (Nos. 1&2)* 58 C.P.R. (2d) 1; 1981 was brought under the criminal provisions of the previous legislation, the *Combines Investigations Act*.

¹⁴ See § 50 (1) (c) of the *Act*.

¹⁵ See § 78 (1) (i) of the *Act*.

¹⁶ *Director of Investigation and Research v. The Nutrasweet Company*, CT-1989/002, 74-76.

¹⁷ *Nutrasweet* at 77.

¹⁸ See *Director of Investigation and Research v. Tele-Direct Inc.*, CT-94/3 at 290-291.

thus providing itself with the opportunity to recoup more than its short-term losses through higher profits earned in the longer term in the absence of competition. A predatory pricing allegation is difficult because, at least in the short-run, consumers apparently benefit from lower prices. In addition, predation can only succeed if the predator has greater staying power than its rivals and a reasonable prospect of recouping its losses. In order to distinguish competitive pricing action from predation, therefore, the "Areeda-Turner test" for predatory pricing was developed and has been adopted by the courts.

Until the year 2000, it was clear that Canada and the United States had very similar approaches to predation. In both countries, predation was interpreted as pricing below cost with an Areeda-Turner type test being generally acceptable to courts. Both jurisdictions accepted that the initial period of price-cutting was beneficial to consumers, and that recoupment through subsequent dominance or the exercise of market power was essential for successful predation. In late 1999/early 2000 Air Canada acquired Canadian Airlines International making the former a virtual monopoly in the domestic market. The Government amended the abuse of dominance provisions of the *Act* in August 2000 to include aviation specific provisions so as to dissuade Air Canada from using exclusionary conduct toward potential entrants.¹⁹ These were expected to be Canadian low cost carriers. The amendments allowed Government to make regulations that specify anti-competitive acts and conduct; and identify facilities that were considered essential to the provision of aviation services.²⁰ In addition, the amendments granted the Commissioner broad powers to issue temporary prohibition or cease and desist orders. This was because the government viewed capacity in the aviation industry as being very mobile. It could be deployed quickly to discipline or exclude competitors.

The regulations list a gamut of specific anti-competitive acts and tests, including operating or increasing capacity on routes at fares below "avoidable cost"; using a "second-brand" low cost carrier; commissions; incentives; loyalty programs and a reputation for predation as a means of disciplining competitors; or pre-empting and/or denying competitors access to essential facilities such as landing slots. The Government was anticipating entry by low cost carriers therefore the draft enforcement guidelines issued by the Competition Bureau refer to

¹⁹ § 78 (2) of the *Competition Act*.

²⁰ *Regulations Respecting Anti-Competitive Acts of Persons Operating a Domestic Service* SOR/2000-324, available at: <http://laws.justice.gc.ca/en/C-34/SOR-2000-324/74279.html>. Henceforth referred to as *Regulations*. These are very similar to the (now withdrawn) guidelines issued in the United States by the Department of Transportation in 1998.

a real or quality adjusted prices. They suggest that it may be considered anti-competitive for a full service carrier to match the prices of a low cost carrier. At identical nominal prices, a full service carrier offers higher quality either in terms of on-board service or through the availability of frequent flyer programs.²¹ Thus in order to compete effectively, the low cost carrier may be compelled to charge lower prices than the full service incumbent so as to compensate consumers for the lack of frills. The guidelines define the relevant geographic market as an origin-destination city-pair and indicate that the avoidable cost test would be applied to a flight, on a daily basis for a period of at least one month.²² Avoidable cost is defined as the cost that would have been avoided had the dominant firm chosen not to provide the service in question. For illustrative purposes, the guidelines defined four categories of costs. These include costs that are avoidable outright such as fuel costs and landing and navigation charges; costs that are avoidable through redeployment such as crew and flight costs; potentially avoidable costs which include primarily labour costs associated with maintenance, ticketing, baggage handling and reservations; and unavoidable costs such as general overhead, executive salaries and building expenses.

Canada now has a dual track approach to predation. The first track is based on statute and is similar to the approach in the United States, as it has always been – it applies to all sectors other than airlines. For the dominant airline there is another track – a very specific set of administrative rules which list a variety of anti-competitive acts including predatory pricing. They specify that the avoidable cost test must be applied to determine if the airline is in violation of the law. They also list the type of costs that would be included in the computation of the avoidable costs. The benefit, as many have argued, is transparency – at least the dominant airline knows what it is up against. The downside, as the discussion of the Air Canada case in section 5 shows, is that transparency alone is of no value. The questions are: Are the transparent rules the right set of rules? Do they allow competition authorities to distinguish legitimate business conduct, no matter how aggressive, from predation? And can competition authorities and expert economists apply the transparent rules correctly?

²¹ The February 2001 draft of the enforcement guidelines is available at: http://cb-bc.gc.ca/epic/internet/incb-bc.nsf/vwGeneratedInterE/h_ct02126e.html

²² The Bureau proposed using average daily revenues calculated over a one-month period on an available seat mile basis.

4. American Airlines

On May 13, 1999, the U.S. Department of Justice brought a complaint under the monopolization provisions of § 2 of the *Sherman Act* alleging that American Airlines (AA) engaged in predatory conduct from 1995 to 1997 and intended, by monopolizing or attempting to monopolize seven routes, to recoup the losses from below cost pricing. These routes were centered at AA's hub at Dallas-Fort Worth Airport (DFW), and linked DFW with airports in Kansas City, Wichita, Colorado Springs, Long Beach, Phoenix and Oakland. The alleged anticompetitive conduct was AA's response to attempted entry by various low cost carriers (LCCs) such as Vanguard, Western Pacific and Sunjet. AA responded to entry by reducing prices and increasing capacity. These changes were reversed when the low cost entrant either moved operations or left the market.²³ In addition, AA allegedly sought to develop a reputation for predation, which would help extend its monopoly power to forty other routes. Lastly, the effects of AA's conduct were allegedly "felt" on five other routes even though it did not engage in predatory behaviour or attempt to monopolize these routes. The action related primarily to the seven routes mentioned earlier, which District Judge Martens refers to as "core" routes because they were the focus of the government's case against AA:²⁴

The remaining routes are frequently treated ... as afterthoughts tacked onto the underlying claims involving LCC competition on the core routes.

In assessing the allegations of the government, the District Court made some general observations on the nature of the airline business. Major carriers made large and sunk investments in setting up hub and spoke operations which provided them with a number of advantages.²⁵ Hubs provide significant economies of scale, scope and density leading to a

²³ AA sought and was granted summary judgement by the U.S. District Court of Kansas, which was upheld by the Tenth Circuit U.S. Court of Appeals, No. 01-3202, July 3, 2003 (henceforth *AMR Appeal*).

²⁴ *United States of America vs. AMR Corporation, et al.* (henceforth *AMR*) at 92, n. 4. All page numbers cited here refer to the version of the Memorandum and Opinion (dated 24/07/2001) posted on website of the Antitrust Division of the U.S. Department of Justice: <http://www.usdoj.gov/atr/cases.html>. The correct citation for this case is 140 F. Supp.2d 1141 (D.Kan. 2001).

²⁵ The business strategy literature (Ghemawat (2001)) also considers investment in hubs as "commitment" or an investment in firm specific resources. Commitment is key to firm performance.

lower cost per passenger therefore potential entrants to hub routes typically expect to lose money during the initial periods of operation.²⁶ Dominating a hub has other benefits. Providing more “frequency and scope of service” allows the dominant carrier to obtain a “disproportionate” share of traffic and revenues. Concentrated hubs allow airlines to charge higher prices; otherwise known as hub premiums.²⁷ Market share at hubs and yields are correlated therefore AA’s price-variable cost margins were higher for flights originating at and departing from DFW compared to other flights in its system.

Low cost carriers were entering markets at many hubs and they brought lower fares because they had lower costs. For example, AA estimated Southwest’s costs to be about 30% lower than its own. In 1994 AA calculated ValueJet’s stage length adjusted cost per available seat mile (CASM) to be 4.32 cents compared to AA’s 8.54 cents. Competition from LCCs reduced yields and generally AA’s yields and revenues were higher on routes where it did not face any competition from LCCs. In determining its response to this serious competitive threat, AA conducted a variety of scenario planning exercises, conducted ramp counts at the gates of competitors and studied competitors’ balance sheets and break-even load factors.²⁸ Further, the court observed that LCCs did not follow generic strategies and selected their markets carefully. For example Vanguard stayed away from Southwest routes because they would have nothing to bring to markets where prices were already low. Instead, Vanguard entered AA’s routes. Others such as Access Air (based in Iowa) did not want to attract the attention of major carriers and so chose to serve large destinations which had not been turned into hubs. Access Air also ensured that its fares were above the variable costs of major carriers. Access Air observed the following rules:²⁹

... stay off of elephant paths ..., don’t eat the elephant’s food ..., and keep the elephants more worried about each other than they are about you ...

In addition to providing scale and scope advantages hubs provide a barrier to imitation due to physical/location uniqueness and long-term contracts for gates and slots.

²⁶ In *AMR* at 43, Judge Martens observed that losses accompany entry into any new route, including network expansion by incumbents. Plaintiff’s expert agreed that this was also true for established carriers.

²⁷ *AMR* at 5 and 11. Scale advantages at hubs reduce marginal costs while product differentiation advantages allow hub carriers to charge higher prices.

²⁸ The government interpreted these activities as proof of intent of exclusionary conduct, however the court characterized them as “generally monitoring competitors”.

²⁹ *AMR* at 73. Access Air appears to follow the precepts of judo strategy. Yoffie and Kwak (2001) advise small entrants not to “moon the giant”.

The court observed that price matching was routine in the airline industry and entrants expect incumbents to respond in this way:³⁰

It is uncontroverted that new entrant airlines with low fare strategies, including Vanguard, Western Pacific, Frontier, National and Jet Blue, expect existing competitors to match those fares. Officers of these airlines do not believe matching another carrier's fare is anti-competitive conduct, so long as pricing is not below cost. Further, an airline that does not match fares is likely to loose business to its low priced rivals.

AA had a typical pattern of responding to entry, which was to reduce prices and increase capacity. As a result, the entrant either reduced or discontinued service. For example, Vanguard started three daily non-stop flights on the DFW-Kansas City route in December 1994. AA had eight daily non-stop flights on the route and Delta had six. In early 1995 AA matched fares, though it had penalties for refunds and it added six new flights in mid-1995. Eventually Delta stopped serving the route and in December 1995 Vanguard discontinued direct service but continued two one-stop (via Wichita) flights. AA then reduced its flights to ten. During this one-year period Vanguard's share of traffic on the route varied between sixteen and twenty-seven percent. AA responded to Midway's entry on the DFW-Chicago (MDW) route in a similar manner. AA responded with inventory parity in May 1994 and matched prices in September 1995. Midway stopped serving the route in 1995 and by May 1995 AA had gained, at the expense of Delta and Southwest, more than the initial market share it lost to Midway.

AA responded to entry aggressively because in the mid-1990s it had observed ValuJet's success in establishing a hub operation in Atlanta. Over the two-year period 1994-96, ValuJet had forty-eight aircraft and was serving twenty-eight cities. This included the Atlanta hub, which had twenty-two spokes. AA attributed ValuJet's success to the lack of an aggressive pricing response from Delta. It estimated that Delta lost \$232 million in annual revenue due to the success of ValuJet. AA concluded that giving up part of the market to an entrant was not the appropriate response to entry. Instead, it sought to match prices even at the cost of lower profits in the short-term. The government used evidence such as notes taken by AA officials at internal meetings to show predatory intent or to buttress its claim

³⁰ *AMR* at 15.

that AA was developing a reputation for predation so as to exclude or deter rivals in other markets. The government sought to demonstrate sacrifice and recoupment; or that the loss in short-term profits was considered by AA as an investment, which would pay-off when the entrant left the market.³¹

Ms. Block recorded a statement made by American's then-CEO, Robert Crandall to the effect that: "If you are not going to get them out then no point to diminish profit."

The court accepted neither the predatory intent nor the reputation argument. It insisted that the standard had to be an objective one. To meet the *Brooke* standard the government had to show below cost pricing and a dangerous probability of recoupment. Recoupment based on a reputation for predation in other markets, and more generally, strategic entry deterrence arguments were also rejected as subjective, speculative, and providing no limiting principle.³²

The government's theory offers no principled basis for the court to distinguish between a general reputation for aggressive but lawful conduct on the one hand, and illegal predatory conduct.

More importantly, these arguments were at odds with *Brooke* which required objective evidence of recoupment in the relevant antitrust market, or "in market" recoupment. The government had stated in its allegations that each city-pair route was a separate market.³³ Thus complaints by "other competitors" in "other markets" were found to be too broad based and speculative because there was no way to distinguish "reputation" arguments from "vigorous competition". The court noted that the government's expert Professor Stiglitz had relied on "industry folklore" to infer that AA had a reputation for predation:³⁴

Professor Stiglitz has admitted that an airline can acquire a reputation for aggressive behaviour without engaging in predatory pricing, and that such a reputation for aggressiveness ... is "by definition" not anti-competitive.

The government used AA's four internal "decision measures" to make its case on objective grounds. These earnings measures were developed and used by AA for assessing flight and

³¹ *AMR* at 18.

³² *AMR* at 133.

³³ The government identified the relevant antitrust market as city-pair non-stop airline service.

³⁴ *AMR* at 131, n. 23.

route performance rather than for financial reporting purposes. FAUDNC and FAUDNS used fully allocated costs whereas VAUDNC and VAUDNS used variable costs.³⁵ FAUDNC and FAUDNS included between 97% and 99% of AA's costs. The other two earnings measures - VAUDNC and VAUDNS were based on costs that were variable over an eighteen-month planning horizon and accounted for about 72% of the total costs in AA's decision accounting system. FAUDNC and VAUDNC include net upline and downline revenues from connecting passengers – net of variable costs associated with those passengers as well as any incremental flight costs assigned to connecting passengers. FAUDNS and VAUDNS incorporate the impact of “spill” or that accommodating an additional passenger on an upline or downline flight may result in some other passenger being lost to a competitor. The government proposed its own measure VAUDNC-AC as a proxy for short-run average variable costs. This measure added aircraft ownership costs to VAUDNC and accounted for about 79% of AA's costs. The court observed that aircraft ownership costs were treated as fixed costs in the airline industry and should therefore not be included in the calculation of avoidable costs.

FAUDNC and FAUDNS, according to the government, were proxies for long run costs and included costs that were avoidable over an eighteen-month planning horizon. The court noted that none of the government experts had identified avoidable costs either in general or with respect to the core routes. The court interpreted these measures of route level performance as long-term break-even benchmarks, which had been negative on a persistent basis for several domestic routes. Further, AA had endured periods longer than 18 months when the system wide average FUADNC was negative. In June 1994, decision FAUDNC was negative for 55% of AA's routes. VUDNAC and VUADNS were interpreted by the court as measures of average avoidable costs of a route and were used to evaluate flight and

³⁵ FAUDNC (VAUDNC) refers to Fully allocated (Variable) earnings plus upline/downline contribution net of costs. FAUDNS (VAUDNS) refers to Fully allocated (Variable) earnings plus upline/downline contribution net of spill. Upline/downline contribution refers to beyond revenue net of incremental costs. Inclusion of upline/downline net contribution to profit recognizes hub complementarities. Despite the double counting in these measures, Edlin and Farrell (2002) suggest that this is a sensible way to do route level decision-making. As an example, consider a flight from point A to a hub (H) and a subsequent leg from H to point B. Some passengers on the A to H flight may take that flight because they want to travel between those two points; others may take the A to H flight because they can take the connecting flight from H to B. Passengers who travel from A to B via H would have taken an alternative carrier to travel from A to B if the A to H flight did not exist. Thus the A to H flight generates business on the H to B flight. Similarly, if the H to B flight were cancelled, this would affect business on the A to H flight.

route performance. The court observed that these could also be negative for a couple of months if an airline was entering a new route.

The government's experts suggested four tests for predation. The first asks: Did AA forgo better profit opportunities elsewhere on its system when it increased capacity on the core routes? In other words, do VAUDNC, VAUDNC-AC and FAUDNC decline as a result of the capacity changes on the route in question? If they do, then this would imply that the incremental cost of redeployment was higher than the incremental revenue which would provide a measure of sacrifice. The second test examines the level of FAUDNC on the route in question. If the effect of the redeployment was to make this measure negative then one could conclude that average revenue or price was below long run average variable cost. The third test looks for persistence of negative FAUDNC at the route level. In particular, the government's experts looked for instances where FAUDNC was negative for more than one year. Three percent of AA's domestic routes had negative FAUDNC for one year and 1.2% for eighteen months. This test essentially shows that the route violated AA's internal measure for its planning horizon of eighteen months, suggesting perhaps that AA should not add capacity to routes if doing so violates their own route-level decision making parameters. The fourth test is similar to the first, but government's experts attempted to directly calculate incremental costs and revenues of capacity additions on four of seven core markets using VAUDNC-AC and revenues from "incremental" passengers.³⁶

The court rejected tests one and four because they were not tests for predation but of failure to maximize short-run profits. Using such tests would prevent consumers from benefiting from price reductions and would also condemn capacity additions for which average revenues exceeded average variable costs. In addition, the court rejected the tests because they examined incremental capacity, which the court interpreted as representing a fraction of the relevant antitrust market. The second and third tests were rejected because they used a fully allocated cost measure - FAUDNC, which the court interpreted as being equivalent to applying an average total cost test, or, the wrong test. Fully allocated costs included costs of city ticket offices, some station expenses, sales and advertising costs, and flight simulator

³⁶ By evaluating short run costs and persistence, the government was in effect evaluating both the initial and the subsequent responses to entry. So long as the initial response covered avoidable cost at the route level, it would be allowed. However if the subsequent more aggressive response was less profitable than the initial response it may be deemed predatory. We thank Professor Donald G. McFetridge for pointing this out. See *AMR* at 71 for an example of AAs response to ValuJet.

expenses. These were allocated arbitrarily over the entire fleet and could not be avoided by not operating a particular flight or route. The court noted that the government had only provided evidence on four core routes and on these routes AA's price exceed all measures of variable cost: VAUDNC, VAUDNS and the government's proposed VAUDNC-AC. Thus there was no predation, and since the claims relating to other routes were dependent on a finding of predation on the core routes, they were also dismissed.³⁷ The court re-affirmed the Areeda-Turner rule as the appropriate test for predation:³⁸

Average variable cost, as a measure of predatory pricing, enjoys not only the weight of authority, it is also most congruent with the goal of the Sherman Act: prohibiting unfair competitive practices while simultaneously encouraging open, indeed vigorous price competition.

Two other issues deserve mention. The first relates to recoupment, which under *Brooke* requires evidence of a dangerous probability of recoupment via monopolization. The second is the role of price matching. The court examined "structure" at DFW to deal with the first issue. In other words, it sought to determine the extent of competition at DFW. The government painted a picture of dominance by AA. Both Delta and AA use DFW as a hub and in the early 1990's Delta attempted to increase its operations at DFW but was unable to, partly due to the aggressive response of AA. As a result Delta suffered operating losses over the period 1992-94 and downsized its operations at DFW. Over the period July 1993-96 Delta's share in terms of passengers boarded at DFW decreased from 28.4% to 19.2% whereas AAs share increased from 64.7 to 71.8%. In May 2000 AA's share of passengers boarded was 70.2% where as that of LCCs was 2.4%. The government noted that compared to other hubs, the share of LCCs was lower at DFW. For example, in the third quarter of 2000, LCCs had a market share of 15.8% in Denver and 16.8% in Atlanta.

The court rejected the government's view and indicated that in mid-2000 there were seven new entrant low cost carriers serving DFW and this hub had more low fare airlines than any other hub airport. LCCs served at least thirty-one of the top fifty destinations from DFW. Further, airport officials stated that they had successfully attracted foreign carriers, which had contributed to a decline in AA's market share. The airport facilitated entry of new carriers

³⁷ The court did not consider the remaining routes because the government did not provide any evidence on these. This suggests that a few routes cannot be used for illustrative purposes and that evidence is required for every market. See *AMR* at 105.

³⁸ *AMR* at 103.

through advertising support programs and access to common use gates. Even though LCCs had low shares, the growth in shares had been quite substantial - they had a twenty-five percent increase in passenger share over the one-year period May 1999 to May 2000. Over the decade 1990-99 there were a total of forty-four instances of entry at DFW – on average 4.7% of DFW routes were being entered per year. Based on such evidence the court concluded:³⁹

... there are no structural barriers to entry at DFW, which can accommodate any domestic carrier that seeks to establish or expand service. Not only do the uncontroverted facts fail to show any strategic barriers to entry by new entrant carriers, supra-competitive pricing on DFW routes is also disproven by the active presence of other strong competitors in the Dallas-Fort-Worth market.

On meeting the competition, the court indicated that the statutory defence available under the price discrimination provisions of § 13(b) the *Robinson-Patman Act* might be applicable in the case at hand. The court emphasized that AA had matched, rather than undercut, prices charged by entrants. Antitrust laws were designed to encourage this kind of activity.⁴⁰

Nor has the plaintiff identified any instances in which American undercut the published DFW-MCI fare of Vanguard with a published American fare during the relevant time periods. American's average fare throughout the period of Vanguard's DFW-MCI service was higher than Vanguard's average fare.

Judge Martens went so far as to quote Areeda and Hovenkamp who argue that the meeting competition defence would apply even if price matching were predatory, so long as the price matched that already being charged by the entrant and was maintained for the same or lesser duration. Further, the court viewed this defence as having particular application in the case at hand because the alleged predator's revenue exceeded its variable costs.⁴¹ Since price reductions stimulate demand; price matching "implicitly but necessarily requires the ability to increase sales capacity."⁴² The court did not agree with the government's argument that if quality differences between AA and competing low cost carriers were taken into account,

³⁹ *AMR* at 122.

⁴⁰ *AMR* at 24.

⁴¹ *AMR* at 116.

⁴² *AMR* at 119.

then allowing AA to charge the same dollar price as competitors would be allowing it to “effectively undercut” competitors. This:⁴³

... would require courts to engage in a series of subjective price comparisons based on intangible values.

The government appealed to the Tenth Circuit Court of Appeals.⁴⁴ The Appeals Court declined to rule on a definite cost measure, but noted that courts may need flexibility to examine various proxies to marginal cost and sole reliance on average variable costs may in some instances “obscure the nature of a particular predatory scheme”.⁴⁵ While conceding that the average variable cost measure was a good proxy in most cases, any alternative proxy that courts may consider “must be accurate and reliable in the specific circumstances of the case at bar.”⁴⁶ Tests two and three were rejected because they relied on FAUDNC, or fully allocated costs, which were not representative of either marginal or incremental costs. Test one was rejected because it treated forgone profits as costs. “Rather than determining whether the capacity itself was priced below an appropriate measure of cost” this test compared profits before and after capacity additions.⁴⁷ That is, it sought to determine if profits were lower after adding capacity. Test four compared the (directly computed) cost of incremental capacity with the incremental revenue.⁴⁸ The Court did not view this as test for short-run profit maximization; instead it found this to be the correct interpretation of Baumol’s avoidable costs test. The only costs that should belong in test four were those that could have been avoided by not adding capacity.⁴⁹ However this test was also rejected because it was not implemented correctly. As AA had argued, VAUDNC-AC included variable non-proportional common costs such as the costs of airport ticket agents, arrival agents, ramp workers and security. Arbitrarily allocated variable costs should not be included in avoidable costs. In this way, the Appeals Court rejected all four measures of cost and affirmed the judgement of the district court. Thus while there may still not be a single cost standard in predation cases, it is clear that average variable cost or average avoidable

⁴³ *AMR* at 119.

⁴⁴ *U.S. v. AMR Corporation et.al. United States Court of Appeals, Tenth Circuit, No.013202.* Henceforth *AMR Appeal*.

⁴⁵ *AMR Appeal* at 14.

⁴⁶ *AMR Appeal* at 14.

⁴⁷ *AMR Appeal* at 19.

⁴⁸ This is at odds with *AMR*, where the District Court rejected tests one and four emphasizing that they looked at incremental costs and revenues “only from the added capacity”. *AMR* at 109.

⁴⁹ *AMR Appeal* at 21.

cost, if computed correctly would be acceptable proxies for marginal cost; and avoidable costs do not include allocated or attributed costs. Opportunity cost tests, or those that include forgone profits as costs; tests for short run profit maximization or for higher profit would likely be rejected.

5. Air Canada

After 1999 Air Canada took over the failing Canadian Airlines International and became the dominant domestic carrier in Canada with a market share in excess of 80%. There were a few smaller airlines in the market such as Canada 2000, WestJet, CanJet and Royal Air. CanJet was a low cost carrier that commenced service in September 2000 on six routes in Eastern Canada. Ticket sales had started in end-July 2000 and even prior to commencement of service CanJet lowered its announced fares in response to competition from another low cost carrier - Royal Air. CanJet claimed that it would only have to make a few seats available at fares lower than its “announced fares” since Royal Air provided limited service and few seats at discounted prices on the two routes which CanJet also served. Thus a price war of sorts was in progress when Air Canada started offering its L14EASTS fare. L14EASTS matched CanJet’s announced fare but was between \$10 and \$60 higher than the latter’s discounted fare. Unlike CanJet’s fare, L14EASTS came with advance purchase, maximum stay and other restrictions and penalties. In response to a complaint by CanJet the Commissioner of Competition exercised the sweeping powers provided to him under the aviation specific amendments to the *Act* and issued a temporary order preventing Air Canada from offering its L14EASTS or any similar fare on five city-pair routes in Eastern Canada.⁵⁰

Air Canada applied to the Tribunal to have the order set aside, and in the event that it was not, to modify it to remove reference to “any similar fares”.⁵¹ The Tribunal agreed with Air Canada that the Commissioner’s order prevented it from competing with entrants for the duration of the order or until the Commissioner had assessed the conduct of Air Canada under the abuse of dominance provisions of the *Act*. Without the order, the risk was that

⁵⁰ The order was issued in October 2000. The routes were Halifax-Ottawa, Halifax-Montreal, Halifax-St. John’s, Toronto-Windsor and Ottawa-Windsor. A few weeks later the Commissioner extended the duration of his first prohibition order on the first three routes.

⁵¹ *Air Canada v. Commissioner of Competition*, 2000 Comp. Trib. 26. The Tribunal did order deletion of reference to “any similar fares” on grounds that it was imprecise and therefore unenforceable.

CanJet might not survive. The Tribunal noted that one of the objectives of the *Competition Act* was to ensure that small and medium-sized enterprises had an equitable opportunity to participate in the Canadian economy.⁵² The Tribunal also interpreted § 104.1 to imply that when issuing a temporary prohibition order, the Commissioner need not be certain that an anti-competitive act had taken place.

In March 2001, the Commissioner commenced a civil action against Air Canada under the abuse of dominant position provisions of the *Act* alleging that Air Canada had engaged in a policy of “fare matching” with low cost carriers without regard to its own profitability or to the “additional benefits associated” with its service offering and had operated and increased capacity that did not cover the avoidable costs of providing air services on eight domestic routes.⁵³ The Tribunal divided the inquiry in two phases. Phase I focussed on the application of the avoidable cost test in the context of the *Regulations* on two sample routes for the period April 1, 2000 to March 5, 2001. Failing the avoidable cost test however would not lead to the conclusion that Air Canada abused its dominant position. The remainder of the application, or the elements required under § 79 of the *Act* would be assessed in Phase II.⁵⁴

The Commissioner argued that failing the avoidable cost test would imply that Air Canada committed an anti-competitive act. The Tribunal noted that in previous jurisprudence and prior to the implementation of the *Regulations* the offences listed under §78 required an:⁵⁵

⁵² See § 1.1 of the *Act*.

⁵³ The routes were St. John’s (Nfld.)-Halifax, Montreal-Halifax, Ottawa-Halifax, Toronto-Moncton, Toronto-Fredericton, Toronto-St. John (NB), Toronto-Charlottetown and Hamilton-Moncton. In the statement of grounds and material facts (see Notice of Application to the Competition Tribunal (*Notice*) available at: <http://www.ct-tc.gc.ca/english/cases/ct-2001-002/air-canada.html>) the Commissioner lists barriers to entry at [79] and [80]. These include a ‘reputation for predation’ barrier, which is essentially an issue of perception rather than an objective one. In addition the list includes lack of traffic feed, business class lounges and frequent flyer programs. This is rather curious because all competitors listed by the Commissioner are low cost carriers of one form or another – these carriers choose to provide point-to-point service and no connections (even though the Commissioner identifies WestJet as a network carrier); no frills; and to target the price sensitive leisure segment. Further, the list includes the cost of purchasing aircraft and hiring cabin crew. Air Canada’s competitors are in the airline business by choice, and therefore it would make sense for them or anyone else seeking to enter this industry, to purchase aircraft and hire cabin crew.

⁵⁴ At the time of writing only the Reasons and Findings for Phase I were available: *Commissioner of Competition v. Air Canada*, 2003 Comp. Trib. 13. Henceforth, this case is referred to as *AC* and all citations in square parentheses indicate paragraph numbers.

⁵⁵ *AC* at [54] and [55].

... “object”, “design” or “intent” to engage in an exclusionary conduct that is having the effect of augmenting, entrenching or extending market power. The presence of such wording made relevant the concept of legitimate business justification ...

The *Regulations* however do not require the consideration of legitimate business justification for revenues below avoidable cost therefore such justifications could only be applied to the period before the regulations came into effect.⁵⁶ The Tribunal reserved the right to consider such justifications in the Phase II hearing. In aviation cases the Tribunal’s role is to evaluate the conduct of the dominant carrier in accordance with the *Regulations* and not necessarily with the other provisions of the *Act*, which would apply in non-aviation cases.

In his *Notice* the Commissioner identified the relevant geographic market as all domestic city-pair markets, and all affected routes in the Halifax, Moncton and Toronto areas.⁵⁷ The areas are catchment areas; so Toronto includes Hamilton, which is WestJet’s base of operations in the Toronto area.⁵⁸ The relevant product market was identified as “airline passenger service” being separate from other modes of transportation such as bus and rail.⁵⁹

The test as stated in the *Regulations* and as agreed to by all parties was Baumol’s avoidable cost test. This is a multi-product generalization of the Areeda-Turner test. The test was applied to a hypothetical unidirectional flight between two cities. Implicitly therefore, an air carrier was viewed as a multi-product firm where each unidirectional flight is a different product. Air Canada argued for the test to be applied at the route level, but the Commissioner contended that this might hide predatory conduct because a particular flight may not cover avoidable costs but the route as a whole may. The Tribunal’s interpretation of the test was as follows:⁶⁰

As discussed by Dr. Baumol, the multiproduct enterprise will rationally continue to produce a given product as long as the revenue from the sale exceeds the product’s avoidable costs. Since no enterprise will rationally set the price per unit of any of its products

⁵⁶ The application covers the period April 1, 2000 to March 5, 2001. The Tribunal noted that legitimate business justifications could be considered for the period April 1, 2000 to August 23, 2000. The latter being the date the Airline Regulations came into effect.

⁵⁷ *Notice* at [64].

⁵⁸ It is usual for low cost carriers such as WestJet to operate from secondary airports such as Hamilton.

⁵⁹ *Notice* at [51].

⁶⁰ *AC* at [80], emphasis added.

below their respective (average) avoidable costs in the pursuit of maximum short-term profits, deviations from rational pricing *may* be predatory.

The next issue before the Tribunal was the determination of avoidable costs. At a conceptual level all parties generally agreed that product specific fixed and variable costs were avoidable and common costs and sunk costs were not. The application of these principles was more controversial. The Tribunal adopted a broad interpretation of avoidable costs. One interpretation is that costs that do not have to be incurred when a flight is not operated are avoidable. The Tribunal called these costs “outright” avoidable, or avoidable through “outright shedding”. In addition it noted that costs could be avoided through redeployment, passenger recapture and via disposal of assets such as aircraft in secondary markets. Resources that are released by cancelling one flight can be used to offer new services elsewhere in the network – this is redeployment. Cancelling a flight does not imply that the airline loses all passengers that would have taken that flight; some of them may use other flights on the network and therefore be recaptured.

The cost items under consideration were those listed in Air Canada’s 328 Report. The report assesses flight profitability by comparing revenues with fully allocated costs. The operating cost items relate to activities and cost allocation or attribution is done using cost drivers. There was no dispute over seventeen cost items, which were classified as variable. All parties agreed that overhead costs were not avoidable. The twenty-six disputed items were grouped into the following five categories: system labour costs, station labour costs, aircraft labour costs, non-labour system and sunk costs, aircraft ownership and insurance costs. The Commissioner’s cost accounting expert Mr. Vettese referred to many of these costs as “step variable” which could not be shed outright. Step variable costs, as the name suggests, change in steps as output changes and not continuously. Thus if one baggage handler can service up to five flights, reducing the number of flights to four does not allow the firm to avoid the wage cost of the baggage handler. However the Tribunal treated these costs as avoidable via redeployment or passenger recapture. The Tribunal also clarified that step variable costs could not be treated as common costs. So for example, a pilot *simultaneously* services passengers and cargo and so the pilot’s remuneration is a common cost of providing passenger and cargo service. However a baggage handler performs tasks *sequentially*, handling baggage from one flight at a time. Suppose a baggage handler is paid on a daily basis and can handle five flights per day; this does not imply that the daily wage is a common

cost of servicing five flights. The fact that wages are paid on a daily basis is an administrative issue; all one has to do is calculate the wage on a per-flight basis. Since all costs that are not common can be avoided either through recapture, redeployment or disposal, the baggage handler's wage in this example would be considered avoidable. In this way, 90% of Air Canada's fully allocated operating costs for the hypothetical cancelled flight were classified as being avoidable. The Tribunal did not require the Commissioner to identify specific profitable redeployment opportunities or to provide evidence on the proportion of passengers recaptured even though it noted that the Commissioner's expert economist Dr. West "relied heavily" on recapture; indeed as discussed later, Dr. West assumed full recapture in his calculations.⁶¹ The Commissioner acknowledged that in practice it would be difficult to analyze the ability of Air Canada to avoid costs through redeployment. Fortunately, the Tribunal did not want to "burden" the Commissioner with the requirement to identify specific redeployment opportunities.⁶² Instead the Commissioner was only required to show that these opportunities were "generally and realistically" available. The Commissioner relied on press releases and media articles to show that Air Canada had started new services and also increased frequencies on many routes during the time period under consideration.⁶³ The Tribunal did not accept Air Canada's argument that it always tried to do better, so any profitable redeployment opportunities would already have been exploited.⁶⁴ Aircraft ownership costs are treated in a similar manner, that is, as being avoidable via redeployment or through other avenues such as resale or sublease. The Tribunal used Air Canada's annual report to infer that it had adjusted its fleet during the period under consideration by taking delivery of new aircraft and parking others either for potential sale or for return to lessors.⁶⁵

Next, the Tribunal had to determine when costs become avoidable and over what time period to apply the avoidable cost test. The Commissioner argued that "substantially all of Air Canada's costs except overhead are avoidable within three months" and that the avoidable

⁶¹ *AC* at [331].

⁶² See [189] in Commissioner's Final Argument (*Final*) available at: <http://www.ct-tc.gc.ca/english/cases/ct-2000-004/air-canada.html> and *AC* at [134].

⁶³ *Final* at [199].

⁶⁴ Air Canada also argued (*AC* at [128]) that since the Commissioner's expert found that 42% of its flights failed to cover their avoidable costs this implied that opportunities for recapture and profitable redeployment were generally not available.

⁶⁵ *AC* at [280]. A careful reading shows that Air Canada actually did not get rid of any aircraft during the period of predation even though thirty were taken out of service.

cost test should be conducted for a three-month period on each route at issue.⁶⁶ The Commissioner referred to three successive months so in fact, the calculations were done on a monthly basis for three months – costs that were identified as being avoidable in three months were also treated as avoidable in each of the three monthly calculations. It would seem however that in fact the Commissioner was arguing that all of Air Canada’s fully attributed operating costs with the exception of overhead become avoidable instantaneously – the moment a flight is cancelled. The Tribunal observes:⁶⁷

In the Tribunal’s understanding, Commissioner conducts the avoidable cost test ... regardless of when avoidability commences.

In the same paragraph the Tribunal quotes counsel for the Commissioner:⁶⁸

It didn’t strike me appropriate to say a cost is not avoidable, is not avoidable, is not avoidable and all of a sudden it is.

In other words, adjustment is instantaneous in the airline industry. The fact is, that the one-month period is based on Air Canada’s reporting system, or when information becomes available. The three-month period merely implies that within three to four months Air Canada should know that its revenues are below its fully allocated operating costs.⁶⁹ Air Canada argued for a one-year period and its expert economist Dr. Baumol suggested that the appropriate period is the period of the alleged predatory conduct. In addition, Air Canada argued that allowance should be made for seasonality so as not to confuse low demand with predatory conduct. The Commissioner’s riposte was that seasonality is predictable.⁷⁰ The Tribunal’s position was that that the *Regulations* “do not specify a time period for the anti-competitive act.” Thus the dominant carrier violates the *Regulations* “any time” it operates or increases capacity at prices that do not cover avoidable costs.⁷¹ The Tribunal did not rule on this issue suggesting that since the *Regulations* did not specify any time period, it was the

⁶⁶ AC at [168].

⁶⁷ AC at [174].

⁶⁸ AC at [174].

⁶⁹ AC at [172] indicates that the Commissioner’s two economic experts Drs. West and Tretheway thought that three months should be enough where as the Commissioner’s accounting expert Mr. Vettese said that this may take as much as four months.

⁷⁰ The Tribunal also noted at [194] that under the *Regulations* there was no exemption for operating below avoidable costs due to random factors.

⁷¹ AC at [186]

Commissioner's obligation to indicate the time period – it therefore accepted the Commissioner's position with regard to timing.

The last issue was whether beyond contribution should be given any recognition.⁷² Beyond contribution reflects the network nature of the airline business. Suppose a passenger travels from A to B and then from B to C. Part of the contribution of this passenger on the B to C flight is pro-rated to the A to B flight. This recognizes the fact that the A to B flight contributed to the B to C journey, or if the initial flight were cancelled then the passenger could not have connected to the subsequent leg. Air Canada wanted beyond contribution to be counted as revenue in the implementation of the avoidable costs test. The Commissioner argued that beyond contribution should not be given any recognition as it would imply double counting and overstate revenues thereby concealing possible predatory conduct. The Tribunal ruled that beyond contribution should not be given any recognition but observed that it did not have enough evidence on recapture and revenue displacement to determine what the beyond contribution would be and that the burden was on Air Canada to provide this information. It stated that this could be considered in Phase II under the legitimate business rationale for operating a flight below avoidable cost.⁷³

The test was applied to two of the eight routes identified in the Commissioner's complaint: Toronto-Moncton and Halifax-Montreal. Seventy-three flights were operated on the first route over the period April 2000 to February 2001. Forty-three of these flights had monthly revenues below avoidable costs. On the second route seventy-two of the one hundred and eleven monthly scheduled flights had revenues below avoidable costs over the period August 2000 to February 2001. Thus Air Canada failed the avoidable cost test, however whether this constitutes abuse of dominant position will be determined in Phase II.

Regardless of the eventual outcome, this case is likely to remain controversial for a variety of reasons. For example, there are many alternative plausible characterizations of the airline industry. Consumers do not buy flights and air carriers do not sell them. Consumers perceive a network or a full service carrier as selling three qualities of service, or types of output – these being economy, business and first class. Once an airline decides to offer

⁷² In the American Airlines case beyond contribution was referred to as upline and downline net revenues.

⁷³ AC at [301]

service in the form of a flight from point A to B there are very few costs it can avoid. Indeed most costs become fixed and common. Thus after this decision is made, all the airline can do is to maximize revenues or contribution to the costs of providing that flight. This is done through price discrimination using sophisticated yield or revenue management systems where seats within the same class of service may be sold to individual consumers at different prices. This is one way to characterize the airline industry – in other words, network carriers are multi-product firms offering a differentiated product and entry by low cost carriers affects primarily one segment, which is the low quality segment. The low cost carrier can then be thought of as a single product or specialized firm providing one low-quality class of service to price sensitive customers. Indeed this is the way low cost entry has occurred, not just in aviation but also in other industries such as steel. The (low cost) mini-mills entered the low-end market of vertically integrated steel producers in the United States and gradually moved up the quality ladder. The Commissioner's view that an airline is a multi-product firm producing unidirectional flights fails to recognize the network characteristics of the industry and the substantial scope and scale economies resulting from hub and spoke operations. It could be reasonably argued that the analysis should have been conducted either at the route level or even at the network level.⁷⁴

The Commissioner contended that “substantially all” or 90% of Air Canada's fully attributed operating costs with the exception of overhead were avoidable, and that Air Canada was able to avoid these costs the moment a flight was cancelled. Together these two observations point toward contestability or at least suggest that exit costs are very low. If this is the case then entrants cannot be hurt by predation.

The Commissioner's version of the avoidable costs test includes costs that are avoidable, or those that can be shed outright; and increased profits from (full) recapture and profitable redeployment. This is an opportunity costs test. Failing this test implies that the firm could have done better in the short-run but did not. Such behaviour is deemed “irrational” but the

⁷⁴ In the Commissioner's view “a route is a fiction; it is a mere “collection of flights” between two places”. See *Notice* at [75] and *Final* at [245].

goal of antitrust is not to impose economic notions of rationality on business.⁷⁵ As Elhauge (2003a) observes:⁷⁶

... it is vital ... to avoid using cost measures that effectively include forgone profits. Otherwise, one cannot keep predatory theories based on a failure to maximize short-run profits analytically distinct from theories based on pricing below costs.

As is discussed below, the opportunity cost test was applied incorrectly because the Commissioner's economics expert Dr. West, assumed full recapture. If recapture were minimal, cancelling a flight would lead to losses and not profits.⁷⁷ In closing arguments, counsel for Air Canada argued that it was contradictory to assume both full recapture and profitable redeployment.⁷⁸

The recapture theory assumes that Air Canada would lose no revenue if it cancelled a scheduled flight, which stands in direct contrast to the assumption that Air Canada can always generate incremental revenues by redeploying assets to routes with existing service. How can one simultaneously assume incremental revenues from increased service, but no revenue decline from service reduction?

McFetridge (2003) uses some simple numerical examples to show that opportunity costs could either exceed, or be less than inherently avoidable costs. In addition, opportunity costs could either exceed, be less than, or equal to fully allocated costs. What is crucial to these calculations is the extent of recapture and/or redeployment. One of McFetridge's examples is reproduced here for illustrative purposes. Suppose a flight can accommodate 50 passengers at a fare of \$100 per passenger. Variable costs are \$20 per passenger and flight specific fixed costs that are inherently avoidable are \$2000. The fully allocated cost of the flight is assumed to be \$6000. In this example, revenues (\$5000) are below fully allocated costs but exceed inherently avoidable costs (\$3000). If the flight is cancelled and all 50 passengers are recaptured, their contribution to revenue on other flights is \$5000 and their contribution to

⁷⁵ For example, failure to take advantage of better alternatives could also be due to managerial incompetence.

⁷⁶ Elhauge (2003a) at 694. In his original work on the avoidable cost test, Baumol (1996) indicates (at 68 and 69) that short run profit sacrifice may be viewed as predatory if it can be made up through future monopoly profits after exit of rivals.

⁷⁷ The Tribunal notes in *AC* at [136] "Dr. Baumol insists that redeployment be profitable, that opportunities be available, and that only the truly avoidable portion of a cost be included in the test."

⁷⁸ Air Canada's Phase I Closing Argument at 8 and 9, available at: <http://www.ct-tc.gc.ca/english/cases/ct-2000-004/air-canada.html>.

variable costs is \$1000. Thus with full recapture, their contribution to profit elsewhere in the network is \$4000. The opportunity cost of continuing to offer the initial flight is \$7000, which includes \$3000 in inherently avoidable costs and \$4000 in lost profits. This amount exceeds the fully allocated cost of \$6000 and cancelling the flight would increase profits by \$2000. The extent of recapture does not affect the inherently avoidable cost of \$3000 or the fully allocated cost of \$6000, but it does affect the opportunity cost because lower recapture results in lower additional profits and may be even losses. If only 20 of 50 passengers are recaptured, the additional contribution to profits on other flights due to recapture is \$1600 (revenues of \$2000 less additional variable costs of \$400) and the opportunity cost is now \$4600 (the additional profits due to recapture \$1600 added to the inherently avoidable cost of \$3000). The airline would lose \$400 by cancelling the flight.

This example shows that the extent to which opportunity costs exceed inherently avoidable costs depends on the extent of recapture and not on the fully allocated costs and there is no reason to expect fully allocated costs to equal opportunity costs as the Tribunal's decision implies. Though the Tribunal acknowledged that the extent of recapture could depend upon historical load factors and the number of flights offered by competing airlines, it nevertheless accepted calculations based on full recapture.⁷⁹

6. Conclusions

The American Airlines and Air Canada cases provide an interesting contrast in the application of each country's respective law reflecting their approach to controlling predatory behaviour. In both instances, full service carriers faced entry by low cost carriers and responded by increasing capacity and cutting prices. In the American Airlines case the Department of Justice (DOJ) constructed four measures of cost, three of which included beyond revenues. All tests were conducted at the route level. Two of the four measures were based on fully allocated costs, which included about 97% of total costs. These were put forward as proxies for long run costs. The court rejected fully allocated costs as being the correct proxy of variable or avoidable costs. The other two measures were based on costs that were variable over an eighteen-month period. They included about 74% of total costs and did not include aircraft ownership costs. One of these tests was rejected because it

⁷⁹ AC at [118], [331] and [333]. McFetridge (2003) also provides examples that include both recapture and redeployment.

included forgone profits. Thus the court rejected opportunity costs tests, tests for foregone profits and tests for short-run profit maximization. The fourth test compared the costs and revenues of incremental capacity and would probably be acceptable to the court as a correct interpretation of the avoidable cost test. It was rejected because it was implemented incorrectly and included arbitrarily allocated common variable costs.

The DOJ also set out to show with specific calculations that American recouped on the four routes where it attempted to show below-cost pricing. Professor Berry, the government's expert used two benchmarks. The first was American's FAUDNC margin on those routes prior to the period of alleged predation; this was argued to be representative of margins under legitimate competitive conditions. The second benchmark was American's FAUDNC margin on routes where it competed with Southwest Airlines; this was put forth as a good benchmark for competitive returns. Comparing American's actual margin to these benchmarks during and after the period of alleged predation the government's expert estimated predatory sacrifice and in-market recoupment respectively. The court rejected the government's claim on a number of grounds. Firstly, the estimates were based on FAUDNC margins calculated using fully allocated costs and not variable costs. Thus the court found the calculations to be invalid as a matter of law. Secondly, the government did not prove that American had monopoly power on the routes in question, thus ruling out the feasibility of supra-competitive pricing in the post-predation period. Lastly, even after years of supposed supra-competitive pricing, the calculations failed to show the recovery of losses incurred during the alleged period of predation. The court viewed the calculations as demonstrating that no substantial recoupment had occurred – there was instead a net sacrifice of \$30 million.

To summarize, in the United States the average variable cost test is generally acceptable but the avoidable cost test or a test based on incremental cost may also be acceptable if it is implemented correctly. The cost measure should not include attributed or common costs or count forgone profits as costs – in other words, an opportunity costs test will not do. Prices must be below the appropriate measure of cost. Failure to maximize profits does not constitute predatory sacrifice and neither does failure to take advantage of more profitable opportunities. It is essential to show a reasonable likelihood of recoupment through use of monopoly power after the entrant has left the market. The court also rejected reputation-based arguments for predation.

In Canada, the avoidable cost test is applicable to dominant airlines. The Tribunal accepted that 90% of Air Canada's fully allocated costs were avoidable and no recognition was given to beyond revenue. In addition, the Tribunal noted that the *Regulations* did not specify a time period for the anticompetitive act and neither did they provide any exemptions for random factors. In essence it accepted the Commissioner's argument that the time period over which cost become avoidable was irrelevant - either costs were avoidable or they were not and Air Canada would contravene the *Regulations* the moment revenues did not cover the avoidable costs of a unidirectional flight. The Commissioner and the Tribunal failed to acknowledge the network aspects of the airline business. The Commissioner's version of the avoidable cost test, which was accepted by the Tribunal, included costs that could be shed outright and increased profits from [full] recapture and profitable redeployment. This is an opportunity cost test and one that was applied incorrectly because it assumed full recapture. This test and its application will probably be the most controversial aspects of this decision.

In Canada, there are two standards –administrative law for aviation and statute for everyone else. Which is better – precise administrative law or vague statute? To borrow from an American legal scholar:⁸⁰

We may not be able to define precisely how many hairs one needs to lose before one turns bald, but we all understand the general concept of baldness and what moves you closer or further from that state. Vague standards might be uncertain around the edges as applied to tough facts, but at least offer genuinely guiding normative principles.

The Canadian situation is curious. Foreign carriers are not allowed to enter domestic Canadian routes. The collapse of Canadian Airlines and its subsequent merger with Air Canada made Air Canada a virtual monopoly in the domestic market. During the merger, the Commissioner sought some undertakings from Air Canada to alleviate the anti-competitive effects of the merger, but there were others as noted by the Tribunal; such as the inability to lay off employees until March 2002; to continue to serve small communities that had been served prior to the merger, until January 2003; and the requirement that any aircraft that Air Canada wished to sell would have to be offered to Canadian carriers first.⁸¹ Air Canada filed for bankruptcy in April 2003. Would it not make more sense to apply notions of economic efficiency and market based tests of profit maximization to firms that are allowed to operate

⁸⁰ Elhauge (2003b) at 1.

⁸¹ AC at [15].

on market principles in the first place? Is this about antitrust or about the misuse of antitrust to rectify structural problems in Canadian aviation?

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