

# **Trade and Transportation**

## **The Impact of the 1995 Transborder Air Services Accord**

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For many years, Canada and the United States have enjoyed the largest bilateral trading relationship in the world. In 1999 alone, the United States exported \$187.9 billion in goods and services to Canada and imported \$216.8 billion from it. While propinquity and cultural affinity no doubt play a role, most observers attribute their extensive trade to the generally open trading regime that has existed between the two countries for many decades. Both countries are members of the World Trade Organization (WTO), and its predecessor, the General Agreement on Tariffs and Trade (GATT). These organizations have striven to dismantle trade barriers on a multilateral basis, including, of course, transborder trade between Canada and the United States. The two nations have also utilized bilateral agreements to eliminate obstacles to trade. The 1965 Auto Pact, for example, provided for the duty-free movement between the two countries of motor vehicles and original equipment automotive parts. The 1988 Canadian-U.S. Free Trade Agreement (FTA) lowered barriers to Canadian-U.S. trade in most goods and services. In 1994, the North American Free Trade Agreement (NAFTA) was implemented among Canada, Mexico, and the United States, lowering trade barriers still further.

To be sure, not all sectors of the North American economy have benefited from an open trading regime. One important sector that has labored under high trade barriers for most of the post-World War II period is the transborder air services market. In 1966—roughly the same time that the Auto Pact was being implemented—a new air services accord (ASA) was struck by negotiators representing the two governments to govern aviation services between U.S. and Canadian cities. Unlike the Auto Pact, the impact of the 1966 ASA was to limit trade, not facilitate it. Although it was amended several times, in essence it restricted air service to approximately 83 transborder routes. Moreover, on most of these routes only one or two carriers was authorized to provide service. The 1966 agreement governed Canada-U.S. air service for almost 30 years, finally being replaced in 1995 with a new ASA that has permitted freedom of entry, exit, and pricing on transborder routes.

The dichotomy between the progressive opening of most sectors of the North American economy and the “frozen in time” nature of the closed regime governing transborder air services creates a natural experiment for researchers interested in studying the relationship between population growth, trade, and air transportation. The goal of this paper is to analyze this natural experiment. The paper proceeds as follows: Section I briefly describes the evolution of the transborder aviation policies of Canada and the United States from 1966 to the present, while Section II discusses changes in the North American economy during that time span. Section III examines the relationship between merchandise trade patterns and air passenger traffic patterns from 1966 to the present. In particular, it focuses on three time periods: the advent of the 1966 ASA (1968 is used as a proxy, for it is the earliest year for which necessary data are available); 1994, which represents the ending of the 1966 ASA; and 1998, the latest year for which data are available after the new ASA became effective. Our summary and conclusions are offered in Section IV.

**I. Regulation of Transborder Aviation Services, 1966-2001**

In 1966, Canada and the United States signed a restrictive air services accord (ASA) governing transborder aviation services between the two countries. This accord, with minor amendments, remained in place until 1995. The 1966 accord as amended authorized commercial airline service in 83 transborder city-pairs. Most of these routes received monopoly service. Only 19 city-pairs were allowed to receive service from both a U.S. and a Canadian carrier. Twenty-six routes were reserved for carriers domiciled in Canada; the remaining 38 were to be served exclusively by U.S. carriers.<sup>1</sup> On most routes, each nation could designate

more than one airline only with the permission of the other government. While capacity was left to the determination of the designated carriers, either government was allowed to reject proposed transborder fares.

This accord was amended twice in 1984. The first change, the Regional, Local, and Commuter Services Agreement, allowed commuter carriers operating aircraft of 60 seats or fewer to enter transborder city-pairs as long as the city met certain size and distance criteria.<sup>2</sup> The second change, enacted as an experiment, granted freedom of entry on transborder routes serving Montreal's Mirabel Airport or San Jose, California, although potential service between Mirabel and seven important U.S. gateway cities was excluded from this deal.

These modest breakthroughs encouraged negotiators from both countries to seek wholesale liberalization of the 1966 Accord. Despite many public statements about the need for a new ASA—such as that contained in the Shamrock Summit Declaration, a document issued jointly by President Reagan and Prime Minister Mulroney in March 1985—it took a decade of intermittent negotiations before a new, much liberalized transborder ASA was signed in February 1995.<sup>3</sup> After a two-year phase-in period that granted Canadian-flag carriers a head start in markets serving Toronto, Montreal, and Vancouver, the new ASA permitted unfettered freedom of entry and exit to Canadian- and U.S.-flag carriers in the transborder market. The 1995 accord also granted these carriers pricing freedom. Carrier-initiated prices could be rejected only if both governments found them unwarranted. The grounds for governmental disapproval were limited to protecting carriers from predatory competition or from having to compete against low fares resulting from government subsidies or to prevent unreasonable price discrimination or exploitation of a dominant position.<sup>4</sup>

## **II. The Evolution of the North American Economy, 1966-1999**

The North American economy has undergone dramatic changes subsequent to the signing of the 1966 transborder Air Services Accord. As we noted in the introduction, trade barriers between the two countries have been significantly reduced due to the 1965 Auto Pact, the 1988 Free Trade Agreement, and the 1994 North American Free Trade Agreement. The reduction in trade barriers between the two countries intensified trade between them, and transborder trade and investment became a more important component of both countries' economies. Many firms integrated their U.S. and Canadian operations, focusing their production of given products or product lines in one country so as to achieve economies of scale. For example, DaimlerChrysler produces its Ram vans and wagons in Windsor, Ontario, while a Toledo facility assembles the company's Jeep Cherokees and Wrangler SUVs.<sup>5</sup>

Massive regional shifts of population and production occurred in both countries. As Table 1 indicates, in 1966, 52.5% of the U.S. population lived in either the Northeast or the Midwest—the traditional heart of the U.S. economy; 56.7% of the country's personal income was generated in this region. By 1999, these percentages had fallen to 42.2% and 44.9% respectively. In Canada, similar, but less dramatic shifts took place, as is demonstrated in Table 2. In 1966, Quebec and Atlantic Canada contained 38.7% of Canada's population; by 1999, this figure had fallen to 31.9%. In 1966, Quebec and Atlantic Canada contributed 31.9% of Canada's GDP. In 1999, this figure had fallen to 27.1%. Conversely, the western-most provinces, Alberta and British Columbia, contained 16.7% of Canada's population in 1966; by 1999, this figure had grown to 22.9%. In 1966, 18.1% of Canada's GDP was generated by these two provinces; in 1999, Alberta and British Columbia produced 24.6% of Canada's GDP.

## **III. The Relationship between Trade and Air Transportation**

Although the U.S. and Canadian economies underwent substantial transformation as a result of these regional shifts, for almost three decades the air services provided to transborder travelers did not. Not surprisingly, the pattern of air services authorized by the 1966 air services accord reflected the contemporaneous Canadian and U.S. economies. Most of the city-pair services authorized by the 1966 accord linked cities in the Northeastern and Midwestern United States with cities in Eastern and Central Canada. Excluding Alaskan and territorial routes, half of the authorized routes had either Toronto or Montreal as their Canadian terminus. Conversely, little service was authorized from the western or southern

United States or from Canada west of Ontario. Particularly troublesome was the paucity of routes between the faster-growing regions of the two countries. Only 18 routes served a point in the southern or western U.S. and a point in the western provinces of Canada. Similarly, post-1966 changes in government aviation policy (e.g. deregulation) and industry practice (e.g. construction of hub-and-spoke route networks) meant that the routes created by the 1966 accord increasingly diverged from those that would be flown in a free market. For example, under the 1966 accord Delta, not US Air, received transborder rights between Toronto and Pittsburgh despite the latter city's later status as US Air's primary hub.

As time passed, the pattern of air service authorized by the 1966 ASA increasingly diverged from the pattern of population and economic activity in North America. Post-1966 shifts in North American economic activity left many booming cities with inadequate or nonexistent transborder service. Accordingly, many transportation, economic development, and government officials expressed concern that the inability of the two countries to renegotiate the transborder ASA would slow the growth of commercial ties between the two neighbors, misdirect transborder trade and locational decisions, and fail to meet the evolving needs of the increasingly integrated North American economy.

The failure of Canada and the United States to negotiate a new air services accord for almost three decades has one interesting benefit, however. It creates a natural experiment to assess the relationship between air transportation and economic activity. To evaluate this experiment, we begin by assuming that the transborder routes authorized by the 1966 ASA reflected in some large measure economic activity in the contemporaneous North American economy. That is, rational negotiators would have agreed to allocate routes to where they were most needed, *ceteris paribus*. (Of course, we recognize that political considerations could also play a role as well.) Thus we would expect to observe a relatively high correlation between economic activity and air passenger service during the initial period when the 1966 ASA was in effect. If, as we have argued, the North American economy evolved in the ensuing three decades while the transborder route network was "frozen in time," then we would expect the relationship between economic activity and air passenger service to atrophy over time. Finally, after the new, liberalized transborder ASA was implemented in early 1995 that allowed carriers to choose which routes to serve, we would expect to observe a very high correlation between economic activity and air passenger service.

To test this argument, we examined the relationship between merchandise trade and scheduled passenger traffic on a province-state basis for three selected years. The three years chosen were:

- 1968, which is near the advent of the 1966 air services accord. Also, 1968 was the earliest year for which "province to state" Canadian export data were available;
- 1994, the last complete year when the 1966 air services accord was in effect;
- 1998, the latest year for which data are available after the new air services accord became effective.

Merchandise trade statistics were drawn from Canadian merchandise trade export data. The Revenue Passenger Origin Destination Survey of Statistics Canada was used to measure scheduled passenger traffic.<sup>6</sup>

For each year examined, the top fifty city-pairs in the Canada-United States scheduled passenger aviation market were selected. These were grouped by common province-state combinations. For example, Vancouver-Los Angeles, Vancouver-San Francisco and Vancouver-San Diego were combined into British-Columbia-California. For 1998, the top fifty-city pairs, which accounted for 69% of the scheduled origin-destination traffic between Canada and the United States, yielded 37 province-state combinations. The Canadian merchandise trade export values for these province-state combinations were then tabulated. Next, the correlation between the province-state passenger traffic and province-state merchandise export values were calculated for each year.

Tables 3, 4, and 5 report these statistics for the three years. The correlation (measured using the Pearson product moment correlation coefficient) between province-state passenger flows and merchandise trade was 0.469 in 1968. The correlation declined to 0.105 in 1994, but then rebounded to 0.658 in 1998. These changes in the correlation between air passenger traffic and merchandise trade are consistent with our expectations. Because of the "frozen in time" nature of transborder air services, we expected that the correlation would atrophy in 1994 compared to 1966. Once U.S. and Canadian carriers were free to enter

any transborder market, we expected that the correlation would be stronger in 1998 compared to 1994. This finding does suggest that in the absence of any government constraints a strong correlation exists between merchandise trade and air passenger service.

The information contained in Tables 3, 4, and 5 are consistent with the regional shifts in U.S. economic activity that occurred over the period 1966 to 1998. The economy's change in orientation from northern to more southern states is apparent over time in both the merchandise trade and the aviation passenger data. Consider merchandise trade: in 1968, of the top 50 province-state combinations, 11 involved southern or western states. This figure rose to 12 by 1994 and to 16 by 1998.

In the aviation data, not only did the number of province-state combinations increase, but more southern and western states became involved through time. In 1968, the top 50 city-pairs in passenger volume resulted in 34 province-state combinations. Only twelve of these involved southern or western states. By 1994, the top 50 city-pairs yielded 36 province-state combinations; 17 of these involved southern or western states. By 1998, the top 50 city-pairs yielded 37 province-state combinations, 22 of which involved southern or western states. Similarly, the aviation statistics reflect the growing importance of British Columbia and Alberta in the Canadian economy. In 1968, only 9 of the 50 largest transborder markets involved British Columbia or Alberta. In 1994, the corresponding figure was 10, while in 1998 it grew to 12.

#### **IV. Conclusions**

In this paper we have explored the impact of a natural experiment that occurred when transborder air services between Canada and the United States were frozen in place while the two countries were undergoing massive shifts in regional economic activity. We found that, absent government constraints, there is a strong correlation between province-state trade flows and province-state passengers flows. We also determined that the failure to renegotiate a transborder air services accord over a thirty-year period caused this correlation to atrophy. Presumably this failure damaged the ability of parties in both countries to develop additional beneficial economic linkages. However, we made no attempt to determine the direction of causality—i.e., does air passenger traffic generate trade or does trade generate air passenger traffic?

**Table 1 – United States Population and Personal Income, 1966 and 1999**

	Population			
	1966		1999	
	Population (000's)	% of total U.S.	Population (000's)	% of total U.S.
Northeast	47,788	24.4	51,830	19.0
Midwest	54,840	28.1	63,242	23.2
South	60,205	30.8	96,468	35.4
West	32,667	16.7	61,150	22.4
Total U.S.	195,501	100.0	272,691	100.0

	Personal Income			
	1966		1999	
	Personal Income* \$	% of U.S. Total	Personal Income* \$	% of U.S. Total
Northeast	158.9	27.2	1718.1	22.1
Midwest	172.0	29.5	1770.8	22.8
South	148.5	25.4	2511.0	32.4
West	104.4	17.9	1757.3	22.7
Total U.S.	583.8	100.0	7757.2	100.0

\* in billions of U.S. dollars

**Table 2 – Canadian Population and GDP, 1966 and 1999**

	1966		1999	
	Population (000's)	Percent of total %	Population (000's)	Percent of total %
Newfoundland	493.4	2.5	540.8	1.8
PEI	108.5	0.5	137.6	0.5
Nova Scotia	756.0	3.8	939.2	3.1
New Brunswick	616.8	3.1	754.3	2.5
Quebec	5,780.8	28.9	7,349.1	24.1
Ontario	6,960.9	34.8	11,517.3	37.8
Manitoba	963.1	4.8	1,142.6	3.7
Saskatchewan	955.3	4.8	1,025.7	3.4
Alberta	1,463.2	7.3	2,959.4	9.7
B.C.	1,873.7	9.4	4,028.1	13.2
Yukon	14.4	0.1	31.1	0.1
NWT including Nunavut	28.7	0.1	68.1	0.2
Total Canada	20,014.8	100.0	30,493.3	100.0
	GDP, expenditure-based			
	1966		1999	
	GDP*	% of total	GDP*	% of total
Newfoundland	829	1.3	12,110	1.3
PEI	178	0.3	2,994	0.3
Nova Scotia	1,513	2.4	22,407	2.3
New Brunswick	1,222	1.9	18,390	1.9
Quebec	16,641	26.0	204,062	21.3
Ontario	26,182	41.0	396,775	41.4
Manitoba	2,669	4.2	30,995	3.2
Saskatchewan	2,965	4.6	30,143	3.1
Alberta	5,016	7.8	116,990	12.2
B.C.	6,538	10.2	118,783	12.4
Yukon	155	0.2	1,080	0.1
NWT (including Nunavut)	in Yukon		2,167	0.2
Nunavut	in Yukon		731	0.1
Total Canada	63,908	100.0	957,627	100.0

\*millions of Canadian dollars

Source: CANSIM Matrix 60, *The Daily*, September 26, 2000, CANSIM matrix databank no.'s D24227, D24261, D24295, D24329, D24363, D24397, D24431, D24465, D24499, D24533, D24567, D24601, D29133, D29167, CANSIM matrix databank no.'s D31720, D31742, D31764, D31786, D31808, D31830, D31852, D31874, D31896, D31940, D44014, D31698

**Table 3 – Province-State Passenger and Trade Flows, 1968**

Province-State	Province-State Passengers (000's)	Province-State Exports \$000's	Province-State Passengers Rank	Province-State Exports Rank
ON-NY	413.6	958,083	1	2
QC-NY	342.3	491,738	2	3
ON-FL	132.4	20,675	3	72
BC-CA	124.7	177,384	4	10
ON-IL	109.6	219,395	5	8
QC-FL	81.2	20,610	6	73
QC-MA	80.1	154,091	7	12
ON-CA	78.6	158,076	8	11
ON-OH	61.2	234,396	9	6
BC-WA	56.7	292,742	10	4
NS-MA	46.4	37,330	11	40
QC-CA	42.9	54,110	12	28
ON-MA	42.7	131,939	13	14
ON-PA	41.1	223,954	14	7
QC-IL	39.3	98,389	15	18
ON-DC/MD	36.2	47,198	16	33
ON-MI	34.6	1,571,167	17	1
QC-DC/MD	27.3	80,428	18	22
QC-PA	27.3	254,030	19	5
BC-HI	27.2	5,748	20	145
BC-OR	22.3	33,426	21	48
QC-OH	15.9	148,507	22	13
BC-NY	14.9	78,047	23	24
MB-MN	14.8	109,916	24	16
MB-IL	13	11,687	25	103
ON-MN	12.3	80,387	26	23
MB-NY	12.1	25,910	27	57
AB-CA	11.1	34,148	28	46
ON-CT	9.8	39,453	29	37
NS-NY	9.5	17,070	30	79
AB-NY	8.5	11,066	31	104
ON-MO	8.1	66,231	32	25
AB-CO	7.9	1,428	33	241
BC-IL	7.4	47,583	34	32

Source: see footnote 6



**Table 4 – Province-State Passenger and Trade Flows, 1994**

Province-State	Province-State Passengers (000's)	Province-State Exports \$000's	Province-State Passengers Rank	Province-State Exports Rank
ON-NY	772.3	10,293,236	1	2
ON-FL	485.2	689,069	2	45
ON-CA	441.1	5,048,547	3	4
BC-CA	341.8	1,304,894	4	26
ON-IL	315	4,168,980	5	7
QC-NY	305.4	4,667,973	6	6
QC-FL	273.2	610,117	7	55
AB-CA	214.5	755,989	8	40
ON-MA	211.7	1,950,845	9	13
QC-CA	170.7	724,029	10	42
ON-TX	151.6	1,853,883	11	14
QC-IL	112.7	1,243,900	12	27
ON-PA	109.1	2,336,867	13	12
QC-MA	104.5	1,385,057	14	23
ON-DC/MD	101.6	610,691	15	54
ON-GA	90.5	1,230,322	16	28
ON-MI	80.8	45,460,969	17	1
BC-NY	78.5	316,987	18	86
BC-WA	69.7	3,027,972	19	8
ON-AZ	57.4	122,604	20	139
ON-OH	55.5	5,245,730	21	3
BC-IL	53.8	504,365	22	63
ON-MN	53	869,567	23	38
QC-DC/MD	52.8	387,616	24	71
QC-PA	45.9	1,798,433	25	17
ON-TN	43.6	1,081,666	26	35
ON-CO	41.6	222,214	27	103
BC-HI	40.5	36,043	28	244
AB-NY	39.8	1,819,137	29	15
QC-GA	39.7	540,460	30	60
AB-IL	39.4	2,774,859	31	10
QC-MI	39.2	4,681,717	32	5
BC-OR	39	755,772	33	41
AB-TX	38	1,098,975	34	34
NS-MA	37.3	443,490	35	68
QC-TX	35.7	1,308,010	36	25

Source: see footnote 6

**Table 5 – Province-State Passenger and Trade Flows, 1998**

Province-State	Province-State	Province-State	Province-State	
	Passengers (000's)	Exports \$000's	Passengers Rank	Exports Rank
ON-NY	1076.8	19,171,154	1	2
BC-CA	959.9	1,840,786	2	27
ON-CA	648.7	9,045,904	3	3
ON-IL	458.3	6,857,699	4	6
ON-FL	400.9	1,304,485	5	40
QC-NY	356.6	7,739,478	6	5
AB-CA	316.9	1,136,119	7	45
ON-DC/MD	299.3	829,337	8	55
ON-TX	257.9	3,217,576	9	12
ON-MA	255.8	2,688,094	10	17
QC-CA	227	1,381,010	11	37
QC-FL	202.9	1,071,001	12	48
ON-GA	197.1	1,892,168	13	26
QC-IL	165	1,772,661	14	30
ON-PA	151.2	3,925,293	15	9
BC-NY	131.6	395,510	16	91
BC-NV	125.3	105,718	17	192
BC-WA	118	4,808,146	18	7
ON-MN	108.3	1,631,752	19	34
QC-DC/MD	102.1	655,894	20	65
BC-AZ	99.6	2,296,980	21	153
ON-CO	97.8	409,517	22	86
ON-AZ	94.7	401,796	23	88
BC-IL	92.2	580,501	24	72
AB-TX	82.4	1,249,403	25	42
QC-GA	74.8	1,335,181	26	38
ON-NC	74.2	1,782,914	27	29
ON-OH	71.2	8,292,686	28	4
QC-MA	70.4	1,755,969	29	31
BC-OR	68.2	981,493	30	52
BC-HI	63.9	32,032	31	300
ON-WI	61.3	2,296,980	32	21
QC-PA	59.7	2,521,192	33	20
BC-TX	59.1	617,911	34	68
ON-MO	58.5	2,269,560	35	23
AB-NY	57	2,936,177	36	14
ON-WA	56.5	973,098	37	53

Source: see footnote 6

## Footnotes

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<sup>1</sup>Ira Lewis, "United States-Canada Air Services: The Role of Alliances in a Future Bilateral Agreement," *Transportation Journal*, Spring 1995, pp. 5-12.

<sup>2</sup>To qualify under the commuter services agreement, the U.S. city had to have a population of less than one million and the Canadian city less than 500,000 population. The stage length of the intended service had to be less than 600 miles, except in Central Canada, where stage lengths were limited to less than 400 miles.

<sup>3</sup>Raymon J. Kaduck, "*Break in Overcast: The Negotiations of the 1995 Canada-US Open Skies Agreement*", the Norman Paterson School of International Affairs, Ottawa, Ontario, October 1996 (mimeo), which provides useful information about the progress of these negotiations and important insights into why it took so long to reach an agreement acceptable to both sides.

<sup>4</sup>Ira Lewis, "The Emerging Integration of the Canadian and U.S. Airline Industries," *Transportation Journal*, Spring 1996, pp. 49-54.

<sup>5</sup>"Chrysler to cut 26,000 jobs," CNN website, January 29, 2001

<sup>6</sup>Statistics Canada catalogue 51-205, *Air Passenger Origin and Destination, Canada-United States Report* The survey estimates are produced from data that were drawn from lifted passenger flight coupons. A 10% continuous systematic sample of flight coupons lifted by the major Canadian scheduled air carriers and the relevant certificated United States air carriers was employed. From the Canadian survey are taken those itineraries which have pure Canadian carriage and mixed Canadian and United States carriage content. From the United States survey are derived those itineraries with pure United States carriage. Data exchanged include all itineraries in the O & D surveys of the two countries which have both a United States point and a Canadian point in the routing, or which involve a United States carrier to a Canadian point or a Canadian carrier to a United States point.

Statistics Canada catalogue 65-202, *Exports, Merchandise Trade* and special tabulation from International Trade Division, Statistics Canada, for 1968. Canadian exports to the United States are compiled using United States import statistics (from the U.S. Bureau of the Census). In 1968 the province of lading was reported while in 1994 and 1998 the province of origin was reported. While these would largely give the same result there could be some differences. There may also be some bias in the state of destination in favour of border states as these can be reported in error as the first modal or carrier distribution change rather than the final destination.