

Extra Border Security and its Impact on
Canada-United States Trade and Investment: Focus
on the Quebec-Northern New York Corridor

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Table 1. Canada – U.S. Trade and Investment 2001 - 2011 (U.S. \$billions)*

	<u>2001</u>	<u>2003</u>	<u>2005</u>	<u>2007</u>	<u>2009</u>	<u>2011</u>
Exports to U.S.	222.8	228.8	296.4	324.7	232.1	330.3
% of total exports	85.4	84.1	82.3	77.5	73.7	73.0
Imports from U.S.	138.4	142.9	174.7	202.3	161.1	220.8
% of total imports	62.5	59.6	55.6	53.4	50.4	48.9
Quebec export	38.0	37.2	46.4	47.3	34.4	43.0
Quebec imports	13.0	11.6	14.5	18.6	15.6	20.7
Ontario exports	118.9	120.9	144.2	154.1	102.0	142.2
Ontario imports	100.2	106.0	124.8	139.6	105.6	141.3
Canada's Direct Investment in U.S.	92.4	95.7	165.7	201.9	188.9	210.9
% of Canada's FDI	64.6	63.7	63.2	56.3	52.2	51.9
% of FDI in U.S.	6.9	6.9	10.1	10.1	9.1	8.3
U.S. Direct Invest- ment in Canada	152.6	188.0	231.8	250.6	265.3	319.0
% of U.S. FDI	10.4	10.6	10.3	8.4	7.5	7.7
% of FDI in Canada	47.2	41.1	44.8	43.9	40.5	40.6
* Data sources are shown in an appendix.						

Canada-U.S. trade and investment remain strong. Canada's balance of trade is very favorable to Canada, while U.S. investment in Canada is significantly greater than Canada's investment in the U.S. Quebec has a significantly positive trade balance with the U.S.

Table 2. Quantifiable Costs of Border Delays (U.S. \$)*

<u>Cost</u>	<u>Borne By</u>	<u>Because Of</u>	<u>Source</u>
\$3.17 to \$4.23 per minute	Trucking Industry	Delays	Global Insight
\$1.3 bil per year	Trucking Industry	Delays	Global Insight
\$1.8 b to \$3.9 bil per year	Trucking Industry	Delays and uncertainty	Taylor Study
\$2.63 bil per year	Manufacturers	Delays and uncertainty	Taylor Study
\$80,000 per hour	Auto Assembly Plants	Delays - parts shortages	Canada Dept. of Int'l Trade
\$450 mil per year (by 2020)	Tourist Industry	Delays and uncertainty	Border Transport Partnership

* Canadian - American Business Council (2004).

These type of studies are rarely performed and are typically rough estimates, but were based on additional border delays due to extra security following 9-11.

Table 3. Estimates of the Border Effect, 1988 – 2009

Data	β_1	β_2	β_3	β_4	Border effect	Source
1988	1.24	1.09	-1.46	3.16	23.6	McCallum
1993	-	-	-	-	16.4	Anderson and van Wincoop
1996	-	-	-	-	12.0	Helliwell
2003	1.07	1.54	-1.41	3.72	41.3	Gandhi and Duffy
2005	1.05	1.48	-1.34	3.35	28.5	Gandhi and Duffy
2007	1.06	1.64	-1.49	3.54	37.3	Gandhi and Duffy
2009	0.97	1.61	-1.55	3.74	42.1	Gandhi and Duffy

The border effect includes both “normal” and extraordinary procedures due to institutional barriers. The numbers themselves are not as important as the trend. Anderson and van Wincoop (2003) are critical of the methodology since it does not take into account all multi-lateral trade partners. There appears to be a distinct effect of 9-11, then a moderation, followed by recent increases in the deterrent effect of the existence of the border.

Table 4. Potential Model Estimates, 2003- 2011*

<u>Trade</u>	
2003: $-23.6 + .31^A P1 + 1.7^A P2 - .88 P3 + .55^C P4 + .008 P5$	$R^2 = .55$
2005: $-23.9 + .38^A P1 + 1.3^A P2 - 1.1 P3 + .77^C P4 + .007 P5$	$R^2 = .57$
2007: $-27.2 + .39^A P1 + 1.1^A P2 - .94 P3 + .66^C P4 + .008 P5$	$R^2 = .59$
2009: $-18.9 + .29^A P1 + .54^B P2 - .36 P3 + .52^B P4 + .009^B P5$	$R^2 = .65$
2011: $-29.7 + .37^A P1 + .72^B P2 - .49 P3 + .60^B P4 + .013^B P5$	$R^2 = .60$
<u>Imports</u>	
2003: $-16.7 + .20^A P1 + 1.1^A P2 - .48 P3 + .44^C P4 + .003 P5$	$R^2 = .51$
2005: $-16.9 + .25^A P1 + .82^B P2 - .55 P3 + .62^C P4 + .003 P5$	$R^2 = .51$
2007: $-18.9 + .25^A P1 + .66^B P2 - .46 P3 + .50^B P4 + .004 P5$	$R^2 = .54$
2009: $-12.7 + .19^A P1 + .27^C P2 - .09 P3 + .37^B P4 + .006^B P5$	$R^2 = .59$
2011: $-21.0 + .23^A P1 + .42^B P2 - .17 P3 + .45^B P4 + .008^B P5$	$R^2 = .53$
* p-values shown for one-tail test of alternative hypothesis $H_1: B_j > 0$, where $A=.01$, $B=.05$, $C=.10$	

This is an attempt to explain individual state trade with all of Canada. Imports is the amount of imports coming into individual U.S. states (49 states).

P1: Effect of the size and relative distances involved in internal state trade

P2: Accounts for the economic size of Ontario and its average distance from the U.S. state

P3: Accounts for the economic size of Quebec and its average distance from the U.S. state

P4: Accounts for the economic size and average distance from the rest of Canada

P5: Accounts for the size of the U.S. economy and the distance of states from the rest of the U.S.

Table 5. The Predicted Effect of Border Delay on Imports (U.S. \$bil)

<u>Year</u>	<u>Actual Imports</u>	<u>Additional Distance Assumed</u>			
		<u>35 mi</u>	<u>100mi</u>	<u>250mi</u>	<u>500mi</u>
2003	\$228.8	217.9	193.2	145.9	86.5
2005	296.4	290.4	264.1	213.7	150.6
2007	324.7	302.4	275.0	222.3	156.1
2009	232.1	230.2	215.2	186.2	149.4
2011	330.3	320.9	294.3	243.2	178.8

Table 6. The Predicted Effect of Border Delay on Total Trade (U.S. \$bil)

<u>Year</u>	<u>Actual Trade</u>	<u>Additional Distance Assumed</u>			
		<u>35mi</u>	<u>100mi</u>	<u>250mi</u>	<u>500mi</u>
2003	\$371.7	\$344.0	\$310.3	\$245.6	\$164.6
2005	471.1	458.3	422.0	352.3	265.2
2007	527.0	496.5	457.2	381.8	287.2
2009	393.2	376.3	353.3	309.1	253.3
2011	551.1	530.7	493.5	421.9	331.7

Assuming that time = additional distance to travel, we see the reduction in trade resulting from extra border security and the resulting time delays. If trading firms are aware of such reductions in trade, they may choose to compensate by rigorously complying with new security regulations, thus raising (internalizing) costs while maintaining the physical amount of trade.