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Driven Away: Why More Canadians are Choosing Cross Border Airports



Driven Away: Why More Canadians are Choosing Cross Border Airports
by *Vijay Gill*

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Preface

Canadians love cross-border shopping. Increasingly, they are adding air fares to the list of goods and services that they are regularly purchasing from the United States. A wide variety of factors are contributing to this phenomenon, including a range of fees and taxes as well as air carrier cost structures. This report examines many of these factors, along with their consequences, and offers some policy recommendations.

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The Conference Board of Canada alone is responsible for the methodology, scope, and findings of this report, including any errors and omissions.

EXECUTIVE SUMMARY

Driven Away: Why More Canadians are Choosing Cross Border Airports

At a Glance

- ◆ Each year, roughly five million Canadians cross the United States border on land in order to fly from U.S. airports.
- ◆ Cross-border air fare shopping is being driven by a “perfect storm” of many different factors, including wages, productivity, fuel prices and taxes, asset prices, and airport and navigation fees. Together, these are providing a 30 per cent cost advantage to U.S. carriers.
- ◆ Changes in Canadian policies could bring 2 million or more passengers per year back to Canadian airports.
- ◆ As national and international hubs, large Canadian airports rely on traffic density in order to achieve the benefits of network economies. Lost traffic means both higher travel costs and reduced connectivity for all Canadians.

Canadians have long complained about the prices of goods and services being lower south of the border. In response to this, many Canadians cross the border regularly for the purpose of seeking out lower-priced goods, such as clothing, electronics, food, or even gasoline.

More recently, there has been increasing interest in “cross-border air fare shopping,” where Canadians travel by car or bus to a nearby U.S. airport in order to fly to another destination. These are often leisure passengers travelling as families or groups, which are able to realize savings on multiple air fares. Through a collaborative effort with its Canadian airport members, the Canadian Airports Council has estimated that more than five million Canadians are flying from cross-border airports each year.

The relatively high air fares in Canada are often blamed on fees and taxes levied by the federal (and to a lesser extent) provincial governments. Those fees and taxes are certainly a large and significant contributing factor. However, other factors are also at play, such as air carrier productivity levels and U.S. aviation policies and fees.

This report attempts to quantify the key contributing factors to the air fare differentials while providing a rough estimate of the number of Canadian passengers flying from U.S. airports, in lieu of Canadian airports (leaked rather than induced passengers). The analysis largely focuses on three Canadian airports: Vancouver International Airport (YVR), Toronto Pearson International Airport (YYZ), and Montréal-Trudeau International Airport (YUL), along with their cross-border competitors.

Our research finds that there is indeed a large gap when comparing these cross-border air fares with their Canadian equivalents. But no single factor can be identified as the overwhelming cause for this gap. Rather, a large number of relatively small factors all contribute to the gap, with the result being a loss in passengers for Canadian airports, along with their business revenues and related government tax receipts.

The analysis is based on an examination of the cost structures of the Canadian and U.S. air carriers that operate out of these airports. In particular, data from Air Canada, WestJet, Allegiant Air, AirTran Airways, JetBlue Airways, Southwest Airlines, and Spirit Air were compared. In addition, the fees charged by the relevant airports were considered in the analysis. Table 1 provides a summary of the overall Canadian and U.S. carrier cost differential (not including the additional taxes that are levied on top of the base fare).

Table 1
Summary of Canadian and U.S. Carrier Cost Differentials

	Contribution (per cent)	Notes
Labour compensation	10	This is not an across-the-board advantage for U.S. carriers.
Wage rate	5	Lower for the ultra low-cost carriers: Allegiant, AirTran, and Spirit.
Labour productivity	5	All U.S. carriers outperform in terms of available seat miles (ASMs) per employee.
Fuel costs	10	System-wide fuel costs are lower for U.S. carriers.
Fuel price	10	After-tax price is lower for U.S. carriers system-wide only, due primarily to lower fuel taxes. For given routes, it is only an advantage for those competing against routes originating in Ontario, due to the unfavourable fuel tax treatment in that province.
Fuel productivity	0	Southwest leads but Allegiant underperforms due to aging fleet. With Allegiant out of the picture, there is a slight U.S. advantage on average.
Aircraft/asset ownership	25	Leasing and depreciation costs are lower for U.S. carriers.
Aircraft/asset prices	15	Because utilization is only slightly higher, lower aircraft/asset ownership costs are more likely attributed to prices.
Utilization	10	Aircraft utilization is slightly better for U.S. carriers, though this alone underestimates the productivity advantage.
Other	50	Consists of any costs not included in the above factors.
Airport fees	25	Airport fees such as landing and terminal fees are generally significantly lower in U.S. airports. This is due in large part to the policies to which airports are subject in each country.
Navigational fees	15	The Federal Aviation Administration (FAA) partially funds navigational services through the air ticket tax, so does not show up in carrier costs, unlike fees charged by Nav Canada. In addition, Nav Canada is fully funded by fees while the FAA receives a subsidy.
Residual	10	Any other costs such as marketing, insurance, etc.
Total	100	Results in close to five cents per ASM, or 30 per cent cost advantage for U.S. carriers.

Source: The Conference Board of Canada.

When adding fees and taxes that apply to the base fare, we find that Canadian fees and taxes contribute to roughly 40 per cent of the total air fare difference in the markets that we examined. However, U.S. fees and taxes also play a significant role. Fees such as the U.S. Agriculture Fee, the U.S. Immigration Fee, and the U.S. Customs Fee apply only to transborder and international flights, meaning that Canadians avoid these fees when they drive across the border in order to take a domestic flight from a U.S. airport. A truly neutral policy would not discriminate between one flight or another in this way, given the fact that the U.S. domestic flight in this case still requires a border crossing by the Canadian passenger.

While Canadian fees and taxes contribute to about 40 per cent of the total air fare difference in the markets that we examined, U.S. fees and taxes also play a major role. In other words, no single factor dominates.

As is apparent from the table as well as the analysis of additional fees and taxes, no single factor dominates. This does not mean that tackling any single factor will have no effect. In fact, it is partly due to that attitude that the overall differential has been allowed to creep up and become a significant factor for Canadians to consider when choosing their origin airport. Although additional analysis and information on the specific local origins of these Canadian cross-border air fare shoppers would be required to be more specific estimates, we estimate that a reduction in the fare differential equivalent to the portion that is caused by Canadian policies would result in at least two million more passengers per year for Canadian airports. While a reduction of fees and taxes would reduce government receipts in the short term, much of this would be recaptured through direct and indirect tax revenues generated by the additional traffic originating in Canada.

In addition to cutting taxes and fees, Canadian governments could:

- ◆ **Alter the way in which taxes and fees are generated.** This includes revisiting the airport rent formula as well as the structure of the Air Travellers Security

Charge. For example, the federal government could shift airport rents from a rising marginal share of revenue to a flat share of revenue, or even a fixed fee.

- ◆ **Gain a better understanding of the base cost advantage of U.S. air carriers.** While some of the base cost advantage may be a function of a larger and denser market, some of the advantage can be attributed to the policy environment and bankruptcy legislation. The airline industry is by its nature a global one, and different rules for the domestic market hinder the ability of domestic carriers to compete with international carriers.
- ◆ **Pursue opportunities to harmonize the treatment of air passengers with U.S. authorities.** Much of the difference in after-tax fares stems from U.S. aviation policy. Canadian policy-makers should pursue all opportunities to minimize these disparities in the context of the Open Skies agreement and talks related to Canada–U.S. perimeter security.

Meanwhile, the Canadian aviation industry itself must show that it is serious about taking the issue where it has some control of its own. Some potential industry approaches include:

- ◆ **Turning per passenger charges into a pool of fees that carriers can spread more discriminately.** It is well established that air carriers practise yield management, the benefit of which has been higher load factors and higher overall efficiency. In fact, Canadian and U.S. air carriers are generally achieving load factors of 80 per cent or higher. Fewer empty seats mean lower costs for passengers. However, when fees are charged directly to the passenger, air carriers have no ability to vary these fees across their passengers.
- ◆ **Commit to passing through to passengers part of the benefit of any reduction of airport rents.** If Canadian airports believe that they are losing traffic in part due to the higher prices that they must charge to cover rent payments made to the Government of Canada, they could offer a direct cut in the airport improvement fee in exchange for an equivalent reduction of rents.

Lastly, while this report makes an attempt to estimate the number of leaked (rather than induced) passengers due to tax and fee disparities, we would need better first-hand knowledge of the characteristics of the Canadians

who are choosing cross-border airports. This might be done through a border intercept or other survey that determines specific local origins of those passengers as well as their reasons for route and destination choice.

In addition, more analysis should be conducted to determine the wider impacts of leaked traffic. When a Canadian airport loses a passenger to a cross-border

airport due to an unlevel playing field, this is not just a concern for that airport. YVR, YYZ, and YUL are all national and international hubs, providing connectivity within, to, and from all of Canada. As such, they depend on density to achieve and provide the benefits of network economies. Any lost traffic will result in poorer connectivity not just for their local catchment area, but for all of Canada.

CHAPTER 1

Introduction

Chapter Summary

- ◆ Canadians are accustomed to crossing the border into the United States in search of lower-priced goods.
- ◆ In recent years, more and more Canadians are crossing the border to fly from nearby U.S. airports, particularly those who live in or near the Vancouver, Toronto, and Montréal metropolitan areas.
- ◆ This report examines the factors behind this trend, explores the consequences, and offers policy recommendations.

Canadians love cross-border shopping. In 2011, over 28 million same-day trips to the U.S. were made by Canadians by automobile¹—many of these trips being made exclusively or partially for the purpose of buying retail goods at lower prices south of the border. The strong Canadian dollar—hovering around parity with the U.S. dollar since late 2007—has helped to lure even more shoppers across the border. The persistent gap in prices of retail goods between the two countries has even led the Minister of Finance to call for a Senate committee to look into the issue.²

In recent years, another kind of cross-border shopping has increased in popularity—cross-border air fare shopping. Canadians have been crossing the border to fly from U.S. airports (typically to other U.S. destinations) for many years. But recently, this trend appears to be gaining strength. This is occurring despite the fact that for most of these travellers, service to the same destination is available from a closer Canadian airport.

For example, residents of the Greater Vancouver Regional District (GVRD) can fly to a wide range of destinations from Vancouver International Airport (YVR), but many are choosing to fly from Seattle (SEA) or Bellingham (BLI) when travelling to southern U.S. locations such as Las Vegas (LAS) or Los Angeles (LAX). Torontonians frequently fly from Buffalo (BUF) and, more recently, Niagara Falls International Airport (IAG) to reach destinations such as Orlando and Las Vegas, despite higher frequencies and more direct flights often being available from Toronto Pearson International Airport (YYZ). And instead of flying from Montréal’s Pierre Elliot Trudeau International Airport (YUL), many are choosing to fly from Burlington (BTV) in Vermont or Plattsburgh (PBG) in New York.

Table 2 shows the growth in passenger traffic at these and select other airports over the past 10 years. Passenger growth in Canada has been stronger than in the U.S. over the past 5- and 10-year periods. The large border airports in Canada have not fared as well as the average

1 Statistics Canada, *CANSIM Table 427-0001*.

2 Huffingtonpost.ca, “Cross-Border Shopping.”

Table 2
Passenger Enplanements at Select Canadian and U.S. Airports, 2001–11

	2001 (number)	2006 (number)	2011 (number)	Growth since 2006 (per cent)	Growth since 2001 (per cent)
YVR	6,820,231	8,554,662	8,135,216	-4.9	19.3
YYZ	12,726,844	15,011,434	15,433,508	2.8	21.3
YUL	3,993,533	6,014,902	6,326,528	5.2	58.4
Total Canada	39,997,443	50,400,913	54,644,913	8.4	36.6
BUF	2,204,087	2,522,123	2,582,596	2.4	17.2
BTV	509,031	681,678	636,018	-6.7	24.9
PBG	n.a.	n.a.	139,698	n.a.	n.a.
IAG	n.a.	n.a.	98,982	n.a.	n.a.
BLI	93,643	135,129	515,402	281.4	450.4
SEA	13,184,630	14,703,928	15,971,676	8.6	21.1
DTW	15,819,584	17,483,468	15,716,865	-10.1	-0.6
Total U.S.	659,422,828	737,647,279	711,948,301	-3.5	8.0

n.a. = not available

Sources: Statistics Canada; Federal Aviation Administration; The Conference Board of Canada.

airports in Canada. However, the border airports in the U.S. have not outperformed the average U.S. airport across the board. In particular, Detroit (DTW) has lost traffic due in large part to particularly weak economic conditions there. And BUF and BTV may be feeling the impact of the recent growth of the newer “ultra low-cost” airports of IAG and PBG.

These cross-border airports—particularly the smaller ones—are very aware of the price differential and are targeting Canadian passengers directly as a result. For example, in order to make the extra travel time more palatable for Canadian travellers, some of these airports offer free parking with nearby overnight hotel stays (while others just offer free parking altogether).

The Canadian Airports Council (CAC) has estimated that over 4 million Canadians crossed the border by land in order to fly from U.S. airports in 2010. Preliminary estimates project the number to be over 5 million in 2011. Not all of these passengers would have flown from a Canadian airport if they did not have the opportunity to choose a U.S. airport. Many of them may not have flown at all if the higher-priced Canadian option was

the only option. However, this does indicate that there is an opportunity for Canadian airports and air carriers to capture significantly more traffic if they can reduce their prices.

Given the difference between Canadian and U.S. fares, there is an opportunity for Canadian airports and air carriers to attract more traffic if they reduce their prices.

During a recent stay in the U.S., the author of this report had an exchange with a hotel concierge that coincidentally highlights another impact of the fare differential. Upon noting the nationality of the author, the concierge remarked, “I haven’t been to Canada, but I would love to go. Especially now that it’s so cheap to fly there with Allegiant.”

Allegiant does not fly to Canada. But the carrier does serve Canada through its service to Bellingham (which is advertised as Bellingham/Vancouver). The CAC data do not even attempt to include an estimate of the number of U.S. residents who choose to visit Canada in this way.

This report zeros in on the reasons why U.S. border airports are increasingly becoming an alternative to Canadian airports. It explores some of the consequences as a result of the phenomenon and suggests some potential industry and policy responses. The level of Canadian taxes and fees has grabbed media and public attention and certainly contributes to the difference. There is no doubt that the myriad of aviation taxes and fees in Canada

contribute to a discrepancy in air fares. However, we explore some of the other factors, such as the impact of U.S. aviation policies and the cost structure of the competing U.S. airlines. Partly due to the fact that the story of Canadian aviation fees and taxes has been well told (and remains a very large contributing factor), this report places a larger emphasis on some of those other factors.

CHAPTER 2

Why Are Fares From the U.S. So Much Cheaper? An Analysis of Air Carrier Base Fares

Chapter Summary

- ◆ It is readily apparent that air fares are cheaper for many U.S. flights relative to Canadian flights originating from nearby airports.
- ◆ Fees and taxes contribute to this difference. However, base carrier costs in the U.S. are themselves lower.
- ◆ This chapter explores the base costs in particular and finds that a number of small factors add up to a significant difference in base carrier costs.

It is cheaper to fly in the United States. Anyone can easily test this hypothesis by comparing fares online. Identifying exactly how much cheaper it is to fly is a bit more difficult, as it would require a large sample of air fares and a selection of relevant city-pairs. But the fact that there is a significant gap in prices cannot be denied.

While this chapter provides some indication of the price gap based on selected data, the intent is not to pinpoint the precise difference in air fares. Rather, the chapter focuses on the reasons for the gap. It begins with an analysis of the difference in base fares, or the fare before various fees and taxes are applied. This is followed by a brief analysis of fees and taxes.

Base fares do not correspond exactly with air carrier costs, nor are base fares unaffected by fees and taxes. This is an important fact that may not always be obvious to the general public. For example, air carriers flying in Canada are charged directly by Nav Canada for navigational services. But when a traveller purchases an air fare, an air navigation fee will appear within the fees and taxes. In addition, the land rents that Canadian airports pay to the federal government are recovered in part through landing and terminal fees charged to air carriers. This provides an example of a government fee or tax effectively finding itself in the base fare.

The focus of this report is on leisure travellers, particularly those travelling with families to sunspot locations. However, it is likely that at least some business travellers are using the alternate airports, particularly independent business people who absorb their travel costs directly. For example, a number of carriers are offering very low fares from BUF and BTV to New York City airports (although New York City is both a business and leisure destination). We observed non-stop roundtrip fares from YYZ to LaGuardia (LGA) as low as \$395 (all in) and from YUL to LGA as low as \$450.¹ Meanwhile, non-stop roundtrip flights to LGA were observed to be as low as \$142 and \$122 from BUF and BTV, respectively, for the same dates.

¹ US Airways offered a lower fare (\$324) flight from YUL to LGA connecting through Philadelphia, in which case door-to-door trip time would exceed the trip time from BTV for most travellers from the Montréal area.

BASE FARES AND AIR CARRIER COSTS

Canadians can buy cheaper air fares at cross-border airports due in part to lower taxes and fees. However, the fare before taxes and fees (the base fare) itself is often significantly lower at cross-border airports. This fare does not correspond exactly with actual air carrier costs for reasons mentioned earlier, though it is still closely related. Using carrier-specific financial and operational data, we attempt to identify as much as possible how much and what specific carrier costs account for the overall U.S. fare advantage.

Although Canadians can buy cheaper air fares at cross-border airports because of lower taxes and fees, the fare itself before taxes and fees is often a lot lower.

A survey of fares to Las Vegas, Los Angeles, and San Francisco from both YYZ and BUF airports showed that the average base fare was 20 per cent higher from Toronto (\$318 vs. \$265). (See Table 3.) A similar comparison showed that base fares from YVR were 44 per cent higher than fares from its low-cost cross-border competitor BLI. And when comparing fares from YUL to those from the smaller cross-border airports in New York (PBG) and Vermont (BTV) for destinations such as New York City and Orlando, the base fare premium was 96 per cent higher (\$573 vs. \$292).^{2,3}

The large difference in base fares serves to illustrate the point that the overall fare differential is not just a story about the various fees and taxes that are charged on top of the base fares. To get a better handle on what contributes to the lower base fares of the cross-border airports, we compared the cost structure of some of the key airlines operating out of the Canadian and cross-border airports.

2 Based on data from the Canadian Airports Council. A summary of similar data for airports across Canada, as well as the estimate of leaked passengers, is available in Appendix B.

3 The fare observations were based on what was available approximately three weeks in advance of the flight. The results may differ if using a weighted average of all fares available, as not all seats are available at the discount fare on all flights (such as Tango fares on Air Canada). The fares do not include ancillary fees such as baggage fees.

Table 3

Average Fares From Canadian Airports and Their Cross-Border Competitors (\$)

	YVR	BLI	YYZ	BUF	YUL	BTV/PBG
Base	388	269	318	265	573	292
Fees and taxes	105	38	114	59	124	35
Total	493	307	432	324	697	327

Note: Comparison based on samples of lowest fares available to common U.S. destinations.

Source: Canadian Airports Council.

AIR CARRIER COST STRUCTURES

The cost structures of Air Canada, WestJet, Southwest Airlines, AirTran Airways, Allegiant Air, Spirit Air, and JetBlue Airways were compared.⁴ The latter five airlines are U.S. low-cost carriers, with Southwest being the largest of the entire group (including the Canadian carriers). Only Allegiant and Spirit are smaller (in terms of available seat miles) than WestJet, the smaller of the two Canadian carriers. These carriers were compared since they have significant operations out of the key airports under examination.

Although efforts were made to normalize the data for comparison purposes, no adjustment was made for the fact that Air Canada offers more business class seating that generates higher per-seat revenues as well as higher per-seat costs (due in part to the increased seat pitch and fewer available seats per flight as a result). In addition, Air Canada has a large international presence that the other carriers do not have, adding further difficulty for the purpose of making direct comparisons. While it is expected that the results remain largely illustrative for the purpose of identifying sources of base fare differences, the magnitude of the differentials could change with further normalization of the carrier data.

4 Air Canada and WestJet were used for the comparison as they are the two largest Canadian carriers. Charter carriers such as Air Transat may be disproportionately affected by the loss in leisure travellers. However, their data are more difficult to normalize for carrier-only operations due to their other tourism business and international travel. The five U.S. carriers were chosen as they provide service out of the U.S. cross-border airports, but many other carriers provide service out of these airports as well.

Table 4
Revenues and Available Seat Miles of Selected Air Carriers

	Passenger revenue (\$ millions)	Available seat miles (millions)
WestJet	2,507	19,535
Air Canada	9,427	63,496
Allegiant	638	6,040
AirTran	2,477	24,060
JetBlue	3,594	34,758
Southwest	11,489	98,558
Spirit	757	8,120

Note: US\$–C\$ exchange rate is assumed to be 1:1.
Sources: Air carrier annual reports; MIT Global Airline Industry Program.

Table 4 shows each of the carrier's passenger revenues and available seat miles (ASMs).⁵ We generally use ASMs as our unit of output here, rather than revenue passenger miles (RPMs). RPMs differ from ASMs in that they consider the load factor, or the extent to which the aircraft is filled with passengers. For the most part, the use of RPMs would not alter the results, as all of the carriers in question achieved load factors around 80 per cent in 2010 (meaning that their average flight was 80 per cent full). The sole exception is Allegiant, which managed a load factor close to 90 per cent.

For the most part, passenger revenues include what you would find “above the line” on a passenger ticket, plus ancillary fees such as baggage fees, seat assignment fees, etc. This places carriers that rely heavily on ancillary fees (such as Allegiant and Spirit) on an equal footing with other carriers that do not charge directly for these services.

As previously mentioned, it is worth noting that passenger revenues do not correspond directly with base fares for other reasons. For example, Nav Canada charges air carriers directly for its services. Carriers recover these costs roughly through a surcharge to passengers. The resulting impact is that both these costs and fees are included in the carriers' expenses and revenues in their

5 Imperial units are used in this analysis as they remain the industry standard.

income statements. On the other hand, the Federal Aviation Administration in the U.S. recovers some of the expenses it incurs for air navigation services through a ticket tax that is levied directly on passengers, meaning that neither the costs nor revenues appear on carrier income statements.⁶ And to complicate things further, transborder flights (flights originating in Canada or the U.S. and landing in the other) are subject to a mix of the two. The key result is that both revenues and costs for the two Canadian carriers are slightly higher as they appear here than they otherwise would be, if accorded the same treatment.

Dividing passenger revenues by ASM gives us the revenue per available seat mile (RASM), a standard industry performance measure. Both RASM and costs per ASM generally decline with an increase in flight length. This happens because the fixed costs associated with the flight are spread over a longer length (and as a result, more available seat miles). For example, regardless of the length of a flight, it only takes off and lands once (for non-stop flights) and a disproportionate amount of fuel is burned at take-off. To take this factor into account, we have included an adjusted RASM, which estimates what the RASM would be for each carrier if the system average stage length were equal among all carriers.⁷ Subsequent revenue and cost figures will be presented on a stage length-adjusted basis, unless otherwise indicated.

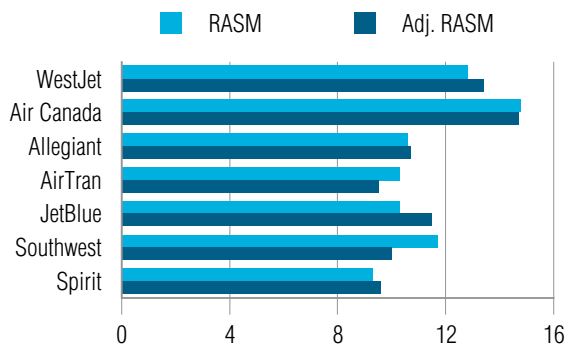
The results are expected. (See Chart 1.) On average, RASM for the U.S. carriers is almost 30 per cent lower than the Canadian carriers' RASM. While not directly comparable to the difference in average base fares charged, the results do give considerable support to the fact that U.S. base fares are on average lower.

We would expect U.S. carrier costs to be lower as well, allowing them to remain profitable while charging lower prices. Using the same data sources and methodology

6 Before the creation of Nav Canada in 1996, air navigation services in Canada were provided by Transport Canada. This service had been funded through a ticket tax, similar to the current U.S. treatment.

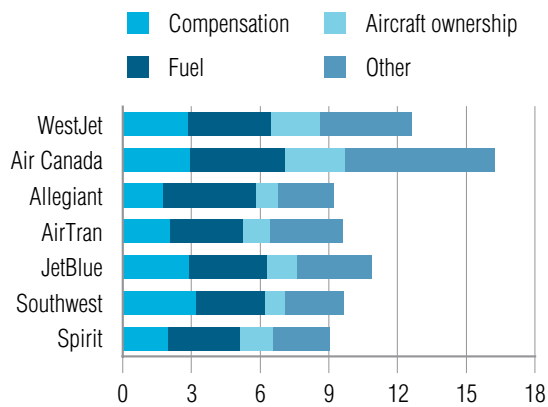
7 To adjust for stage length, we have assumed that both flight costs (for other indicators) and revenues increase at a rate equal to the square root of the increase in stage length. For example, a 10 per cent increase in stage length is expected to increase costs by $(1 + 0.1)^{0.5} - 1 = 0.0488$, or 4.88 per cent.

Chart 1
Revenue per Available Seat Mile, 2010
(cents)



RASM = revenue per available seat mile
Note: Adj. RASM is adjusted for stage length.
Sources: The Conference Board of Canada; MIT Global Airline Industry Program; air carrier annual reports.

Chart 2
Stage Length-Adjusted Costs per Available Seat Mile, 2010
(cents)



Note: Costs adjusted for stage length.
Sources: The Conference Board of Canada; MIT Global Airline Industry Program; air carrier annual reports.

as above, Chart 2 compares costs per available seat mile (CASM), broken down for major cost components. CASM is adjusted for differences in the length of haul.

On average, U.S. carrier costs are approximately 33 per cent lower than Canadian carriers costs, suggesting that the discrepancy in RASM is not due to a lower level of

carrier profitability in the United States.⁸ Rather, a number of factors contribute to costs being lower among the U.S. carriers. These include compensation, fuel, and aircraft ownership costs. These three factors contribute to half of the total CASM difference between U.S. and Canadian carriers.

COMPENSATION

While compensation per ASM is generally lower among U.S. carriers, it is not systematically so. In fact, compensation costs per ASM are slightly higher for Southwest than they are for both Air Canada and WestJet (although there is considerable reason to believe that Air Canada’s compensation costs are understated due to the difficulty in adequately measuring the value of its defined benefits pension plan).

Compensation per ASM is roughly one cent lower for Allegiant, AirTran, and Spirit than it is for Air Canada and WestJet. This is due primarily to lower compensation per employee, which is between \$66,000 and \$71,000 for those three U.S. carriers, in contrast to about \$81,000 per employee for Air Canada and WestJet. In addition, employee productivity in terms of total ASMs per employee is a contributor. For example, Allegiant managed over 3.8 million ASMs per employee in 2010 (the highest of the group), whereas Air Canada and WestJet managed roughly 2.8 million ASMs per employee.

Some of the productivity difference could be explained by a larger incidence of outsourcing among the U.S. carriers. However, if this were the case then we would observe an offsetting (to some extent) increase in other costs. Other policy factors could contribute as well. For example, Canadian carriers are required to staff one flight attendant for every 40 passengers on a given flight. U.S. carriers are required to staff one attendant for every 50 *available seats*.⁹ The extent to which one

8 There is a greater difference in the Canadian–U.S. CASM average than there is for RASM, in part because CASM includes total system costs, including air cargo costs. While it is possible to separate air cargo revenues, it is much more difficult to do so for costs, as a considerable portion of air cargo costs are joint with passenger costs because a considerable amount of cargo is carried on passenger flights. For this reason, CASM cannot simply be subtracted from RASM in order to arrive at a measure of profitability per available seat mile.

9 Transport Canada officials. Interviews by e-mail by Vijay Gill. August 1, 2012.

policy is more favourable (from the carriers' financial perspectives) will depend on flight-specific load factors. However, it is presumably easier for carriers to plan for staffing based on available seats rather than on the actual number of passengers.

FUEL

Fuel costs per ASM are also typically lower for U.S. carriers, with Allegiant being the exception. Whereas Allegiant's fuel costs per ASM are equal to Air Canada's at 4.1 cents, the rest of the U.S. carriers averaged less than 3.2 cents per ASM (3.6 cents per ASM for WestJet).

Allegiant's high fuel costs relative to its U.S. competitors is a result of its aging fleet, made up mostly of MD-80 aircraft. (See Table 5.) This is reflected in its low productivity of fuel of 58 ASMs per gallon, in contrast to the group leader Southwest (80 ASMs per gallon).¹⁰ The Canadian carriers are in line with the U.S. carriers in terms of fuel productivity, with WestJet trailing only Southwest (74 ASMs per gallon) and Air Canada being a bit further behind (64 ASMs per gallon).

Table 5
Average Fleet Age
(years)

Carrier	Age
WestJet	6.3
Air Canada	12.0
Allegiant	22.5
AirTran	9.0
JetBlue	6.5
Southwest	12.0
Spirit	4.4

Source: airfleets.net.

The fuel cost difference then can mainly be attributed to the price of fuel. Fuel expense per gallon averaged \$2.66 for Canadian carriers and \$2.30 for U.S. carriers. The price of fuel includes fuel taxes, which are higher in Canada than in the United States. The federal jet fuel tax in Canada is 4 cents per litre, or 15.2 cents per gallon, relative to 4.4 cents per gallon in the United States.¹¹ However, it must be noted that these taxes are typically levied only on domestic flights. As a result, this policy could in fact favour flying from a Canadian airport to a U.S. destination in some cases. The primary exception to this would be flights originating in Ontario, where the 2.7 cent per litre (10.2 cents per gallon) excise tax does apply to international flights.¹² Meanwhile, Quebec does not levy its jet fuel tax for international flights, and British Columbia announced the elimination of its jet fuel tax for international flights as of April 1, 2012.¹³

The net result is that while observed fuel costs are lower for U.S. carriers, when comparing the costs on specific routes, we would not expect a significant difference. An exception occurs when comparing flights from Ontario to a flight originating from a cross-border competitor. In that case, fuel costs for the carrier flying from Ontario will be higher, by nearly six cents per gallon, or about 2.5 per cent at current prices. In addition, the favourable domestic fuel taxes in the U.S. may indirectly help the U.S. carriers be more competitive overall, as they help to stimulate total traffic. It should also be noted that fuel tax receipts in Canada are returned to general government revenues, while those in the U.S. are reinvested in the aviation infrastructure.¹⁴

AIRCRAFT/ASSET OWNERSHIP

Aircraft/asset ownership (AO) costs include leasing, depreciation, and financing costs. For our purpose, the depreciation was based on booked value, rather than a

10 It is worth pointing out the significant impact of the stage length adjustment in this particular case. Southwest's length of haul is the lowest of the group at 648 miles. Prior to the adjustment, Southwest's ASM per gallon is 68, placing the carrier in the middle of the pack.

11 U.S. Internal Revenue Service, *Fuel Taxes*.

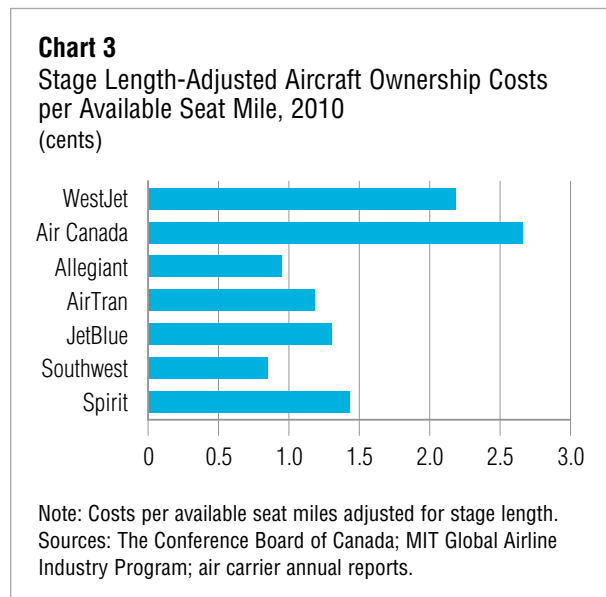
12 Lazar, *The Case for Eliminating*.

13 Morton, "Elimination of Jet Fuel Tax."

14 Intervistas, *The Role of Government Policy*, iii.

preferable but more difficult to measure replacement value. Financing costs (not including leasing costs), or the cost of capital, were assumed to be equivalent to depreciation. Leasing costs effectively represent the sum of depreciation and the cost of capital for leased aircraft, as these costs are absorbed by the lessor and passed on to the lessee through lease charges. While the primary assets of air carriers are aircraft, these figures also include other assets (such as building and other equipment).

Stage length-adjusted aircraft ownership costs are shown in Chart 3. On average, U.S. aircraft ownership costs are over one cent per ASM lower. As expected, Allegiant's AO costs are among the lowest, as older planes are considerably cheaper to buy and lease. However, Southwest (which operates a medium-aged fleet consisting of 737-700s and older 737-300/500s) actually has the lowest AO costs per ASM of the group, possibly due to being able to leverage the size of its aircraft in order to obtain better purchase terms.



Factors contributing to lower AO costs could include the productivity of capital (fleet utilization) as well as lease terms and prices paid for the aircraft. Aircraft utilization (hours per day) may be one proxy to use for the productivity of capital. In this case, WestJet (11.6 hours per day) compares favourably with the U.S. carriers. Jetblue leads all carriers (11.7 hours) and the other carriers are not far

behind, with the exception of Allegiant at 6.2 hours. Air Canada's average aircraft utilization was 9.8 hours, explaining part of the difference between it and WestJet.

With WestJet being near the top in terms of fleet utilization, productivity of capital appears to be perhaps only a slight advantage for U.S. carriers—though it is possible that utilization does not capture the capital productivity in entirety. For example, Allegiant does generate more ASMs per similar-sized aircraft due to a lower seat pitch on its aircraft. Meanwhile, Air Canada typically has fewer seats per plane due to the wider seat pitch available in its business class section. Another possible contributing factor is the impact of non-aircraft assets. As a result, the difference in the productivity of capital is likely underestimated when relying on utilization as the sole proxy. But the sheer difference between the Canadian and U.S. carriers suggests a U.S. advantage due to purchase price and lease terms.

The sheer difference between Canadian and U.S. carriers in terms of productivity of capital suggests a U.S. advantage due to purchase price and lease terms.

One advantageous factor that U.S. carriers have is that the U.S. is part of the Cape Town Convention. The Convention standardizes transactions involving aircraft (among other assets) and reduces credit or uncertainty. As a result, borrowers are subject to lower financing costs.¹⁵ While it is difficult to determine the precise cost savings as a result, they are expected to be significant given the prevalence of leasing in the industry.¹⁶

A significant factor for aircraft ownership costs is tax depreciation (the capital costs allowance). The above depreciation costs are based on carrier financial statements, which typically assume an aircraft's useful life

15 International Air Transport Association, *Special Report*.

16 Financial statements based on Generally Accepted Accounting Principles will often understate the actual portion of assets under lease, as long-term leases are generally required to be shown as purchased assets (along with the associated depreciation and interest costs).

to be between 20 and 25 years. For taxation purposes, legislated depreciation rates in the country of incorporation are used instead. The higher (faster) the rate of tax depreciation the better, as it allows the carriers to show higher expenses and lower income for the purpose of calculating its income tax liability.

In this case, the U.S. treatment is more favourable than the Canadian treatment. U.S. carriers are generally able to depreciate their aircraft over a period of seven years under the Modified Accelerated Cost Recovery System (MACRS).¹⁷ Meanwhile, Canadian carriers can depreciate their aircraft as a declining balance rate of 25 per cent per year,¹⁸ which leaves a residual balance of 16 per cent after seven years. The key point is that if the relative benefits of each tax depreciation regime were taken into account, they would serve to magnify the differences in the AO costs per ASM.

It is possible that the size of the U.S. market both in terms of demand and the number of carriers lends itself to being a more competitive and productive market.

Foreign ownership of airlines in Canada is limited to 25 per cent. The restriction may also contribute to higher capital costs. Other countries, including the U.S., have similar restrictions, but the size of the domestic capital market in the U.S. minimizes the impact of the restriction on equity costs.

The transition to International Financial Reporting Standards (IFRS) may also play a small role in explaining the observed cost differences between Canadian and U.S. carriers. For example, when reporting according to IFRS (as the Canadian carriers are doing), future major maintenance costs must be capitalized and recognized as a cost as the assets are used. However, this is offset to some extent by a reduction in current maintenance costs. According to analysis by Air Canada, the overall impact on reported costs is minimal.¹⁹

¹⁷ National Business Aviation Association, *Depreciation*.

¹⁸ Canadian Business Advisor, *Capital Cost Allowance*.

¹⁹ Air Canada, *International Financial Reporting Standards*.

It is also quite possible that the size of the U.S. market both in terms of demand and the number of carriers lends itself to being a more competitive and productive market. This could explain a part of the productivity gap that is observed between Canadian and U.S. carriers.

OTHER COSTS

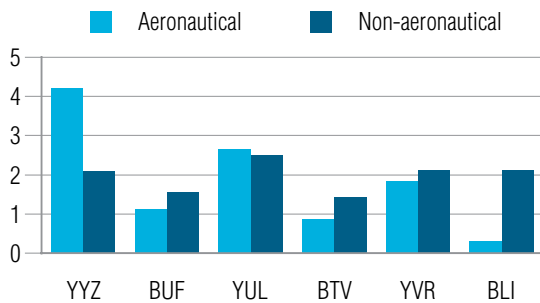
Other costs include items such as maintenance, marketing, sales, landing fees, terminal fees, and navigational charges (when charged directly to the carrier). These costs account for about 2.5 cents per ASM of the U.S. carrier cost advantage. Some of these costs, primarily landing and terminal fees, are airport-specific. This portion of carrier costs is therefore directly affected by the taxes and subsidies to which the airports are subjected. Maintenance costs are affected by the age of the fleet and the labour costs in the country where maintenance is carried out.

To estimate the impact that airport fees have on carrier base costs, we used financial data for selected Canadian airports and their cross-border competitors. Canadian airport data were retrieved from the respective airports' annual reports, while U.S. airport data were obtained from the Federal Aviation Administration's Compliance Activity Tracking System Database.

Note that the carrier costs are based on their system-wide operations, meaning that the portion attributed to aeronautical fees is effectively a weighted average of fees that they pay to the airports out of which they operate. To better understand the cross-border air traveller phenomena, we are more interested in the difference in costs absorbed by the carriers when they fly out of the selected airports.

Chart 4 shows aeronautical and non-aeronautical revenues per ASM, normalized to a stage length of 800 miles. Only aeronautical fees affect the carrier costs directly. This measure is used to approximate what a carrier would typically pay in aeronautical fees per ASM when operating a flight of that distance out of each airport. Aeronautical fees include landing, terminal, and other fees that the carriers pay to the airports for use of their facilities. Non-aeronautical revenues are shown in order to determine if there are significant differences in each airport's

Chart 4
Airport Revenues per Available Seat Mile, 2010
(cents)



Note: Normalized to a stage length of 800 miles.

Sources: Airport annual reports; Federal Aviation Administration; The Conference Board of Canada.

propensity to cover its costs through other means. These revenues mostly include concession and parking revenue.

On this basis, BUF has a three cent per ASM aeronautical fee advantage over YYZ, BTV has nearly a two cent advantage over YUL, and BLI is also close to two cents cheaper than YVR. This difference is not explained away by the non-aeronautical revenues, as the Canadian airports generate as much or more of those revenues.

Airport ground rents, non-exemption from municipal taxes, no access to tax-free bonds, and legacy costs have all helped to drive up airport costs in Canada.

Given that the above figures are based on overall revenues for each airport, the difference when comparing an actual flight may be larger. For example, YUL charges a significantly higher terminal charge per seat for trans-border flights (\$20.09) than it does for domestic flights (\$9.97).²⁰ Meanwhile, cross-border air fare shoppers are typically flying to another U.S. destination, meaning that they are subject to the domestic fee schedule from those airports (most of the cross-border U.S. airports considered here are served mainly by domestic flights anyway).

20 Aéroports de Montréal, 2012 *Aeronautical Fees*.

The observed differentials match up conveniently with the differences in “other costs” seen in the air carrier data. In other words, we can attribute at least a portion of the other cost differences to aeronautical fees paid by carriers in each country.²¹ Those fees, in turn, are driven by a number of factors affecting airport costs.

FACTORS CONTRIBUTING TO HIGHER AIRPORT COSTS

A report from Intervistas in 2008 provides a detailed analysis of government policies that contribute to the difference in aviation costs between Canada and the United States.²² Since then, some changes have been made, such as the repeal of the provincial fuel tax in British Columbia, the application of the U.S. Customs Fee to Canadian travellers, and an increase in the Air Traveller Security Fee in Canada. However, the factors affecting airport costs directly have changed little, if at all. The key factors found to be driving higher airport costs in Canada were:

- ◆ **Airport ground rent.** Canadian airports pay ground rents to the federal government, whereas U.S. airports do not, and in fact receive a subsidy through budgetary allocations to the Federal Aviation Administration Fund.
- ◆ **Payment in lieu of taxes.** Canadian airports make payments in lieu of municipal taxes, while U.S. airports are exempt from municipal taxes.
- ◆ **No access to tax-free bonds.** U.S. airports have access to tax-free bonds, which lowers their financing costs. The Canadian airports do not have an equivalent advantage.
- ◆ **Making up for deferred capital spending.** At the time of transfer to local airport authorities, capital spending at many of the Canadian airports had been long deferred. As a result, the local airport authorities were required to play “catch-up,” incurring additional capital costs that are now embedded in their cost structure.

21 While Canadian carriers pay fees to U.S. airports and vice versa, carriers’ system-wide costs will be more heavily influenced by their domestic airport fees, as all of their flights at least originate or terminate there. In addition, the U.S. carriers under examination have little or no activity outside of the United States.

22 Intervistas, *The Role of Government Policy*.

- ♦ **Higher safety standards.** Runways are required to be 150 feet wide in the U.S., while they are required to be 200 feet wide in Canada.
- ♦ **Burden of legacy costs.** This is particularly an issue for the Greater Toronto Airports Authority and Aéroports de Montréal. The former was required to purchase terminal assets while the latter was burdened with the costs of operating Mirabel Airport.
- ♦ **Customs inspections costs.** Canadian airports must provide space both for U.S. Customs for preclearance services and for Canadian inspection services.

The cost differences due to all of these factors are likely even larger for the airport pairs engaged in cross-border competition. For example, the four largest Canadian airports (YVR, YYZ, YUL, and Calgary [YYC]) pay over 90 per cent of the airport ground rents. Meanwhile, the smaller U.S. airports typically receive the largest subsidies, on a per-passenger basis. While legacy costs increase the prices that YYZ and YUL charge for their services, IAG and PBG benefit from the legacy of military services that injected capital into those airports. And customs inspections costs factor in, as Canadians crossing the border by land do not absorb the costs of providing either U.S. or Canadian customs services.

All of these factors contribute to higher landing, terminal, and other fees that Canadian airports charge. Intervistas estimated that all U.S. aviation cost advantages amounted to between \$20 and \$25 per passenger. This amount included non-airport advantages, such as air navigational and fuel tax advantages, but factors directly affecting the prices that airports must charge accounted for more than half of this difference. Normalized to a load factor of 80 per cent and a stage length of 800 miles, the advantage amounts to between 3.1 and 3.9 cents per ASM,²³ suggesting that a significant portion of the airport aeronautical fee difference can be attributed to these factors. However, just as the U.S. carriers' internal costs are lower than those of their Canadian counterparts, the

23 This is calculated by taking the cost per passenger, dividing by load factor, and dividing again by length of haul. So at \$20 per passenger, this works out to $\$20/0.8/800 = \0.03125 , or 3.1 cents per ASM.

same may also be true for the smaller U.S. border airports, relative to the large Canadian airports. In any case, the policy differences do appear to explain the bulk of the difference in aeronautical fees.

BASE COSTS SUMMARY

The U.S. carriers under analysis hold close to a five cent per ASM, or 30 per cent cost advantage over the Canadian carriers when considering their system-wide operations. While the cost differential will vary by origin-destination pairs, we can decompose the differential with some confidence to the following factors, as seen in Table 6.

While it is difficult to be absolutely certain about the precise contribution of each factor, what is certain is that there are a number of factors that, when combined, result in a significant cost advantage for U.S. carriers. Some of these advantages are related to carrier operations, such as labour and capital productivity. However, policy-related factors such as those pertaining to the provision of infrastructure no doubt play a large role.

The U.S. system of funding is not sustainable at current levels. Either user fees, subsidies, or a combination of both will have to increase significantly.

The bottom line is that Canadian carriers pay more for infrastructure than do U.S. carriers due to a fundamental difference in air infrastructure policy in the two countries. In Canada, airports and navigational systems are, for the most part, paid for by users. In the U.S., user fees do not cover these costs. However, the case can be made that current subsidies do not even make the difference, with a lag in investment (particularly in navigational systems²⁴) occurring as a result. In other words, the U.S. system of funding is not sustainable at current levels. Either user fees, subsidies, or a combination of both will have to increase significantly at some point in the near future.

24 Cordle and Poole, *Resolving the Crisis*.

Table 6
Summary of Canadian and U.S. Carrier Cost Differentials

	Contribution (per cent)	Notes
Labour compensation	10	This is not an across-the-board advantage for U.S. carriers.
Wage rate	5	Lower for the ultra low-cost carriers: Allegiant, AirTran, and Spirit.
Labour productivity	5	All U.S. carriers outperform in terms of available seat miles (ASMs) per employee.
Fuel costs	10	System-wide fuel costs are lower for U.S. carriers.
Fuel price	10	After-tax price is lower for U.S. carriers system-wide only, due primarily to lower fuel taxes. For given routes, it is only an advantage for those competing against routes originating in Ontario, due to the unfavourable fuel tax treatment in that province.
Fuel productivity	0	Southwest leads but Allegiant underperforms due to aging fleet. With Allegiant out of the picture, there is a slight U.S. advantage on average.
Aircraft/asset ownership	25	Leasing and depreciation costs are lower for U.S. carriers.
Aircraft/asset prices	15	Because utilization is only slightly higher, lower aircraft/asset ownership costs are more likely attributed to prices.
Utilization	10	Aircraft utilization is slightly better for U.S. carriers, though this alone underestimates the productivity advantage.
Other	50	Consists of any costs not included in the above factors.
Airport fees	25	Airport fees such as landing and terminal fees are generally significantly lower in U.S. airports. This is due in large part to the policies to which airports are subject in each country.
Navigational fees	15	The Federal Aviation Administration (FAA) partially funds navigational services through the air ticket tax, so does not show up in carrier costs, unlike fees charged by Nav Canada. In addition, Nav Canada is fully funded by fees while the FAA receives a subsidy.
Residual	10	Any other costs such as marketing, insurance, etc.
Total	100	Results in close to five cents per ASM, or 30 per cent cost advantage for U.S. carriers.

Source: The Conference Board of Canada.

Furthermore, it is difficult to mention higher landing and terminal fees at Canadian airports without discussing the airport ground rent paid to Transport Canada. As part of their long-term lease agreements with Transport Canada, the airport authorities operating YVR, YYZ, and YUL paid \$190 million in ground rents in 2010.²⁵

²⁵ Vancouver Airport Authority, *2011 Annual Report*; Greater Toronto Airports Authority, *Annual Report 2010*; and Aéroports de Montréal, *2010 Annual Report*.

Perhaps as important as the total amount is the way in which the rents are determined. The airport authorities are subject to a progressive rent formula that increases with airport revenues. As a result, while the rent expense as a share of total airport revenues for these three airports was approximately 10 per cent, the *marginal* rent is 12 per cent of revenue, adding a further disincentive for the airports to grow.

The rent expense is not the only factor contributing to higher airport landing and terminal fees in Canada. Other factors such as input prices (for labour, capital, etc.) and productivity can certainly play a role. In addition, U.S. airports often have access to tax-exempt municipal bonds, which significantly lower their cost of debt. Furthermore, both in Canada and the U.S. the general policy allocates publically available funds disproportionately to smaller

airports. Because most of the cross-border competitions in the US are smaller airports, they are more likely to benefit from grant allocations. For example, Bellingham airport received grants of \$29 million in 2010 (\$73 per passenger), whereas its contribution to the fund through the Passenger Facility Charge was \$1.5 million.²⁶

²⁶ Federal Aviation Administration, *Compliance Activity Tracking System (CATS)*.

CHAPTER 3

And All Those Fees and Taxes ...

Chapter Summary

- ◆ One might argue that the story of air industry fees and taxes in Canada has been told to death. However, despite the inaction or lack of appetite to address the issue, they remain as a significant cost disadvantage for the industry.
- ◆ One reason for inaction is that no single fee or tax dominates. Rather, many relatively small fees and taxes add up to a large overall cost advantage for a traveller who chooses to fly from a U.S. border airport in lieu of its nearby Canadian airport. Combined with the factors from Chapter 2, this advantage becomes even larger.
- ◆ Another difficulty relates to the fact that many of these fees are U.S. fees that apply to trans-border flights, whereas travellers who choose to fly from a U.S. airport to another U.S. airport avoid these fees.

The previous chapter demonstrated that there is a large difference in base fares between Canadian and U.S. carriers. Those fares are affected to some extent by fees and taxes that are embedded in the air carrier cost structures. However, U.S. carriers enjoy an advantage in terms of the taxes and fees that are applied to the base fare ticket as well. As mentioned at the outset, this is the “better known” part of the story, in part because

it has been well told and because it is more visible to the public. But since we cannot deny their importance in terms of influencing traveller behaviour, we briefly consider how those fees affect the specific comparisons between competing cross-border airports. In addition, the impact of exchange rates is briefly discussed.

According to the fare survey data from the Canadian Airports Council cited in Chapter 2, fees and taxes applied to tickets from cross-border U.S. airports averaged \$44, while fees and taxes to the same destinations from the competing Canadian airport averaged \$114. This comparison is based on the fees and taxes that the traveller sees when booking his or her flight. However, not all of those fees are charged by third parties. For example, the Nav Canada Surcharge is actually an approximation of what the carrier itself must pay to Nav Canada for navigational services. Because this fee is charged directly to the carrier, its impact has already been considered in the air carrier cost structure in the previous section.

The other fees and taxes relate primarily to Airport Improvement Fees (Passenger Facility Charges in the U.S.), security fees, sales taxes, and other international fees. These fees are compared directly, in order to disassociate them from surcharges that actually generate revenues for the carriers (such as baggage fees, fuel surcharges, and insurance surcharges). Table 7 provides an example of how the fees would apply to a one-way ticket booked from a Canadian airport to a U.S. destination, in contrast to a ticket booked to the same destination from a cross-border U.S. airport.

Table 7
Example of Taxes and Fees Applied to Base Fare to U.S. Destinations (One Way)

	From Canada (\$)	From U.S. (\$)	Notes:
Base fare	200.00	140.00	Assuming base fare to be 30 per cent lower based on air carrier cost structure comparison
AIF/PFC	20.00	9.20	AIFs from Canadian airports typically \$15 to \$25; service from the cross-border airports typically connecting flights, so two PFCs of up to \$4.60 each apply
Security	12.10	5.12	Security fee in U.S. \$2.56 per flight segment, up to a maximum of \$5.12
U.S. Federal Excise Tax	17.08	10.50	Fixed charges apply to flights with non-domestic origin; 7.5 per cent tax applied to domestic flight
Sales tax	14.17		GST or GST portion of HST applied to base fare and security fee, plus HST or GST+PST applied to AIF
Flight segment tax		7.60	\$3.80 per flight segment
U.S. Agriculture Fee	5.00		International flights only
U.S. Immigration User Fee	7.16		International flights only
U.S. Customs Fee	5.62		International flights only
Total fees and taxes	81.13	32.42	
Total fare	281.13	172.42	

AIF = airport improvement fee; PFC = passenger facility charge
Note: US\$-C\$ exchange rate assumed to be 1:1
Sources: Air Canada; Orbitz.com; Canada Revenue Agency.

In this example, taxes and fees from the U.S. airport are 56 per cent lower than from the Canadian airport. While the difference is due in part to the higher Canadian fees and taxes, it is worth noting that more than half of the difference is because one fare is a transborder movement while the other is strictly domestic. The transborder movement triggers an additional \$24.36 in U.S. taxes, or about half of the tax and fee gap. In addition, the Air Traveller Security Charge (the Canadian security fee) is higher for transborder flights (\$12.10) than it is for domestic flights (\$7.12), further penalizing the flight originating in Canada.

A truly neutral policy would not discriminate between one flight or the other, given the fact that the domestic flight in question still requires a border crossing by the Canadian passenger. Achieving such a policy is easier said than done, given that a solution would require collaboration between federal policy-makers in both countries. Recent announcements regarding collaboration between the U.S. and Canadian federal governments on perimeter security in order to facilitate the flow of commerce across the border may provide some opportunity for a neutral policy.¹ The Open Skies agreement between the two

1 Ibbitson and Chase, "Harper and Obama."

countries could also be revisited so as to examine the unintended impacts of tax and fee disparities on cross-border competition.

THE IMPACT OF EXCHANGE RATES

U.S. air fares are lower, but it is clear that this is due to a number of different factors. In fact, it can be said that a perfect storm of factors has resulted in the cross-border fare advantage. In addition to all of the factors cited above, we can add the value of the Canadian dollar, relative to the U.S. dollar. The Canadian dollar has appreciated by more than 50 per cent over the past decade, making all cross-border shopping more attractive for Canadians. Perhaps more important than the level of appreciation is the current value of the Canadian dollar, relative to purchasing power parity (PPP). In short, an exchange rate equal to PPP indicates that each currency can purchase the same amount of goods and services in each country. At the present exchange rate, the Canadian dollar is estimated to be overvalued by over 20 per cent, relative to the U.S. dollar.^{2,3} While a return to an exchange rate

near PPP is no certainty anytime soon, it is worth noting that this difference alone would make a significant dent in the air fare gap.

However, the impact of the rising dollar is not as clear as it appears at first glance. As the Canadian dollar rises, the price of imports or commodities traded on world markets declines. For example, a new aircraft that costs \$80 million in U.S. dollars costs Canadian carriers \$100 million in Canadian dollars when the Canadian dollar is worth US\$0.80. With the Canadian dollar trading at parity with the U.S., the price of the same aircraft declines to C\$80 million.⁴ The same can be said about the price of jet fuel. Despite the fact that Canada is a large oil and gas exporter, the price of jet fuel is set by world markets and will be largely unaffected by the value of the Canadian dollar. Fuel and aircraft ownership costs make up over 40 per cent of carriers' costs, so this offsetting impact is significant. On the other hand, labour costs will generally scale with the value of the dollar, as wages will not adjust downwards with the rise of the Canadian dollar.⁵

2 The University of British Columbia–Sauder School of Business, *Purchasing Power Parity*.

3 While the reasons for this are beyond the scope of this report, an oft-cited culprit is the rise in demand (and prices) for Canadian resources, which in turn have driven demand for (and the price of) the Canadian dollar.

4 The impact of the rising value of the Canadian dollar would be offset only for new purchases and leases, not for purchases made in the past.

5 At least in theory, wages could adjust slowly as a result of a persistently strong Canadian dollar. This may occur due to the general decrease in import prices and the resulting impact on domestic prices for goods in general and the positive effect on real incomes among Canadians.

CHAPTER 4

Wider Considerations and Implications

Chapter Summary

- ◆ Not all Canadians who fly from U.S. airports represent an opportunity lost for a Canadian airport, as some trips are newly generated due to the low base costs offered by U.S. ultra low-cost carriers, while other trips are from Canadians who are closer to the natural catchment area of the U.S. airport.
- ◆ However, there is evidence to suggest that many of these passengers are indeed leaked, and those passengers would fly from a Canadian airport if fees and taxes were balanced.
- ◆ This is particularly true for families travelling for leisure purposes, though independent business travellers may be enticed by lower fees for certain destinations as well.

DO CHEAPER PRICES ACROSS THE BORDER STIMULATE MORE DEMAND?

Cross-border air fare shoppers—just like “regular” cross-border shoppers—are enticed by low prices south of the border. In exchange for lower prices, they are willing to put up with the additional time and inconvenience that generally accompanies cross-border shopping. However, is each cross-border air fare shopper a sale lost for the home carrier

and airport? Or are some additional trips induced by the lower fare? In other words, are Canadians in general travelling more due to the presence of the low-cost border airports?

The answer is most certainly yes. Passenger tickets are not unlike most other goods and services. Lower the prices and people will buy more of them. But determining just how much of this demand is newly generated is difficult. Ideally, one would conduct a comprehensive survey of cross-border air travel shoppers regarding their alternatives in the absence of the cross-border airport option. In the absence of such a survey, we can make some assumptions by considering the generalized travel cost and air fare elasticities. In other words, we must first estimate how much cheaper it is to fly from the U.S., including non-monetary travel costs absorbed by the travel (primarily the value of time), then estimate how many more travellers the lower generalized cost induced by observing overall demand for travel over time, relative to price changes.

GENERALIZED TRAVEL COST

When attempting to determine how changes to service levels, such as frequency, transit time, and punctuality, influence travel behaviour, planners often convert these changes into equivalent dollar values and add them to the out-of-pocket cost in order to determine the “generalized travel cost.” This concept can be applied to both

intra and intercity travel. Ultimately, it is the difference in generalized travel cost between alternatives that will determine which mode and/or route of travel they will choose.

When determining the generalized travel cost for air travel in particular, we must consider the location of the residential population relative to the competing airports, as well as the ease of access to those airports. This makes the calculation difficult, as the areas in question are large urban areas. The distance between the competing airports is only a rough indication of the extent to which competition for traffic between them is viable. More important is the dispersion of population relative to each of the airports.

The difference in the generalized travel cost between alternatives is ultimately what will determine which mode and/or route of travel air fare shoppers choose.

For example, the distance between YUL and BTV is 170 km, while the distance between YUL and PBG is 110 km. The population of the Montréal South Shore is roughly 700,000 (which is about 20 per cent of the urban area population). For these residents a trip to Trudeau airport is approximately 35 km, while a trip to BTV is about 150 km (100 km to PBG). But the trip to Trudeau requires crossing one of the often-congested Montréal bridges and crossing through the often-congested urban area in general. Meanwhile, the trip south to the cross-border airports is likely to face significantly less congestion. Coupled with the fact that the surface border crossings in the area are not particularly busy (whereas customs clearance times at YUL are variable), the door-to-door travel time (and consequently the generalized travel cost, as time is likely the greatest additional factor) does not differ significantly. For those who live on the Island and suburbs to the north, travel time to the cross-border airports increases significantly.

The Toronto Census Metro Area (CMA) is made up of approximately 5.5 million people. The Greater Toronto Area is now over 6 million and the Greater Golden Horseshoe (the extended metropolitan area) exceeds 8 million.

The distance between YYZ and BUF is 175 km. Hamilton (YHM) is roughly between the two (80 kilometres from YYZ and 140 km from BUF).¹ The Hamilton CMA population is over 500,000. In addition, the St. Catherines–Niagara CMA population is 400,000, which is arguably a more “natural” catchment area for BUF (St. Catherines is approximately equidistant to BUF and YHM).

In absolute terms, there are more than a million people in the region who can travel to a destination through BUF (relative to YYZ) without compromising travel time significantly (if at all). The surface border crossings are among the busiest in the country, but travel time to YYZ requires traversing the dense and often-congested urban area, while customs clearance times at YYZ are also variable. However, travel time through YHM would often retain its advantage for many of these residents. Even for travellers who reside close to YHM though, their options may be limited since frequencies to destinations served from YHM to U.S. airports are limited.² This may be a symptom of the U.S. airport cost advantage.

The distance between YVR and BLI is 75 km. The Greater Vancouver Regional District (GVRD) population is approximately 2.3 million. The populations of southeastern municipalities such as Surrey and Langley (which account for close to a quarter of the metro area population) are between the two airports. Total travel times from these municipalities will not differ greatly then, as customs at YVR is variable and multiple border crossings are available (in addition to the Pacific Highway crossing into Blaine, non-commercial users can cross using the Peace Arch while those further east in Langley or Abbotsford have other options as well).

One potential advantage for YVR is the fact that it is served by the Skytrain (light rail urban transit service), since the Canada Line was built in 2009. While travel to the airport is not particularly convenient for those in

1 While one must drive through Hamilton when driving from YYZ to BUF, YHM itself is not directly en route. For this reason, the driving distance from YYZ to BUF is less than the sum of the driving distance from YYZ to YHM and YHM to BUF.

2 Hamilton International Airport, *Destinations & Airlines*. Eight U.S. destinations are served through YHM, with all destinations being either seasonal or requiring connections.

the southeast municipalities (it requires connecting first through downtown Vancouver), it does provide another option to travellers. In particular for those who reside in Vancouver or North Vancouver, travel is made significantly more convenient and less costly (therefore reducing generalized travel costs). However, for leisure travelling families with plenty of luggage, this service might not be quite as useful. (See box “Example of Generalized Travel Costs From Specific Locations in Urban Areas.”)

The previous examples highlight the fact that many travellers do not face as significant a travel time penalty when opting for the U.S. border airport, relative to their home airport. But are most of the cross-border air fare shoppers simply those who reside between the competing airports (in terms of total surface travel time)? Or are there significant numbers who are incurring significant additional travel time as a result of their choice to cross the surface border?

Example of Generalized Travel Costs From Specific Locations in Urban Areas

Generalized travel cost considers both the out-of-pocket (monetary) costs as well as the time and inconvenience (non-monetary) costs of travel. The following tables include illustrative calculations of the generalized travel cost of leisure trips to common destinations from comparator airports. The fare data are based on the CAC data provided in Chapter 2.

The time cost is calculated from assumptions regarding travel speed, travel speed variability, and wait time variability (which are reflected in buffer times). The total time is monetized at a rate of \$12 per hour. The total based on a family of four reflects the cost of four fares. In addition, the calculation doubles the travel time cost, on the assumption that value of time for two adults is \$12 per hour, while the value of time for two children is zero. Naturally, the actual value of time will vary considerably by family.

The first example shows how the generalized travel cost can vary based on two specific residential starting points in the Greater Golden Horseshoe (the extended Toronto urban area). The Mississauga City Centre is relatively close to YYZ (18 km), while St. Catherines is actually closer to BUF (66 vs. 108 km to YYZ).

As a result, the estimated generalized travel cost is 15 per cent lower when travelling through BUF in lieu of YYZ for the Mississauga family. However, the difference increases to 25 per cent for the family from St. Catherines.

Table 1
Mississauga City Centre and St. Catherines City Centre to YYZ and BUF

From Mississauga	To YYZ	To BUF	From St. Catherines	To YYZ	To BUF
Fare (\$)	432.00	323.00	Fare (\$)	432.00	323.00
Distance (km)	18.00	155.00	Distance (km)	108.00	66.00
Buffer time (mins.)	27.00	155.00	Buffer time (mins.)	108.00	66.00
Airport arrival buffer time (mins.)	120.00	60.00	Airport arrival buffer time (mins.)	120.00	60.00
Border buffer time (mins.)		45.00	Border buffer time (mins.)		45.00
Time cost (\$)	58.80	104.00	Time cost (\$)	91.20	68.40
Taxi (\$)	40.00		Taxi (\$)	100.00	
Gas (\$)		37.20	Gas (\$)		15.84
Toll (\$)		6.00	Toll (\$)		6.00
Parking (\$/week)		50.00	Parking (\$/week)		50.00
Total (\$)	530.80	520.20	Total (\$)	623.20	463.24
Total (family of four) (\$)	1,885.60	1,593.20	Total (family of four) (\$)	2,010.40	1500.64

Source: The Conference Board of Canada.

(continued . . .)

Example of Generalized Travel Costs From Specific Locations in Urban Areas cont'd

The next example provides a similar calculation for a family of four travelling from Longueuil (a suburb of Montréal on the South Shore) to a common U.S. destination through YUL, BTV, and PBG. While YUL is significantly closer in terms of distance, this advantage is eroded to some extent due to road congestion and customs variability. Meanwhile, PBG has additional advantages over BTV in terms of proximity and free

airport parking. As a result, the estimated generalized travel cost savings for a family of four are 41 per cent when travelling through BTV and 47 per cent when travelling through PBG.

Note that both of the above examples assume that flight times are equal. However, in many cases flying from the cross-border airport will require a connection, thereby increasing total travel time relative to the Canadian airport. When this is the case, the generalized travel cost advantage decreases.

Table 2
Longueuil to YUL, BTV, and PBG

From Longueuil	To YUL	To BTV	To PBG
Fare (\$)	573.00	292.00	292.00
Distance (km)	26.00	152.00	100.00
Buffer time (mins.)	52.00	152.00	100.00
Airport arrival buffer time (mins.)	120.00	60.00	60.00
Border buffer time (mins)		30.00	30.00
Time cost (\$)	68.80	96.80	76.00
Taxi (\$)	84.00		
Gas (\$)		36.48	24.00
Toll (\$)			
Parking (\$/week)		84.00	
Total (\$)	725.80	509.28	392.00
Total (family of four) (\$)	2,513.60	1,482.08	1,344.00

Source: The Conference Board of Canada.

Unfortunately, we do not have the luxury of being able to pinpoint the specific residential location of these travellers. This is another piece where the ideal survey mentioned above would be useful. However, we do have some limited information on travellers from the GVRD from two border intercept surveys that were conducted by the International Mobility and Trade Corridor Project (IMTC)³ in 2007 and 2008. For this survey, surface border crossers were asked about their trip purpose and place of residence. For those who indicated that they intended to fly to another destination through a U.S. airport, the specific airport was identified (BLI or SEA).

Due to the age of the data (since then, carriers such as Alaska Airlines have significantly increased their service out of BLI) and the sample size (approximately 7,500 clean responses from Canadian travellers, of which 214 indicated that they intended to fly from a U.S. airport), these data may not be particularly useful for determining the total number of Canadian travellers flying from Washington State airports. However, it is noteworthy that of the 214 cross-border air travellers from the 2007 survey, 61 were from the City of Vancouver. Meanwhile, 33 indicated that they were from Surrey. If the propensity to travel out of the U.S. airport was simply a matter of convenience, then we would expect the opposite (since Vancouver residents effectively have to pass YVR on the way to the border, while Surrey borders Washington State in the south). So while the size of the sample prevents us from extrapolating these

3 The IMTC is a U.S. and Canadian coalition of business and government organizations from Whatcom County, Washington, and the Lower Mainland of British Columbia. The data cited are based on an analysis of the survey results provided by the Vancouver Airport Authority.

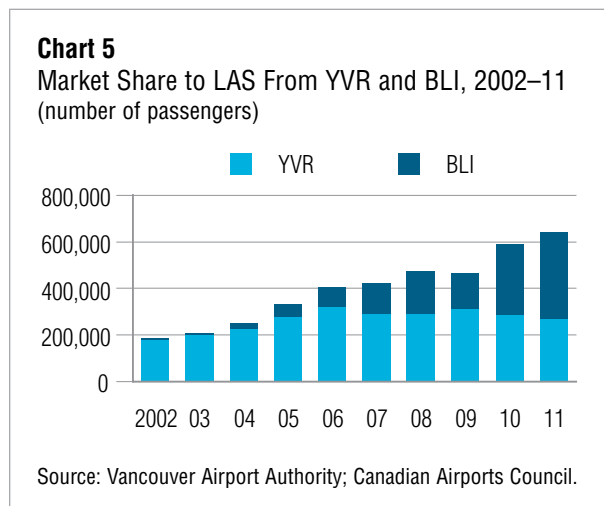
results over the total number of Canadian cross-border air fare shoppers from the region in order to get a comprehensive understanding of their specific regional origins, the results do suggest that the cost disparities are attracting travellers from across the region.

MARKET SHARE ANALYSIS

If lower fares available across the border are stimulating demand, passenger traffic at the competing Canadian airports should continue to rise. However, observing total traffic at a given airport masks the impact of overall traffic trends. As a result, it is more useful to observe traffic levels for specific destinations that have come under increased competition from cross-border airports.

Observing total traffic at any given airport is not as useful as observing the level for specific destinations.

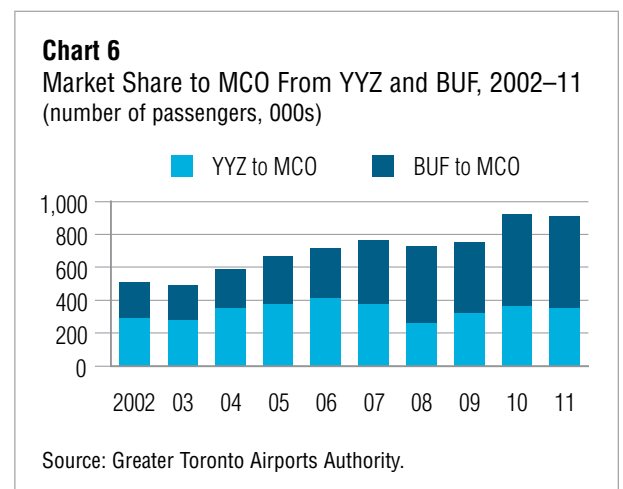
For example, Las Vegas (LAS) is a popular leisure destination for many travellers, including those from the Vancouver area. This market has been targeted in recent years by carriers serving BLI. Most notably, Allegiant began serving LAS from BLI in 2004, while Alaska began offering this service in 2009. Chart 5 shows the growth in passenger traffic from YVR/BLI to LAS from 2002 to 2011.



Total traffic from YVR and BLI to LAS grew from just under 200,000 passengers in 2002 to over 600,000 in 2011. However, after reaching a peak of 321,000 passengers in 2006, YVR to LAS traffic has actually declined to 270,000 passengers. Meanwhile, BLI to LAS traffic reached 372,000 passengers in 2011.

While we cannot assume that all of the passengers who flew from BLI would have flown from YVR absent that alternative, the failure of YVR to capture part this growth suggests a significant amount of leakage. As a rough comparison, over the same period of time, traffic from YYC (Calgary) to LAS has grown from 116,000 to 287,000 passengers (exceeding traffic from YVR). The YYC to LAS market serves as an interesting comparison since YYC is largely shielded from cross-border leakage (due to the lack of a nearby alternative). If we assumed that traffic from YVR would have grown at the same rate, absent of the BLI alternative, 2011 YVR to LAS traffic would have been 448,000 passengers. This suggests that leakage is in the neighbourhood of 50 per cent (with the rest of the traffic being stimulated by the BLI to LAS route). However, this is only a rough estimate as it is possible that other factors have been at play, such as the possibility that the LAS market out of YYC has been more profitable for the Canadian carriers due to stronger economic conditions in Calgary, prompting them to focus on that market at the expense of some others.

Chart 6 provides similar data for service to MCO (Orlando) from YYZ and BUF.



In this case, Southwest had already been offering non-stop flights between BUF and MCO before 2002. At that time, BUF already had over 40 per cent (217,000 passengers) of the total market. Since then, there has been a significant increase in service offered between BUF and MCO, most notably the entry of AirTran in 2006 and JetBlue in 2007.

Total traffic between YYZ/BUF and MCO has grown from approximately 500,000 passengers in 2002 to just over 900,000 in 2011. Traffic from YYZ peaked at 412,000 passengers in 2006 and has since declined to 355,000 in 2011. Meanwhile, traffic on the BUF to MCO route reached an all-time high of 558,000 passengers in 2011.

All of this comes during a time when traffic between many other major U.S. airports and MCO has been on the decline (due to depressed economic conditions south of the border). For example, traffic between BOS (Boston) and MCO peaked at over 1 million passengers in 2005 and has since declined to below 800,000. Traffic between CHI (Chicago) and MCO has declined by an even greater margin, with 2011 traffic actually falling below 2002 levels.

While it is a much smaller market, traffic from YOW (Ottawa) provides some indication of how traffic may have grown from YYZ absent of significant competition from BUF.⁴ From 2002 to 2011, YOW to MCO traffic has grown from 36,000 to 79,000 passengers (an annual growth rate of 9 per cent, relative to growth of 2 per cent from YYZ over the same period). If we assumed that YYZ to MCO traffic should have grown at anywhere near this rate void of new competition from BUF, we would conclude that most of the traffic had indeed been leaked (since YOW to MCO traffic growth outpaced total YYZ/BUF to MCO traffic).

SUMMARY OF MARKET SHARE ANALYSIS

While we can never be certain of what traffic levels would have been in alternate scenarios, the above examples suggest that new services offered at cross-border airports

are likely to siphon a significant amount of traffic from the relevant Canadian airport, in addition to generating some new traffic. The loss in traffic comes as a result of the cost advantages offered by both the cross-border airports and the low-cost U.S. air carriers.

AIR FARE ELASTICITIES

As with most other goods or services, the lower the price, the more people buy. Air fares are no exception to this rule. The extent to which demand for a product or service increases with price declines is referred to as the price elasticity of demand. If the demand for a service increases by 1 per cent when the price falls by the same amount, the price elasticity of demand is said to be 1.

With respect to air fares, it is generally accepted that leisure travellers are more price sensitive than business travellers. The main reasons for this are:

- ◆ **Business travellers generally have their travel costs covered by their employer.** Even for self-employed business people, travel costs can be deducted from income for taxation purposes, reducing the impact of an increase in travel cost.
- ◆ **Business travellers are more affluent on average,** making them less sensitive to price changes and more sensitive to increased travel times.
- ◆ **Leisure travellers are more likely to travel with their families,** which multiplies the value of the price change by the number of travellers in the group. So a \$10 increase for a single air fare becomes \$40 for a travelling family of four.

These factors also contribute to the expectation that leisure travellers make up the majority of cross-border air fare travellers—they are more sensitive to price and less sensitive to increased travel times.

Transport Canada's aviation forecast team generates estimates of air fare elasticities for Canadian air passengers for the purpose of generating its passenger demand forecasts. Its estimate places the price elasticity of discounted leisure transborder travel (Canadian passenger flying to the U.S.) at 1.02.

⁴ YOW is subject to some passenger leakage to SYR (Syracuse), although the much greater distance from Ottawa contains the leakage to a greater extent.

If we take current base fares and taxes and net out policy differences controlled by Canadian governments, we can estimate the additional trips generated according to price elasticity of demand. The residual would be the number of new trips generated by the even lower U.S. airports and carriers. However, the cross-price elasticities might not necessarily be constant and could change significantly as the differences between air fares narrow. Furthermore, the difference in base fares varies significantly by origin and destination markets. And the lack of knowledge of local origins of travellers, as explained above, makes it difficult to determine an average difference in overall generalized travel costs between airport options.

Nonetheless, Chapter 2 demonstrated that roughly one-third of the base fare cost difference between Canadian and U.S. carriers is due to policy taxation differences (primarily the way in which airports are treated, which then charge carriers directly for much of their services). On top of that, about half of the fees and taxes that are added to the ticket itself are a result of Canadian policies (the rest being the result of U.S. transborder fees). This means that roughly 40 per cent of the price difference (before factoring in the total generalized travel costs) is the result of Canadian taxes and fees (although this percentage would decline if comparing on the basis of higher discount fares). If we assume that a 40 per cent reduction in the price difference would allow the Canadian airports to capture a proportionate share of cross-border air fare shoppers, this suggests that a neutral policy would result in 2 million of the roughly 5 million cross-border air fare shoppers instead choosing to fly out of the Canadian airport. But many would continue to fly from the cross-border airports due to the still lower fees offered by the U.S. carriers.

OTHER COSTS AND IMPACTS OF CROSS-BORDER AIR FARE SHOPPING

What are some of the wider costs and impacts of cross-border air fare shopping? In addition to a direct loss in traffic for Canadian airports and Canadian air carriers, there are a number of potential impacts. (See box “Airport Passenger Traffic Is Not Just a Function of the Local Population.”)

THE IMPORTANCE OF NETWORK ECONOMIES

In the presence of network economies, both positive and negative developments have disproportionate effects.

Airports as International Hubs

The leakage of passengers may undermine the role of the larger airports as international hubs. But indirect leakage that is not even captured in the above analysis is potentially more important here.

If one frequency is dropped from the hub airport, it can increase travel times even more substantially for connecting passengers.

For example, Delta can effectively serve demand for travel to Asia-Pacific markets from prospective travellers from the Toronto area, but would do so through one of its hubs (such as Detroit, Minneapolis, or Salt Lake City) while bringing passengers from Toronto to the hub in a regional jet. Higher fee differences between the two airports encourage more of this behaviour and negatively affect YYZ’s ability to act as an international hub due to decreased flight frequencies and fewer non-stop flights to other international airports.

Smaller Canadian Airports Hubbing Through Larger Canadian Airports

If one frequency is dropped from the hub airport, it can increase times even more substantially for connecting passengers.

For example, the best option for a traveller from Sudbury going to Orlando is to connect through Pearson with Air Canada. Including layover, the shortest flight time is approximately 5 hours and 45 minutes. However, if Air Canada reduced frequency to Orlando at Pearson due to cross-border competition and this connecting option was lost as a result, the next best options for travellers from Sudbury would be either a 7-hour trip (waiting for the next Air Canada connection), or a 7.5-hour trip with United that connects through both Pearson and Washington. Moreover, the discount fare would likely be higher due to fewer seats being available.

Airport Passenger Traffic Is Not Just a Function of the Local Population

Airport passenger traffic demand is naturally stimulated by the size of the local population. In addition, popular tourist destinations will typically see larger airport passenger volumes.

However, these are certainly not the only determinants of passenger traffic. Airports that are successful in attracting hub carriers will generate a significantly higher proportion of passenger traffic due to the positive effects of network economies.

This phenomenon can be demonstrated by a glance at passenger traffic relative to local populations at various airports in North America and around the world. The following table provides passenger traffic and the passenger-to-population ratio for selected airports.

For the most part, the airports with a higher passenger-to-population ratio have been able to capture a larger share of connecting traffic due to the presence of hub carriers. For example, despite having a local population that is similar to Toronto's, Atlanta (ATL) sees nearly three times the traffic as YYZ (and nearly as much traffic as all Canadian airports combined). And both Charlotte (CLT) and Denver (DEN) see significantly more passengers than any Canadian airport, despite having local populations roughly equal to or lower than Vancouver's.

While there are many factors that influence airport passenger volumes, carrier choices regarding routing is certainly one of them. This highlights the fact that airports do not only compete with other airports with overlapping catchment areas, but also with those that provide carriers with a routing option for connecting traffic. Airports that provide good service at a low cost are better positioned to capture a larger share of this traffic.

Airport Passenger Traffic Is Not Just a Function of the Local Population

Airport	City	Passengers	Pax/Pop ratio
ATL	Atlanta	88.0	16.1
LHR	London	66.0	14.3
ORD	Chicago	64.2	8.5
HND	Tokyo	61.9	7.3
DFW	Dallas	57.1	9.9
FRA	Frankfurt	50.9	28.3
DEN	Denver	50.2	19.7
CLT	Charlotte	34.5	19.8
DTW	Detroit	31.6	7.2
YYZ	Toronto	30.4	5.5
YVR	Vancouver	16.2	6.7
YUL	Montréal	12.2	3.1

Sources: Lazar; airport annual reports.

For other locations, the increased flight time would be significantly higher and in some cases would render the trip infeasible, which in turn would negatively affect the viability of other flights from both the hub and feeder airports.

Spreading Airport Fixed Costs Over Fewer Passengers

This is a shorter-term consideration, as in the long run, airports add capacity according to their projected demand. For current airports that were expecting demand that has not been met due to the unforeseen increase in leakage to border airports, this means that they currently have to

spread their capital costs over a smaller base of passengers, resulting in a higher per passenger fee. This may more likely be a consideration for smaller airports that have been affected by the trend (such as Hamilton and London).

TAXATION BASE

Policy-makers are reluctant to lower taxes or rents for Canadian carriers or airports due to the budgetary impact. However, passengers who are lost to border airports also take their contributions to government revenue with them.

For example, a typical passenger flying from a Canadian airport will pay \$15 to \$20 in sales tax alone. If breaks and restrictions in Canadian fees and taxes resulted in one million potential cross-border air travellers instead choosing to fly from a Canadian airport, the lost revenue would be partially offset by the increase in sales tax revenue of \$15 to \$20 million. This is not even considering

the revenue that would be raised indirectly, because ticket revenues and other fees would remain in Canada as well. Policy-makers must consider these offsetting impacts when examining potential changes in fees.⁵

5 See Lazar, *The Economic Impacts*, for a detailed consideration of the potential impacts of lower airport rents on the government taxation base.

CHAPTER 5

Conclusion

Chapter Summary

- ◆ A perfect storm of factors has contributed to a large increase in Canadians travelling from a U.S. airport despite the existence of a nearby Canadian alternative.
- ◆ While no single factor dominates, this does not mean that incremental changes to policy or prices will have no effect on travel. As a result, government and industry responses need not take an “all or nothing” approach.
- ◆ Even if reductions in fees or taxes are off the table for the time being, considerations should be made for changes in the structure of those fees and taxes.
- ◆ This is not to say that the level of fees and taxes is not important. Fees and taxes have contributed and will continue to contribute to passenger leakage if the playing field is not levelled.

A number of factors have contributed to the large increase in Canadians choosing nearby U.S. airports. Some of these factors are largely out of the control of industry or government, such as the rising value of the Canadian dollar. And while Canadian aviation fees and taxes are only part of the story, they

remain an important factor and continue to be targeted by industry due to the potential for policy-makers to implement change.

Industry stakeholders have been asking for lower airport rents and other fees for over a decade, with little success. While efforts to lower these fees and taxes should continue to be pursued, now that government budgetary surpluses have turned to deficits, the prospect of this occurring soon is even more limited.

In addition to pursuing any opportunities to lower the tax and fee disparity between the Canadian and U.S. aviation systems, other potential policy responses include:

- ◆ *Alter the way in which taxes and fees are generated.* Essentially, this means structuring fees in a way that is more consistent with how the industry prices its own services.
 - For example, the airport rent formula is a progressive tax on revenue. (See box “Illustration of How Airport Rent Structure Discourages Growth.”) This means that the marginal rate of rent paid is higher than the average rate. The three largest airports are paying 12 per cent of their marginal revenue in airport rents. This is effectively a tax on and a disincentive for growth. A flat per cent would be slightly better. Even better would be a flat rent payment that does not grow with revenue.
- ◆ *The structure of the ATSC should also be considered in terms of how it affects traffic.* It may be optimal to restructure the charge so that the transborder Air

Illustration of How Airport Rent Structure Discourages Growth

Both airlines and airports in Canada have argued that airport rents levied by the federal government discourage growth and should be eliminated. More attention has been paid to the revenue generated by the rents (over \$250 million per year) than the formula used in order to determine the rents paid by each airport.

The rents are charged as a percentage of total airport revenues (gross revenue charge). This percentage escalates with revenue, eventually topping out at 12 per cent of revenue in excess of \$250 million.

To understand how this structure discourages growth, it can be compared with taxes faced by taxable corporations, where tax is levied on income. In Canada, the combined federal and provincial corporate tax rate for large corporations is generally between 30 and 35 per cent (depending on the province). (See table.) Consider the relative impact of these two taxation regimes on an investment decision expected to generate an additional \$1 million per year in revenue at a cost of \$900,000 per year:

Example of Gross Revenue Charge vs. Income Tax

	Gross Revenue Charge (\$)	Income Tax (\$)
Revenues	1,000,000	1,000,000
Expenses	900,000	900,000
Revenue charge	120,000	
Income tax		35,000
Net revenue	-20,000	65,000

Source: The Conference Board of Canada.

In this case, the corporation would be unlikely to undertake the investment if faced with the 12 per cent gross revenue charge (GRC), as it would result in a loss of \$20,000 per year. On the other hand, a corporation that was instead subject to a 35 per cent corporate tax rate would generate after-tax profit of \$65,000.

Perhaps even worse is the situation where initial revenue estimates did not pan out. For example, if the investment were undertaken but only resulted in \$800,000 in additional revenues, the corporation subject to the GRC would lose \$196,000 (\$100,000 due to the shortfall in revenues relative to expenses, plus an additional \$96,000 for the GRC). Meanwhile, the corporation subject to the income tax would lose only \$65,000 (\$100,000 due to the shortfall minus \$35,000 in income taxes that it would be able to recover from other operations, assuming that it was still in a taxable position).

The not-for-profit structure of Canadian airports prevents the application of an income tax in place of a GRC. Nevertheless, outside of an outright elimination of airport rents, a more equitable formula that does not discourage growth should be considered.

Travellers Security Charge (ATSC) is equal to or even lower than the domestic ATSC because trans-border fares are more likely to be competed away. A more radical approach would be to shift the charge directly to carriers on a per flight or even monthly capacity basis, so they can allocate these costs across passengers according to demand (related to the yield management points below). The per flight charge would be adjusted along with changes in load factors over time, in order to ensure that overall revenues grow with passenger demand (the primary cost driver for airport security).

- ◆ *Understand the drivers of the base cost advantage of U.S. air carriers.* U.S. legacy carriers have undergone major overhauls that have effectively put their cost structure in line with the traditional low-cost carriers. In addition, a new class of carriers (ultra low-cost carriers) has emerged in the U.S. but has yet to surface in the Canadian market. Part of this is the function of a larger and denser market. However, some of this can be attributed to the policy environment and bankruptcy legislation. The airline industry is by its nature a global one, and different rules for the domestic market hinder the ability of domestic carriers to compete with international carriers.

- ♦ *Pursue opportunities to harmonize the treatment of air passengers with U.S. authorities.* As explained in Chapter 3, much of the difference in after-tax fares when flying from Canadian airports relative to cross-border airports stems from U.S. aviation policy. Canadian policy-makers should pursue all opportunities to minimize these disparities, both through Canadian policy and through negotiations with U.S. policy-makers. The increasing interest in Canada–U.S. perimeter security may present an opportunity to open this discussion.

None of this is to suggest that the level of Canadian fees and taxes is not important. On the contrary, they have and will continue to cause passenger leakage.

Meanwhile, to generate a greater likelihood of a positive policy response, the industry must show that it is serious about tackling the issue where it has some control of its own. Some industry approaches could include:

- ♦ *Turning per passenger charges into a pool of fees that carriers can spread more discriminately.* It is well established that carriers practise yield management, the benefit of which has been higher load factors and higher overall efficiency. The more per passenger costs and fees that they are faced with, the more that their ability to practise yield management is undermined. This is not to suggest that carriers should be charged fixed fees that do not vary with demand, as that would expose them to even greater cyclical risk than they already face (due to the capital-intensive nature of the business). However, fees should still vary with demand (revenue or passengers) but could be charged to carriers in blocks that they can spread among their own flights/passengers in accordance with their own pricing strategies.
 - There are two factors at play here. One is that carriers can spread their costs for a given flight among passengers on that flight however they see fit. In addition to this, some costs can be spread across different flights if they are not marginally generated by additional flights.
 - Fuel costs are an example of the former but not the latter. As they have grown, they have increased the total amount of revenue that a given flight

must generate in order to continue to be viable. However, those fuel costs can still be spread across passengers on that given flight however they see fit.

- In some respects, the elimination of a passenger ticket tax in favour of per flight charges (based largely on weight and distance) in order to cover air navigation costs in Canada is an example of a charge that has undergone such a transition.
- On the other hand, fees such as Airport Improvement Fees (AIFs) cannot be spread among passengers as they see fit even on a given flight, because they are fixed on a per passenger basis. Now that AIFs (and Passenger Facility Charges [PFCs] south of the border) have been a part of airport pricing for a decade or more, it may be time for a comprehensive review of how these charges have influenced traffic demand relative to raising revenues through alternative charges.
 - In addition, airports can offer a reduction in AIFs in conjunction with the reduction or eventual elimination of airport rents. For example, it has been estimated that the elimination of airport rents could fund an approximate 50 per cent reduction in AIFs.¹
- ♦ *For certain fees, a “club” fee plus marginal fees makes sense.* A gate fee that is charged per landing can be spread across passengers on a given flight by the carrier, but not across different flights. Some airports charge a fixed fee for gates per day or month, rather than per flight (or allow this as an option). This incents the carriers to maximize gate usage and also allows them to spread their costs across flights however they see fit (and being able to respond more quickly to changing demand as a result).

Finally, to better understand the true impact and extent of passenger leakage, there is a need for a better understanding of local passenger origins and the drivers of demand for cross-border air fare shopping. This is likely best done through a border intercept survey (possibly involving the Canadian Border Services Agency), similar to the surveys in the GVRD cited earlier in this report but more comprehensive in scope.

¹ Mulder, *Air Industry Priorities*, 10.

In addition, more analysis should be conducted to determine the wider impacts of leaked traffic. When a Canadian airport loses a passenger to a cross-border airport due to an unlevel playing field, this is not just a concern for that airport. YVR, YYZ, and YUL are all national and international hubs, providing connectivity within, to, and from all of Canada. As such, they depend on density to achieve and provide the benefits of network economies. Any lost traffic will result in poorer connectivity not just for their local catchment area, but for all of Canada.

None of this is to suggest that the level of Canadian fees and taxes is not important. On the contrary, fees and taxes in fact have caused and will continue to cause passenger leakage to cross-border airports.

As a result, a continued effort to reduce the disparity between taxes and fees is required in order to reduce the level of passenger leakage to cross-border airports. When analyzing the impact of tax and fee reductions on government fiscal balances, policy-makers must consider the fact that a significant portion of the lost tax revenue will be recovered as a result of the increased traffic at Canadian airports. This

is in part what contributed to the decision to eliminate the fuel tax that the Province of British Columbia was levying. The Province of Ontario should strongly consider similar action on its fuel tax, which now remains as the sole outlier.

In the meantime, we can expect the prevalence of Canadians crossing the border to fly from a U.S. airport to continue to grow. It might be said that the emergence of the even lower cost and closer cross-border airports such as IAG and PBG pose a threat both to Canadian airports and the “traditional” cross-border airports much in the way that ultra low-cost carriers have competed for traffic from the traditional low-cost carriers. The fact that cross-border air fare shoppers have contributed to the creation of a second class of low-cost airports in the U.S. suggests that the occurrence is no longer a niche market with a marginal impact on the domestic market.

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APPENDIX A

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APPENDIX B

Canadian Airports Council Passenger Leakage and Airfare Analysis

Summary of CAC Passenger Leakage Data and Air Fare Analysis

														Transborder								
														Fare Differential (Round trip)								
Airport	Code	Pax (e&d)	Growth (10 yrs p.a.)	Catchment (Population)	Pax (e&d)	Growth (10 yrs p.a.)	Pax (o&d)	Growth (10 yrs p.a.)	T/B Pax (o&d)	Via Cda (o&d)	Catchment (o&d)	Diversion (U.S. airports)	%	Cda Base	Cda Tx	Cda Fare	U.S. Base	U.S. Tax	U.S. Fare	Diff	Comments	
1	Toronto	YYZ	31,934,395	1.0	8,400,000	8,528,758	-1.30	6,501,321	0.5	6,416,021	85,300	8,625,265	1,660,243	19	\$318	\$114	\$432	\$265	\$59	\$323	\$109	2 hr 30 mins to BUF
2	Vancouver	YVR	16,778,774	0.5	3,484,000	4,133,938	0.20	3,128,551	-0.3	2,977,248	151,303	3,989,955	794,000	20	\$388	\$105	\$493	\$269	\$38	\$307	\$186	1 hr 30 mins to BLI
3	Montréal	YUL	12,971,339	5.3	9,000,000	3,149,415	2.80	2,558,409	1.1	2,400,355	158,054	3,234,462	676,053	21	\$573	\$124	\$698	\$292	\$35	\$327	\$371	
4	Calgary	YYC	12,633,709	4.9	1,746,000	2,462,295	n.a.	1,990,880	4.8	1,807,601	183,279	2,015,148	17,840	1	\$385	\$108	\$493	\$270	\$57	\$327	\$166	Not a major issue; 5 hr 45 mins
5	Edmonton	YEG	6,089,099	4.7	1,696,000	1,003,813	7.40	1,080,943	8.7	870,049	210,894	1,110,625	1,200	0	\$312	\$103	\$415	\$274	\$56	\$331	\$85	Not a major issue; ~9-hr drive
6	Ottawa	YOW	4,473,894	3.2	1,350,000	725,781	1.70	858,460	1.8	673,877	184,583	943,461	53,326	6	\$425	\$95	\$520	\$288	\$49	\$337	\$183	4-hr drive to SYR, +MAS, OGS, PBG, ART
7	Halifax	YHZ	3,508,153	1.6	944,000	350,000	n.a.	215,227	4.3	165,863	49,364	227,715	10,159	4	\$486	\$82	\$569	\$379	\$28	\$407	\$161	Catchment is 7+ hrs
8	Winnipeg	YWG	3,369,974	1.2	875,409	475,239	1.20	566,263	6.0	465,454	100,809	613,901	47,638	8	\$662	\$85	\$747	\$330	\$21	\$351	\$396	Split FAR 21%, MOT 21%, GFK 58%
9	Victoria	YYJ	1,514,713	2.8	422,000	259,351	14.40	285,602	7.1	228,894	56,708	314,806	29,204	9	\$477	\$94	\$570	\$263	\$36	\$300	\$271	Not a major issue
10	Kelowna	YLW	1,391,725	5.1	376,000	n.a.	n.a.	154,552	8.1	93,114	61,438	185,708	31,156	17	\$511	\$99	\$611	\$265	\$37	\$302	\$308	4-hr 45-min drive to BLI
11	St. John's	YYT	1,318,713	n.a.	509,000	n.a.	n.a.	137,446	13.5	31,016	106,430	139,052	0	0								Not a major issue; isolated from U.S.
12	Saskatoon	YXE	1,215,923	4.4	534,000	193,392	9.78	223,362	9.1	159,883	63,479	225,662	2,300	1	\$378	\$243	\$621	\$168	\$36	\$204	\$417	7 hr 30 mins to MOT
13	Quebec City	YQB	1,190,088	8.7	1,800,000	n.a.	n.a.	252,968	5.8	252,285	683	403,807	150,839	37	\$363	\$115	\$478	\$279	\$54	\$334	\$144	4 airports within 6 hrs; PBG 4:15 hr
14	Regina	YQR	1,120,134	4.0	500,000	141,896	4.80	184,117	11.6	141,896	42,221	207,991	23,874	11	\$685	\$103	\$787	\$470	\$32	\$502	\$286	
15	Thunder Bay	YQT	689,704	1.7	188,900	14,966	-23.80	41,835	4.9	14,966	26,869	72,572	30,737	42	\$499	\$102	\$601	\$282	\$32	\$314	\$288	4 hr 30 mins
16	Abbotsford	YXX	563,693	8.7	475,000	0	-	10,960	13.1	0	10,960	109,416	98,456	90	\$658	\$88	\$745	\$285	\$24	\$310	\$436	Pre-empts launch of U.S. service
17	Moncton	YQM	552,629	4.0	365,000	n.a.	n.a.	72,151	12.7	27,826	44,325	81,515	9,364	11	\$578	\$120	\$698	\$229	\$48	\$277	\$421	
18	London	YXU	476,000	8.9	913,000	105,201	-8.90	105,201	-8.9	78,370	26,831	1,073,480	734,259	68	\$705	\$165	\$870	\$294	\$27	\$321	\$549	3 hr 15 mins to DTW
19	Hamilton	YHM	387,831	30.0	2,500,000	8,100	-8.00	6,840	-	4,115	2,672	1,880,580	812,740	43	\$761	\$215	\$976	\$429	\$41	\$470	\$506	Catchment includes Hamilton core
20	Prince George	YXS	376,000	3.7	193,000	0	n.a.	23,846	13.6	0	23,846	26,551	2,705	10	\$627	\$115	\$742	\$265	\$38	\$303	\$439	Not a major issue
21	Comox	YQQ	290,000	16.6	271,000	0	n.a.	6,331	7.0	0	6,331	40,003	33,672	84	\$691	\$130	\$821	\$178	\$36	\$214	\$608	
22	Charlottetown	YYG	289,597	6.5	141,000	n.a.	n.a.	25,479	5.6	22,980	2,499	26,910	1,431	5	\$619	\$87	\$706	\$405	\$28	\$433	\$273	
23	Fredericton	YFC	273,968	1.8	173,000	0	n.a.	18,139	2.9	1,961	16,178	42,611	24,472	57	\$896	\$147	\$1,043	\$229	\$48	\$277	\$766	
24	Kamloops	YKA	265,423	4.5	143,000	0	n.a.	16,349	8.0	0	16,349	32,343	15,994	49	\$1,056	\$189	\$1,245	\$364	\$42	\$406	\$839	4 hr 20 mins to BLI
25	Saint John	YSJ	222,310	1.2	250,000	0	-100	27,122	-0.4	0	27,122	52,442	21,879	42	\$346	\$121	\$466	\$200	\$25	\$226	\$241	Aggressive marketing by Allegiant
26	Windsor	YQG	137,061	-4.6	652,000	0	-	15,689	-8.5	0	15,689	245,664	229,975	94	\$678	\$131	\$809	\$244	\$45	\$289	\$520	+129,600 pax via land to YYZ
27	Waterloo	YKF	106,321	29.4	750,000	0	-	80	-	0	80	670,535	120,578	18	\$866	\$98	\$964	\$202	\$17	\$219	\$745	
CANADA					38,651,309					-1,674,296	1,674,296	26,592,180	5,634,094	21	\$575	\$122	\$697	\$285	\$38	\$323	\$374	U.S. fare is 54% of Cdn. fare
CANADA (Net of Overlap)		104,141,170	-	34,349,200	21,552,145	-	18,508,123	-				4,188,901*		\$575	\$122	\$697	\$285	\$38	\$323	\$374		

*Projected to increase to 5,249,585 in 2011.
Pax = passengers; e&d = enplaned and deplaned; o&d = origin and destination; n.a. = not available
Source: Canadian Airports Council.

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