U.S. Regional Trade with Canada during the Transition to Free Trade

Jane Sneddon Little

Senior Economist, Federal Reserve Bank of Boston. *The author is very grateful to Rachel I. Deyette for her excellent research assistance. Mitone Mendezona, Karen Simeone, and Clara Nakagawa also provided much valuable help during their internships.*

This article examines U.S. regional trade with Canada in 1988 and 1993—just before and five years after the start of the U.S.-Canada Free Trade Agreement in January 1989. Although the article discusses which regions enjoyed the fastest growth in trade with Canada over this period, and why, the major focus of this study is the impact of increased integration of the U.S. and Canadian economies on the nature of trade and investment flows between the two countries.

In theory, declines in trade barriers should encourage the production of specific goods to consolidate on one side of the border or the other. The outcome could reflect relative resource endowments[1] or firms' efforts to reap economies of large-scale production and specialization. On the other hand, firms also want to minimize transportation costs and delivery times, a need that militates against consolidation. Given the tension between these two goals, the article asks how increased integration has affected U.S. and Canadian firms' approach to their shared market. More specifically, have these firms begun to increase their reliance on trade as compared with investment? And have they changed the role of existing cross-border subsidiaries or the placement of new facilities?

The article also explores whether trade has expanded on the basis of comparative resource endowments or has taken the form of increased intra-industry trade, two-way trade in very similar products.[2] The answer matters because expansion based on comparative advantage can produce losers among the many gainers, whereas growing intra-industry trade is thought to make everyone better off, thereby easing the transition to free trade. Students of European integration have generally concluded that the formation of the single European market has led to a significant increase in intra-industry trade (IIT), a response that is widely credited with explaining Europe's smooth adjustment to trade liberalization. Are the United States and Canada replicating the European experience?

This article draws on a highly detailed data base from Statistics Canada. The key advantage of the Canadian data is the industrial and

geographic detail provided.[3] While U.S. state export data show 30 SIC-related industries and blur the distinction between computers and turbines, say, by lumping them both in industrial machinery, the Statistics Canada data, disaggregated by Harmonized Code, cover over 90 industries and thousands of products for each state.[4] These detailed data are useful for examining how the composition of merchandise trade varies across regions and how that variation has affected export and import growth. They also allow studying the impact of trade liberalization. In fact, adding the geographic dimension proves important to our conclusions about trends in intra-industry trade and the smoothness of our adjustment to increased integration.

Structural change appears to be greatest where intra-industry trade has grown most, contrary to conventional wisdom.

The article starts by briefly reviewing the major provisions of the U.S.-Canada Free Trade Agreement (USCAFTA) and the economic environment in which it took effect. It then indicates which U.S. regions have enjoyed relatively rapid growth in trade with Canada between 1988 and 1993 and discusses the extent to which industry mix accounts for the observed differences in export performance. The article then turns to the impact of trade liberalization on the choice between direct investment and trade in serving the U.S.-Canadian market. It finds that, to date, U.S. and Canadian firms are emphasizing trade rather than direct investment. While U.S.-Canadian trade has grown faster than U.S. trade with other industrial economies, bilateral foreign direct investment has grown at a below-average pace.

The article finds mixed results concerning the motivation for this trade expansion. At the national level, trade has expanded according to comparative advantage on a net basis, while the proportion of intra-industry trade has remained little changed.[5] At the national level, thus, the United States and Canada do not appear to be following the European precedent. However, the national data conceal a variety of regional experiences. IIT has actually increased in five of the nine regions, particularly in regions like New England where highly diversified, labor-intensive[6] products loom important and where firms have traditionally had strong bilateral investment links.

Similarly, the article finds that changes in the industrial composition of trade have also been greater within regions than the national data would suggest. This structural change appears to be greatest where IIT has grown most, contrary to what conventional wisdom might suggest. This link between structural change and two-way trade may reflect the fact that trade between affiliates can be expanded more quickly than trade between unaffiliated firms. This link may also help to explain why the potentially disruptive structural changes observed have stirred little complaint. Because multinational firms with fixed physical or human capital investments internalize both the cost and benefits of adjustment, they are motivated and equipped to ease the human cost of the transition to free trade. Thus, the article ends by suggesting that the nature of the intra-*firm*—rather than the intra-*industry*—response may be the key to determining how smoothly economies adjust to increased integration.

I. The Major Provisions of the U.S.-Canada Free Trade Agreement

The USCAFTA eliminates all tariffs and removes or moderates a host of other barriers to the free flow of goods, services, and capital over a 10-year period

[1] According to the theory of comparative advantage, trade patterns reflect the partners' relative production costs and, thus, their relative factor endowments. In other words, a country tends to export products embodying the factors—raw materials, labor of various skill levels, and capital—that it enjoys in relative abundance. It imports products embodying factors that are relatively scarce within its territory.

[2] This phenomenon characterizes a large and growing share of trade among the industrialized countries and intrigues economists because it reflects economies of scale and consumers' taste for variety rather than traditional comparative advantage based on the relative distribution of resources.

[3] Of course, the big *dis*advantage to the Canadian data is that they relate to just one country. Still, Canada is both the nation's and New England's largest single trading partner. In 1993, Canada accounted for over one-fifth of the country's and almost one-third of the region's merchandise exports.

[4] For example, the Canadian data allow separating hard magnetic disk drives from floppy units, or cameras for preparing printing plates from cameras for recording documents on microfilm.

[5] The index has edged up very slightly, if the already fully integrated auto industry is excluded from the calculation. The United States and Canada have enjoyed essentially free trade in autos since 1965 when the U.S.-Canada Auto Pact went into effect.

[6] As opposed to raw-materials-based.

starting on January 1, 1989.[7] Products were originally divided into three tranches according to their perceived readiness for free trade. For the first tranche, covering about 15 percent of all goods traded bilaterally and including, most importantly for New England, computer and related equipment, tariffs were eliminated with the start of the agreement on January 1, 1989. For the second tranche, covering another 35 percent of traded goods and including most machinery, telecommunications equipment, chemicals (excluding drugs and cosmetics), and paper, pulp, and printed matter, duties were to fall in five equal steps between January 1989 and January 1993. For the rest, tariffs are being phased out in 10 equal installments. Because trade barriers between the United States and Canada were relatively low and the two economies already closely linked, the consensus at the time the pact was negotiated was that the agreement involved limited risks and offered modest (mostly efficiency) gains for both countries.[8]

II. The Macroeconomic Setting

Because Canada is the smaller economy and had the higher trade barriers when the agreement went into effect, analysts generally assumed that—other things equal—Canada would gain (and risk)[9] more from free trade than the United States. In the event, between 1988 and 1993, both countries' bilateral exports grew faster than nominal GDP, but, as expected, Canadian exports to this country grew considerably faster than U.S. exports to Canada (49 percent compared with 33), and this country's traditional merchandise trade deficit with Canada deteriorated.

But other things did not remain unchanged. As Figure 1 shows, within a year after the start of the FTA, both countries had tumbled into a recession that pummeled Canada harder than the United States. Thereafter, through 1993, the U.S. recovery outpaced the Canadian upturn; nominal GDP grew 18 percent in Canada versus 29 percent here. In addition (bottom of Figure 1), the U.S. dollar appreciated slightly against the Canadian dollar over this period. Although these developments all worked to discourage U.S. exports to Canada, as Figure 2 shows, Canada was the one part of the industrial world to absorb a growing share of both U.S. and New England exports from 1990 to 1993. For U.S. exporters, then, the benefits of freer trade seemingly more than offset adverse business cycle and exchange rate trends. For U.S. firms competing with Canadian imports, declining import barriers aggravated the impact of cyclical and exchange market developments.

III. The Growth in U.S. Regional Trade with Canada since the Start of the FTA

Table 1 shows the recent growth in U.S. exports to and imports from Canada by region. As the table indicates, the regions with the fastest growth in exports to Canada were the East and West South Central. New England followed in third place. Exports grew most slowly in the East and West North Central, where trade with Canada, particularly auto trade, looms relatively large. But, of course, a free trade agreement allows increased import penetration as well as improved export growth. And Canadian traders found their best export opportunities in the West South Central and the Mountain states. Still, with U.S. imports generally growing faster than exports, the South Atlantic was the only region to enjoy a growing trade surplus with Canada over this period. New England, with above-average growth in exports, experienced below-average growth in imports—in large part, no doubt, because of the relative severity of the most recent recession in this region. On a net basis, thus, the FTA appears to have had a comparatively favorable impact on New England through 1993.

What explains the variations in regional export performance? One possible answer is differences in export product mix. Differences in product mix matter because industries vary in their sensitivity to cyclical developments and in their level of maturity within the product cycle. For example, sales of consumer durables tend to be highly sensitive to interest rates. Similarly, the demand for cutting-edge products tends to grow faster than that for mature items.

In addition, since regional trade data (from U.S. as well as Canadian sources) are reported in nominal

[7] For further background, see Stern, Trezise, and Whalley (1987), or Office of the U.S. Trade Representative (1987), or, more briefly, Little (1988).

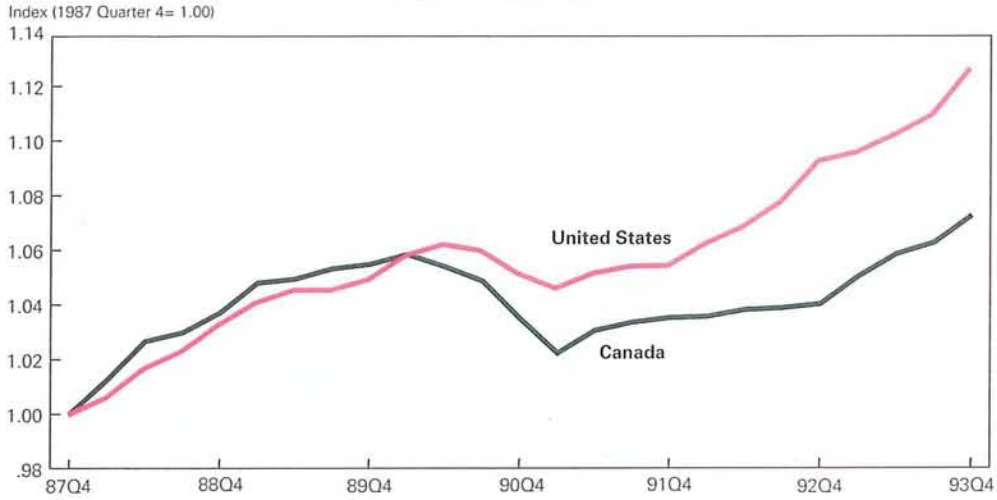
[8] Nevertheless, even though Canada's pre-FTA tariffs looked relatively low on average, weighted-average rates tend to understate these barriers' deterrent effect since unusually high tariffs get little or no weight. And high starting rates were not uncommon: tariffs on textiles, clothing, and footwear generally ran from 20 to 25 percent, while tariffs on chemicals, paper, glass, rubber products, and electric machinery averaged around 7 to 9 percent.

[9] To the extent that structural change in an export base denotes disruption and "risk," Table 11 (below) suggests that Canadian exporters may have experienced slightly more disruption than U.S. exporters in bilateral trade transactions between 1988 and 1993.

Figure 1

Real GDP, United States and Canada

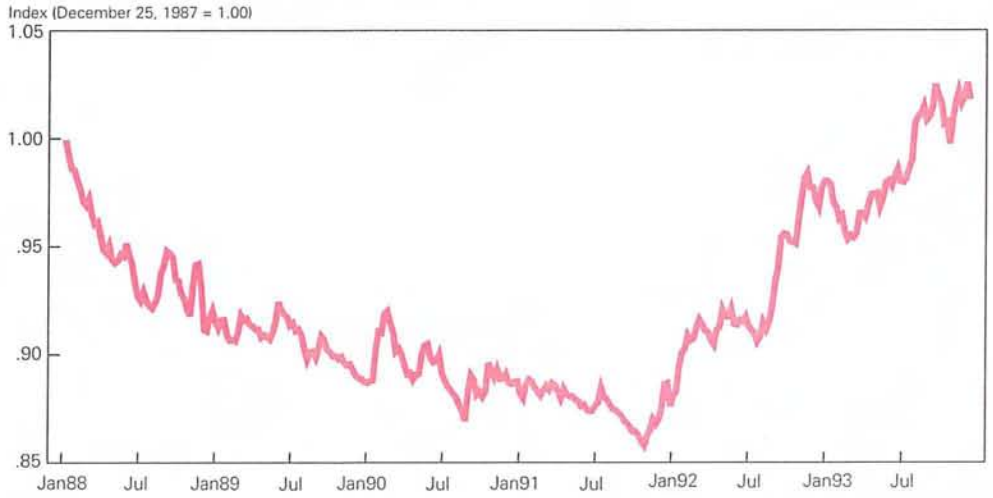
Quarterly Data, 1988 to 1993



United States-Canada Exchange Rate

(Canadian Dollars per U.S. Dollar)

Weekly Data, 1988 to 1993



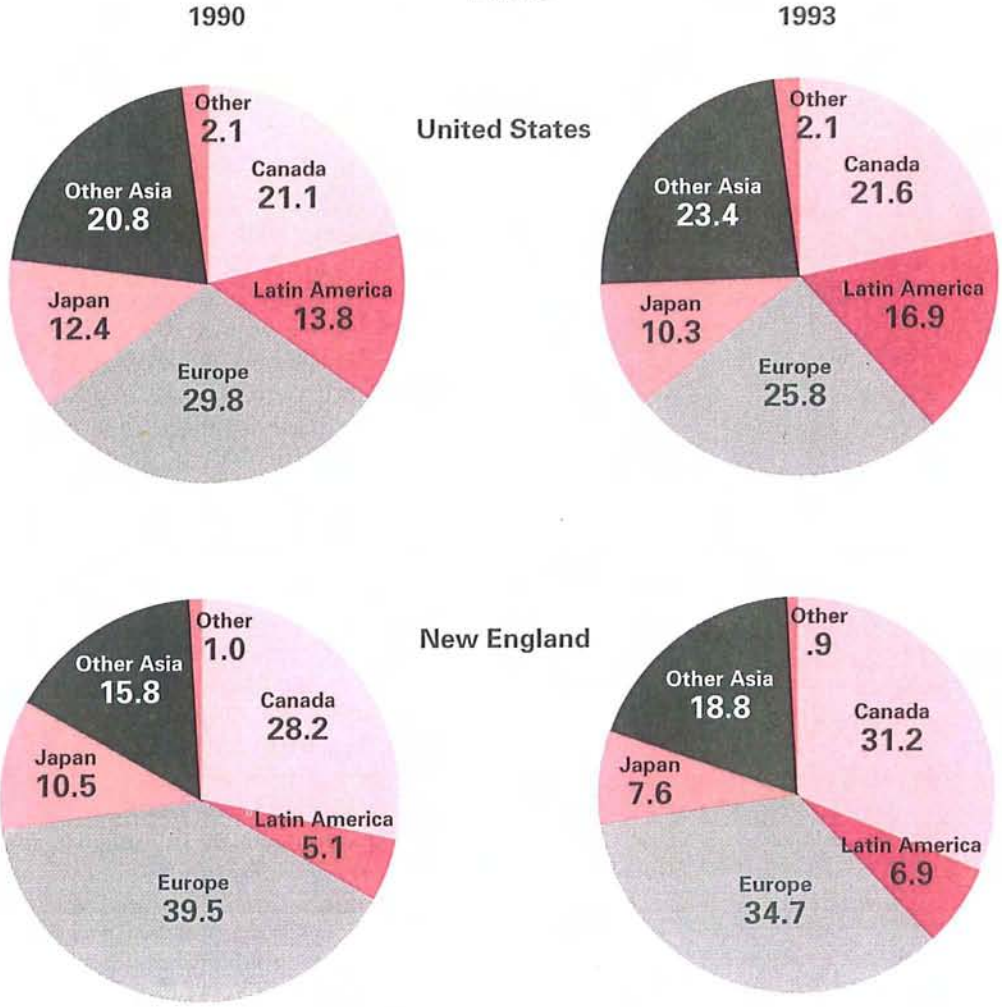
Source: Board of Governors of the Federal Reserve System.

terms, differences in price developments across industries also affect regional export and import growth. For example, between the end of 1990 and September 1995, U.S. export prices for road vehicles rose 8 percent while prices for computer equipment *fell* 25 percent. Even within industrial sectors, price trends can vary markedly. While export prices for paper and paperboard prices rose 25 percent between late 1990 and the fall of 1995, pulp and waste paper prices rose 57 percent. In addition, because of the USCAFTA, tariffs in different industries fell at different rates. Altogether then, failure to adjust for differences in product mix can lead to distorted impressions of relative export performance.

Figure 2

United States and New England Merchandise Exports by Region, 1990 and 1993

(Percent)



Source: Massachusetts Institute for Social and Economic Research.

IV. Regional Variations in the Composition of Trade

The detailed data base available from Statistics Canada permits analysts to examine and adjust for regional differences in product mix. Tables 2 and 3 show the industry share of total exports and imports for New England and the nation in 1988 and 1993. (Data for the other eight Census regions can be found in Appendix Tables 1 and 2.) The industries are grouped into 24 sectors resembling the breakdown found in the U.S. state trade data.

At this level of aggregation, three high-value-added durable goods industries—transportation, industrial machinery, and electric machinery—accounted for 40 percent of all U.S. merchandise exports to Canada in 1993. Yet the regional variation from this national norm is considerable. For example, depen-

Table 1
U.S. Trade with Canada, by Region
Billions of Canadian Dollars

	1988	1993	Change (%)	Rank
U.S. Exports				
New England	4.9	7.0	43.7	3
Mid-Atlantic	11.7	15.3	30.9	7
E. North Central	35.5	45.4	27.8	9
W. North Central	5.5	7.2	29.8	8
S. Atlantic	8.6	12.0	40.6	4
E. South Central	3.6	5.6	57.9	1
W. South Central	4.4	6.5	46.8	2
Mountain	1.9	2.5	33.6	6
Pacific	7.8	10.9	39.2	5
United States[a]	86.0	114.0	32.5	
U.S. Imports				
New England	8.3	11.1	34.7	7
Mid-Atlantic	21.4	28.2	31.6	9
E. North Central	40.0	59.7	49.3	6
W. North Central	6.0	9.7	61.6	5
S. Atlantic	7.6	10.1	33.8	8
E. South Central	3.3	5.5	65.0	4
W. South Central	2.9	6.0	104.5	1
Mountain	1.9	3.3	73.0	2
Pacific	9.1	15.2	67.2	3
United States[a]	100.9	150.7	49.4	
Balance			Change (Billions of Canadian $)	
New England	−3.4	−4.1	−.74	
Mid-Atlantic	−9.8	−12.9	−3.17	
E. North Central	−4.5	−14.3	−9.87	
W. North Central	−.5	−2.5	−2.04	
S. Atlantic	1.0	1.9	.91	
E. South Central	.3	.2	−.09	
W. South Central	1.5	.6	−.97	
Mountain	.0	−.8	−.76	
Pacific	−1.3	−4.4	−3.07	
United States[a]	−14.8	−36.7	−21.84	

Definition of regions: New England (NE) = CT, ME, MA, NH, RI, VT; Mid Atlantic (MAT) = NJ, NY, PA; East North Central (ENC) = IL, IN, MI, OH, WI; West North Central (WNC) = IA, KS, MN, MO, NE, ND, SD; South Atlantic (SAT) = DE, FL, GA, MD, NC, SC, VA, WV; East South Central (ESC) = AL, KY, MS, TN; West South Central (WSC) = AR, LA, OK, TX; Mountain (MT) = AZ, CO, ID, MT, NV, NM, UT, WY; Pacific (PAC) = AK, CA, HI, OR, WA.

[a]Including transactions not allocated by region.

Source: Statistics Canada.

dence on transportation ranges from over 40 percent of total merchandise exports in the East North Central to 3 percent in New England. Likewise, industrial and electric machinery account for over 50 percent of New England's merchandise exports to Canada but for only 27 percent of exports from the East South Central.

Industrial history and the distribution of natural resources/climate clearly play a key role in determining the regional composition of exports. New England's traditional ties to the textile and leather industries help shape its export base, for instance, while its more recent dependence on computers and electronics is clearly apparent in the structure of its trade. Similarly, lumber and paper exports remain relatively important in New England, the Mid-Atlantic, and the East South Central regions. By contrast, petrochemicals and plastics play an above-average role in the West South Central and Mid-Atlantic's export mix, while vegetable products and prepared foods loom relatively large in the Pacific region.

From the Canadian side, transportation equipment accounts for 30 percent of merchandise exports to this country, followed by minerals (12 percent), industrial machinery (8 percent), and pulp/paper and base metals (7 percent each). In other words, Canadian exports continue to reflect Canada's comparative advantage in particular raw materials. It seems worth noting, however, that Canada's exports to specific regions reflect the industrial—and, thus, demand—structure within each region. For example, although electric machinery accounts for less than 5 percent of Canadian exports nationally, that industry is the leading exporter to New England where it comprises 17 percent of Canadian exports. Similarly, Canada's pulp, paper, and lumber exports loom particularly large in regions with forestry resources of their own—particularly, the South Atlantic and New England. Presumably, these two-way trade flows reflect cross-border investments by the major Canadian and U.S. firms in these industries.[10]

Although data aggregated to the 24-"industry" level give some local texture to the national trade picture, they still hide large regional differences in the composition of trade. Using Statistics Canada data at the 2- or 4-digit level,[11] Appendix Table 3 gives a sample of the sizable regional variations in industry mix within these broad categories. For each region,

[10] Disaggregating the data to the 10-digit level permits tracing some of the complementarities. For example, in 1993, newsprint and chemical wood pulp accounted for the bulk of Canadian pulp and paper exports to New England. By contrast, the largest 10-digit categories of exports from New England to Canada were technical, scientific, and professional books, coated cellulose wadding and webs, fine coated papers, and waste paper and paperboard.

[11] For the large and diverse industries included in Harmonized Codes 84 to 90 (industrial machinery, electric machinery, transportation, and scientific and measuring instruments), the data were aggregated at the 4-digit level. For the other industries, 2-digit data were used.

Table 2
Industry Share of U.S. Exports to Canada, United States and New England, 1988 and 1993
Percent

Code	Description	United States 1988	United States 1993	New England 1988	New England 1993
1-5	Animal Products	.85	1.03	1.80*	1.59*
6-14	Vegetable Products	2.27	2.24	1.11	.39
15	Fats, Oils, and Waxes	.11	.14	.04	.05
16-24	Prep. Foodstuffs, Beverages, Tobacco	1.51	2.42	.75	.97
25-27	Minerals	2.71	2.08	1.31	1.13
28-38	Chemicals and Allied Products	4.91	6.75	4.22	8.40*
39-40	Plastic and Rubber	4.40	5.29	3.99	4.90
41-43	Hides, Skins, Leather, etc.	.33	.21	.48*	.35*
44-46	Wood and Articles	1.24	1.19	3.80*	3.68*
47-49	Pulp and Paper	3.31	4.03	5.94*	6.03*
50-63	Textiles	1.70	2.36	2.35*	3.21*
64-67	Footwear	.08	.12	.46*	.36*
68-70	Stone, Ceramics, Glass	1.29	1.36	.77	.77
71	Pearls, Stones, Jewelry	1.39	1.17	2.96*	1.51*
72-83	Base Metals and Articles	6.36	6.50	5.91	4.92
84	Industrial Machinery	20.52	19.17	29.09*	24.51*
85	Electric and Electrical Machinery	9.38	10.88	21.71*	25.59*
86-89	Transportation	31.02	24.80	3.81	2.63
90	Instruments, Scientific and Measuring	2.89	3.25	5.94*	4.23*
91-92	Instruments, Photographic and Musical	.09	.08	.14*	.10*
93	Arms and Ammunition	.19	.22	.46*	.39*
94-96	Miscellaneous	1.32	2.33	1.52*	2.12
97	Works of Art	.08	.04	.06	.03
98-99	Special	2.03	2.33	1.38	2.14
Total		100.00	100.00	100.00	100.00

*Indicates New England share is above the U.S. average.
Note: Data for other U.S. regions presented in Appendix Table 1.
Source: Statistics Canada, Canadian Merchandise Trade Statistics.

this table lists the three leading export products in industrial machinery, electric machinery, transportation equipment, and chemicals, the nation's four largest export industries vis-à-vis Canada in 1993.

In industrial machinery, for example, computer disk drives, display units, printers, and parts account for over half of this sector's exports from New England, the Pacific, and the Mountain states,[12] compared with just 20 percent for the nation. Turbo jet, turbo prop, and gas engines and turbines make up another large part of New England's industrial machinery exports. Nationally, however, spark-ignition engines and parts rank second; in the East North Central, for instance, spark and computer ignition engines, parts thereof, and air conditioners comprise almost 40 percent of all industrial machinery exports.[13]

As for electric and electronic equipment, New England's biggest export sector, integrated circuits make up almost 60 percent of the region's total.[14] By contrast, integrated circuits account for just 14 percent of the nation's electronic exports. In transportation, the bulk of the nation's trade with Canada is in cars, trucks, and parts—naturally, because the Auto Pact established free trade in autos between the United States and Canada in 1965. By exception, aircraft and parts account for almost 40 percent of transportation exports from New England (and an even higher share in the Pacific). Finally, while organic products dominate the nation's chemicals exports, in New England pharmaceuticals loom most important (26 percent) and toiletries play a significant role. Altogether, thus, the Canadian data suggest that previous efforts to adjust regional export growth rates for differences in industry mix have been very incomplete.

V. Regional Export Growth Adjusted for Product Mix

Accordingly, Table 4 compares the actual export growth rate for each

[12] Indeed, in the Mountain region these computer-related exports accounted for almost 70 percent of industrial machinery exports in 1993.

[13] These data confirm the author's long-standing assumption that New England is much more dependent on relatively slow-growing exports of computer equipment than is the nation, an assumption that cannot be confirmed using U.S. data. However, the Canadian data also show that she has been wrong to suggest that New England's minicomputer firms have underperformed computer exporters nationally. In fact, the region's computer-related industrial machinery exports to Canada grew slightly faster than the nation's over this period and considerably faster than such exports from the Pacific region.

[14] Half of New England's exports of integrated circuits come from Vermont.

Table 3
Industry Share of U.S. Imports from Canada, United States and New England
Percent

Code	Description	United States 1988	United States 1993	New England 1988	New England 1993
1-5	Animal Products	2.54	2.49	12.26*	7.93*
6-14	Vegetable Products	.67	.89	1.06*	1.16*
15	Fats, Oils, and Waxes	.11	.20	.27*	.29*
16-24	Prep. Foodstuffs, Beverages, Tobacco	1.42	2.25	2.91*	3.82*
25-27	Minerals	11.25	12.26	17.51*	10.74
28-38	Chemicals and Allied Products	4.08	3.87	2.61	2.09
39-40	Plastic and Rubber	2.65	3.24	2.04	2.16
41-43	Hides, Skins, Leather, etc.	.32	.20	.36*	.33*
44-46	Wood and Articles	4.63	5.61	8.06*	7.28*
47-49	Pulp and Paper	10.71	7.41	16.60*	11.97*
50-63	Textiles	.64	1.10	.73*	2.00*
64-67	Footwear	.08	.12	.26*	.43*
68-70	Stone, Ceramics, Glass	.75	.64	1.35*	.51
71	Pearls, Stones, Jewelry	1.29	1.64	1.44*	2.24*
72-83	Base Metals and Articles	9.62	7.04	6.75	5.03
84	Industrial Machinery	9.10	8.34	8.27	13.66*
85	Electric and Electrical Machinery	3.63	4.61	7.09*	16.57*
86-89	Transportation	33.23	30.73	7.59	3.25
90	Instruments, Scientific and Measuring	.87	.83	.63	.44
91-92	Instruments, Photographic and Musical	.03	.04	.05*	.04
93	Arms and Ammunition	.04	.03	.10*	.07*
94-96	Miscellaneous	1.67	1.74	1.58	2.06*
97	Works of Art	.07	.06	.04	.05
98-99	Special	.63	4.66	.46	5.88*
Total		100.00	100.00	100.00	100.00

*Indicates New England share is above the U.S. average.
Note: Data for other U.S. regions presented in Appendix Table 2.
Source: Statistics Canada, Canadian Merchandise Trade Statistics.

U.S. region with its export growth rate adjusted for industry mix at the 2- or 4-digit level. More precisely, the table estimates what each region's export growth would have been if each industry's exports had grown at its U.S. average pace. (The table presents similar calculations for imports.) As the table shows, for recent trade with Canada, the Mid-Atlantic and New England had the most favorable export mix.[15] By contrast, the East and West North Central regions had the least favorable export base, probably because autos loom large in those regions. Trade in autos and parts grew relatively slowly between 1988 and 1993 because that sector has enjoyed free trade since 1965 and because the recession on both sides of the border had its usual adverse cyclical impact on that industry.

As the table also shows, in most cases actual and mix-adjusted growth rates differed considerably. By exception, New England and the East North Central performed just slightly better than expected, given their export base, and the Mountain states[16] just slightly worse. Generally, the regions performing as well as or considerably worse than expected, based on their industry mix, were in the Northeast or Rust Belt, while the regions doing better than expected were in the South and West. Significantly, U.S. imports also exceeded expectation most dramatically in the East and West South Central as well as the Mountain states.

Why did the East and West South Central's trade performance exceed expectation while New England's did not? As Table 5 shows, the Northeast's share of production worker employment and of value added by manufacture has fallen quite sharply in recent years, as manufacturers have shifted production west and south. This shift in domestic manufacturing activity has most likely carried export and import activity with it. Indeed, a simple correlation between regional export or import growth and the change in each region's share of total value added between 1983 and 1991 is positive (0.40 and 0.42 respectively).[17]

Changes in the location of Canadian direct investments would also affect regional export growth, because intra-firm transactions account for about one-third of all U.S. merchandise trade. Judging by the states' share of employment at Canadian affiliates (Table 6), Canadian firms are be-

[15] That is, the highest estimated growth rate, based on each region's product mix and U.S. industry growth rates.
[16] The Mountain region's export growth was distorted by large and volatile gold exports, which occurred in 1988 but not in 1993.
[17] Planned research using state data will examine the links between shifts in the location of domestic economic activity and trade growth more rigorously than the regional data used in this article allow.

Table 4
Actual and Estimated (Mix-Adjusted)[a] Growth in U.S. Exports to and Imports from Canada, 1988 and 1993
Percent

	Actual Growth		Estimated Growth[a]	
Region	U.S. Exports	U.S. Imports	U.S. Exports	U.S. Imports
New England	43.68	34.67	42.64	53.03
Mid-Atlantic	30.87	31.60	43.15	44.37
East North Central	27.75	49.33	26.23	39.31
West North Central	29.84	61.59	22.25	49.98
South Atlantic	40.58	33.83	35.51	55.17
East South Central	57.90	65.04	38.37	34.99
West South Central	46.77	104.51	37.94	42.78
Mountain	33.60	73.04	34.59	57.32
Pacific	39.18	67.23	31.89	54.11
United States	32.51	49.39		

[a]Averages of U.S. growth rates for each 2- or 4-digit industry weighted by the industry share in regional exports or imports. A 4-digit breakdown was used for industries in Harmonized Codes 84 through 90. For all other industries, calculations were based on 2-digit data.
Source: Statistics Canada, Canadian Merchandise Trade Statistics.

ginning to increase their investment ties to states in the middle and western parts of the country. By contrast, in the East Coast regions that had previously attracted a disproportionately large share of Canadian

Table 5
Regional Shares of U.S. Value Added and Production Worker Employment, 1983 and 1991
Percent

	Value Added		Production Worker Employment	
Region	1983	1991	1983	1991
New England	6.75	5.91	7.36	5.79
Mid-Atlantic	16.80	14.53	16.30	13.24
East North Central	23.32	22.26	21.59	22.46
West North Central	7.26	7.68	6.47	7.48
South Atlantic	14.16	15.85	17.16	17.45
East South Central	6.24	6.86	7.65	8.95
West South Central	9.01	9.47	8.26	8.40
Mountain	2.84	3.29	2.74	3.16
Pacific	13.62	14.14	12.46	13.07
United States	100.00	100.00	100.00	100.00

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, Geographic Area Studies*, M83 (AS)-6 and M91 (AS)-3, 1986 and 1993.

Table 6
Regional Shares of Employment at U.S. Affiliates of Canadian Parents, 1987 and 1992
Percent

Region	1987	1992
New England	7.6	6.2
Mid-Atlantic	15.4	14.5
East North Central	15.0	15.3
West North Central	6.4	7.4
South Atlantic	23.5	19.4
East South Central	5.8	6.7
West South Central	9.0	11.3
Mountain	4.1	4.9
Pacific	8.9	8.7

Note: Percentages will not add to 100 because nonallocated not included.
Source: U.S. Bureau of Economic Analysis.

affiliate jobs, compared to domestic jobs, that share has fallen.[18] These investment shifts may simply reflect the relocation of domestic economic activity. However, Canadians may also be shifting the placement of new investments because, with the USCAFTA, they can serve much of the unified market from Canadian plants or from early, tariff-jumping affiliates, which were often established in the Northeast close to the border. Now any additional facilities can be located to minimize transportation costs and delivery times in other parts of the unified market. The transformation of the USCAFTA into NAFTA may also have added to the allure of locations in the Southwest.

VI. How Have U.S. and Canadian Firms Responded to Trade Liberalization?

The previous section discussed how U.S.-Canadian bilateral trade and Canadian direct investment activities shifted toward the southern and western parts of the United States between 1988 and 1993. These changes largely reflect similar shifts in domestic economic activities, as well as the extension of the USCAFTA to include Mexico, rather than trade liberalization between the United States and Canada per se. By contrast, this section will explore how U.S. and

[18] The South Atlantic, in particular, experienced a notable drop in its share of jobs at Canadian affiliates over this period. The decline appears to have been fairly widespread, as the level of Canadian affiliate employment remained stagnant or fell in all eight states in the region (as well as in the District of Columbia).

Canadian firms have responded to the increased integration of the two economies. Have they changed the role of their foreign affiliates, for instance, or put less emphasis on direct investments as compared with trade?

In theory, declines in trade barriers are likely to encourage firms to maximize scale economies at the plant level. Thus, firms may try to consolidate production in locations determined by comparative advantage. Alternatively—especially if firms have sunk costs in affiliates created to avoid trade barriers—they may seek to restructure existing plants to supply specialized products to the entire integrated market. On the other hand, firms also need to minimize transportation costs and provide rapid customer service—goals that may conflict with maximizing plant scale economies. In addition, firms may want to cluster in a given area to take advantage of agglomeration economies, such as a specialized labor pool. As Paul Krugman has pointed out, language and other cultural differences have led Europeans to focus on plant scale economies (and, thus, trade)—at least, to date. In North America, by contrast, cultural barriers are not as strong; thus, transportation costs and agglomeration economies may prove more compelling on this continent in the long run. In this latter case, the result would be increased emphasis on direct investment.

The Choice Between Trade and Investment

To date, the evidence suggests that U.S. and Canadian firms, like the Europeans, are choosing to stress plant scale economies. The data in Tables 7 and 8 show that U.S. and Canadian firms have begun to refocus and downplay foreign affiliate activities. Many U.S. firms originally established Canadian subsidiaries to avoid trade barriers while serving the Canadian market. Now these Canadian affiliates of U.S. parents are beginning to serve the entire integrated market—as opposed to the Canadian market—to a greater extent than before. As Table 7 indicates, sales to the U.S. market rose as a share of total Canadian affiliate sales, while sales to Canadians fell as a share of that total. For affiliates of U.S. firms located in all the other areas included in Table 7, the pattern was reversed, with the host country market increasing in importance and the U.S. market declining. For example, in the fast-growing and increasingly costly Asia Pacific region (excluding Japan), affiliate sales to the United States fell from 28 to 11 percent of total sales, while sales to customers within the host country rose from 41 to 71 percent of the total.

The evidence to date suggests that U.S. and Canadian firms, like the Europeans, are choosing to stress plant scale economies and trade rather than increase foreign investment.

Table 7
Sales of Majority-Owned Foreign Affiliates[a] of U.S. Firms,[a] by Selected Customer, 1987 and 1992
Percent

	Sales to United States		Sales to Host Country		Sales to Other Foreign	
Area	1987	1992	1987	1992	1987	1992
All Countries	10.9	10.1	66.1	65.9	23.0	24.0
Canada	23.1	26.1	73.6	71.1	3.3	2.8
Europe	4.6	3.8	63.4	64.0	32.0	32.2
Latin America	20.3	19.7	62.6	64.2	17.1	16.2
Mexico	29.4	24.7	64.6	72.6	5.9	2.7
Asia Pacific	28.0	11.3	40.6	70.8	31.3	17.8
Japan	6.5	4.7	86.6	89.0	6.9	6.3

[a]Nonbank.
Source: U.S. Bureau of Economic Analysis.

In addition, U.S. and Canadian firms have increased their direct investments in each other's country at a comparatively slow pace, whether that expansion is measured by number of affiliates, assets, sales, or employment (Table 8). Indeed, employment at Canadian affiliates of U.S. firms (and at U.S. affiliates of Canadian firms) actually fell, unlike employment at affiliates in (from) other industrial countries. Since trade between the United States and Canada has grown relatively fast, the relatively slow increase in affiliate activity suggests that U.S. and Canadian firms are currently shifting the focus of their bilateral activities from direct investment to trade.

Table 8

Growth in Foreign Affiliates[a] of U.S. Parents,[a] 1987 to 1992

Percent

	No. of Affiliates	Assets	Sales	Employment
All Countries	8.7	57.3	50.0	7.3
Canada	.9	27.8	26.9	−3.9
Europe	20.7	76.8	52.5	7.0
France	20.4	87.4	47.8	13.3
Germany	16.5	55.9	56.4	5.2
United Kingdom	15.5	112.1	48.1	15.1
Japan	21.9	51.3	42.7	14.7

Growth in U.S. Affiliates[a] of Foreign Parents,[a] 1987 to 1992

Percent

	No. of Affiliates	Assets	Sales	Employment
All Countries	44.1	91.8	64.2	45.9
Canada	16.5	48.9	24.7	−.8
Europe	19.2	94.4	65.3	48.9
France	40.9	403.8	110.4	91.0
Germany	14.9	108.9	61.0	41.7
United Kingdom	15.9	84.8	52.2	48.5
Japan	169.5	128.8	79.2	104.2

[a]Nonbank.

Source: U.S. Bureau of Economic Analysis.

The Basis for Trade Growth: Comparative Advantage or Economies of Scale?

If U.S. and Canadian firms are addressing their increasingly integrated market by emphasizing trade rather than investment, is this trade based on comparative advantage or has the share of intra-industry trade, or two-way trade in very similar products, also increased? As already noted, IIT reflects economies of specialization and large-scale production as well as customer tastes for a wide variety of products, rather than traditional comparative advantage based on the relative abundance of resources. This two-way activity is thought to smooth adjustment to trade liberalization because it involves efficiency gains on both sides. When trade is based on comparative advantage, tariff reductions allow low-cost producers in the country that is relatively rich in resources (low-skilled labor, say) to expand exports, while high-cost firms in the country where unskilled labor is relatively scarce face increased competition and threats to their survival. By contrast, when two-way trade expands, firms on both sides of tariff reductions can thrive by focusing on different, complementary parts of their previous set of products—fine paper versus newsprint, for example, or different types of semiconductors. This narrowed focus allows firms in both countries to cut costs by expanding output on the basis of economies of specialization and scale. Economists have generally concluded, thus, that European adjustment problems were relatively modest because integration led to a big rise in the share of intra-industry activity in total EC trade.

Will trade liberalization produce the same outcome in North America as in the EC? The verdict is not yet in. Judging from the data in Table 9,[19] however, at the national level, U.S.-Canadian trade has generally expanded *on a net basis* as comparative advantage would suggest. Interpreting a trade surplus in a given industry as revealing comparative advantage, Table 9 indicates that the United States enjoyed an advantage over Canada in the following nine industries in 1988: vegetable products; chemicals; rubber and plastics; textiles; stone, clay and glass; industrial machinery; electrical machinery; instruments; and arms.[20] As the

[19] Data for Census regions other than New England can be found in Appendix Table 4.

[20] Clearly, exchange rate, cyclical, and relative price trends will shift the number of industries enjoying a trade surplus in any given year. However, this approach provides a rough indicator of comparative advantage in 1988 and the resulting division generally accords with the author's preconceptions.

Table 9

U.S. Trade Balance with Canada by Industry Category, United States and New England, 1988 and 1993

Millions of Canadian Dollars

Code	Description	United States		New England	
		1988	1993	1988	1993
1-5	Animal Products	(1,826.1)	(2,585.0)	(926.9)	(772.2)
6-14	Vegetable Products	1,279.3	1,223.4	(34.2)	(101.7)
15	Fats, Oils, and Waxes	(15.5)	(141.3)	(19.8)	(28.5)
16-24	Prep. Foodstuffs, Beverages, Tobacco	(129.1)	(626.8)	(204.1)	(358.0)
25-27	Minerals	(9,009.5)	(16,098.2)	(1,384.9)	(1,116.8)
28-38	Chemicals and Allied Products	109.8	1,862.9	(10.2)	354.2
39-40	Plastic and Rubber	1,110.7	1,141.7	25.7	102.7
41-43	Hides, Skins, Leather, etc.	(35.4)	(68.1)	(6.4)	(11.7)
44-46	Wood and Articles	(3,605.3)	(7,098.5)	(481.9)	(554.2)
47-49	Pulp and Paper	(7,948.2)	(6,568.2)	(1,084.6)	(912.7)
50-63	Textiles	816.0	1,033.9	54.2	1.9
64-67	Footwear	(14.5)	(38.1)	1.0	(22.2)
68-70	Stone, Ceramics, Glass	350.8	582.5	(73.9)	(3.4)
71	Pearls, Stones, Jewelry	(102.4)	(1,134.4)	24.6	(144.4)
72-83	Base Metals and Articles	(4,224.5)	(3,195.8)	(270.1)	(216.2)
84	Industrial Machinery	8,475.7	9,296.1	731.9	191.8
85	Electric and Electrical Machinery	4,408.1	5,458.1	470.7	(56.0)
86-89	Transportation	(6,823.7)	(18,026.9)	(442.7)	(177.8)
90	Instruments, Scientific and Measuring	1,610.8	2,451.0	237.3	246.6
91-92	Instruments, Photographic and Musical	54.6	41.6	3.0	2.0
93	Arms and Ammunition	125.0	212.5	14.2	19.2
94-96	Miscellaneous	(547.8)	25.6	(56.5)	(80.7)
97	Works of Art	(.9)	(52.8)	(.5)	(3.3)
98-99	Special	1,112.0	(4,364.1)	29.2	(505.2)
Total		(14,830.2)	(36,669.1)	(3,404.9)	(4,146.4)

Note: Negative values in parentheses. Data for other U.S. regions presented in Appendix Table 4.
Source: Statistics Canada, Canadian Merchandise Trade Statistics.

table also shows, these U.S. industries generally had an even bigger surplus in 1993, while most Canadian industries with a comparative advantage over their U.S. competitors in 1988 also enjoyed net gains. The exceptions were vegetable products and photographic and musical instruments, where a U.S. surplus shrank between 1988 and 1993, and pulp and paper and base metals, where a Canadian surplus diminished.

Regionally, however, it is less clear that net trade expanded according to comparative advantage as revealed by net trade positions in 1988. In New England, for example, in over half the industries examined, a trade surplus observed in 1988 had either shrunk or shifted to the other side of the border by 1993. New England developed a new trade surplus in chemicals, for instance, while its traditional surplus in textiles and industrial machinery declined. The region's surplus in electrical machinery also vanished. While the Mid-Atlantic had an experience similar to New England's, in the Pacific, East South Central and West North Central regions, the comparative advantages demonstrated in 1988 generally became more pronounced.

Of course, even where net trade expanded according to comparative advantage, the proportion of two-way trade could also have grown. But did it? To start with the situation before the USCAFTA, over half of U.S.-Canadian trade was intra-industry in 1988 according to a weighted-average index of IIT measured nationally at the 2- and 4-digit levels (Table 10).[21] Naturally, however, at the regional level, the share of two-way trade was lower than that found nationally, since geographic aggregation, like indus-

[21] The weighted-average index of IIT was calculated according to the following formula adapted from Grubel and Lloyd (1975):

Table 10
Index of U.S.–Canadian Intra-Industry Trade,[a] All Industries and All Industries Excluding Autos, by Region

	All Industries		Excluding Autos	
Region	1988	1993	1988	1993
New England	.47	.52	.45	.52
Mid-Atlantic	.51	.56	.58	.62
East North Central	.58	.50	.55	.52
West North Central	.34	.33	.35	.34
South Atlantic	.52	.55	.52	.55
East South Central	.45	.49	.43	.46
West South Central	.53	.43	.53	.42
Mountain	.36	.42	.35	.42
Pacific	.44	.42	.42	.45
United States	.60	.57	.56	.57

[a]Averages of indexes calculated at the 2- or 4-digit levels, weighted by each industry's share of total trade between the United States and Canada. Calculations for industries in Harmonized Codes 84 through 90 were based on 4-digit data. All other calculations were based on 2-digit data.

Source: Statistics Canada, Canadian Merchandise Trade Statistics.

trial aggregation, increases measured IIT. In 1988 the regional indexes of IIT ranged from 0.34 in the West North Central to 0.58 in the East North Central.

Has the proportion of IIT increased since the USCAFTA went into effect? As the data in Table 10 indicate, in contrast to the European experience, the share of two-way trade observed at the national level fell slightly, although IIT rose moderately in five of nine regions. The four regions experiencing declines in IIT were those where resource-based goods or automotive products weigh heavily in the export base. Because the United States and Canada already enjoyed free and extensive two-way trade in autos and parts when the USCAFTA went into effect, a *relative* surge in non-auto trade in response to newly declining trade barriers (and, possibly, in response to cyclical pressures on auto sales) might explain much of the decline in IIT. Accordingly, Table 10 also presents measures of IIT calculated for all industries excluding autos. As expected, the special case of the U.S.-Canada Auto Pact explains the national decline in IIT as originally measured and contributes to the declines seen in some regions.

Nevertheless, even excluding the auto industry, the national increase in IIT is barely perceptible. However, this national aggregate hides the fact that the regional experiences varied widely. While IIT rose by 15 to 20 percent in New England and the Mountain states, for example, it fell by 20 percent in the West South Central. Significantly, computer-related products and semiconductors, which are highly differentiated and labor-intensive, and might be expected, thus, to be characterized by IIT, account for a large or growing share of total trade with Canada in New England and the Mountain states, whereas in the West South Central chemicals and other resource-based products tend to be important. Moreover, most regions with rising IIT have had substantial and long-standing direct investment links with Canada. It seems plausible, thus, that companies with existing investments on both sides of the border chose to seek economies of scale through specialization and two-way trade rather than to face the cost—financial or political—of closing existing plants. In regions with declining IIT, by contrast, firms had relatively few pre-USCAFTA direct investments, and trade has grown relatively rapidly in accord with comparative advantage based on raw materials.

Structural Change

Finally, Table 11 presents an index of structural change in U.S. exports to and imports from Canada from 1988 to 1993.[22] This index, which measures the amount of change in the industrial composition of exports (or imports) between two years, ranges from zero to 1.00. It provides one indication of the ease with which regions adjusted to trade liberalization, with a low index suggesting a relatively smooth transition. Once again, the results for the United States as a whole differ from those for the regions. At the national level, we see only a very limited amount of structural change. By contrast, the indexes of structural change

$$\sum_{i=1}^{n}\left[\frac{x_i + m_i}{\sum_{i=1}^{n}(x_i + m_i)}\right]\left[1 - \left|\frac{x_i - m_i}{x_i + m_i}\right|\right]$$

where x_i and m_i are exports and imports, respectively, of 2- or 4-digit industry i. This measure is simply a weighted-average of the two-way proportion of trade within each industry. The absolute value of the ratio of x_i minus m_i to x_i plus m_i measures the non-overlapping or one-way portion of trade; thus, 1 minus this ratio measures the two-way portion of trade.

[22] The weighted-average index of structural change was calculated according to the following, based on Lawrence (1984):

$$0.5\sum_{i=1}^{n}|a_{it_1} - a_{it_2}|$$

where a_i is the share of industry i in total exports or imports, and t_1 and t_2 are 1988 and 1993, respectively.

Table 11
Index of Structural Change[a] in the Industrial Composition of U.S. Exports to and Imports from Canada, 1988 to 1993

Region	U.S. Exports	U.S. Imports
New England	.18	.29
Mid-Atlantic	.21	.20
East North Central	.17	.13
West North Central	.20	.18
South Atlantic	.25	.37
East South Central	.29	.28
West South Central	.18	.39
Mountain	.35	.35
Pacific	.19	.23
United States	.13	.14

[a]Averages of indexes calculated at the 2- or 4-digit levels, weighted by each industry's share of total trade between the United States and Canada. Calculations for industries in Harmonized Codes 84 through 90 were based on 4-digit data. All other calculations were based on 2-digit data.
Source: Statistics Canada, Canadian Merchandise Trade Statistics.

for the individual regions were often considerably larger. The Mountain states and the East South Central experienced big shifts in the industrial composition of their exports, for example, while the import mix (and competitive pressures?) changed a good deal in the West South Central, South Atlantic, Mountain, and New England regions. In the Mountain states, a sharp decline in the share of highly volatile gold exports contributed to this change; however, a big increase in the importance of industrial machinery in both imports and exports followed the expansion of several computer firms into the region. In New England, moreover, electric machinery imports and exports jumped in importance when IBM expanded and restructured its operations in Essex, Vermont.

Clearly, then, just as modest net employment flows can disguise large gross flows, so too, modest changes in the structure of trade at the national level can hide more significant adjustments within regions. Surprisingly, moreover, the regions with rising IIT tended to experience a relatively large shift in the composition of their exports, imports, or both. By contrast, regions with declines in IIT faced somewhat less structural change. These results suggest the need to reexamine the conventional wisdom that increasing IIT automatically smooths adjustment to trade liberalization. In fact, intra-firm (and, thus, intra-industry) responses to trade liberalization may be swifter and more abrupt than would likely occur with arm's-length transactions.

Despite significant structural change in some regions, the start of the USCAFTA has stirred remarkably little adverse comment—certainly within the United States.[23] The muted U.S. reaction obviously reflects the fact that Canadian trade represents only a small fraction of total U.S. output. But, in addition, just as intra-firm responses to trade liberalization may aggravate structural change, so too, multinational firms may also smooth the required adjustments—by retraining or reassigning employees to expanding operations, for example. Accordingly, it may be the scale and style of intra-firm, rather than intra-industry, activity that determines how easily a region adjusts to trade liberalization.

VII. Conclusions

This article has explored the U.S. and Canadian responses to the early years of the USCAFTA from a U.S. regional perspective. It finds that adding this geographic dimension actually changes the conclusions concerning the extent of and trends in IIT and the ease of adjustment to trade liberalization.

Using a highly detailed data base from Statistics Canada, the article finds that New England has a very favorable export base and fared comparatively well in trade with Canada in the years studied. However, geographic shifts in U.S. industrial activity and in direct investment from Canada have played a dominant role in determining the regions' relative export performance. Thus, bilateral trade activity shifted towards the South and West between 1988 and 1993.

The article also concludes that U.S. and Canadian firms have refocused their existing foreign affiliates towards serving the integrated North American market; they have also begun to put relatively more emphasis on trade rather than direct investment. So far, in other words, they appear to be seeking econo-

[23] The limited U.S. complaints have tended to focus on raw-materials-based products, like lumber and fish, where the extent of public subsidy is often in dispute, or on cultural products not covered by the USCAFTA. This outcome is not particularly surprising given that trade growth based on comparative advantage creates losers (the owners of the relatively scarce resources in the importing country) as well as winners, whereas trade based on economies of scale tends to create winners all around. On the whole, however, firms on both sides of the border have welcomed the USCAFTA. Indeed, since the agreement went into effect, the parties have accelerated the pace of trade liberalization for selected items.

mies of scale or comparative advantage through trade, rather than reduced transportation costs and agglomeration economies through direct investment. This pattern mimics the European precedent.

In contrast with the European paradigm, however, U.S.-Canadian trade has expanded according to underlying comparative advantage on a net basis. This trend was most pronounced in the regions most dependent on exports of natural resources; it was less obvious within the Rust Belt with its long-standing investment ties with Canada. Moreover, even when auto trade is excluded from consideration, the national increase in IIT is barely perceptible. However, as the regional and industrial detail available in the Canadian data reveal, national average figures still hide the fact that IIT increased at least a bit in six of the nine regions. The increase was greatest in New England and the Mountain states, where computer-related products and semiconductors weigh heavily in the product mix.

Looking at structural change in the industrial composition of trade again demonstrates that the national average picture can be misleading. While the national data suggest little change in the structure of trade with Canada between 1988 and 1993, several regions actually faced notable shifts in the industrial composition of their exports or imports. Indeed, one theme emerging from this study is that trade data aggregated to the national level understate the amount of adjustment occurring within individual regions.

While the data generally show regional trade structures to be far less stable than the national perspective would suggest, this instability does not appear to have provoked much complaint. The muted political response to these structural changes may reflect the fact that trade expansion based on comparative advantage, which creates losers as well as winners, occurred in the fast-growing South and West; by contrast, trade based on economies of specialization and scale, which, like technological progress, benefits almost everyone, expanded primarily in the Rust Belt.

The observed link between increasing IIT and significant structural change may also have played a role in easing adjustment to increased integration. This link undoubtedly reflects the multinationals' ability to expand intra-firm trade relatively quickly. However, multinationals can also absorb some of the costs of adjusting to increased integration. Accordingly, the scale and nature of intra-*firm* activities may be as important as the scope of intra-*industry* trade in determining how smoothly economies adjust to trade liberalization.

References

DeKaser, Richard J. and Jane Sneddon Little. 1994. "Explaining New England's Export Performance: 1987 to 1993." *New England Economic Review*, November/December, pp. 43–57.

Grubel, Harry and Peter Lloyd. 1975. *Intra-industry Trade: The Theory and Measurement of International Trade in Differentiated Products*. London: Macmillan.

Harrigan, James. 1995. "The Volume of Trade in Differentiated Intermediate Goods: Theory and Evidence." *The Review of Economics and Statistics*, vol. 77 (May), pp. 283–93.

Hummels, David and James Levinsohn. 1995. "Monopolistic Competition and International Trade: Reconsidering the Evidence." *The Quarterly Journal of Economics*, vol. CX (August), pp. 799–836.

Hummels, David L. and Robert M. Stern. 1994. "Evolving Patterns of North American Merchandise Trade and Foreign Direct Investment, 1960–1990." *The World Economy*, vol. 17, pp. 5–29.

Knarvik, Karen H. Midelfart. 1995. "Technological Spillovers, Industrial Clusters and Economic Integration." Norwegian School of Economics and Business Administration, Institute of Economics, discussion paper 06/95. April.

Krugman, Paul. 1991. *Geography and Trade*. Cambridge, MA: The MIT Press.

Lawrence, Robert Z. 1984. *Can America Compete?* Washington, D.C.: The Brookings Institution.

Little, Jane Sneddon. 1988. "At Stake in the U.S.-Canada Free Trade Agreement: Modest Gains or a Significant Setback." *New England Economic Review*, May/June, pp. 3–20.

Markusen, James R. 1995. "The Boundaries of Multinational Enterprises and the Theory of International Trade." *Journal of Economic Perspectives*, vol. 9 (Spring), pp. 169–89.

Markusen, James R., Thomas F. Rutherford, and Linda Hunter. 1995. "Trade Liberalization in a Multinational-Dominated Industry." *Journal of International Economics*, vol. 38, pp. 95–117.

McCallum, John. 1995. "National Borders Matter: Canada-U.S. Regional Trade Patterns." *The American Economic Review*, vol. 85 (June), pp. 615–23.

Office of the U.S. Trade Representative, Office of Public Affairs. 1987. "U.S.-Canadian Free Trade Agreement: Summary of Major Provisions." Washington, D.C.

Sapir, Andre. 1992. "Regional Integration in Europe." *The Economic Journal*, vol. 102 (November), pp. 1491–1506.

Simeone, Karen. 1995. "The Relationship between the Canadian and New England Fishing Industries, 1988–1993." Federal Reserve Bank of Boston, unpublished memo. July.

Stern, Robert M., Philip H. Trezise, and John Whalley, eds. 1987. *Perspectives on a U.S.-Canadian Free Trade Agreement*. Washington, D.C.: The Brookings Institution.

Appendix Table 1

Industry Share of U.S. Exports to Canada, by Selected Region, 1988 and 1993

Percent

Code	Description	Mid-Atlantic		South Atlantic		East North Central		West North Central	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	.59	.50	.79*	1.10*	.32	.30	2.06	3.22*
6-14	Vegetable Products	.94	.75	3.86*	3.51*	.42	.58	1.67*	1.73
15	Fats, Oils, and Waxes	.10	.12	.06	.10	.06	.10	.23*	.50*
16-24	Prep. Foodstuffs, Beverages, Tobacco	2.06*	3.27*	1.79	2.01	.87	1.34	3.56	5.05*
25-27	Minerals	3.05*	2.03	3.21*	3.45*	2.82*	1.06	1.22*	3.05*
28-38	Chemicals and Allied Products	9.13*	11.80*	6.58*	7.88*	2.53	3.27	4.11*	6.47
39-40	Plastic and Rubber	6.04*	6.38*	6.42*	7.75*	3.28	3.87	3.86*	4.92
41-43	Hides, Skins, Leather, etc.	.78*	.37*	.23	.14	.19	.11	.64	.52*
44-46	Wood and Articles	1.99*	1.86*	.80	.70	.36	.39	.94*	1.01
47-49	Pulp and Paper	7.78*	8.31*	2.92*	4.12*	2.16	2.61	2.37*	2.99
50-63	Textiles	2.50*	2.59*	7.61*	10.35*	.34	.42	.42*	.67
64-67	Footwear	.13*	.16*	.04	.05	.02	.05	.08	.12
68-70	Stone, Ceramics, Glass	2.06*	2.23*	.89	1.00	1.34*	1.48*	.76	.99
71	Pearls, Stones, Jewelry	3.24*	6.25*	1.36	.33	.18	.04	.19	.74
72-83	Base Metals and Articles	11.27*	9.55*	4.92	5.11	6.06	6.85*	4.63	5.40
84	Industrial Machinery	15.62	11.37	14.53	12.68	22.69*	23.42*	21.22*	17.60
85	Electric and Electrical Machinery	13.01*	10.14	8.41*	11.22*	6.29	7.94	5.50	6.62
86-89	Transportation	11.82	8.58	29.80	20.27	46.61*	40.79*	41.51*	30.72*
90	Instruments, Scientific and Measuring	4.75*	4.40*	2.51*	3.32*	1.31	2.29	2.71	2.72
91-92	Instruments, Photographic and Musical	.17*	.09*	.05	.06	.07	.07	.02	.04
93	Arms and Ammunition	.06	.04	.89*	.99*	.04	.06	.18	.59*
94-96	Miscellaneous	1.43*	1.67	1.27*	2.51*	1.18	2.04	1.07	2.86*
97	Works of Art	.33*	.10*	.09	.03	.01	.01	.02	.02
98-99	Special	1.17	7.43*	.95	1.30	.86	.91	1.04	1.45
Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Code	Description	East South Central		West South Central		Mountain		Pacific	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	1.20*	1.00	.92*	.66	1.29*	6.09*	2.02*	1.99*
6-14	Vegetable Products	.32	.38	2.23	1.91	3.65*	3.22*	12.91*	12.46*
15	Fats, Oils, and Waxes	.05	.09	.61*	.40*	.04	.04	.08	.10
16-24	Prep. Foodstuffs, Beverages, Tobacco	1.18	1.61	.69	1.32	1.26	2.69*	2.87*	6.05*
25-27	Minerals	.65	1.61	3.80*	3.29*	7.16*	5.73*	1.90	2.57*
28-38	Chemicals and Allied Products	5.11*	5.16	14.42*	16.10*	5.56*	7.80*	3.15	4.22
39-40	Plastic and Rubber	6.85*	9.44*	10.39*	12.56*	1.64	1.22	2.15	2.37
41-43	Hides, Skins, Leather, etc.	.16	.12	.21	.13	.23	.40*	.32	.18
44-46	Wood and Articles	.93	.66	.26	.37	1.26*	1.29*	4.09*	3.54*
47-49	Pulp and Paper	4.43*	5.99*	1.95	2.10	1.84	2.76	2.51	3.77
50-63	Textiles	3.59*	4.93*	.69	.87	.42	1.06	.66	1.25
64-67	Footwear	.09*	.25*	.07	.16*	.07	.09	.05	.15*
68-70	Stone, Ceramics, Glass	3.18*	1.62*	.88	1.01	.74	.43	.72	.94
71	Pearls, Stones, Jewelry	.03	.04	.06	.07	21.79**	.74**	.80	1.19*
72-83	Base Metals and Articles	7.31*	6.91*	6.16	7.06*	4.46	4.79	4.48	4.25
84	Industrial Machinery	18.38	13.69	19.69	18.82	19.32	24.88*	23.64*	20.65*
85	Electric and Electrical Machinery	12.44*	13.60*	14.65*	12.38*	13.86*	14.11*	10.19*	14.37*
86-89	Transportation	28.80	24.59	16.52	13.60	6.59	11.14	18.38	9.54
90	Instruments, Scientific and Measuring	1.46	1.54	3.39*	4.25*	5.20*	5.87*	5.84*	4.95*
91-92	Instruments, Photographic and Musical	.06	.08	.06	.08	.06	.04	.15*	.15*
93	Arms and Ammunition	.14	.03	.24*	.07	.28*	.13	.16	.18
94-96	Miscellaneous	2.50*	5.80*	1.06	1.27	1.13	3.28*	1.52*	2.72*
97	Works of Art	.01	.01	.02	.01	.12*	.12*	.12*	.09*
98-99	Special	1.14	.86	1.05	1.53	2.04*	2.09	1.28	2.30
Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Indicates regional share is above the U.S. average.

**Reflects volatile gold exports.

Source: Statistics Canada, Canadian Merchandise Trade Statistics.

Appendix Table 2

Industry Share of U.S. Imports to Canada, by Selected Region, 1988 and 1993

Percent

Code	Description	Mid-Atlantic		South Atlantic		East North Central		West North Central	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	2.03	1.67	1.03	1.29	.52	.61	3.44*	5.69*
6-14	Vegetable Products	.75*	.82	.47	.71	.29	.47	2.00*	3.60*
15	Fats, Oils, and Waxes	.02	.07	.04	.21*	.04	.16	.05	.09
16-24	Prep. Foodstuffs, Beverages, Tobacco	1.83*	4.27*	1.94*	3.35*	.81	1.08	.78	1.07
25-27	Minerals	8.27	12.06	4.69	2.60	7.48	8.75	28.30*	28.54*
28-38	Chemicals and Allied Products	3.98	4.29*	4.32*	4.84*	3.03	2.54	8.75*	7.45*
39-40	Plastic and Rubber	1.97	2.83	7.61*	6.86*	1.84	2.92	3.39*	3.53*
41-43	Hides, Skins, Leather, etc.	.82*	.36*	.09	.14	.13	.13	.19	.21*
44-46	Wood and Articles	3.73	3.45	11.60*	13.60*	1.75	3.31	4.06	7.04*
47-49	Pulp and Paper	12.72*	9.15*	12.63*	10.74*	7.41	5.16	12.87*	9.49*
50-63	Textiles	.88*	1.24*	2.41*	4.80*	.24	.34	.37	.65
64-67	Footwear	.15*	.24*	.04	.06	.04	.02	.07	.13*
68-70	Stone, Ceramics, Glass	.82*	.80*	.74	.78*	.65	.62	.67	.75*
71	Pearls, Stones, Jewelry	4.50*	6.94*	.93	.68	.03	.01	.09	.07
72-83	Base Metals and Articles	15.77*	10.89*	9.50	8.09*	7.65	6.56	4.50	4.06
84	Industrial Machinery	4.85	4.88	13.50*	13.49*	9.95*	7.48	11.66*	8.64*
85	Electric and Electrical Machinery	3.14	6.63*	9.55*	4.86*	1.73	2.07	2.04	1.71
86-89	Transportation	30.26	22.65	14.25	11.26	54.14*	53.38	14.58	11.62
90	Instruments, Scientific and Measuring	1.22*	1.05*	1.39*	1.44*	.30	.58	.60	.48
91-92	Instruments, Photographic and Musical	.03*	.03	.07*	.05*	.01	.04	.01	.03
93	Arms and Ammunition	.02	.05*	.14*	.04*	.00	.00	.07*	.02
94-96	Miscellaneous	1.78*	1.83*	2.25*	3.20*	1.73*	1.58	1.22	1.35
97	Works of Art	.22*	.22*	.05	.07*	.01	.01	.02	.01
98-99	Special	.26	3.58	.78*	6.85*	.21	2.16	.28	3.77
Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Code	Description	East South Central		West South Central		Mountain		Pacific	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	.44	.46	.75	.41	4.45*	12.01*	5.42*	5.79*
6-14	Vegetable Products	.30	.44	.36	.27	.73*	1.46*	1.32*	1.14*
15	Fats, Oils, and Waxes	.51	.77*	.11*	.26*	.06	.19	.42*	.39*
16-24	Prep. Foodstuffs, Beverages, Tobacco	1.84*	2.36*	.93	1.70	.99	1.77	1.87*	2.40*
25-27	Minerals	8.52	17.53*	5.04	19.94*	29.25*	14.69*	22.92*	19.20*
28-38	Chemicals and Allied Products	10.11*	6.66*	10.08*	7.05*	6.00*	5.21*	2.66	4.52*
39-40	Plastic and Rubber	4.61*	6.15*	5.96*	4.82*	2.36	3.67*	2.13	2.08
41-43	Hides, Skins, Leather, etc.	.34*	.10	.52*	.31*	.26	.15	.21	.17
44-46	Wood and Articles	3.80	5.90*	3.92	5.48	10.46*	15.97*	10.17*	9.40*
47-49	Pulp and Paper	13.30*	9.15*	8.12	4.09	11.90*	5.58	11.99*	7.53*
50-63	Textiles	.65*	1.75*	.63	1.06	.41	.72	.57	.97
64-67	Footwear	.02	.16*	.05	.04	.08*	.12	.03	.07
68-70	Stone, Ceramics, Glass	.65	.90*	.87*	.83	.40	.35	.71	.35
71	Pearls, Stones, Jewelry	.07	.13	.23	.14	.15	.87	1.29	.88
72-83	Base Metals and Articles	21.28*	13.58*	15.68*	7.94*	4.35	3.11	5.08	3.37
84	Industrial Machinery	14.32*	9.16*	14.88*	17.19*	10.44*	15.02*	6.98	6.24
85	Electric and Electrical Machinery	5.17*	4.99*	8.59*	6.68*	4.53*	3.51	3.89*	3.47
86-89	Transportation	12.44	12.98	18.43	11.17	9.39	5.06	18.15	24.15
90	Instruments, Scientific and Measuring	.45	.60	2.00*	1.43*	1.22*	1.97*	2.21*	1.22*
91-92	Instruments, Photographic and Musical	.05*	.02	.07*	.05*	.03*	.02	.04*	.03
93	Arms and Ammunition	.09*	.00	.04	.02	.03	.04*	.08*	.07*
94-96	Miscellaneous	.87	1.30	2.11*	2.07*	1.65	1.62	1.15	1.47
97	Works of Art	.01	.02	.04*	.02	.06	.05	.08*	.08*
98-99	Special	.18	4.88*	.59	7.06*	.80*	6.84*	.67*	5.01*
Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Indicates regional share is above the U.S. average.

Source: Statistics Canada, Canadian Merchandise Trade Statistics.

Appendix Table 3

Shares of the Three Top 4-Digit U.S. Exports to Canada within Selected U.S. Industries, 1993

Percent

Region	Industrial Machinery		Electric and Electronic Equipment	
	4-Digit Product	Share	4-Digit Product	Share
NE	Disk drive units, display units & printers	32.3	Integrated circuits	59.0
	Parts for computers & office machines	19.1	Phonog. records, magnetic tape recordings, & discs	7.4
	Turbojet, turbo prop, & gas engines	16.6	Printed circuits	5.3
MAT	Disk drive units, display units & printers	13.6	Printed circuits	23.5
	Parts for computers & office machines	8.7	Relays, switches, circuit breakers & connectors	8.8
	Turbojet, turbo prop, & gas engines	5.3	Integrated circuits	6.9
SAT	Disk drive units, display units & printers	22.8	Telephone sets & parts, faxes, modems	26.6
	Parts for computers & office machines	8.8	Relays, switches, circuit breakers & connectors	6.1
	Valves	6.5	T.V., radio transmitters, cameras	5.4
ENC	Spark ignition engines	23.6	Insulated wire, cables & conductors	14.6
	Parts for spark & computers ignit. engines	9.4	Internal combustion engines & equipment	14.1
	Air conditioners	5.7	Relays, switches, circuit breakers & connectors	11.1
WNC	Harvesters, combines, mowers	8.8	Relays, switches, circuit breakers & connectors	9.7
	Disk drive units, display units & printers	8.7	Motors and generators	9.5
	Bulldozers, rollers, scrapers, levelers	5.7	Lead-acid & nickel-cad. storage batteries and parts	7.0
ESC	Parts for spark & computer ignit. engines	8.2	Relays, switches, circuit breakers & connectors	25.6
	Disk drive units, display units & printers	8.1	Internal combustion engines & equipt.	9.8
	Hydraulic pumps	6.0	T.V. sets, receivers	8.7
WSC	Disk drive units, display units & printers	26.2	Insulated wire, cable & conductors	19.1
	Valves	11.7	Integrated circuits	18.0
	Hydraulic pumps	7.3	Carbon/graphite items	9.4
MT	Disk drive units, display units & printers	56.7	Integrated circuits	31.9
	Parts for computers & office machines	12.2	Phonog. records, magnetic tape recordings, discs	22.4
	Valves	2.8	Telephone sets & parts, faxes, modems	8.6
PAC	Disk drive units display units & printers	43.8	Phonog. records, magnetic tape recordings, discs	29.0
	Parts for computers & office machines	15.5	Integrated circuits	16.5
	Turbojet, turbo prop & gas engines	3.4	Telephone sets & parts, faxes, modems	10.5
	Transportation		Chemicals	
Region	4-Digit Product	Share	4-Digit Product	Share
NE	Vehicle/tractor bodies & parts	44.6	Pharmaceutical products	25.8
	Parts for civilian, military aircraft	37.8	Organic chemicals	16.5
	Rail, train car parts	4.4	Toiletries	13.8
MAT	Vehicle/tractor bodies & parts	39.9	Organic chemicals	21.3
	Passenger vehicles	22.3	Pharmaceutical products	17.3
	Motor vehicles w. rear cabs, trucks	7.8	Photog., cinematog. products	15.5
SAT	Passenger vehicles	50.7	Miscellaneous	24.2
	Vehicle/tractor bodies & parts	29.7	Inorganic products	12.4
	Road tractors	6.5	Dyes, paint, ink	12.2
ENC	Vehicle/tractor bodies & parts	58.4	Miscellaneous	22.2
	Passenger vehicles	27.0	Tanning, dyeing extracts, pigments	20.6
	Motor vehicles w. rear cabs, trucks	9.2	Organic products	15.6
WNC	Passenger vehicles	50.0	Miscellaneous	38.5
	Motor vehicles w. rear cabs, trucks	20.4	Organic products	18.7
	Vehicle, tractor bodies & parts	14.3	Pharmaceutical products	7.8
ESC	Vehicle, tractor bodies & parts	47.2	Organic products	30.6
	Passenger vehicles	26.2	Miscellaneous	23.7
	Road tractors	19.7	Dyes, paint, ink	11.4
WSC	Passenger vehicles	33.6	Organic products	40.3
	Parts for civilian military aircraft	25.7	Inorganic products	26.6
	Vehicle, tractor bodies & parts	17.5	Miscellaneous	17.2
MT	Vehicle, tractor bodies & parts	43.7	Photographic, cinematog. prods.	20.9
	Parts for civilian military aircraft	34.0	Fertilizers	19.8
	Trailers & semi-trailers for housing	7.1	Inorganic products	18.5
PAC	Parts for civilian, military aircraft	29.8	Miscellaneous	24.4
	Helicopters & airplanes, spacecraft	18.7	Pharmaceutical products	16.5
	Vehicle, tractor bodies & parts	16.6	Toiletries	15.5

Source: Based on data from Statistics Canada.

Appendix Table 4

U.S. Trade Balance with Canada by Industry Category, Selected Regions, 1988 and 1993

Millions of Canadian Dollars

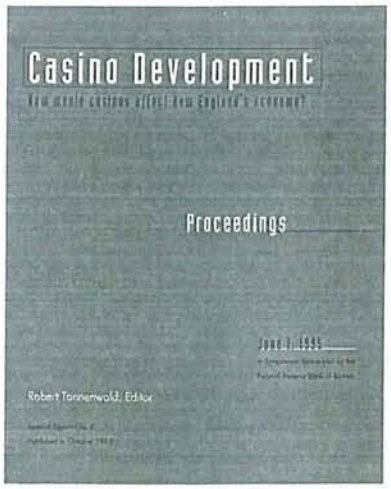
Code	Description	Mid-Atlantic		South Atlantic		East North Central		West North Central	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	(367.5)	(395.5)	(9.9)	1.6	(96.0)	(230.1)	(92.0)	(319.2)
6-14	Vegetable Products	(50.1)	(116.3)	295.3	351.3	30.4	(17.4)	(27.5)	(224.5)
15	Fats, Oils, and Waxes	6.6	(.8)	2.7	(9.8)	5.9	(52.2)	9.6	27.1
16-24	Prep. Foodstuffs, Beverages, Tobacco	(152.2)	(705.1)	6.2	(97.8)	(14.7)	(36.9)	149.7	258.2
25-27	Minerals	(1,416.1)	(3,092.4)	(80.8)	152.3	(1,991.8)	(4,741.0)	(1,625.5)	(2,540.2)
28-38	Chemicals and Allied Products	213.8	594.2	236.7	458.8	(313.0)	(32.9)	(296.5)	(256.4)
39-40	Plastic and Rubber	284.6	176.7	(26.5)	238.2	426.8	10.1	9.9	10.8
41-43	Hides, Skins, Leather, etc.	(84.3)	(44.0)	13.0	2.6	18.2	(25.6)	24.2	16.9
44-46	Wood and Articles	(567.5)	(690.0)	(811.1)	(1,296.4)	(571.9)	(1,800.6)	(191.0)	(607.7)
47-49	Pulp and Paper	(1,818.3)	(1,310.0)	(707.3)	(593.3)	(2,198.4)	(1,894.5)	(639.5)	(702.8)
50-63	Textiles	103.9	44.8	469.1	760.1	24.9	(14.2)	1.4	(15.4)
64-67	Footwear	(16.6)	(43.0)	.5	(.3)	(9.3)	8.4	(.2)	(4.3)
68-70	Stone, Ceramics, Glass	65.2	115.9	20.2	41.2	215.2	300.1	1.5	(1.7)
71	Pearls, Stones, Jewelry	(585.9)	(1,003.8)	45.6	(28.9)	52.1	10.3	5.1	46.2
72-83	Base Metals and Articles	(2,064.2)	(1,612.2)	(298.4)	(204.2)	(906.8)	(806.0)	(13.6)	(5.2)
84	Industrial Machinery	786.3	363.2	222.1	159.1	4,081.0	6,161.7	473.6	425.7
85	Electric and Electrical Machinery	847.3	(317.9)	(3.3)	857.6	1,542.8	2,370.4	181.5	308.6
86-89	Transportation	(5,107.2)	(5,078.3)	1,473.3	1,299.2	(5,093.2)	(13,365.3)	1,418.4	1,077.9
90	Instruments, Scientific and Measuring	293.4	377.7	109.5	253.9	345.9	693.7	113.9	148.2
91-92	Instruments, Photographic and Musical	14.8	5.6	(.7)	2.4	23.7	6.0	.5	.7
93	Arms and Ammunition	2.9	(9.0)	66.2	116.0	11.1	27.3	5.9	41.0
94-96	Miscellaneous	(215.5)	(259.9)	(61.5)	(22.2)	(272.2)	(22.8)	(13.6)	74.5
97	Works of Art	(9.4)	(46.0)	4.3	(3.0)	(.6)	(4.1)	.3	.2
98-99	Special	82.4	125.5	22.5	(538.3)	223.2	(879.6)	40.5	(259.8)
Total		(9,753.4)	(12,920.7)	987.8	(1,900.0)	(4,466.8)	(14,335.4)	(463.5)	(2,501.2)

Code	Description	East South Central		West South Central		Mountain		Pacific	
		1988	1993	1988	1993	1988	1993	1988	1993
1-5	Animal Products	28.3	31.4	18.7	18.5	(61.0)	(244.3)	(335.9)	(666.8)
6-14	Vegetable Products	1.4	(3.1)	88.5	108.3	55.3	33.5	888.8	1,181.5
15	Fats, Oils, and Waxes	(15.2)	(36.7)	24.0	10.5	(.5)	(5.3)	(31.6)	(47.7)
16-24	Prep. Foodstuffs, Beverages, Tobacco	(18.8)	(38.1)	3.8	(15.3)	5.0	9.7	53.4	295.1
25-27	Minerals	(258.7)	(866.1)	21.6	(1974.3)	(425.5)	(342.6)	(1,941.0)	(2,647.2)
28-38	Chemicals and Allied Products	(152.1)	(73.0)	346.5	629.0	(9.4)	25.1	3.6	(230.1)
39-40	Plastic and Rubber	91.8	196.0	287.6	531.5	(14.1)	(91.0)	(25.8)	(59.7)
41-43	Hides, Skins, Leather, etc.	(5.4)	1.3	(5.9)	(10.2)	(.7)	5.1	6.2	(6.3)
44-46	Wood and Articles	(92.8)	(284.8)	(103.0)	(302.8)	(177.0)	(497.9)	(607.5)	(1,048.1)
47-49	Pulp and Paper	(282.0)	(162.0)	(150.0)	106.8)	(193.6)	(115.4)	(896.6)	(737.3)
50-63	Textiles	106.4	181.9	12.3	(6.2)	.1	3.0	(.3)	(11.2)
64-67	Footwear	2.7	5.1	1.5	7.9	(.3)	(1.7)	.6	5.2
68-70	Stone, Ceramics, Glass	91.8	42.0	13.6	16.6	6.5	(.6)	(8.5)	49.1
71	Pearls, Stones, Jewelry	(1.1)	(4.8)	(4.3)	(3.8)	411.7	(10.0)	(54.8)	(5.1)
72-83	Base Metals and Articles	(443.2)	(352.2)	(183.7)	(13.2)	1.3	18.3	(113.1)	(52.3)
84	Industrial Machinery	181.8	270.5	440.5	201.6	167.0	133.3	1,210.8	1,293.2
85	Electric and Electrical Machinery	272.6	492.9	400.2	408.6	176.5	241.8	441.1	1,033.1
86-89	Transportation	615.3	675.9	196.1	220.0	(55.0)	115.0	(218.7)	(2,645.6)
90	Instruments, Scientific and Measuring	37.1	53.7	92.2	191.8	75.4	83.7	255.0	352.1
91-92	Instruments, Photographic and Musical	.4	3.3	.9	2.7	.7	.3	8.3	11.5
93	Arms and Ammunition	2.1	1.4	9.5	3.3	4.8	1.9	5.1	9.3
94-96	Miscellaneous	60.5	255.5	(14.4)	(40.6)	(10.1)	29.3	14.0	72.7
97	Works of Art	.1	(.7)	(.2)	(.4)	1.2	1.5	2.5	(1.3)
98-99	Special	35.0	(217.9)	29.5	(321.1)	23.5	(174.1)	39.3	(513.9)
Total		258.2	171.6	1,525.4	555.9	(18.1)	(781.5)	(1,305.2)	(4,373.4)

Note: Negative values in parentheses.

Source: Statistics Canada, Canadian Merchandise Trade Statistics.

Casino Development: How would casinos affect New England's economy?



In 1992, Connecticut became the first New England state to allow casino gambling within its borders. Since then, the region's other states have seriously considered whether to follow Connecticut's example. One of the most controversial, unresolved issues in these debates has been the economic effects of casino development. While interest in this issue is intense, relevant empirical evidence is scant. For this reason, the Federal Reserve Bank of Boston held a one-day Symposium on Casino Development on June 1, 1995, bringing together experts from academia, government, Native American nations, and the gaming industry. This special report summarizes the participants' remarks.

Copies of *Casino Development: How would casinos affect New England's economy?* may be obtained without charge by writing to Research Library—D, Federal Reserve Bank of Boston, P.O. Box 2076, Boston, MA 02106-2076. Or telephone (617) 973-3397.