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15 YEARS OF FREE TRADE: LOOKING BACKWARD – LOOKING FORWARD CONFERENCE PROCEEDINGS

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Western Centre for Economic Research
School of Business, University of Alberta
Edmonton, Canada T6G 2R6
www.bus.ualberta.ca/WCER

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Western Centre for Economic Research
University of Alberta
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Contents

Introduction/Foreword by Rolf Mirus[1]

Much has changed in the world since 1989 and 1994 when, respectively, the Free Trade Agreement (FTA) with the US and the North American Free Trade Agreement (NAFTA) with the US and Mexico, were implemented. September 11, 2001 and the resulting security concerns, the slide and recent recovery of the Canadian dollar, and the election of new leaders in all three NAFTA countries have been part of our 15 years of experience with free trade in North America. It is therefore appropriate to ask what free trade has meant for Alberta and Western Canada, and given the changes in the economic and political environment, what challenges lie ahead.

To answer these two questions the Western Centre for Economic Research (WCER) and the Edmonton Chamber of Commerce hosted a conference as the inaugural event at the new World Trade Centre in downtown Edmonton on September 22, 2004. This conference brought together researchers from the C.D. Howe Institute (Toronto), the Centre for Trade Policy and Law (Ottawa), the Western Centre for Economic Research (Edmonton) and the Institute for Research on Public Policy (Montreal) to present their perspectives on these questions. The resulting specially commissioned studies focus on the free trade experience and prospects of Western Canada, with particular emphasis on Alberta. As is generally known, the economies of the Western provinces are characterized by the prevalence of smaller firms and by the heavy reliance on agriculture, energy and natural resources. Freer trade brought special challenges to both exporters and import-competing firms of the region.

In the first paper, Xiaozhan Liu and Rolf Mirus review how Alberta's and Western Canada's merchandise exports to the NAFTA-partners have evolved over these 15 years. They show that exports to the US and Mexico have grown significantly faster than exports to other markets, resulting in greater North-South integration of the Western provinces. During this period of free trade Alberta's commodity-based exports to the NAFTA-partners increased by 240%, energy exports increased by 520% and manufactured exports grew by 765% (albeit from a small base). This export performance has been a significant boost to economic growth and contributed markedly to the diversification of the provincial economy.

Ted Chambers addresses the question of whether the NAFTA-driven export growth has had a detrimental impact on the volatility of employment. In other words, has the growth of the Western provinces in the three Western-most provinces been achieved at the price of more 'boom-bust' in employment (and incomes)? Relying on a portfolio-model as his methodological tool, he finds an interesting difference between Alberta's employment performance and that of British Columbia and Saskatchewan. While the preparation for and support of free trade by the Government of Alberta likely made a contribution to the greater employment stability relative to growth in that province, it is likely that the distinct economic

[1] Rolf Mirus is Director of the Western Centre for Economic Research, School of Business, University of Alberta.

characteristics of the other two provinces are at the root of the observed differences in employment stability.

Michael Hart and Bill Dymond focus on how to deal with the costs of regulatory divergence between Canada and the US, and on issues of border administration.

In view of potentially lost, badly needed capital investment and production inefficiencies from the former and diminishing returns to the provision of more resources to border administration from the latter, the authors argue for the creation of additional joint institutions. In the view of Hart and Dymond bilateral institutions, like the International Joint Commission that deals with problems regarding the Great Lakes, are more apt to lead to mutually beneficial outcomes than the alternatives of policy drift or conscious regulatory independence. Policy drift would create the illusion of independence, and conscious pursuit of regulatory independence result in the reality of below-potential economic performance.

The final paper, by Yvan Guillemette and Jack Mintz, reviews the current level of Western Canada's economic integration, particularly with the US, not only from the trade perspective, but also as regards foreign direct investment (FDI), financial investment flows, and cross-border migration of skilled human resources. They are concerned about the implications of increasing integration for provincial tax policy. Comparing average personal income tax rates and effective corporate tax rates for various states and provinces the authors draw attention to possible migration responses of highly skilled labor and location choices of physical capital when tax differentials become too pronounced. Effective tax rates on capital in B.C., Manitoba and Saskatchewan are still significantly above those in competing states. By lowering their effective corporate tax rates, the authors argue, these provinces would experience little revenue loss but stand to attract much tax-sensitive business, with attendant revenue, growth, and employment.

As well, Guillemette and Mintz propose a number of other tax policy shifts to address the increasing tax competition from US jurisdictions.

Taken together, these four diverse studies substantially enrich our understanding of the economic dynamics of Western Canada and thus contribute to an informed debate about future policy choices. Alberta International and Intergovernmental Relations provided support for the conference and the preparation of these proceedings. This support is gratefully acknowledged.

Alberta's and Western Canada's Exports: 15 Years of Free Trade Agreements[2]

By Xiaozhan Liu and Rolf Mirus[3]

Executive Summary

- The report summarizes the export performance of Western Canada and Alberta for the 15 years of free trade with the US and 10 years with Mexico, under the Canada-US Free Trade Agreement (FTA) and the North American Free Trade Agreement (NAFTA).
- Western Canada's export value rose by 167% from 1988 to 2003. Alberta's exports rose by 332%.
- NAFTA countries have been strong markets for Western Canada. In 2003, NAFTA-partners accounted for 80.5% of Western Canada's export markets, vs. 52% in 1988.
- All four Western provinces have increased their reliance on NAFTA countries as markets for their exports. Alberta was the most NAFTA-reliant Western province, with 90.4% of its exports destined for the US and Mexico. Saskatchewan was the least NAFTA-reliant of the four provinces (65.2%), closely followed by British Columbia (66.6%).
- The US was the destination of 99% of Western Canada's NAFTA-exports, and Mexico accounted for the remaining 1% in 2003. The possibility, indeed probability, exists that some exports to Mexico are captured by the trade statistics as exports to the US.
- Other than energy, Alberta's top exports to NAFTA countries were plastic, wood, electrical machinery and meat. Exports of these products tripled or quadrupled since NAFTA's inception.
- The export value of live animals to NAFTA-partners decreased from $1.8 billion to $0.8 billion between 2002 and 2003. This decline reflects the BSE-related border closure.
- During 2003, Alberta's exports of mineral fuel and oil increased by nearly $10 billion over 2002.
- Value added manufacturing exports from Alberta, especially machinery and electrical machinery (HS-chapters 84 and 85), have become much more prominent since 1993. The share of this product group in exports rose from 3.8% to 5.9%.
- In 2003, the US was the destination of 65% of Alberta's coal exports.
- Since the inception of NAFTA the value of Alberta's top 20 manufactured exports to the US and Mexico has increased by 444%.

[2] This paper has previously been published as Information Bulletin #80, Western Centre for Economic Research, October 2004.

[3] Xiaozhan Liu is a Research Associate and Rolf Mirus is Director of the Western Centre for Economic Research, School of Business, University of Alberta. The Western Centre for Economic Research gratefully acknowledges the support of Alberta International and Intergovernmental Relations.

- Since the inception of the Canada-US-Free Trade Agreement in 1989, Western Canada's exporters have increased their reliance on the US market from 51.9% to 78.7%
- Alberta's exporters have increased their reliance on the US market from 69.2% in 1988 to 89.7% in 2003.
- Export values to free trade partners Chile, Costa Rica and Israel totaled $165 million in 2003. They represented less than 0.2% of total Western Canadian exports. Due to their low value they are subject to sizeable year-to-year percentage changes. No clear trend is discernible in the changes between 2002 and 2003.

Introduction

This report examines the export performance of Western Canada and Alberta since the signing of the Canada-US Free Trade Agreement (FTA) in 1988, and the North American Free Trade Agreement (NAFTA) in 1993.

The increasingly dominant role of the US in the trade of all the Western provinces is shown in the first section of this report. It also highlights the importance of Alberta's exports, particularly of energy, for the international trade of the region: in 2003 Alberta accounted for 60.5% of all exports from the region to the NAFTA-partners. In other sections the report focuses on the historical development of major NAFTA exports of each of the four provinces that make up the region.

More recently free trade agreements have also been concluded with Chile, Costa Rica and Israel, and in its final section this report highlights the development of exports to these countries. The basis for the reported findings is the Harmonized System (HS) Code, which classifies products into 99 chapters, each chapter differentiated at the two– or more digit level, depending on the desired degree of detail. In this report we report mostly at the two-digit level, except for Alberta for which the top 20 manufactured and commodity-based export products to NAFTA are shown at the four-digit level of detail.

All export data are reported in Canadian dollars and pertain only to merchandise trade. Services are not included, and the nature of the data at this level of aggregation is such that the value of the goods exported cannot be broken down into quantity and price effects. As a result, it is difficult to separate out the effects on export value of energy price increases on the one hand, and changes in the volume of energy exports on the other.

As well, many Western Canadian exports are raw materials and processed agricultural products, the prices of which are internationally quoted in US dollars. Therefore the value of the Canadian dollar has an impact on the export receipts reported here. Since the Canadian dollar appreciated in the course of 2003, the effect was to decrease export values in Canadian dollar terms for that year.

As a result, export values, especially of energy products and forestry products, were subject to upward pressures from price effects and downward pressures from the exchange rate change during 2003.

1. Western Canada's Aggregate Export Values, 1988 to 2003

1.1. Dollar Value Of Merchandise Exports

Western Canada has participated in "globalization": its exports have become a more significant part of total Canadian economic activity. In no small measure this reflects the integration into the North American economic space that resulted from the free trade agreements. In 2003 Western Canada's exports represented 33.8% more of total Canadian GDP than 15 years earlier.

Exports have therefore grown faster than GDP. And the growth in Western Canadian exports has not been evenly distributed over the four provinces that comprise the region. Over the 15 years considered, Alberta's exports increased by 332% and Manitoba's by 188%. By contrast, the increases for Saskatchewan and British Columbia were less spectacular, 82% and 67%, respectively. Difficulties in the forest industry in B.C. and the surge in energy prices and energy activity in Alberta explain at least part of this differential development. The result is that Alberta has become the leader in export value, accounting for more than 50% of the exports of the region.

Regarding the most recent year, the aggregate value of merchandise exports from Western Canada in 2003 was $106 billion, an increase of 6.0% from $100 billion in 2002. The total value of merchandise exports from the Western provinces and the aggregate exports from Western Canada are summarized in Table 1.1.

The increase in Western Canadian exports from 2002 to 2003 results entirely from an increase in export values in Alberta. The international shipments of British Columbia, Saskatchewan and Manitoba decreased by 2.1%, 7.5% and 6.7%, respectively. Alberta accounted for 53.9% of Western Canada's exports in 2003.

Figure 1.1. Western Canada: Value of Merchandise Exports in 1988-2003 ($ billion)

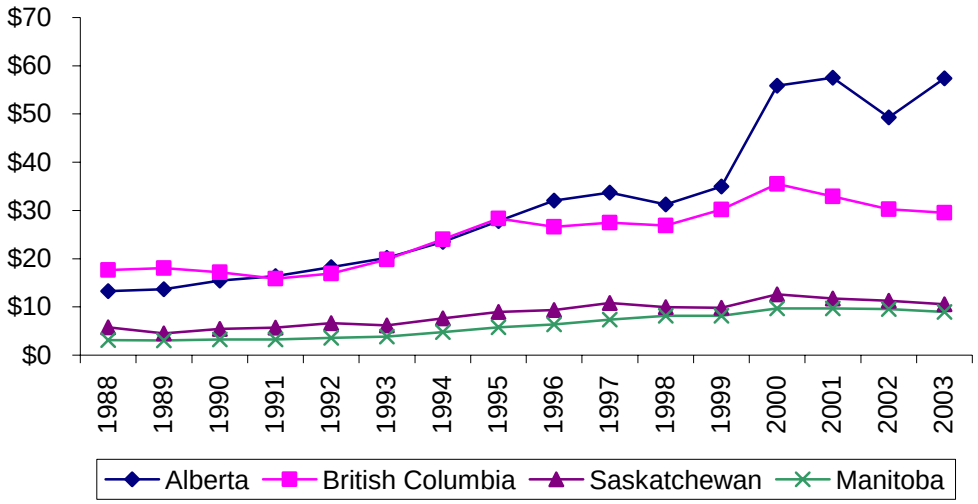


Table 1.1. Western Canada: Value of Exports by Province, 1988-2003 ($billion)

	Alberta	British Columbia	Saskatchewan	Manitoba	Western Canada
1988	$13.28	$17.67	$5.78	$3.11	$39.84
1989	$13.65	$18.04	$4.51	$3.03	$39.23
1990	$15.48	$17.16	$5.45	$3.24	$41.34
1991	$16.42	$15.86	$5.73	$3.24	$41.25
1992	$18.24	$16.93	$6.63	$3.59	$45.38
1993	$20.17	$19.82	$6.15	$3.86	$50.01
1994	$23.51	$24.04	$7.64	$4.76	$59.95
1995	$27.78	$28.30	$8.97	$5.75	$70.80
1996	$32.08	$26.60	$9.35	$6.34	$74.37
1997	$33.69	$27.45	$10.83	$7.38	$79.34
1998	$31.22	$26.89	$9.95	$8.14	$76.19
1999	$34.97	$30.16	$9.80	$8.13	$83.05
2000	$55.88	$35.48	$12.60	$9.70	$113.67
2001	$57.54	$32.92	$11.73	$9.69	$111.88
2002	$49.31	$30.26	$11.28	$9.57	$100.43
2003	$57.38	$29.54	$10.53	$8.97	$106.43
2003 NAFTA	90.4%	66.5%	80.4%	65.3%	80.5%
2003 ROW	9.6%	33.5%	19.6%	34.7%	19.5%

1.2. Exports to NAFTA-Partners

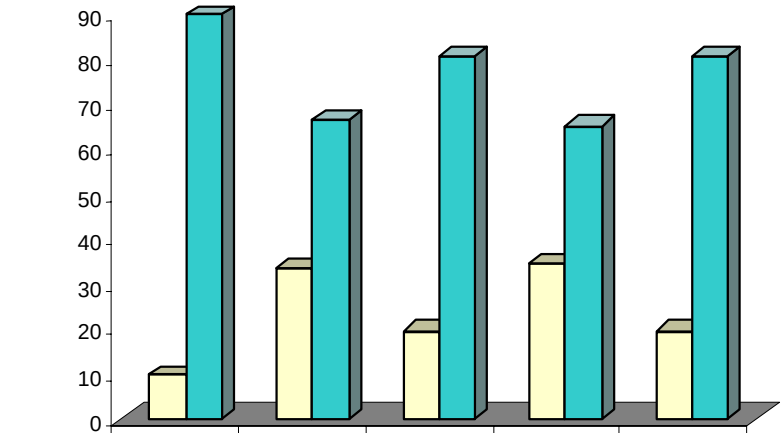
The integration of Western Canada into the North America economy is reflected in the extent to which exports from the four Western provinces are increasingly destined to our NAFTA-partners. The US and Mexico were the destination of 90.4% of Alberta's exports in 2003, and 80.5% of the total merchandise exports of the region. This contrasts to, respectively, 70% and 52.4% in 1988.

This increase in the relative importance of the North American market is consistent and shared by all Western provinces, as is evident from Table 1.2, though Alberta and Manitoba are more dependent on North American markets than B.C. and Saskatchewan.

Table 1.2. The Role of NAFTA in Western Canada's Exports (% of Exports to NAFTA-partners)

	Alberta	British Columbia	Saskatchewan	Manitoba	Western Canada
1988	70.0%	43.4%	35.1%	61.1%	52.4%
1993	81.7%	54.3%	57.2%	71.0%	67.0%
1998	82.4%	63.7%	57.2%	77.0%	72.0%
2003	90.4%	66.6%	65.2%	80.4%	80.5%

Figure 1.2. Western Canada: Share of Merchandise Exports to NAFTA and the Rest of the World (ROW) in 2003 (%)



	AB	BC	MB	SK	WEST
ROW	9.6	33.4	19.6	34.8	19.5
NAFTA	90.4	66.6	80.4	65.2	80.5

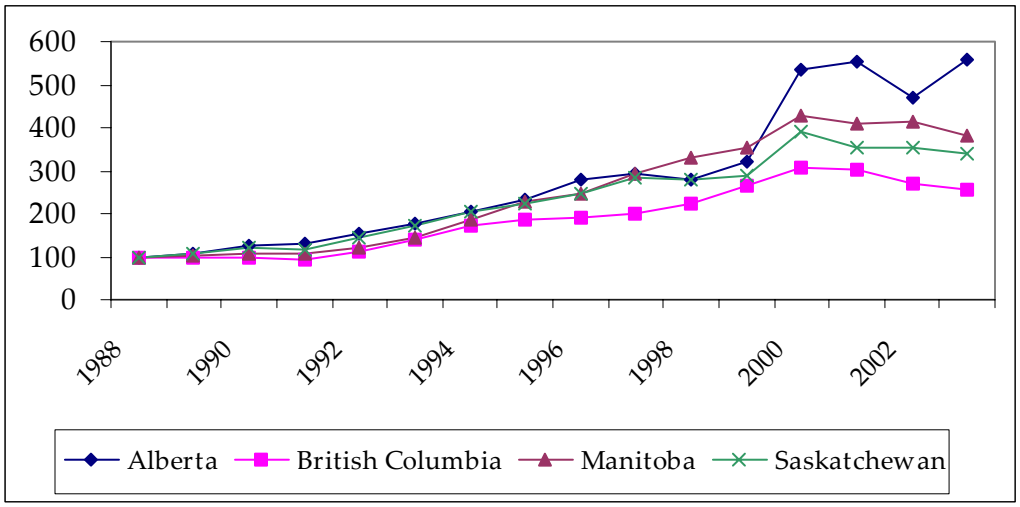
The value of exports to NAFTA is shown in Table 1.3. NAFTA came into effect in 1993. The export values for 1988, the year the free trade agreement was formalized between Canada and the US, and the following years, are listed in the table as well. In 1993, the total value of exports from the Western provinces was $33.5 billion. In 2003, the exports were $85.6 billion, an increase of 155.6% since 1993.

The trend since 1988 of provincial export values to NAFTA can be converted to an index (1988=100) to compare the export growth rate. The provincial indices of export values to NAFTA are shown in Figure 1.3. Export values from Western Canada to NAFTA have grown significantly since 1988. The growth of Alberta and Manitoba are especially striking, with the result that NAFTA-exports have assumed a more prominent relative position, as already shown in Table 1.2.

Table 1.3. Western Canada: Export Values to NAFTA by Provinces, 1988-2003 ($ billion)

Province	Alberta	British Columbia	Manitoba	Saskatchewan	Western Canada
1988	$9.29	$7.67	$1.90	$2.03	$20.89
1989	$10.11	$7.49	$1.98	$2.20	$21.78
1990	$11.77	$7.48	$2.04	$2.47	$23.76
1991	$12.20	$7.24	$2.01	$2.38	$23.82
1992	$14.22	$8.55	$2.28	$2.92	$27.97
1993	$16.48	$10.77	$2.74	$3.52	$33.51
1994	$18.82	$13.25	$3.56	$4.14	$39.77
1995	$21.71	$14.38	$4.31	$4.54	$44.94
1996	$25.81	$14.58	$4.71	$5.01	$50.10
1997	$27.32	$15.44	$5.53	$5.75	$54.04
1998	$25.72	$17.13	$6.27	$5.69	$54.82
1999	$29.62	$20.29	$6.69	$5.82	$62.41
2000	$49.55	$23.69	$8.09	$7.92	$89.25
2001	$51.61	$23.09	$7.80	$7.15	$89.65
2002	$43.82	$20.79	$7.88	$7.21	$79.71
2003	$51.89	$19.66	$7.21	$6.87	$85.63

Figure 1.3. Evolution of Index of Export Values to NAFTA (1988=100), 1988-2003



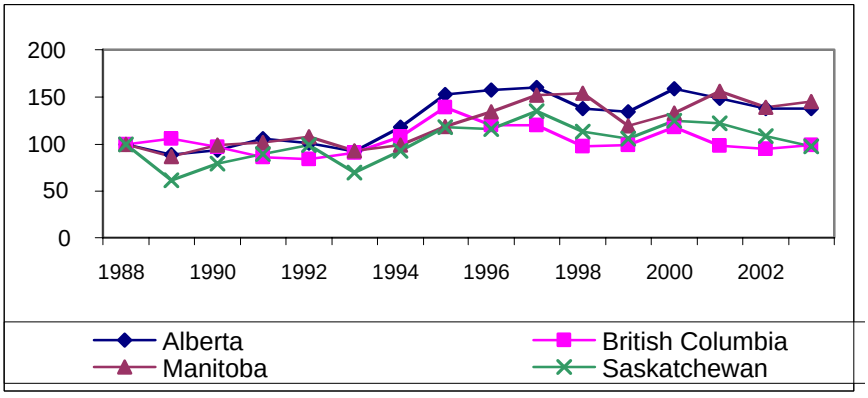
The values of exports from Western Canada to the rest of the world (ROW) are shown in Table 1.4. Again, 1988 serves as the benchmark year. In 1993, the total value of exports from Western provinces was $16.5 billion; in 2003, it was $20.8 billion. The exports from Western Canada to the ROW did not increase as quickly as the export values to NAFTA. In part, this is a reflection of the fact that the US economy was more buoyant than that of the ROW during that period. However, it also reflects the effects of NAFTA.

The trend since 1988 of provincial export values to the ROW has also been converted to an index (1988=100) to compare the export growth rates. The provincial indices of export values to the ROW are shown in Figure 1.4. Export values from Western Canada to the ROW increased modestly. Manitoba had the highest rate of increase, followed by Alberta.

Table 1.4. Western Canada: Export Values to ROW by Provinces, 1988-2003 ($ million)

Province	Alberta	British Columbia	Manitoba	Saskatchewan	-WESTERN CANADA-
1988	$3,983	$10,000	$1,212	$3,756	$18,951
1989	$3,546	$10,547	$1,050	$2,310	$17,453
1990	$3,714	$9,685	$1,201	$2,974	$17,574
1991	$4,218	$8,618	$1,235	$3,353	$17,424
1992	$4,020	$8,381	$1,303	$3,713	$17,418
1993	$3,685	$9,054	$1,126	$2,635	$16,501
1994	$4,687	$10,795	$1,198	$3,500	$20,180
1995	$6,074	$13,928	$1,436	$4,422	$25,861
1996	$6,271	$12,023	$1,631	$4,344	$24,268
1997	$6,369	$12,002	$1,844	$5,080	$25,296
1998	$5,491	$9,758	$1,864	$4,264	$21,378
1999	$5,350	$9,870	$1,444	$3,973	$20,637
2000	$6,331	$11,797	$1,611	$4,687	$24,426
2001	$5,921	$9,835	$1,891	$4,586	$22,232
2002	$5,487	$9,470	$1,686	$4,073	$20,716
2003	$5,493	$9,888	$1,757	$3,659	$20,796

Figure 1.4. Evolution of Index of Export Values to ROW (1988=100), 1988-2003



2. Western Canada's Top 20 Exports to the NAFTA Region and their Contribution to Export Growth

2.1. Western Canada: Top 20 Exports

Energy, forestry, machinery and agriculture products remain Western Canada's dominant export products. Table 2.1 shows the 20 major merchandise export categories in Western Canada, ordered by 2003 export value. The US and Mexico market shares in NAFTA of the product groups are also provided.

The top twenty export categories produced approximately 90% of the value of 2003 exports. The US market share in NAFTA in 2003 was 99% and Mexico's was only 1%.

Table 2.1. Western Canada: Top 20 Exports to NAFTA Countries in 2003 ($ million); Change Since 1993 (%)

		NAFTA				US	
			$ Value		% Change	2003	% of
HS	Description	1993	2002	2003	2003/93	$ Value	NAFTA
27	Mineral Fuel, Oil, Etc.	$14,537	$36,720	$47,826	229.0	$47,801	100
44	Wood	$5,104	$8,461	$7,697	50.8	$7,693	99.9
84	Machinery	$1,124	$3,103	$2,753	144.9	$2,696	97.9
39	Plastic	$541	$1,973	$2,505	363.0	$2,485	99.2
48	Paper, Paperboard	$1,1214	$2,377	$1,990	63.9	$1,955	98.2
85	Electrical Machinery	$596	$2,696	$1,983	232.7	$1,967	99.2
31	Fertilizers	$1,030	$1,707	$1,557	51.2	$1,549	99.5
02	Meat	$493	$1,947	$1,458	195.7	$1,312	90.0
87	Vehicles, Not Railway	$555	$1,976	$1,416	155.1	$1,414	99.9
47	Woodpulp, Etc.	$1,001	$1,296	$1,210	20.9	$1,175	97.2
99	Miscellaneous	$1,175	$1,207	$1,125	-4.3	$1,121	99.7
94	Furniture, Bedding	$195	$1,171	$1,083	455.4	$1,081	99.8
29	Organic Chemicals	$458	$1,275	$962	110.0	$939	97.6
01	Live Animals	$1,112	$1,827	$827	-25.6	$826	99.9
73	Iron/Steel Products	$240	$927	$790	229.2	$785	99.3
90	Precision Instruments	$192	$764	$678	253.1	$674	99.3
03	Fish And Seafood	$319	$727	$664	108.2	$664	99.9
28	Inorganic Chemicals	$416	$588	$654	157.2	$654	100.0
12	Misc Grain, Seed, Fruit	$223	$445	$531	138.1	$276	52.0
10	Cereals	$563	$913	$514	-8.7	$323	62.9
	Total-Top 20	$31,088	$72,100	$78,223	151.6	$77,389	98.9
	-Western Canada-	$33,507	$79,710	$85,632	155.6	$84,690	98.9

2.2 Alberta: Top 20 Exports

Alberta's top 20 export categories, ranked according to their 2003 export value, are shown in Table 2.2. The table also indicates the growth in dollar value of the 20 categories over the 1993 to 2003 period. US export value figures for 2003 are also provided.

Live animals is the only category that experienced a decrease (by 52%) in value in 2003 compared with 1993, because of the border closure that resulted from a single case of mad cow disease found in May 2003.

In Alberta, the top five categories accounted for 87.1% of the value of 2003 exports and the next 15 categories for 10.3%. All other export categories accounted for only 2.6%. The US market is very important to Alberta exports. In 2003, the US accounted for 99% of the value of total Alberta exports to NAFTA countries. With the exception of miscellaneous grains, the US market share is over 97% for the top 20 export categories. The exports to NAFTA from Alberta increased 215% since 1993.

Table 2.2. Alberta: Top 20 Exports to NAFTA Countries in 2003 ($ million); Change Since 1993 and 2002 (%)

		NAFTA					US	
		$ Value			% Change		2003	% of
HS	Description	1993	2002	2003	03/93	03/02	$ Value	NAFTA
27	Mineral Fuel, Oil, Etc.	$12,234	$30,173	$40,023	227	32.7	$40,023	100
39	Plastic	$420	$1,172	$1,688	302	44.0	$1,668	99
44	Wood	$254	$1,203	$1,278	404	6.2	$1,278	100
85	Electrical Machinery	$264	$1,671	$1,126	326	-32.6	$1,114	99
02	Meat	$365	$1,549	$1,074	194	-30.7	$958	89
84	Machinery	$170	$1,075	$983	479	-8.5	$934	95
29	Organic Chemicals	$392	$1,142	$865	121	-24.3	$864	100
99	Miscellaneous	$449	$547	$514	14	-6.1	$511	99
47	Woodpulp, Etc.	$130	$529	$480	270	-9.4	$464	97
94	Furniture And Bedding	$63	$368	$317	402	-13.9	$315	99
87	Vehicles, Not Railway	$34	$483	$308	810	-36.3	$307	100
31	Fertilizers	$203	$338	$292	44	-13.8	$292	100
01	Live Animals	$552	$736	$265	-52	-64.0	$265	100
90	Optical Instruments, Etc.	$53	$275	$255	383	-7.0	$253	99
28	Inorganic Chemicals	$113	$195	$247	118	26.6	$247	100
73	Iron/Steel Products	$46	$315	$206	350	-34.5	$201	98
48	Paper, Paperboard	$30	$247	$191	549	-22.6	$191	100
12	Misc Grain, Seed, Fruit	$67	$153	$169	152	10.5	$58	34
23	Food Waste; Animal Feed	$35	$99	$139	298	40.6	$139	100
20	Preserved Food	$1	$160	$132	19029	-17.3	$129	97
	Total-Top 20	$15,875	$42,431	$50,552	218	19.1	$50,211	99
	-Alberta-	$16,483	$43,825	$51,891	215	18.4	$51,479	99

2.3. British Columbia: Top 20 Exports

British Columbia's top 20 export categories to the NAFTA region, ranked according to their 2003 export value, and their contribution to the total provincial exports to NAFTA countries in 2003, are shown in Table 2.3. The table also indicates the export growth from 1993 to 2003. The US export value data for the major products in 2003 are also provided.

British Columbia's exports are led by the forestry sector and the energy sector. The four categories comprising wood, wood pulp, paper and paperboard, and energy contributed 58.3% to the total export value, clearly indicating the dominance of the forestry and energy sectors in NAFTA exports. Wood, wood pulp, and paper and paperboard exports accounted for approximately 40% of B.C.'s total export value in 2003. The second and third ranking categories were energy (which includes mineral fuels and oil) and machinery. These two sectors account for 18.4% and 4.8% of total export value, respectively, in 2003.

Exports to NAFTA countries have increased greatly since the establishment of NAFTA in 1994. Compared with 1993, total export value to NAFTA countries has increased 83%. Exports to the US account for 99% of total export values to NAFTA countries.

Table 2.3. British Columbia: Top 20 Exports to NAFTA Countries in 2003 ($ million); Change since 1993 and 2002 (%)

		NAFTA					US	
		$ Value			% Change		2003	% of
HS	Description	1993	2002	2003	03/93	03/02	$ Value	NAFTA
44	Wood	$4,658	$6,759	$5,857	26	-13	$5,854	100
27	Mineral Fuel, Oil, Etc.	$684	$2,486	$3,608	428	45	$3,488	97
48	Paper, Paperboard	$1,053	$1,674	$1,375	31	-18	$1,340	97
84	Machinery	$603	$1,023	$941	56	-8	$936	100
03	Fish And Seafood	$296	$675	$621	110	-8	$620	100
47	Woodpulp, Etc.	$801	$650	$613	-23	-6	$607	99
85	Electrical Machinery	$209	$719	$585	180	-19	$581	99
39	Plastic	$63	$482	$486	677	1	$485	100
73	Iron/Steel Products	$138	$412	$394	185	-4	$394	100
99	Miscellaneous	$478	$423	$394	-18	-7	$394	100
94	Furniture And Bedding	$63	$375	$390	516	4	$390	100
87	Vehicles, Not Railway	$161	$772	$385	139	-50	$384	100
90	Optical Instruments, Etc.	$94	$395	$344	267	-13	$343	100
49	Book+Newspapr; Manuscrpt	$46	$258	$249	445	-3	$249	100
79	Zinc+Articles Thereof	$141	$250	$244	73	-3	$244	100
07	Vegetables	$24	$192	$208	762	8	$207	100
28	Inorganic Chemicals	$64	$181	$204	219	13	$204	100
89	Ships And Boats	$24	$203	$192	692	-6	$192	100
76	Aluminum	$51	$198	$168	230	-15	$168	100
25	Salt; Sulfur; Earth, Stone	$66	$163	$159	140	-3	$159	100
	Total-Top 20	$9,717	$18,289	$17,417	79	-5	$17,239	99
	-British Columbia-	$10,767	$20,793	$19,656	83	-5	$19,530	99

2.4. Saskatchewan: Top 20 Exports

Energy, fertilizer, machinery, and cereals are the four largest export categories sent to the NAFTA countries from Saskatchewan in 2003. The four categories accounted for approximately 72% of Saskatchewan's NAFTA-based export value in 2003. Energy exports make up 47.5% of the total value, while fertilizer, the second largest export category, accounts for 17.0% of the total value. Machinery and cereals both make up just over 3.5% of the value of NAFTA-bound exports.

Cereals play a much more important role in Saskatchewan's worldwide export total, accounting for 16.5% of the value of global exports in 2003. However, these exports have been very cyclical in nature. Overall, they were Saskatchewan's largest export category in 1988. In 2003, cereal export values were almost $1,158 million less than in 1988, a decrease of 40%. Over the same period, Saskatchewan's energy and fertilizer exports have shown a much more consistent pattern of growth, globally.

The major NAFTA-export categories in Saskatchewan by total export value and the export growth from 1993 to 2003 are shown in Table 2.4. This table also includes the US market share in 2003 for Saskatchewan's exports to NAFTA countries.

The table reveals that since the establishment of NAFTA in 1994, export values to NAFTA countries have increased by 95.3%. The top five export categories accounted for 74.9% of the total export value in 2003 and 80.2% of the increase in export value since 1993.

Table 2.4. Saskatchewan: Top 20 Exports to NAFTA Countries in 2003 ($ million); Change Since 1993 and 2002 (%)

		NAFTA					US	
		$ Value			% Change		2003	% of
HS	Description	1993	2002	2003	03/93	03/02	$ Value	NAFTA
27	Mineral Fuel, Oil, Etc.	$1,218	$2763	$3,263	167.9	18.1	$3,263	100.0
31	Fertilizers	$780	$1248	$1,166	49.4	-6.6	$1,158	99.3
84	Machinery	$90	$311	$256	184.4	-17.5	$255	99.3
10	Cereals	$298	$488	$256	-14.3	-47.6	$164	64.3
44	Wood	$73	$162	$207	184.6	28.1	$207	100.0
12	Misc Grain, Seed, Fruit	$68	$149	$171	153.9	14.8	$83	48.5
48	Paper, Paperboard	$52	$187	$149	185.2	-20.7	$146	98.3
47	Woodpulp, Etc.	$69	$111	$112	62.2	1.0	$100	89.2
99	Miscellaneous	$81	$123	$110	35.8	-11.1	$110	100.0
01	Live Animals	$268	$419	$107	-59.9	-74.3	$107	99.7
73	Iron/Steel Products	$38	$124	$107	179.5	-13.8	$107	99.5
15	Fats And Oils	$13	$128	$105	682.4	-17.9	$105	99.4
85	Electrical Machinery	$24	$120	$104	341.4	-13.5	$104	99.7
02	Meat	$67	$118	$102	53.0	-13.5	$100	98.2
28	Inorganic Chemicals	$192	$103	$100	-48.1	-3.6	$100	100.0
87	Vehicles, Not Railway	$19	$112	$87	353.2	-22.7	$87	100.0
11	Milling; Malt; Starch	$5	$79	$84	1734.3	6.0	$67	79.7
38	Misc. Chemical Products	$29	$80	$81	180.2	0.7	$81	99.9
72	Iron And Steel	$54	$100	$53	-1.2	-46.7	$53	100.0
39	Plastic	$4	$42	$53	1232.7	25.7	$53	100.0
	Total-Top 20	$3,442	$6,968	$6,673	93.9	-4.2	$6,448	96.6
	-Saskatchewan-	$3,520	$7,209	$6,874	95.3	-4.6	$6,638	96.6

2.5 Manitoba: Top 20 Exports

The top 20 NAFTA export categories for Manitoba, their growth, and their market share in the US, are shown in Table 2.5. The product groups are ranked according to their 2003 export value.

Compared to other Western provinces, Manitoba's economy shows more diversification, as indicated by the distribution of export values. The first five categories accounted for 40.5% of the total export value to NAFTA countries in 2003. Although energy is ranked first among the export categories, the first five categories include a variety of sectors, such as manufacturing and agricultural production. Of these, furniture and bedding has increased the most since 1993.

The table reveals that since the establishment of NAFTA in 1994, export values to NAFTA countries from Manitoba have increased by 164%, which is due to the increase in value in all but one of the top 20 categories. Not unexpectedly, the US has the dominant position of Manitoba's exports to NAFTA countries, accounting for 98% of total export values to NAFTA countries.

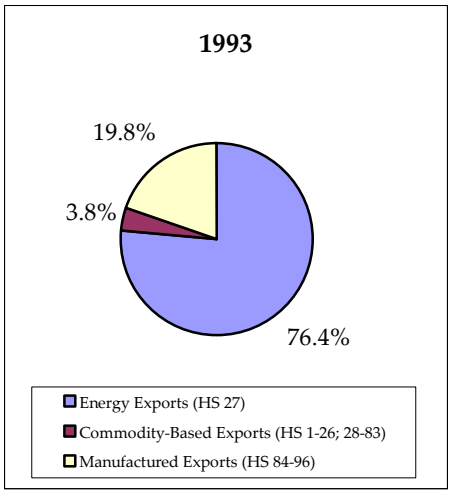
Table 2.5. Manitoba: Top 20 Exports to NAFTA Countries in 2003 ($ million); Change Since 1993 and 2002 (%)

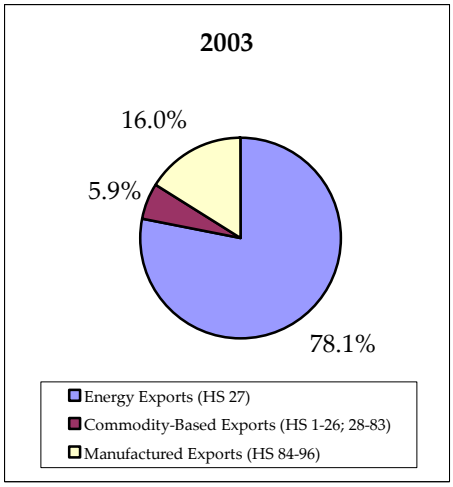
		NAFTA					US	
		$ Value			% Change		2003	% of
HS	Description	1993	2002	2003	93/03	02/03	$ Value	NAFTA
27	Mineral Fuel, Oil, Etc.	$401	$1,298	$953	137.6	-26.6	$953	100
87	Vehicles, Not Railway	$341	$609	$637	86.7	4.5	$636	100
84	Machinery	$261	$695	$573	119.2	-17.5	$571	100
01	Live Animals	$234	$542	$398	70.2	-26.6	$398	100
94	Furniture And Bedding	$68	$414	$360	432.0	-12.9	$360	100
44	Wood	$119	$337	$355	198.5	5.5	$354	100
74	Copper+Articles Thereof	$75	$391	$346	359.7	-11.4	$346	100
39	Plastic	$55	$277	$278	407.7	0.1	$277	100
48	Paper, Paperboard	$79	$268	$275	246.6	2.4	$275	100
02	Meat	$46	$241	$251	446.1	4.0	$221	88
88	Aircraft, Spacecraft	$121	$267	$208	71.0	-22.4	$208	100
20	Preserved Food	$8	$161	$204	2461.3	26.1	$202	99
30	Pharmaceutical Products	$0	$98	$196	N/A	101.0	$196	100
12	Misc Grain, Seed, Fruit	$84	$139	$187	122.1	34.8	$131	70
15	Fats And Oils	$40	$139	$171	331.2	22.9	$170	99
85	Electrical Machinery	$100	$186	$169	69.2	-9.2	$168	100
10	Cereals	$104	$227	$164	57.5	-27.5	$116	71
49	Book+Newspapr; Manuscrpt	$17	$156	$152	819.8	-2.9	$152	100
99	Miscellaneous	$167	$114	$107	-35.9	-5.5	$107	100
28	Inorganic Chemicals	$46	$109	$103	123.0	-5.4	$103	100
	Total-Top 20	$2,366	$6,669	$6,086	176.8	-9	$5,944	98
	-Manitoba-	$2,737	$7,883	$7,212	164	-9	$7,043	98

3. Alberta: Selected Export Highlights

In the following section, Alberta's NAFTA exports are reexamined in greater detail. The export categories are grouped into three sub sectors: the energy sector (HS 27), the manufacturing sector (HS 84-96) and other commodity-based exports (excluding the miscellaneous exports found in HS 97-99). Selected products at the 4-digit-level of the HS code are presented and their export values in 1993, 1995, 2002 and 2003 are compared. Figure 3.1 illustrates Alberta's export structure in 1993 and 2003. The energy sector continues to dominate. Noteworthy is the increased size of the manufacturing sector since 1993.

Figure 3.1. Alberta Export Breakdown: by Percentage





3.1. Energy Exports

Table 3.1 shows more details of Alberta's dominant export sector, the energy sector, which accounted for 78% of the province's NAFTA-based export value in 2003 (excluding HS 97 - 99). Natural gas, crude oil, and refined oil are the three largest export categories in the energy sector, and accounted for 99.6% of the total export value in this sector. The value of exports from the energy sector to the NAFTA region has increased by 227% between 1993 and 2003. The increase was mainly due to the increase in the value of natural gas and crude oil by 274% and 183%, respectively.

The US market is the major destination for Alberta's energy exports, receiving 99.8% of international shipments. All the natural gas and crude oil exports and most of Alberta's refined oil exports were sent to the US in 2003. Coal used to be mainly exported to Asia (Japan, Korea, etc.), but the US share has increased to 65% of total Alberta coal export value in 2003. The US thus became the major destination of Alberta coal exports.

Table 3.1. Exports of Energy: Selected Categories and Years ($ millions)

Hs 27	Mineral Fuel, Oil, etc.	Nafta Export Value 1993	1995	2002	2003	% Change 03/93	03/02	% US Global Share 2003
2711	Natural Gases	$6,321	$6,960	$17,036	$23,612	274	39	100.0
2709	Crude Oil	$5,598	$7,056	$12,666	$15,851	183	25	99.9
2710	Oil (Not Crude)	$219	$224	$297	$393	79	32	91.8
	Others	$96	$122	$173	$168	75	-3	99.8
27	Sum Of HS 27	$12,234	$14,362	$30,173	$40,023	227	33	99.8

3.2. Manufactured Exports

Manufactured products refer to categories from HS 84 to HS 96, which include machinery, electrical machinery, railway and traffic signal equipment, vehicles, aircraft, ships and boats, optical and medical instruments, clocks and watches, musical instruments, arms and ammunition, furniture and bedding, toys and sports equipment, and miscellaneous manufactures. Manufactured exports reflect the importance of value-added products to Alberta's economy. Table 3.2 lists the top 20 manufactured exports to NAFTA countries from Alberta. The table indicates that manufactured exports are becoming more important in terms of both export values and market share in Alberta's exports to NAFTA countries. Between 1993 and 2003, manufactured exports to NAFTA countries have increased by 403%, while the top 20 exports increased by 444%.

Table 3.2. Alberta's Exports to NAFTA ($ millions, Cdn.)-Top 20 Manufactured Exports (HS 84-96)

Rank in 2003	HS	Description	1993	1995	2002	2003	Growth from 1993 to 2003 (%)
		Sum of Top 20	$416	$963	$2,988	$2,261	444
1	8517	Electric apparatus for line telephony etc, parts	$117	$265	$469	$342	192
2	8525	Transmission apparatus for radiotelephony, etc.	$90	$315	$700	$290	222
3	8529	Parts for television, radio and radar apparatus	$4	$12	$216	$242	5,950
4	9403	Furniture and parts thereof	$58	$103	$272	$242	317
5	8704	Motor vehicles for transport of goods	$15	$31	$240	$140	833
6	8431	Parts for construction and digging machinery	$28	$39	$137	$138	393
7	8413	Pumps for liquids; liquid elevators; parts thereof	$12	$14	$71	$97	708
8	8412	Engines and motors, and parts thereof	$18	$42	$77	$96	433
9	8481	Taps, cocks, valves etc for pipes, tanks etc	$10	$23	$86	$96	860
10	8411	Turbojets, turbo-propellers & other gas turbines	$6	$7	$137	$82	1,267
11	8705	Special purpose motor vehicles	$7	$12	$85	$65	829
12	8479	Machines etc having individual functions	$4	$18	$77	$64	1,500
13	9015	Survey, hydrographic, meteorological instruments	$4	$12	$91	$60	1,400
14	8414	Air or vacuum pumps, compressors & fans	$6	$7	$87	$54	800
15	8419	Machinery for temperature treatment	$9	$13	$48	$48	433
16	8471	Automatic data processing machines	$16	$13	$39	$45	181
17	9027	Instruments for physical analysis, etc.	$6	$9	$43	$43	617
18	9406	Prefabricated buildings	$1	$6	$51	$41	4000
19	8430	Machinery for moving, grading, etc.	$2	$17	$38	$38	1800
20	8536	Electrical apparatus for switching, etc.	$3	$6	$26	$37	1133
		Total Manufactured Exports	$603	$1,347	$3,949	$3,033	403
		Total NAFTA exports	$16,483	$21,705	$43,825	$51,906	215

3.3. Other Exports

The exports in this group of products represent commodity-based and secondary processing products. The top 20 products at the four-digit HS-level have grown by 128% over the ten years of NAFTA's existence, i.e., they have more than doubled in nominal value. While some particular products, such as newsprint (HS 4801) and frozen packaged potatoes (HS 2004) have grown very fast and are examples of a move up in the value chain, overall growth in export values of this group (at 159%) has been slower than that of the energy sector (227%) and the emerging manufacturing sector (444%) discussed previously.

To be sure, the figures for 2003 contain the effects of the border closure to live animals and some beef products due to BSE. Comparing the export values for 2003 with those for 2002, one can infer a decline in live animal and packaged meat exports of approximately $ 1 billion (HS 0201 and HS 0102). Arguably, the "missing" exports of live animals and meat in 2003 have prevented this sector from achieving a higher 10-year growth rate. Nevertheless, the data in Table 3.3 imply that the growth of the emerging exports of manufacturing products and that of the energy sector exceeded that of the traditional commodity-based exports of Alberta even if the "missing" exports were allowed for.

Table 3.3. Alberta's Exports to NAFTA ($ millions) - Top 20 Other (Commodity and Value Added) Exports (Excl. HS 97 - 99)

Rank in 2003	HS	Description	1993	1995	2002	2003	Growth from 1993 to 2003 (%)
		Sum of Top 20	$2,711	$3,485	$6,525	$ 6,169	128
1	3901	Polymers of ethylene, in primary forms	$361	$889	$916	$1,446	301
2	0201	Meat of bovine animals, fresh or chilled	$239	$306	$1,374	$936	292
3	4410	Particle board & similar board of wood etc.	$140	$213	$385	$574	310
4	4407	Wood, sawn or chipped, > 6mm thickness	$89	$127	$615	$515	679
5	2902	Cyclic hydrocarbons	$1	$14	$511	$427	42,000
6	4703	Chemical wood-pulp, soda or sulfate	$762	$303	$469	$425	-44
7	3102	Mineral or chemical fertilizers, nitrogenous	$199	$228	$322	$287	44
8	2901	Acyclic hydrocarbons	$0.3	$27	$106	$207	68,909
9	2814	Ammonia, anhydrous or in aqueous	$82	$90	$143	$199	143
10	0102	Bovine animals, live	$529	$690	$635	$196	-73
11	2905	Acyclic alcohols & derivatives	$96	$150	$145	$153	59
12	1205	Rape or colza seeds, whether or not broken	$39	$92	$114	$132	238
13	2306	Oilcake, from vegetable fats & oils	$26	$47	$76	$125	381
14	2004	Vegetables, prepared or preserved, frozen	$0.2	$0	$144	$115	57,500
15	4801	Newsprint, in rolls or sheets	$1	$10	$168	$114	11,399
16	1514	Canola or mustard oil, not chemically	$57	$111	$61	$70	23
17	7019	Glass fibers & articles thereof (yarn etc.)	$1	$6	$52	$69	6,800
18	4011	New pneumatic tires, of rubber	$0.2	$0	$71	$62	30,900
19	1001	Wheat and meslin	$72	$131	$144	$61	-15
20	0103	Swine, live	$16	$51	$76	$54	238
		Total Commodity-Based Exports	$3,174	$5,209	$9,085	$8,218	159
		Total NAFTA exports	$16,483	$21,705	$43,825	$51,906	215

4. Exports To The United States

The Canada-US Free Trade Agreement was signed in 1988 and initiated in 1989. Figure 4.1 shows the value of Western Canadian provincial exports to the US from 1988 to 2003. Figure 4.2 shows the provincial share of exports from Western Canada to the US in 2003.

From 1988 to 2003, Alberta dominates the exports to the US among Western provinces, contributing more than 50% of Western Canada's total exports. British Columbia is in second place. Manitoba's and Saskatchewan's export values are very close and similar in growth pattern.

Figure 4.1. Western Canada: Provincial Exports to United States, 1988-2003 ($ million)

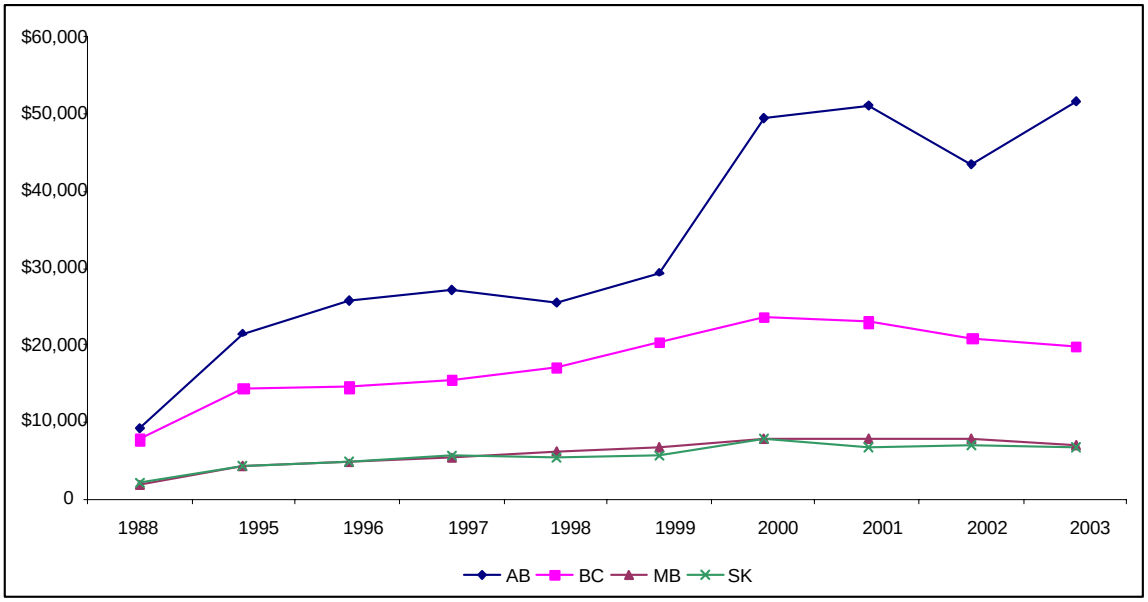


Figure 4.2. Provincial Share of Exports from Western Canada to the US in 2003

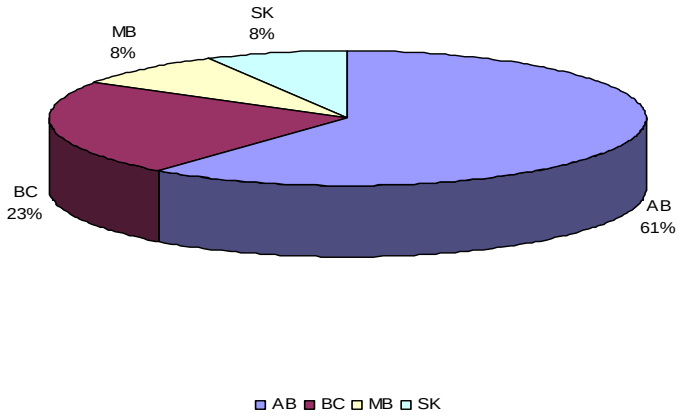


Table 4.1 and Figure 4.3 summarize and compare the share of Western Canada's global exports that were sent to the US, over time, and the value of these exports, by province. The year 1988, which is the year before the Canada-US Free Trade Agreement took effect, is set as a benchmark. The US is the major export destination for Western provinces, and Alberta, with 89.7%, had the highest percentage of its exports going to the US in 2003. Alberta accounted for 61% of Western Canadian exports to the US in 2003. British Columbia contributed 23.2%, while Manitoba and Saskatchewan accounted for 8.3% and 7.8% respectively.

Table 4.1. clearly shows that over the 15 years of free trade with the US, the percentage of exports to the US increased steadily for all four provinces, most notably Saskatchewan. Free trade brought increasing reliance on the US market and significant growth in nominal export values. Alberta's exports increased by 460%, which means that in 2003, exports to the US from this province were more than 5.5 times those of 1988. As inflation has been modest for the period, a substantial real increase has occurred.

For the Western provinces as a region, export values to the US quadrupled during the 15-year period under consideration. Manitoba was somewhat more successful than Saskatchewan in increasing shipments to the US, while B.C.'s US exports grew the least among the four provinces.

Table 4.1. Export Value to the US by Province and Export Growth; US Share of Total Provincial Exports and Share Growth: Historical Overview

	Exports to the US ($ billion)				Export Growth (%)	US Market share (%)				JS Share Growth (%)
	1988	1993	1998	2003	1988-03	l988	1993	1998	2003	1988-03
Alberta	$9.2	$16.4	$25.4	$51.5	460	69.2	81.2	81.4	89.7	29.6
British Columbia	$7.6	$10.7	$17.1	$19.5	157	42.9	54.0	63.6	66.1	54.1
Manitoba	$1.9	$2.7	$6.1	$7.0	268	61.3	69.2	75.3	77.8	26.9
Saskatchewan	$2.0	$3.4	$5.4	$6.6	230	34.5	54.8	54.5	59.0	62.9
WEST	$20.7	$33.2	$54.0	$84.6	308	51.9	66.3	71.1	78.7	51.6

Figure 4.3. Western Canada: US Market Share in 1988 and 2003 (% of Total Exports)

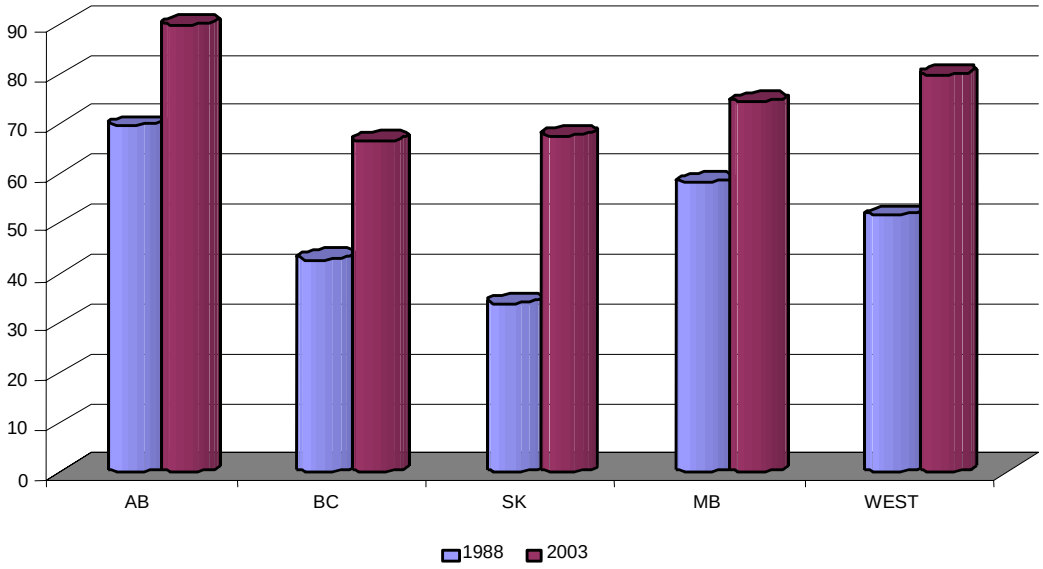


Table 4.2 gives a summary of the top five exports from the western provinces to the US for the last three years. The exports are ranked at the two-digit HS-level.

Alberta's main export commodity to the US was mineral fuel, showing an increase in export value from $30.2 billion in 2002 to $40.0 billion in 2003. Plastics rank second among Alberta's exports to the US. Electrical equipment experienced a drop in export value in 2001, 2002, and 2003, and rank fourth for Alberta. Meat exports have dropped significantly and rank fifth among exports to the US in 2003.

British Columbia's exports to the US relied on natural resources, such as wood, mineral fuels, and paper and paperboard, with only mineral exports showing an increase in export value in 2003.

Manitoba's top export to the US is mineral fuel, which decreased in export value from $1.3 billion in 2002 to $0.9 billion in 2003.

Compared to 2002 Saskatchewan's 2003 exports to the US increased in value for mineral fuel (18.1%) and wood (28.2%), but decreased slightly for fertilizer and machinery.

Table 4.2. Western Canada: Top Five Exports (Two digit HS Code) to the US in 2001, 2002 and 2003 ($ million)

HS	Description	2001	HS		2002	HS		2003
	Alberta							
27	Mineral Fuel	$36,583	27	Mineral Fuel	$30,173	27	Mineral Fuel	$40,007
85	Machinery	$2,558	85	Machinery	$1,656	39	Plastics	$1,669
02	Meat	$1,409	02	Meat	$1,344	44	Wood	$1,114
29	Organic Chemicals	$1,352	44	Wood	$1,203	85	Machinery	$958
39	Plastic	$1,279	39	Plastic	$1,157	02	Meat	$864
	British Columbia							
44	Wood	$6,816	44	Wood	$6,757	44	Wood	$5,854
27	Mineral Fuel	$5,063	27	Mineral Fuel	$2,469	27	Mineral Fuel	$3,584
48	Paper, Paperboard	$1,686	48	Paper, Paperboard	$1,644	48	Paper, Paperboard	$1,340
84	Machinery	$1,017	84	Machinery	$1,021	84	Machinery	$936
87	Vehicles	$781	87	Vehicles	$772	03	Fish And Seafood	$620
	Manitoba							
27	Mineral Fuel	$1,336	27	Mineral Fuel	$1,298	27	Mineral Fuel, Oil Etc	$947
87	Vehicles, Not Railway	$683	84	Machinery	$694	87	Vehicles, Not Railway	$637
84	Machinery	$591	87	Vehicles, Not Railway	$609	84	Machinery	$571
01	Live Animals	$529	01	Live Animals	$542	01	Live Animals	$398
88	Aircraft, Spacecraft	$388	94	Furniture, Bedding	$413	94	Furniture, Bedding	$360
	Saskatchewan							
27	Mineral Fuel	$2,748	27	Mineral Fuel	$2,763	27	Mineral Fuel	$3,263
31	Fertilizers	$1,159	31	Fertilizers	$1,243	31	Fertilizers	$1,158
10	Cereals	$419	01	Live Animals	$418	84	Machinery	$255
48	Paper, Paperboard	$262	10	Cereals	$387	44	Wood	$207
84	Machinery	$261	84	Machinery	$311	10	Cereals	$164

5. Exports to Mexico

Figure 5.1 and Table 5.1 summarize the exports of the four western provinces to Mexico from 1993 to 2003. Table 5.1 uses the export value and share of provincial exports in 1993, the year before the establishment of the NAFTA, as a benchmark for comparison to current export values.

Compared with 2002, British Columbia and Saskatchewan experienced an increase in trade with Mexico in 2003, leading to a growth in exports of 3.5% for Western Canada in total. British Columbia exports to Mexico increased in value by 53.7%, mainly due to the dramatic increase of organic chemical exports. Saskatchewan exports increased in value by 16.3%. Alberta exports to Mexico decreased in value by 10.0%.

The increase in exports to Mexico since the establishment of NAFTA has been particularly dramatic for Alberta with 385% growth, followed by Manitoba (225%) and British Columbia (168%). During the same time, Saskatchewan increased its exports to Mexico by 109%. However, the percentage share of sales to Mexico did not exceed 1% of Western Canada's global exports.

Figure 5.1. Western Canada: Provincial Exports to Mexico, 1993-2003 ($ million)

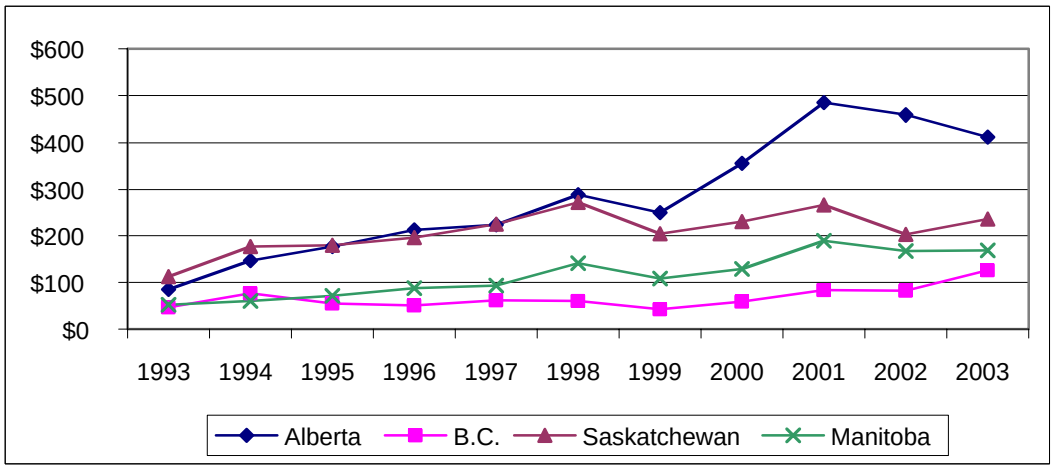


Table 5.1. Export Value to Mexico by Western Province, Percentage Share of Total Provincial Exports for 1993 and 2001-2003 and Export Growth

	Export Value ($ million)				Share of Exports (%)				Growth (%)	
	1993	2001	2002	2003	1993	2001	2002	2003	2002-03	1993-03
Alberta	$85	$484	$458	$412	0.4	0.8	0.9	0.7	-10.0	384.7
Saskatchewan	$113	$266	$203	$236	1.9	2.3	1.8	2.2	16.3	108.8
Manitoba	$52	$189	$168	$169	1.5	1.9	1.8	1.9	0.1	225.0
British Columbia	$47	$84	$82	$126	0.2	0.3	0.3	0.4	53.7	168.1
Western Canada	$297	$1,023	$911	$943	0.6	0.9	0.9	0.9	3.5	217.5

Table 5.2 highlights the top five exports to Mexico from each of the Western provinces. The exports from Alberta are predominantly agricultural products. Meat has played a major role in the past three years, from 2001 to 2003, even though meat exports decreased in value from $205 million in 2002 to $115 million in 2003 as a consequence of the BSE discovery. Manufactured products were of secondary importance.

Saskatchewan's top five exports to Mexico were made up exclusively of agricultural products and wood pulp. Cereals and oilseeds played a major role among the top five exports.

Manitoba's top five exports were, as well, solely based on agricultural production, with oilseeds and cereals in the top two positions. The export value of meat rose from $22 million in 2002 to $29 million in 2003, mainly due to an increasing demand for pork. The leading exports to Mexico from British Columbia were wood products, fuel and chemicals, but the amounts involved were modest.

Table 5.2. Western Canada: Top Five Exports (Two Digit HS Code) to Mexico in 2001, 2002 and 2003 ($ million)

HS	Description	2001			2002			2003
	Alberta							
02	Meat	$226	02	Meat	$205	02	Meat	$115
12	Misc Grain, Seed, Fruit	$84	12	Misc Grain, Seed, Fruit	$82	12	Misc Grain, Seed, Fruit	$110
10	Cereals	$78	10	Cereals	$54	10	Cereals	$51
84	Machinery	$21	84	Machinery	$31	84	Machinery	$49
39	Plastic	$18	47	Woodpulp	$19	39	Plastic	$20
	Saskatchewan							
10	Cereals	$120	10	Cereals	$100	10	Cereals	$91
12	Misc Grain, Seed, Fruit	$109	12	Misc Grain, Seed, Fruit	$65	12	Misc Grain, Seed, Fruit	$88
07	Vegetables	$11	47	Woodpulp, Etc.	$11	11	Milling; Malt; Starch	$17
47	Woodpulp, Etc.	$10	07	Vegetables	$10	47	Woodpulp, Etc.	$12
04	Dairy ,Eggs, Honey	$7	31	Fertilizers	$6	07	Vegetables	$12
	Manitoba							
10	Cereals	$58	10	Cereals	$55	12	Misc Grain, Seed, Fruit	$56
12	Misc Grain, Seed, Fruit	$57	12	Misc Grain, Seed,Fruit	$42	10	Cereals	$48
02	Meat	$27	02	Meat	$22	02	Meat	$29
11	Milling; Malt; Starch	$22	41	Hides And Skins	$17	11	Milling; Malt ; Starch	$11
41	Hides And Skins	$10	11	Milling; Malt; Starch	$16	41	Hides And Skins	$5
	British Columbia							
27	Mineral Fuel, Oil Etc	$26	48	Paper, Paperboard	$30	48	Paper, Paperboard	$35
48	Paper, Paperboard	$20	27	Mineral Fuel, Oil Etc	$17	27	Mineral Fuel, Oil Etc	$24
26	Ores, Slag, Ash	$10	47	Woodpulp, Etc.	$8	29	Organic Chemicals	$23
25	Salt; Sulfur; Earth, Stone	$6	26	Ores, Slag, Ash	$7	47	Woodpulp, Etc.	$7
47	Woodpulp, Etc.	$5	85	Electrical Machinery	$5	08	Edible Fruit And Nuts	$6

6. Exports To Chile, Costa Rica and Israel

Free trade agreements between Canada and Chile, and Canada and Israel, were signed in 1996 and implemented in 1997, followed by a free trade agreement with Costa Rica signed in 2001 and effective late in 2002. Alberta's and the other Western provinces' exports for the most recent year are shown in Table 6.1.

Table 6.1. 2003-Export Value to Chile, Israel, and Costa Rica by Western Province, Share of Global Exports and Export Growth

	2003 Export Value ($ million)			Share of Exports (%)			Growth 2002/03 (%)		
	Chile	Israel	Costa Rica	Chile	Israel	Costa Rica	Chile	Israel	Costa Rica
Alberta	24	7	3	0.4	0.1	0.1	-38.7	24.4	200.8
British Columbia	55	18	7	1.9	0.6	0.2	4.0	32.4	-47.5
Saskatchewan	31	5	5	3.0	0.5	0.5	-29.6	89.2	-65.5
Manitoba	7	4	1	0.8	0.4	0.1	41.3	4.9	-8.5
Western Canada	117	34	16	1.1	0.3	0.2	-17.0	33.3	-46.6

Due to the small export values to these three countries, percentage changes are quite volatile. The share of Western Canadian exports to these partner countries is also quite small.

6.1. CHILE

Alberta experienced a significant reduction of almost 39% in its export value to Chile; however, for all total Western provinces, Chile constituted only 1.1% of exports.

For Alberta, the main exports to Chile were cereals, plastics, and salt and sulfur. Saskatchewan exported mainly cereals, vegetables and fertilizer. For Manitoba, cereals were the most prominent export item, whereas British Columbia exports consisted mostly of energy and forestry products.

6.2. ISRAEL

All four western provinces experienced an increase in exports to Israel during 2003, though, using 1996 as benchmark, Western Canada's exports were down 21.3%. The value of exports to Israel accounted for 0.3% of total exports by all Western provinces.

For Alberta, miscellaneous grains and inorganic chemicals joined plastics, electrical machinery and machinery as top export items. For British Columbia, machinery and electrical machinery were prominent exports. Saskatchewan exported significantly more machinery, as well as vegetables and grains, its traditional exports to that country. Manitoba's exports to Israel included vegetables, grains and organic chemicals, though the amounts were less than $1 million for each of these categories.

6.3. COSTA RICA

For 2003, overall Western Canadian exports to Costa Rica were down by 46.6% over 2002 and by 40.6% over 1999. Alberta significantly increased its exports of milling products, malt and starches, albeit from a small base. Saskatchewan lost its position as leading exporter among the Western provinces to Costa Rica. That rank is now held by British Columbia, which exported mainly paper and paperboard. For Saskatchewan, Costa Rica is a buyer of fertilizer, vegetables and cereals. Manitoba is a supplier of similar agricultural commodity products, but on a smaller scale than Saskatchewan.

7. Conclusions

- The North American free trade agreements appear to have contributed substantially to Alberta's and Western Canada's export growth, as have a buoyant US economy and, for most of the period, a weak Canadian Dollar as compared to the US Dollar.
- In 2003, the increase in the value of global exports since 1988 was 167% for Western Canada and 332% for Alberta. In this period, Manitoba's exports grew much faster (188%) than Saskatchewan's (82%) and B.C.'s (67%).
- The integration of Western Canada and Alberta into the North American economic space is reflected in the increased importance of the NAFTA-partners as export markets.
- In 2003, Western Canada sent 80.5% of its exports to NAFTA-partners compared to 52.4% in 1988.
- In 2003, Alberta sent 90.4% of its exports to NAFTA-partners compared to 70% in 1988.
- The biggest Western Canadian export categories to the NAFTA–partners, other than energy products, were wood, machinery, plastics, paper and paperboard, as well as electrical machinery. For Alberta, the very same products dominated, except that meat ranked significantly ahead of paper and paperboard.
- A positive development in 2003 was the increase in plastics exports from Alberta to the NAFTA region of $500 million over 2002. Even more positive is the fact that the value of Alberta's exports of energy products increased by $10 billion over 2002.
- Increased strength in manufacturing, as evidenced by strong export growth of this sector, should make a positive contribution to the stability of Alberta's economy. Manufacturing exports increased from 3.8% to 5.9% of Alberta's exports between 1993 and 2003.
- In addition to the free trade agreements with the US and Mexico, Canada has such agreements with Chile, Costa Rica, and Israel. During 2003, exports to these countries were $167 million, less than 0.2% of total exports from Western Canada. Due to the low amounts involved the annual changes are pronounced, both on the plus and the minus side, but a clear trend is not discernible.

HS 2-Digit Codes

AGRICULTURAL PRODUCTS

Section I - Live Animals & Animal Products
1 Live animals
2 Meat
3 Fish and seafood
4 Dairy, eggs, honey, etc.
5 Other products of animal origin

Section II - Vegetable Products
6 Live trees and plants
7 Vegetables
8 Edible fruit and nuts
9 Spices, coffee and tea
10 Cereals
11 Milled products; malt & starch
12 Misc. grains, seeds and fruit
13 Resin; vegetable saps & extracts
14 Other vegetable products

Section III - Oils & Fats
15 Fats and oils

Section IV - Prepared Food
16 Prepared meat, fish, etc.
17 Sugars and confectionery
18 Cocoa
19 Baking-related preparations
20 Preserved food
21 Miscellaneous food
22 Beverages
23 Food waste; animal feed
24 Tobacco

NON-AGRICULTURAL PRODUCTS

Section V - Mineral Products
25 Salt; sulfur; earth; stone
26 Ores; slag; ash
27 Mineral fuels; coal, oil & gas

Section VI - Chemical Products
28 Inorganic chemicals
29 Organic chemicals
30 Pharmaceutical products
31 Fertilizers
32 Tanning extracts; dye; paint; putty
33 Perfumery; cosmetics
34 Soap; wax; dental plasters
35 Albumins; glues
36 Explosives
37 Photographic & cinematographic goods
38 Misc. chemical products

Section VII - Plastics & Articles Thereof
39 Plastic
40 Rubber

Section VIII - Raw Hides, Leather & Fur
41 Hides and skins
42 Articles of leather
43 Furskins & artificial fur

Section IX - Wood & Articles Thereof
44 Wood
45 Cork
46 Straw

Section X - Wood Pulp; Paper
47 Wood pulp
48 Paper & paperboard
49 Books & newsprint

Section XI - Textiles & Articles Thereof
50 Silk
51 Wool
52 Cotton
53 Other vegetable textile fibres
54 Manmade filament
55 Manmade staple fibres
56 Wadding; felt; twine; rope
57 Textile floor coverings
58 Special woven fabrics
59 Coated textile fabrics
60 Knitted fabrics
61 Apparel - knitted
62 Apparel - not knitted
63 Misc. textile articles

Section XII - Footwear; Headgear; Umbrellas; Etc.
64 Footwear
65 Headgear
66 Umbrellas, etc.
67 Feathers; artificial flowers; etc.

Section XIII - Stone; Ceramics; Glass
68 Stone, plaster, cement, etc.
69 Ceramic products
70 Glass and glassware

Section XIV - Precious Stones; Jewellery; Coins
71 Precious stones & metals; jewellery; coins

Section XV - Base Metals & Articles Thereof
72 Iron and steel
73 Articles of iron or steel
74 Copper and articles thereof
75 Nickel and articles thereof
76 Aluminum and articles thereof
77 (NOT USED)
78 Lead and articles thereof
79 Zinc and articles thereof
80 Tin and articles thereof
81 Other base metals and articles thereof
82 Tool, cutlery, etc. of base metal
83 Misc. art of base metal

Section XVI - Machinery & Electrical Equipment
84 Machinery
85 Electrical machinery

Section XVII - Vehicles
86 Railway
87 Vehicles, not railway
88 Aircraft; spacecraft
89 Ships and boats
90 Optical, photographic, measuring & medical apparatus
91 Clocks and watches
92 Musical instruments

Section XIX - Arms & Ammunition
93 Arms and ammunition

Section XX - Misc. Manufactured Articles
94 Furniture and bedding
95 Toys and sports equipment
96 Miscellaneous manufactured articles

Section XXI - Works of Art; Special Classifications
97 Art and antiques
98 Special classification provisions
99 Special (miscellaneous) transactions

Employment Volatility in the Three Western Provinces: A Portfolio Approach.

Edward J. Chambers[1]

There is obvious need to clarify the relationship between regional economic volatility and economic growth. What kind of a trade-off, if any, is there between the extent of volatility in a regional economy and its growth performance? Regional economies may or may not be highly specialized. Do they, or do they not possess a sector composition of industry differing substantially from the national? A high degree of specialization in fast growing industries may result in high rates of regional economic growth but it can also increase the vulnerability of the economy to downturns in the industries in which it specializes. We have abundant evidence over the past century of just this type of experience throughout North America, and specifically in Western Canada. A major public policy change in recent years, the FTA and its successor NAFTA, make an assessment of the volatility/growth experience of even greater interest. Arguably these agreements are the most significant public policy change affecting Western Canada since the end of World War II bringing about changes in many facets of the economy: in the conditions of infrastructure use; in the character of the infrastructure required; in private sector evaluation of economic opportunity; and in the assessment of market potential.

For a regional economy volatility is an important issue whether for the public or the private sectors. There is little doubt that high levels of volatility impose costs on an economy. For example, in the public sector one of the disadvantages of high volatility is instability in the flow of tax revenues coupled with unanticipated expenditure demands. The result is enhanced risk of error when making budget estimates, and budgeting errors have political consequences. In the private sector, high volatility adds to the fragility and complexity of managing human resources, planning capital expenditures, and forecasting other input requirements. General recognition of the costs of volatility and the desire to moderate them speaks to the sustained search for policies and actions that promote economic diversification. The 'boom-bust' syndrome prompts the application of incentives to change the industrial composition of regional economies. These include a range of tax and expenditure programs to induce business development which not only fosters economic growth, but also reduces economic volatility. The question that surrounds these actions is the nature of the trade-off between growth rates and reduced volatility. Put otherwise, we need to improve our understanding of the risk/reward ratio in regional economies.

This paper addresses volatility in the Alberta, British Columbia and Saskatchewan economies. Past studies found high dispersion across Canadian provinces in measures of volatility estimated from a range of socio-economic

[1] Edward Chambers is a Research Professor, Western Centre for Economic Research, School of Business, University of Alberta

variables including the growth in income, employment and population. The findings from this research, covering the decades from the sixties through the late eighties, were that these three western provinces had far and away the highest historical levels of volatility, substantially in excess of that in other provincial jurisdictions. The group effectively provides classic examples of boom-bust. (Chambers and Percy 1992; Mansell and Percy 1990). In this paper regional experience is addressed through the employment variable (including employees and the self employed) in total and by industrial sector. As a primary determinant of economic welfare and social status, employment is for many purposes the single most important indicator of a region's economic health. The first section of the paper provides an estimate of how much of the change in the three economies can be attributed to changes in the national economy — a systemic relationship — and how much regional change is non-systemic — unrelated to the national. The second portion of the paper outlines the model — the portfolio selection model — chosen to assess what changes in volatility have occurred and how these are related to the growth experienced by the respective economies. Some data issues that complicate the analysis are outlined in the third section of the paper. Part four contains the results of the analysis. Part five attempts to put the estimates into a broader context by considering a number of issues that may help to explain the results. Part six contains the conclusions.

I: Provincial Employment and the National Economy

How closely is employment change in the three western provinces associated with national changes? A close relationship means that whatever volatility is experienced is associated with national changes, while in contrast, if the relationship is weak the volatility in the regional economy may be modified through changes in its industrial mix. Within a portfolio framework, the impact of general (national) employment conditions on the provincial is called systemic risk. Systemic risk permeates all sectors and therefore cannot be eliminated through a change in the composition of the employment portfolio. The portion of volatility unrelated to variation in the national variable is non-systemic risk. Non-systemic risk that can be moderated by shifts in the sector mix of employment.

Table 1: Sensitivity Of Provincial Employment Portfolios To National Conditions For The Period 1976-2003

	AB	BC	SK
1) Employment Growth Rate	2.56	2.39	0.88
2) Sensitivity to the National	1.247	1.197	0.638
3) Total Volatility (SD)	2.38	2.27	1.42
4) Variance	5.65	5.15	2.03
5) R squared	0.391	0.421	0.218
6) Systemic Volatility (SD units)	1.49	1.47	0.67
7) Non-systemic Volatility (SD units)	1.85	1.73	1.26

(1) Employment Growth Rate is the average annual rate of growth in provincial employment 1976-2003.
(2) The Sensitivity to National is the coefficient obtained by regressing the annual rate of growth in provincial employment on the rate of growth in national employment.
(3) Total volatility is the standard deviation of the annual rate of growth in provincial employment.
(4) Variance is the square of total volatility.
(5) R squared is the proportion of total provincial employment growth variance explained by the national.
(6) Systemic volatility measured in standard deviation units is a measure of the sensitivity of provincial employment to the national.
(7) Non-systemic volatility measured in standard deviation units is the volatility not associated with the growth in national employment.

Estimates of systemic and non-systemic risk in employment for each province is found in TABLE 1 (above). The annual provincial employment growth rate and the national were calculated over the period of 1976 -2003. The first row of the table is the average of these annual rates and reveals the substantial difference in the Saskatchewan rate which was about two-fifths of that in the other two provinces. Row (2) reports the coefficient (a sensitivity ß) relating provincial to national employment. Row (3) contains the standard deviation (SD), a measure of the total volatility in the annual provincial employment growth rates. Row (4) is the variance (VAR). The estimate of systemic sensitivity (SYS) in SD units is:

$$(1)\ \text{SYS} = \sqrt{(R^2)(VAR)}$$

and non-systemic sensitivity (NSYS) is:

$$(2)\ \text{NSYS} = \sqrt{(1-R^2)(VAR)}$$

The estimates in rows (6) and (7) indicate that non-systematic sensitivity dominates in each province and indicates that there is ample room to moderate volatility through changes in the sector mix. The results convey in quantitative terms the comparative historical importance and the dominance — relative to the national composition of employment — of energy, forest products, and agriculture in the respective provinces.

II: Portfolio Selection Model

In a portfolio model diversity benefits the investor by spreading risk among various asset holdings where each asset's risk is measured by the variance in its return.

Because the portfolio variance concept is the most widely accepted measure of the effects of diversity on volatility there is advantage in applying the model to assess the volatility of employment. In the model effective asset diversification is assessed by the volatility of the portfolio. The portfolio model applied to regional economies yields a measure of volatility in the economy.

In applying the model provincially, the first question is what 'portfolio' is to be measured. The one chosen here is employment and its industrial composition. Among other possible subjects are many including, for example, the industrial composition of Gross Provincial Product (GPP), annual capital expenditures by industry sector, or even the occupational mix of employment. The industry composition of employment is a relevant choice in judging what type of change has accompanied growth over time. In the model, employment plays the role of assets, human assets or human capital if you will, and the region's employment mix is the portfolio. The 'return' (an accretion in the application of human capital) is the growth rate in employment; the 'risk' is the variance in the return. It also has certain advantages, not simply from its welfare significance, but also because intra-annual data is available.

Risk is measured by portfolio variance: one component is the weighted sum of the variances of employment in each sector. When employment in a given industrial sector fluctuates a good deal it displays high variance. Other things being equal, the higher employment variance is in the respective employment sectors, the higher the overall volatility of the economy. The second component of total variance is the weighted covariance — the degree of interdependence between employment changes in the respective sectors. Should employment changes in the sectors move in the same direction — the case of positive covariance — the net result is to increase total variance and magnify volatility in the economy. Should employment changes move in opposite directions — the case of negative covariance — the net effect is to reduce total variance and moderate volatility. In sum, lower levels of variance and greater evidence of negative covariance indicate reduced volatility in the regional employment portfolio. To simplify, in the case where employment consists of two sectors:

$$(3)\ VP = w_1{}^2V_1 + w_2{}^2V_2 + 2w_1w_2COV_{1,2}$$

VP is portfolio variance, V_1 and V_2 are the variances, the respective weights in total employment are w_1 and w_2, $w_1>0$ and $w_2>0$ and $w_1 + w_2 = 1$, and $COV_{1,2}$ is the covariance. Thus portfolio variance depends on the size of V_1 relative to V_2, the size of w_1 relative to w_2, and the nature of the covariance. More generally:

$$(4)\ VP = \sum_i \sum_j w_i w_j V_{ij}$$

Where $V_{i,j}$ denotes the variance ($i = j$) or the covariance ($i \neq j$) for each employment sector or pair of employment sectors, and wi and wj are the industry weights based on the regional composition of employment.

One must be very clear about the ways in which a regional portfolio model differs from its financial counterpart. These differences have been outlined by Sherwood-Call (1990) and others (Trendle 1999; Brown and Pheasant 1985; Board and Sutcliffe 1991).

Of prime importance is that regional differences in natural endowments yield different comparative advantages, and that is a powerful influence on the composition of an employment portfolio. For example, in the three provinces the differing natural endowments of energy, forestry and agriculture, pose limits on the degree to which regions can — perhaps even should — shift measurably their industrial portfolios. Provinces run with what they have at their core. The question becomes one of the extent to which those comparative advantages can be leveraged and diffused — through entrepreneurial initiative, skill transfer and the like — into productive activity in other industrial sectors.

A second important difference concerns flexibility. An investor who becomes more or less risk-averse can change the asset mix of her portfolio to reduce or increase risk at the execution of a buy or sell order. The change in portfolio mix is immediate. Those in a region who seek an employment portfolio that generates reduced volatility have no market equivalent to investors trades in financial assets. The market for attracting industries (through whatever means) is very imperfect and sought after adjustments are orders of magnitude away from the instantaneous adjustments possible in financial markets.

Further, returns to financial assets are independent of portfolio ownership. A share of IBM generates the same net income whether the owner resides in Brazil or Austria. However, growth performance of employment (the return) in a given sector is not independent of regional location. For example, between 1996 and 2003 employment in trade grew at a rate of 1.3% in Saskatchewan compared with 2.9% in Alberta. Hence, there is a spatial specific component to employment performance, that is in the return to any component of the portfolio.

III: Data Sources

The necessary data for the construction of a portfolio selection model are a time series of regional employment data disaggregated by industry sector. The data used here to estimate portfolio variance are from the *Labour Force Survey* (LFS) which reports national and regional employment. LFS data include estimates of the distribution of provincial employment by industry at the 2 digit level. Data used are the quarterly average of monthly industry employment from the first quarter of 1976 to the first quarter of 2004. Portfolio returns, the denominator of the risk/return ratio, are measured by the weighted average quarterly growth rate of industry employment.

In Western Canada, weather influences on the economy are large. Some series, such as employment in agriculture, trade and education contain a substantial

seasonal element. Elimination of systemic seasonal volatility required transformation of all series in the same manner so that the variance-covariance matrix represents an identical transformation process. All series were seasonally adjusted by the Census X-11 method. Since seasonally adjusted quarterly average data are non-stationary, the data were further transformed by taking natural log differences in the quarterly averages. This assured stationarity. After these transformations, the residuals for the variance-covariance matrix are deviations from the mean rate of growth in seasonally adjusted industry employment change over the respective sample periods.

Results of the portfolio model depend also on the weights assigned industry employment. In this analysis the weights are the share of industry in total employment over the selected periods. This means that temporal differences in the estimates will in part reflect changes in weights. These, however, do materially influence the results.

There is, however, another complication. Statistics Canada moved from a Standard Industrial Classification (SIC) structure to a North American Industry Classification System (NAICS) at the turn of the millennium. In doing so, the NAICS data was pushed back only to January of 1987. Hence, only quarterly average estimates on the SIC basis are available from 1976 through 1986. The most important change from SIC two digit to NAICS two digit is the expansion of the service classifications from six to eleven sectors. Obviously the necessity of using alternative classification systems impedes the ability to compare the changes in portfolio values and in risk/return ratios of the respective eras. The expanded reclassification effectively changes the composition of the portfolio. The difficulty is mitigated by the fact that there is substantial common ground in goods sector classifications, the sector at the core of the 'tradable' area of the economy, one of special interest in any evaluation of the impacts generated by trade agreements. In this sector a reasonably consistent analysis is possible over the entire period. The goods sector classifications are: agriculture (AG); forestry, fishing, mining, oil and gas exploration (FMOG); utilities (UTIL); construction (CONST); and manufacturing (MFG). Products of four of these sectors are highly tradable; it can be argued that construction is more oriented to local circumstances and conditions. Components of the two systems are compared in Appendix 1.

The portfolio model is estimated for three different eras:

(a) 1976Q1 to 1987Q4 with SIC data;

(b) 1988Q1 to 1995Q4 with SIC and with NAICS data;

(c) 1996Q1 to 2004Q1 with NAICS data.

IV: Estimates

TABLE 2 (below) presents a comparison of key estimates for each province over three time periods of portfolio variance, the quarterly average growth rate derived from the industry employment weighted average growth rates, and the risk/return ratios. The awkward discontinuities in the industry employment data bases obfuscate evaluation and limit legitimate comparisons of the first and second eras to findings from the SIC base and the second and third eras to results from the NAICS base. Subject to this *caveat*, the following can be said:

Table 2: Relationship Of Provincial Portfolio Variance And Quarterly Growth Rates In Employment: Selected Periods 1976 To 2004

	AB	BC	SK
76-87 SIC			
Portfolio Variance	2.655	2.185	0.934
Quarterly Growth Rate	0.731	0.506	0.004
Risk/return ratio	3.63	4.32	*
88-95 SIC			
Portfolio Variance	0.336	1.205	0.676
Quarterly Growth Rae	0.454	0.709	0.0003
Risk/return ratio	0.74	1.70	*
88-95 NAICS			
Portfolio Variance	0.428	1.237	0.318
Quarterly Growth Rate	0.429	0.748	-0.062
risk/return ratio	1.00	1.65	*
96-04 NAICS			
Portfolio Variance	0.735	0.849	0.889
Quarterly Growth Rate	0.654	0.427	0.184
Risk/return ratio	1.13	1.99	4.84

- For Alberta (3.63) and British Columbia (4.32) the risk/return ratios were at their highest levels by a substantial margin in the 1976/1 to 1987/4 period. Though Saskatchewan portfolio variance was in absolute terms less that half of that in the other two provinces, it was associated with slightly greater than zero growth in employment making the risk/ return ratio growth in employment extremely large (denoted by an asterisk).
- During 1988/1 to 1995/4, using SIC based data, there is a large decline from the pre-free trade period in the risk/return ratio for both Alberta and British Columbia. This is most dramatic in the case of Alberta where the ratio fell by almost four-fifths compared to a decline of two-fifths in the growth rate. The British Columbia case is especially interesting because this was a period of rapid

employment growth and a surge of both domestic and international in-migration. Despite an increase of two-fifths in the growth rate, portfolio variance fell by just less than one-half. Saskatchewan recorded a decline in portfolio variance of slightly less than one-third but the weighted growth rate continued at zero.

- Comparisons between 1988/1 - 1995/4 and 1996/1 and 2004/1 can be made using the NAICS data. The results for Alberta indicate that while the growth accelerated by just over one half, the risk/return ratio rose by only 13%. By way of contrast, British Columbia's growth rate decelerated by one half accompanying a one-third increase in the province's risk/return ratio. Even with positive growth, Saskatchewan's risk/return ratio remained substantially above that of the other two provinces.

Table 3 provides the respective variance and covariance components of the employment portfolios. In the case of Alberta the most notable feature is the change from high positive covariance in the first era to covariance that is either strongly negative or approaching zero in the other periods. This was associated with a decline in variance between the first and second eras. However, it was the increase in variance that accounted for the higher portfolio value of the 1996/1 to 2004/1 period. In the case of British Columbia, covariance is measurably positive with the exception of the SIC data base in 1988/1 - 1995/4. Variance levels rose with the accelerated growth of the second era (reported in TABLE 2 above) but also rose with decelerated growth in 1996/1 - 2004/1. In Saskatchewan covariance is consistently negative but only slightly so in the latest period. Variance actually increased slightly between the first and second eras, and also increased with a better growth performance between the second and third eras.

Table 3: Composition Of Portfolio Variance: Selected Periods 1976 - 2004

	AB	BC	SK
1976-1987 SIC			
PORTFOLIO VARIANCE	*2.655*	*2.185*	*0.934*
Variance	2.114	1.754	1.969
Covariance	0.541	0.431	-1.035
1988-1995 SIC			
PORTFOLIO VARIANCE	*0.336*	*1.205*	*0.676*
Variance	1.218	2.066	2.044
Covariance	-0.881	-0.861	-1.368
1988-1995 NAICS			
PORTFOLIO VARIANCE	*0.428*	*1.237*	*0.318*
Variance	0.413	0.565	0.660
Covariance	0.015	0.672	-0.342
1996-2004 NAICS			
PORTFOLIO VARIANCE	*0.735*	*0.849*	*0.889*
Variance	0.742	0.712	0.904
Covariance	-0.006	0.137	-0.015

Table 4 contains additional results that focus on the goods sector of the respective economies. As previously stated, this temporal comparison has legitimacy because there is substantial consistency in goods sector classifications between SIC and NAICS at the 2 digit level (See Appendix 1). To reiterate, goods producers are the core of the 'tradables' sector in an economy. The most notable service sector additions to tradables are professional and technical service firms. We know there is relatively open trade across this sector with many domestic service firms active exporters and many foreign based firms competing in domestic markets.[2] TABLE 4 (below) contains the share of portfolio variance and the share of employment accounted for by the respective provincial goods sectors. Alberta shows a consistent decline in the relative importance of goods production as a share of portfolio variance. The same is true of British Columbia. In contrast, Saskatchewan shows a marked escalation of goods sector relative shares in the latter eras.

Table 4: Shares of Portfolio Variance And Employment Accounted For Bythe Provincial Goods Sectors: Selected Periods 1976/1-2004/1

	AB	BC	SK
1976/1-1987/4			
Share Portfolio Variance	0.426	0.355	0.294
Share Employment	0.320	0.278	0.366
Variance/employment	1.33	1.28	0.80
1988/1-1995/4			
Share Portfolio Variance	0.354	0.260	0.597
Share Employment	0.283	0.238	0.318
Variance/employment	1.25	1.10	1.88
1996/1-2004/1			
Share Portfolio Variance	0.313	0.217	0.473
Share Employment	0.276	0.212	0.280
Variance/employment	1.13	1.02	1.69

More detail on the goods sector is contained in TABLE 5 (below) offering a profile of the five goods producing sectors including unweighted variance and covariance, weighted variance and covariance , rates and positioning of sector growth relative to the average total employment growth rate, shares of portfolio variance and shares of provincial employment. The data for the latter two periods uses NAICS.

[2] The SIC two digits classification lumps together 'business' with 'personal' services. This is unfortunate since the former is primarily linked to inter-business transactions while the former addresses household demands. NAICS separately classifies professional and technical services; personal services are largely contained in the 'other services' group.

Table 5: Comparative Provincial Portfolio Variance And Employment Growth In The Goods Sector: Selected Periods 1976-2004

ALBERTA

Goods Sector	AG*	FMOG*	UTIL*	CONST*	MFG*	Total Goods Sector
76/1-87/4						
VARIANCE	49.74	49.69	116.37	39.49	25.17	
COV	-36.51	28.07	26.50	22.69	23.50	
Quarterly GR. RATE	-0.98	1.785	1.305	0.620	0.147	
% of total growth rate	-134.2	244.3	178.6	84.9	20.1	
Weighted V + 2wwCOV	0.1559	0.2452	0.0202	0.4282	0.2816	
Share Portfolio Variance	0.059	0.092	0.008	0.161	0.106	0.426
Share of employment	0.082	0.059	0.010	0.085	0.084	0.320
88/1-95/4						
VARIANCE	2.81	4.21	18.45	11.94	5.87	
COV	3.29	0.00	0.00	0.00	0.00	
GR. RATE	0.167	0.212	-0.154	0.945	0.318	
% of total growth rate	38.9	49.4	-35.9	220.3	70.0	
Weighted V + 2wwCOV	0.02170	0.01999	-0.00803	0.08234	0.03531	
Share Portfolio Variance	0.051	0.047	-0.019	0.192	0.083	0.354
share of employment	0.073	0.059	0.010	0.065	0.075	0.283
96/1-04/1						
VARIANCE	14.08	21.73	90.06	13.16	7.57	
COV	-19.12	-20.05	-38.88	9.51	8.13	
GR. RATE	-0.88	1.029	0.19	1.327	0.957	
% of total growth rate	-134.6	157.4	29.1	203.0	146.4	
Weighted V + 2wwCOV	-0.02371	0.05328	-0.00286	0.10224	0.10149	
Share Portfolio Variance	-0.032	0.072	-0.004	0.139	0.138	0.313
Share of employment	0.049	0.058	0.008	0.077	0.085	0.276

*See Appendix 1 for definition of Acronyms

Table 5 (continued): Comparative Provincial Portfolio Variance And Employment Growth In The Goods Sector: Selected Periods 1976-2004

BRITISH COLUMBIA

Goods Sector	AG	FMOG	UTIL	CONST	MFG	Total Goods Sector
76/1-87/4						
VARIANCE	79.45	54.54	140.99	26.12	15.82	
COV	22.01	-9.12	-10.86	5.08	-0.22	
Quarterly GR. RATE	1.35	0.21	-0.37	-0.28	-0.34	
% of total growth rate	266.7	41.1	-73.3	-55.4	-67.2	
Weighted V + 2wwCOV	0.09243	0.08899	-0.01266	0.17976	0.42790	
Share Portfolio Variance	0.042	0.041	-0.006	0.082	0.196	0.355
Share of employment	0.023	0.043	0.010	0.064	0.139	0.278
88/1-95/4						
VARIANCE	29.34	17.99	22.50	13.16	5.09	
COV	-16.35	-5.08	19.64	13.29	11.89	
Quarterly GR. RATE	-0.347	0.175	0.256	1.23	0.586	
% of total growth rate	-41.1	20.7	30.3	145.7	69.4	
Weighted V + 2wwCOV	-0.00581	0.01576	0.00758	0.16946	0.13526	
Share Portfolio Variance	-0.005	0.013	0.006	0.137	0.109	0.260
share of employment	0.019	0.031	0.007	0.071	0.109	0.238
96/1-04/1						
VARIANCE	40.32	51.08	77.20	12.93	6.54	
COV	-8.10	10.82	20.84	-13.46	12.75	
Quarterly GR. RATE	0.82	-1.09	0.15	0.43	0.27	
% of total growth rate	191.5	-256.4	34.2	101.7	64.0	
Weighted V + 2wwCOV	-0.00020	0.01612	0.01036	0.03688	0.12073	
Share Portfolio Variance	0.000	0.019	0.012	0.043	0.142	0.217
Share of employment	0.016	0.025	0.006	0.062	0.103	0.212

Table 5 (continued): Comparative Provincial Portfolio Variance And Employment Growth In The Goods Sector: Selected Periods 1976-2004

SASKATCHEWAN

Goods Sector	AG	FMOG	UTIL	CONST	MFG	Total Goods Sector
76/1-87/4						
VARIANCE	12.45	98.21	285.30	27.00	28.13	
2wwCOV	-35.08	30.16	13.76	-26.08	11.31	
Quarterly GR. RATE	-0.09	0.677	2.362	0.109	0.191	
Relative to total growth rate	below	above	above	above	above	
Weighted V + 2wwCOV	0.12106	0.02580	0.04156	0.04661	0.03965	
Share Portfolio Variance	0.130	0.028	0.045	0.050	0.042	0.294
Share of employment	0.215	0.026	0.010	0.058	0.056	0.366
88/1-95/4						
VARIANCE	8.61	20.68	16.38	23.33	9.40	
COV	-14.84	-6.65	3.72	0.96	-1.60	
GR. RATE	-0.872	0.421	0.061	-0.615	0.745	
relative to total growth rate	below	above	above	below	above	
Weighted V + 2wwCOV	0.17707	-0.01071	-0.00163	0.04267	-0.01739	
Share Portfolio Variance	0.556	-0.034	-0.005	0.134	-0.055	0.597
share of employment	0.178	0.028	0.010	0.048	0.055	0.318
96/1-04/1						
VARIANCE	16.69	35.88	45.37	12.07	13.47	
2wwCOV	4.21	3.06	22.15	-1.90	-13.24	
Quarterly Gr. RATE	-1.124	1.629	0.155	0.085	0.097	
% of total growth rate	-612.3	887.5	84.4	46.3	52.8	
Weighted V + 2wwCOV	0.27388	0.05136	0.01161	0.03497	0.04854	
Share Portfolio Variance	0.308	0.058	0.013	0.039	0.055	0.473
Share of employment	0.128	0.034	0.008	0.049	0.061	0.280

Consider first the Alberta estimates. The raw variance for all sectors is measurably lower in the post 1988 periods. Though interpretation of the raw covariance is constrained by the change in the portfolio composition, what is observed is a change from sizeable positive to negative, neutral or small positive values. The row '% of total growth rate' relates the growth in each sector to the growth in total employment. In the first period only FMOG and UTIL were above average and substantially so. In the later period all sectors except CONST were below portfolio growth, while in the last era FMOG, CONST and MFG displayed strong relative growth. The sum of weighted variance and covariance were all positive in the first and second (except UTIL) periods but at much lower levels in the latter. In the most recent period these estimates increased for the sectors with above average growth. The major contributor to portfolio variance in the goods sector has been CONST, but the decline in the weight of AG has contributed to reduced volatility.

In British Columbia the estimates reveal that, apart from AG (1976/1 - 1987/4 and 1996/1 - 2004/1)) and CONST in the post free trade periods, all recorded growth was not only below the average but in some cases negative. The picture that emerges is that of a slow growing goods sector evidenced by the marked decline in employment shares (cf. TABLE 4). Unweighted variance in the second period declined from the high levels of the first era accompanying a change from generally negative to generally positive absolute, but not relative growth. They rose again in the most recent period in the face of a generally poorer growth rate performance. Especially interesting is the volatility in manufacturing which has accounted in the first and third periods for more than one half of the goods sector portion of portfolio variance. This will be commented on in the next section of the paper.

In Saskatchewan there was, as in the other provinces, a decline in raw variance from the levels of the first era followed by a rise from the second to the third. Negative is just about as frequent as positive covariance over the three eras. The most notable feature is the very large shares of portfolio variance accounted for by the AG sector in post 1988 despite the rather dramatic decline in its share of total employment.

In a portfolio selection model covariance can either increase or decrease volatility. [2] Provincial industrial employment sector covariance values for all components of the post 19988 periods are shown in TABLE 6 (below).

The results reveal the widespread negative covariance in the case of Saskatchewan, particularly in the 1988/1-1995/4 period. British Columbia stands at the other extreme with positive covariance dominant and net positive covariance in both the goods and services sectors in both periods. For Alberta there is a mix of positive and negative covariance reflected in the net goods and services totals. Trade (TDE), public administration (PAD) and the non-agricultural primary (FMOG) sectors display negative covariance in both periods. In British Columbia, only the two primary sectors of agriculture (AG) and FMOG display consistent covariance, though the heavily weighed trade sector has negative covariance in the second period.

[2] Gruben and Phillips (1989) go so far as to suggest that jurisdictions interested in reducing volatility should target industries with small or negative covariances.

Table 6: 2ww Industry Covariances for the 1988/1-1995/4 and 1996/1-2004/1 Periods

	1988/1-1995/4			1996/1-2004/1		
	AB	BC	SK	AB	BC	SK
AG*	0.007	-0.017	-0.096	-0.057	-0.010	0.000
FMOG	0.005	-0.002	-0.027	-0.020	-0.017	0.011
UTIL	-0.010	0.006	-0.003	-0.008	0.008	0.008
CONST	0.031	0.103	-0.010	0.024	-0.012	0.006
MFG	0.002	0.075	-0.046	0.047	0.051	-0.002
TRADE	-0.014	0.101	-0.003	-0.095	-0.042	-0.021
TPWSE	0.015	0.036	-0.012	0.010	0.033	0.022
FIREL	0.019	0.052	-0.020	0.026	0.041	-0.001
PTK	0.001	0.056	-0.021	0.054	0.029	-0.006
MGAD	0.006	0.021	-0.009	-0.008	0.017	-0.008
EDUC	-0.032	0.055	-0.007	0.021	-0.019	0.036
HESA	-0.003	0.055	-0.052	0.043	0.001	0.059
ICREC	-0.013	0.013	0.034	0.001	0.031	0.010
ACFD	0.014	0.081	-0.010	-0.004	0.015	-0.023
OSRV	0.009	0.016	-0.026	-0.030	-0.015	-0.052
PAD	-0.022	0.019	-0.032	-0.010	0.026	-0.055
GDS SECTOR	0.036	0.166	-0.182	-0.014	0.019	0.024
SRV SECTOR	-0.021	0.506	-0.159	0.008	0.118	-0.039

See Appendix 1 for definition of the acronyms.

V: Discussion

The estimates reported in the above tables indicate a decline in employment volatility in the case of Alberta but that finding is not at all compelling for Saskatchewan and British Columbia. These differences in results suggest that attributing Alberta's decline in volatility to the free trade agreements would be as unwarranted as assigning a similar cause and effect relationship to the more questionable performance of British Columbia and Saskatchewan. The differing provincial experience requires a wider perspective.

We can consider first the comparative endowments of the three provinces — energy, forestry and agriculture — in relation to the free trade agreements. Experience under the agreements tell the important story that natural endowments as growth generators are profoundly influenced by the trade policy environment. The agreements provided market access for energy products, establishing a continental market. The effect as seen, for example, in the 1993-2003 period was an increase the value of shipments of crude oil and natural gas from Western Canada to the US market from $14.5 to $47.8 billion, an increase over the period of 230% (Liu and Mirus 2004). Of the $47.8 billion, $40.1 billion was accounted for by Alberta. In contrast, market access has been far from uncomplicated in the case of softwood

lumber and cereals. Indeed softwood lumber and grain products have been the subject of continuous challenge under the FTA and NAFTA dispute settlement procedures with American industry and US authorities doing much to inhibit the emergence of open markets in the case of these products. The contrast in exports is striking: the value of wood and paper product shipments from British Columbia to the US rose from $4.7 to $5.8 billion during the 1993-2003 years, an increase of 23%; for Saskatchewan, cereal shipments to the US and Mexico actually fell by 14.5% from $298 in 1993 to $256 million in 2003.

Secondly, a key question in any regional economy seeking reduced volatility — pursuing diversification if you will — is how to leverage the comparative advantage of a natural endowment into something more. Free trade expands market opportunities for the output of the natural endowment and can therefore affect the ability to leverage. Leveraging may occur on the input side through the emergence of local suppliers of materials, equipment and skilled labour, or downstream through firms who add value to the raw material. In this respect Alberta has been fortunate. Energy is a 'high tech' industry. The professional and technical cadres in this industry rank among the most highly trained and educated members of the labour force, not simply in Alberta but anywhere. This significant cluster of the more highly trained and educated have the capacity to transfer knowledge — and in the face of opportunity to acquire and modify it — applicable to a wide range of other activities, and most importantly other high tech activities. These high levels of human capital are a source of the entrepreneurial talent that can yield 'spinoffs' which moderate volatility. The experience of British Columbia and Saskatchewan is different. A reasonable conclusion is that the absence of freer trading conditions restricts the potential for leveraging comparative endowments. However, it is also the case that professional and technical cadres in the ranks of the forestry and agricultural sectors are not, on average, equal those in the energy industry. That gap has restricted the flexibility and adaptability so necessary to accommodating economic change.

A perspective on manufacturing is also necessary. Manufacturing is strongly affected by any free trade agreement. The relatively strong performance of the Alberta manufacturing sector compared with its relatively weak performance in British Columbia, and its considerable contribution to portfolio variance in the latter in the face of a weak growth, merits comment. The strength in Saskatchewan manufacturing during the 1988/1-1995/4 period was associated entirely with an expansion in durables, specifically agricultural implements, an activity obviously tied to the province's key natural endowment. This discussion of manufacturing focuses on Alberta and British Columbia. Because LFS data, unfortunately, is restricted to manufacturing in the aggregate we must rely on other sources to tell us what was occurring within this sector. Though manufacturing output in Alberta was slightly more than one-half of that in British Columbia in 1988, they were almost equal in real terms by 1999. Manufacturing as a per cent share of the goods sector in Alberta real GPP rose from 18.7% (1984-90) to 23.3% (1996-99) occasioned by an annual rate of output growth that accelerated to 7.1% during the nineties. At the same time, manufacturing's share in a shrinking British Columbia goods output fell from 40.2% to 37.9% associated with a growth rate one-fifth (1.5%) of that in Alberta. British Columbia manufacturing displayed a declining share of a declining goods output.

To push manufacturing comparisons further, from 1984 through 1990 in Alberta there were six of the total of seventeen SIC 3 digit manufacturing sectors which recorded negative growth while during the nineties all sectors recorded a positive growth trend. During the nineties, growth rates were at least 5% annually in thirteen of the sectors, and in all but five exceeded the growth rates of the earlier period. In British Columbia, growth rates in the nineties were either lower or negative in ten sectors, and exceeded 5% annually in only four. Alberta manufacturing is also more diversified than that in British Columbia where in the nineties wood, paper and allied products still made up 37% of manufacturing output down somewhat from the 43% of the earlier years. (the link of manufacturing in the coastal province to its natural endowment is marked). In Alberta, chemical products were the largest component accounting for 17% both pre and post free trade. It is reasonable to conclude that Alberta achieved a substantial restructuring of this central tradable sector and that was directly or indirectly associated with the new opportunities of expanded market access. The same cannot be said of this sector in British Columbia.

A fourth perspective concerns demographic shocks. Adjustment processes in manufacturing in the critical half dozen years after the FTA came into effect may have been influenced by the very different demographic experiences of the two provinces. British Columbia, unlike Alberta, experienced a population shock — large foreign immigration coupled with large domestic in-migration — generating demands for absolute and relative growth in the non-tradable sectors of the economy: housing, education, health care, personal services, social and other community services. These shocks raise the ratio of tradable to non-tradable prices. The result is greater market opportunity and higher expected returns in the non-tradable sectors with heightened entrepreneurial activity and increased capital flows. There is upward pressure on the regional cost-price structure with potentially disastrous consequences for the competitive position of traditional export and import competing sectors. The available data for wage rates, housing prices, and capital spending on housing bear witness to the stress that these developments would have placed on the tradable sector at the time providing, if anything, disincentives to required accommodation to the new trading environment. There was no demographic shock and therefore no such pressures in Alberta.

Finally it can be argued that the economic strategies formulated by provincial governments do play a role in shaping the direction of their respective economies particularly where constitutionally, as in Canada, there is provincial authority over a range of economic matters. We may differ over how important these strategies may be, but it is illogical to believe that provincial public policy is without effect in facilitating the economic transition to freer trading conditions. Here again it is useful to contrast the position of the Alberta and British Columbia governments in the more immediate pre- and post-free trade periods. The evidence indicates that first with the FTA and then with NAFTA there were clear differences in the position of the respective governments.

The position of the Alberta government on the Canada-US Free Trade Agreement and on NAFTA was unequivocal. It was an ardent advocate at the highest levels of both. This strongly espoused open trade orientation provided the basis for dialogue with the business community about the contents of a prospective agreement and its

potential benefits. Hence, the policy environment was supportive not only of prospects for its energy resource endowment but for a restructuring and redirection of the broader economy and for new venture activity. In these years, the British Columbia government, whether right of centre or left of centre, was concerned more with the possibilities of the Asian market than the North American. That perhaps was understandable since unlike Alberta, the US was the market for less than one half of the province's exports. These governments saw either increased import competition or Canada as US branch plant as much as increased market potential in the agreements. In contrast to Alberta, government in British Columbia was at best 'on the sidelines' in jaw boning the business communities about the potential of the agreements.

VI: Conclusions

The paper, based on LFS data on the industry sector employment including both employees and the self-employed, suggests the relevance of the portfolio selection model to understanding the changes have taken place in the three provincial economies over the past four decades. This is despite the fact that the results are subject to the data precautions outlined. The estimates indicate that Alberta has experienced reduced volatility since 1988. The case is much more questionable for British Columbia and Saskatchewan. Any evaluation of what has occurred must take account not simply of the free trade agreements but of other conditions, many distinctive, that characterize the economies of the three provinces.

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Appendix 1

2 digit 1980 SIC employment	2 digit 1997 NAICS employment
Agriculture	Agriculture
Forestry, fishing, mining, oil and gas exploration	Forestry, fishing, mining, oil and gas exploration
Utilities	Utilities
Construction	Construction
Manufacturing	Manufacturing
Trade	Trade
Transport, warehousing, storage	Transport, warehousing, communication
Finance, insurance, real estate	Finance, insurance, real estate, leasing
Business and personal services	Professional and technical services
Community services	Management services
Public administration	Education
	Health and social services
	Information, recreation and cultural
	Accommodation and food services
	Other services
	Public administration

Commentary by Barry Scholnick[3]

This paper has a number of strengths. Application of portfolio theory allows the capture of provincial employment experience in two key dimensions: employment growth (+) and its volatility (-). It confirms that the economies of the three Western-most provinces are somewhat decoupled from the national economy and that Alberta's oil and gas driven performance differs from that of agriculturally oriented Saskatchewan and forestry products supplier B.C. Using employment growth per unit of employment volatility as a performance measure, the Western provinces are compared before and during free trade.

At the micro level, the methodology allows focus on the goods producing industries - which are more affected by widening access to the US Market. As a result those industries that, through their negative covariance terms, make a contribution to overall employment stability can be isolated. At least in theory, this provides a starting point for diversification policy. In practice, these covariances are found to change sign from sub-period to sub-period.

The paper attributes the differential experience under free trade of Alberta, on the one hand, and B.C. and Saskatchewan on the other, to the different endowments and resulting specializations. Free trade helped Alberta's exports of oil and gas and related services. By contrast, Saskatchewan's cereals exports and B.C.'s softwood lumber faced obstacles. Some neat and detailed insights into provincial developments are the result.

I would have liked to see Manitoba included in the analysis to complete the Western focus. As well, to me it is desirable to measure performance as growth relative to volatility, rather than the other way around, as chosen by the author. Negative employment growth is, at any rate, difficult to accommodate under either approach.

A reminder that employment growth does not say much about the quality of jobs would be appropriate,[4] and isolation of the growth experience of 'high skill' sectors might have led to some additional insights.

[3] Barry Scholnick is an Associate Professor of International Business, University of Alberta.

[4] For example, when a employed person loses her job to then work as selfemployed, a good job may be lost a a minimal one may take its place.

The Geography of Integration[5]

Geography brings bad tidings and everyone knows
what you do to that kind of messenger.
David S. Landes, *The Wealth and Poverty of Nations*

Michael Hart and Bill Dymond[6]

Since the millennium year, a small but growing cottage industry of scholars, business groups, former diplomats, and journalists — with occasional, discreet expressions of interest from the federal government — has emerged to discuss the future of North American integration. Like the early stages of the free-trade debate a generation ago, battle lines are appearing between two broad streams: the integrationists and the rejectionists. The former argue that the time has come to cast off the remaining barriers to the free flow of goods, services, and capital between the two countries and negotiate, at a minimum, a customs union with the United States. The rejectionists are sounding the alarm, warning that economic integration has already gone too far, placing at risk Canadian independence and sovereignty. Both sides to this debate are discussing the same point: essentially the implications of geography, and not only physical geography but also the economic and cultural geography of North America. In sum, the integrationists embrace geography and seek to achieve the best bargain from this accident of nature and product of history, while the rejectionists fear its implications and urgently seek impediments to this reality. In the middle are the great majority of Canadians who, as scholar and former official Doug LePan once observed, naturally hanker after a world where they could pursue more independent foreign, defence, and economic policies without sacrificing any advantage from close association with the United States. "If wishes were horses," he wrote, "Canadians would certainly ride off in all directions."[7]

Whatever their desire for independence, Canadians are voting with their feet and wallets. The sixty years since the end of the second world war have witnessed the increasing integration of Canadian economic activity into the US economy. The embrace of trade liberalization by successive Canadian postwar governments created the conditions for such integration to occur. However, it has been the decisions of Canadians as consumers, entrepreneurs, and investors, independent of government policies or programs, that have been the principal actors driving this integration.

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[5] Parts of this paper draw upon on Michael Hart, "A New Accommodation with the United State: The Trade and Economic Dimension," *Art of the State II: Thinking North America: Prospects and Pathways,* No. 2, Institute for Research on Public Policy, March 2004.

[6] Michael Hart holds the Simon Reisman Chair in Trade Policy at Carleton's Norman Paterson School of International Affairs and Bill Dymond is the Senior Executive Fellow at the Centre for Trade Policy and Law at Carleton University/University of Ottawa. Both are former Canadian trade officials.

[7] Douglas V. LePan, "The Outlook for the Relationship," in John Sloan Dickey, ed., *The United States and Canada* (Toronto: Prentice Hall, 1964), p. 160.

Over this period, Canada has changed from an economy based upon east-west lines to one based on the more natural contours of north-south geography. The dominant characteristics of the resulting north - south economy are intra-firm trade, the erosion of differences between Canadian- and US-origin products, and increasing cross-border trade in components. The problems of managing the relationship now arise less from devising rules to deal with border barriers than with devising systems and approaches to address more complex and elusive issues of regulatory convergence and border administration. Integration has fundamentally changed the nature of the cross-border trade and economic relationship and the challenge of managing it, to the mutual benefit of both societies.

Canada faces a quandary in the management of the relationship: whether to stick with the conventional tools of trade agreements and trade negotiations to address problems or to break the mold and pursue a bold agenda that captures the dynamics of North American economic integration. Convention would focus efforts within the parameters of the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO). Boldness would look for a comprehensive approach embracing the benefits of a classical trade agreement but going beyond to address issues of governance. Both approaches offer advantages and constraints. The advantage of convention is the high level of comfort that Canadians have with the tried and true. The constraint is that returns from such an approach promise to be minimal. The advantage of boldness is the opportunity to build a new relationship with the United States that brings significant benefits to Canadians. The constraint is Canadians' fondness for small ideas and incremental steps.

Canadian trade policy, which in the past has provided answers to the conundrums of the relationship with the United States, is stuck in neutral. During the recent election the government offered no vision on the future of the relationship. Nor did it show any understanding of the deep integration that already exists and the broad patterns of cooperation and policy coordination with the United States that have emerged beneath the radar screens of political approval or formal agreement. The logic of Canada's economic interest makes a compelling argument to focus energies upon reinventing the US relationship to conform to modern realities. The response of the government is to say as little as possible about the future evolution of the relationship and focus upon dispute resolution of, for example, the softwood lumber and beef problems, as if positive outcomes on these two symbolic files would point to a clear path forward for the relationship as a whole. Yet, time stands still for no policy and unless an answer is found to the quandaries of economic integration and the implications that flow from it, Canadians will begin to pay increasingly heavy economic costs from policy paralysis.

This paper examines the state of the relationship, reviews the options under discussion, identifies four areas where there is already intense cross-border governance, and analyzes the burdens of regulation and border administration upon Canadian firms.[8]

[8] The analysis is bilateral, rather than trilateral, in its approach. Some analysts have assumed that Mexico, by virtue of the NAFTA, would necessarily be part of any initiative between Canada and the United States to

State of the Relationship

The Canada-US trade and economic relationship is governed principally by the NAFTA — itself an augmented version of the original Canada-US Free Trade Agreement — and to a lesser extent by the agreements embodied in the WTO. Both the NAFTA and the WTO flow from the assumption that trade occurs between unrelated firms that operate from within the boundaries of individual nation states and that goods and services moving in international trade are destined for final consumption in the export market and are not further traded. These agreements also assume that governments play the predominant role in determining the flows of international trade, having at their disposal a range of instruments to make international trade of their country a politically arbitrated element of national policy. Accordingly, the central purpose of these agreements is to set rules for the behaviour of governments in their regulation of trade.

In 1980, two-way bilateral trade in goods and services represented about 40 percent of Canadian GDP. By 2000, that figure had nearly doubled to reach about 75 percent, valued at some Cdn$700 billion annually or $2 billion every day.[9] Today, more than two-thirds of cross-border trade is between related parties, taking place either wholly within the confines of a single firm or among parties to an integrated network of firms.[10] The typical automobile, for example, assembled in Canada and exported to the United States, is made up of inputs that may already have crossed the border up to five times as they wended their way up the value chain. Just-in-time production strategies involve an intricate pattern of parts and components flowing from one plant to another; freer trade has made it possible for firms to locate such plants strategically throughout North America, with less and less regard for

address deepening integration. We disagree. There is no automatic link between membership in an FTA and the move to the next stage. Mexico is now just one of a number of free-trade partners shared by Canada and the United States. Despite rather grand ambitions that the NAFTA would give rise to a three-country North American economy, the reality is quite different. Instead, NAFTA governs two robust bilateral trade and investment relationships; Canada-Mexico trade and investment remains at miniscule levels. Even if Mexico were interested in joining negotiations for a customs union, the political economy of the negotiating issues in the United States is not the same for Canada and Mexico. Both relationships have long histories and have economic and political importance for the United States but they have followed divergent paths and responded to different imperatives. In sum, the question of Mexican participation is not pertinent to the analysis in this paper.

[9] Recent economic analysis has tried to unravel the extent to which these emerging patterns flow from the broad impact of globalization, the magnetic effect of a dynamic US economy, or the FTA/NAFTA. Such analysis, fascinating as it may be for economic modelers, poses questions to which there are at best speculative answers of only marginal interest to current policy issues. The extent of integration is clear. It has been largely market driven, and policy has played a secondary, if important, facilitating role. This is not to denigrate policy, but to place it in context. Policy can continue to play an important facilitating role, but, except if there is a major re-ordering of Canadian policy priorities and objectives, it is unlikely to change the basic direction of ever-deepening integration.

[10] International trade is less and less a useful descriptor of the economic relationship between Canada and the United States; a better term would be "integrative" trade. See Glen Hodgson, "Integrative Trade and the Canadian Experience," in *EDC Economics,* May 2004.

borders.[11] A third of the value of Canada's total exports today is made up of previously imported inputs in sectors such as machinery and equipment, transportation, electronics, plastics, and textiles.[12] Value derived from licensing, investments, and other non-goods transactions has also become more critical to cross-border economic linkages.[13] Like the rest of Canada, the integration of Western Canada into the North American economy has grown rapidly. The US accounted for some 80 percent of Western Canadian exports in 2003, compared to just over half in 1988. Moreover, these exports have been growing rapidly over this period with value added manufacturing products such as plastics and machinery becoming more important.[14] While energy dominates, especially for Alberta, and the impact of integration varies, it is evident that the economies of Western Canada have benefited markedly and stand to gain even more if the issues arising from integration are addressed expeditiously.[15]

The FTA/NAFTA and the WTO agreements represent the culmination of the postwar trade agenda consisting of reducing tariff and non-tariff barriers to trade in goods and the new issues of services, investment, intellectual property and temporary movements of skilled personnel. They are essentially liberalization agreements erected upon a regime of previously agreed and largely static rules. Each has left unresolved a long list of issues that appear on various bilateral and multilateral agendas. Included are the rules-of-origin, which restrict the full potential of NAFTA trade, anti-dumping and countervailing duty regimes, and government procurement restrictions, to name a few. In neither Canada nor the United States, however, is there any sense of enthusiasm or urgency to devoting the political resources necessary to undertake negotiations to deal with these leftovers. Nor is there is any pressure from the business community as a whole upon governments to move in this direction. The reason is that the benefits of classic trade liberalization have now been largely realized between Canada and the United States. The remaining issues are those that are most intractable and politically sensitive; the returns from resolving them are disproportionate to the political capital required. Indeed, in a number of cases, more limited, firm-specific solutions negotiated by the firms themselves are more attractive to private actors. On the other hand, the

[11] Philip Cross, "Cyclical Implications of the Rising Import Content in Exports," *Canadian Economic Observer*, December 2002, accessed at http://www.statcan.ca/english/ads/11-010-XPB/pdf/dec02.pdf. Cross emphasizes how industry has re-organized production to take advantage of a more open border.

[12] See Cross, Figure 2.

[13] Industry Canada, in its North American Linkages project, has catalogued the wide range of linkages that form part of the emerging pattern of deepening cross-border integration. See Richard Harris, ed., *North American Linkages: Opportunities and Challenges for Canada* (Calgary: University of Calgary Press, 2003). Earl Fry, "North American Economic Integration," also provides a useful catalogue of the extent of integration, with particular emphasis on the role of the states and provinces.

[14] The BSE problem demonstrates how economic integration has spread beyond sophisticated manufacturing and high technology industries to one of the most ancient economic activities of settled societies: cattle herding. Japanese demands that US beef exporters segregate US- and Canadian-origin beef to keep the latter out of shipments to Japan were declared impossible to meet by the US beef industry.

[15] See "The Alberta and Western Canada Export Experience under Free Trade Agreements: 1988-2002, at bus.ualberta.ca/CIBS-WCER/WCER/pub.htm and Liu and Mirus, "Alberta's and Western Canada's Exports: 15 years of Free Trade Agreements," Trade Report, August 2004.

accelerating pace of economic integration has thrown up issues that are beyond the competence of traditional trade agreements as a tool of statecraft.

The institutional infrastructure for the management of this complex, multifaceted relationship between the two countries is astonishingly light. Unlike other bilateral relationships pursued by both Canada and the United States, there is no political or policy oversight of the relationship, no regular meetings between heads of government or foreign or trade ministers, no formal structure of committees looking at the relationship in a coherent and coordinated manner. In the 1950s and early 1960s, the Canada-US Ministerial Committee brought together, on an annual basis, several Cabinet ministers and US Secretaries for a two-day review of bilateral issues. This was abandoned as a waste of political and bureaucratic time.[16] At the level of foreign ministers, during much of the 1980s, there were quarterly meetings devoted to the whole of the agenda, a pattern that fell into disuse at the end of the Reagan Administration in 1988. The Canada-US Free Trade Agreement provided for a Commission envisaging annual meetings of the two trade ministers, subsequently supplanted by the three-member NAFTA Commission. Neither Commission has served as a broad management tool, opting instead to confine itself to technical issues. The absence of formal structure results from a determined, and largely successful, effort to treat issues in the relationship vertically, rather than horizontally, and build firewalls to prevent cross linkages. In part, this method of management derives from Canadian fears that as the smaller partner, Canadian interests would be overwhelmed in any formal relationship. It also reflects the nature of the US system of governance that makes coherence and coordination in both its foreign and domestic policies extraordinarily difficult to achieve on a sustained basis.[17]

The institutional gap is filled by inspired a*d hocery.* The inter-connected natures of the Canadian and American economies virtually require Canadian and US officials to work closely together to manage and implement a vast array of similar, but not identical, regulatory regimes from food safety to refugee determinations.[18] Officials and, in some cases, ministers have developed a dense network of informal cooperative arrangements to share information, experience, data, and expertise with a view to improving regulatory outcomes, reducing costs, solving cross-border problems, implementing mutual recognition arrangements, establishing joint testing protocols, and more. On any given day, dozens of US and Canadian officials at federal, provincial, and state levels are working together, visiting, meeting, sharing e-mails, taking phone calls, and more. Virtually all of this activity takes place below the political radar screen. Little of it is coordinated or subject to a coherent overall view

[16] See, for example, the report of the July 2004 NAFTA Commission meeting at www.itcan-cican.gc.ca

[17] This paucity of institutions stands in stark contrast to the veritable cornucopia of institutional relationships with the European Union including biannual meetings of the Prime Minister, the President of the European Commission, and the President (in office) of the Council as well as a host of ministerial committees, official working groups, etc. See www.fac-aec.gc.ca.

[18] For example, the SCC and the US National Institute for Standards Technology (NIST) manage a 1994 agreement for the mutual recognition of the testing laboratory systems they each administer. For the benefit of an industry that exports $1 billion in fasteners annually to the United States, the SCC has concluded an agreement with relevant American agencies so that assessments for conformity with US regulations on Canadian-made fasteners can be performed in Canada.

of priorities or strategic goals. Some of it is mandated by formal agreements ranging from the NAFTA to less formal memorandums of understanding. More importantly, much of this activity is the natural result of officials with similar responsibilities and shared outlooks seeking support and relationships to pursue them. This activity also reinforces, subtly and indirectly, the deepening integration of the two economies. In North America, unlike in Europe, integration has been largely "silent," i.e., flowing from market forces and proximity, rather than from government direction. The NAFTA and similar arrangements mark efforts by governments to catch up with these forces of silent integration and provide appropriate and facilitating governance.

In the aftermath of September 11, which caused major if short-term border disruptions, Canada and the United States agreed upon a 30-point program of action, embodied in the Smart Border Declaration, to address the issues thrown into stark relief by the tragedy of that day.[19] For the purposes of this analysis, the Declaration is interesting from two perspectives. First, it covers four separate areas of border management in an integrated fashion: the movement of people, the movement of goods, infrastructure, and enforcement, acknowledging that Canada and the United States face a complex of challenges that need to be addressed in an integrated way. The aim is to "create an unique opportunity to build … a border that securely facilitates the free flow of people and commerce." Second, in the movement of goods, the Declaration is silent on issues left over from the NAFTA and multilateral negotiations that would have featured prominently on trade agendas. Instead, it focuses on border management issues such the processing of goods, behind-the-border clearance, and intensified sharing of customs data. The concept underlying this part of the Declaration is that the growth of Canada-US trade and investment depends upon the efficiency with which the border is managed rather than the removal of classical trade barriers.

Options

It is against this background that scholars, business groups, former diplomats, and journalists have begun to address the evolution of the relationship and advance, or resist, proposals essentially to reinvent it. They include:

- Former Canadian ambassador to the United States, Allan Gotlieb; he has been among the most vocal and visionary, suggesting that Canada and the United States establish a joint community of law.[20] His successor in Washington, Derek Burney, has called for the two governments to work together on an initiative that addresses US concern on the security front and Canadian priorities on trade and investment matters; like Gotlieb, he is convinced that only a major initiative has

[19] See fac-aec.gc.ca/Canada/anti-terrorism/actionplan.

[20] Various articles in the *National Post* (11/9/02, 5/3/03, 22/5/03, and 10/9/03). The most detailed version was presented to a Conference at the Woodrow Wilson Center in Washington, 27 February 2003, "A North American Community of Law." In his latest article he argues forcefully that any renaissance in Canadian foreign policy is critically dependent on restoring a strong and constructive Canada-US relationship.

the scope to attract US political interest and provide room for mutually beneficial trade-offs.[21]

- IRPP President Hugh Segal, in a series of speeches over the past two years, has similarly challenged Canadians to think big and creatively about Canada-US relations.[22] IRPP analyst Daniel Schwanen has written various articles examining the pros and cons of further governance arrangements to foster deeper integration, arguing that the need to proceed is clear but cautioning that security and market access arrangement should be pursued on their own merits and not used as tradeoffs in a "grand bargain;"[23]
- The C.D. Howe Institute, under the leadership of Wendy Dobson, has commissioned a series of "Border Papers" aimed at creating a better intellectual foundation for consideration of a joint Canada-US strategy that is big enough to attract US political attention and to address the full gamut of economic and security issues now affecting bilateral relations; the series includes work from both Canadian and US analysts.[24] Analyst Danielle Goldfarb has contributed important work upon North American patters of trade and investment.[25]
- University of Alberta business economist Rolf Mirus has circulated various papers suggesting that Canadian and US economic integration has reached the stage at which a customs union or common market arrangement is required to capture the full benefits of integration.[26]
- Fraser Institute analysts, particularly Fred McMahon and Martin Collacott, have been building a case for a more active effort to link trade and economic and security interests with a view to creating both more open and more secure cross-border ties.[27]
- The Canadian business community echoes the need for an integrated approach to managing the Canada-US relationship and for the focus upon border management. The Canadian Chamber of Commerce at its 2003 annual conference called for the government to put in place the proper machinery to ensure the cross-border flow of goods and people. The Canadian Association of Manufacturers and Exporters similarly gives priority to improving border

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[21] "Twin Pillars of Pragmatism," address to Canada-US Law Institute, Annual Conference, Case Western Reserve University, Cleveland, Ohio, 11 April 2003).

[22] Texts available at http://www.irpp.org/fasttrak/index.htm.

[23] Daniel Schwanen, "Interoperability with the US, not Convergence," *Policy Options,* November 2001 and "Let's Not Cut Corners: Unbundling the Canada-US Relationship," *Policy Options,* April 2003; both can be accessed at http://www.irpp.org/fasttrak/index.htm. Schwanen has also crafted a draft agreement to capture his approach, Deeper, Broader: A Roadmap for a Treaty of North America, *Art of the State II: Thinking North America: Prospects and Pathways,* no. 4, Institute for Research on Public Policy, March 2004, summary available at irrpp.org.

[24] See Wendy Dobson, "Shaping the Future of North American Economic Space: A Framework for Action," C.D. Howe Institute Commentary No. 162 (Toronto: C.D. Howe Institute, April 2002). It and the other papers in the series are available at www.cdhowe.org.

[25] See Danielle Goldfarb, "The Road to a Canada-US Customs Union: Step-by-Step or in a Single Bound?" C.D. Howe Institute Commentary No. 184 (Toronto: C.D. Howe Institute, June 2003).

[26] Rolf Mirus, "After Sept 11: A Canada-US Customs Union," *Policy Options,* November 2001, accessed at http://www.irpp.org/fasttrak/index.htm.

[27] See, for example, articles in the *Fraser Forums* for March 2002 and March 2003.

efficiency, eliminating border infrastructure bottlenecks, and reducing regulatory barriers to trade. The Canadian Council of Chief Executives argues the need to move beyond border management and reinvent the concept of North American Borders. It, moreover, places the border challenge in the context of reinvigorating the Canada-US defence and security relationship.[28]

- • The Conference Board of Canada, on the other hand, has argued that Canada needs to approach the bilateral agenda incrementally, solving problems where it can and avoiding linkages to the extent possible.[29] Similarly Queen's political scientist Bob Wolfe insists that the need for action has been exaggerated: most issues are already well in hand or can be addressed within the framework of existing rules and institutions, particularly multilateral institutions such as the WTO.[30]
- Dissenting voices include economist Andrew Jackson of the Canadian Labour Congress who worries about the loss of Canadian policy autonomy for industrial development, the environment, immigration, the social safety net, and the maintenance of a distinct Canadian voice in international affairs.[31] Stephen Clarkson and Peter Newman, have already raised their voices, arguing that any new initiative with the United States would threaten Canadian sovereignty and undermine Canada's ability to chart its own course.[32]

In addition, two parliamentary committees have also taken a first cut at defining the issues. The House of Commons Standing Committee on Foreign Affairs and International Trade, in its report of December 2002, provides a comprehensive survey of Canadian expert opinion, as well as some useful recommendations for immediate action, but shies away from any recommendations that would tackle broad strategic and economic issues. It did, however, suggest that the government assess what would be involved in moving toward a customs union. The Senate Standing Committee on Foreign Affairs, in a June 2003 report, proves even more reluctant to come to grips with the central issues affecting cross-border trade and investment.[33]

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[28] See Chamber.ca for proceedings of the 2003 conference. The position of the manufacturers is contained in a joint letter from it and its sister US group, the National Association of Manufacturers, to the Prime Minister and President in April 2004, available at cme-mec.ca. See ceocouncil.ca for the Council's publication "New Frontiers: Building a 21st Century Canada US Partnership in North America."

[29] Charles A. Barrett and Hugh Williams, *Renewing the Relationship: Canada and the United States in the 21st Century,* accessed at www.conference-board.ca.

[30] "See You in Washington? A Pluralist Perspective on North American Institutions," IRPP *Choices,* 9:4, accessed at http://www.irpp.org/fasttrak/index.htm.

[31] Andrew Jackson, "Why the 'Big Idea' is a Bad Idea: A Critical Perspective on Deeper Economic Relations with the United States," Canadian Centre for Policy Alternatives, Ottawa, 2003.

[32] See Clarkson, "Time to break free (trade)," *Globe and Mail,* 27 September 2002 and Newman, "Beware of freer trade," *Maclean's,* 2 December 2002. A more thoughtful version of this view can be found in a series of columns by David Crane in the *Toronto Star,* August 9, 13, and 16, 2003. Support among Canadians for such a defensive attitude toward the United States, however, has steadily declined.

[33] House of Commons Standing Committee on Foreign Affairs and International Trade, *Partners in North America: Advancing Canada's Relations with the United States and Mexico,* accessed at http://www.parl.gc.ca/InfoComDoc/37/2/FAIT/Studies/Reports/faitrp03-e.htm and Senate Standing Committee on Foreign Affairs, *Uncertain Access: The Consequences of US Security and Trade Actions for Canadian Trade Policy* (June 2003), accessed at http://www.parl.gc.ca/37/2/parlbus/commbus/senate/com-e/fore-e/rep-e/rep04jun03-e.htm.

Both reports suffer from recording too many voices and engaging in too little analysis. Further hearings and analysis by parliamentary committees will be useful, particularly if focused on more specific options and opportunities. Bank of Canada Governor David Dodge, for example, has challenged the two governments to pay serious attention to the benefits of deeper integration, including a more open and integrated labour market, allowing Canadians and Americans to work wherever opportunity beckons.[34]

The government has, to date, proved at best a timid observer of this gathering debate. Issues such as beef and softwood lumber elicit firm commitments to seek their resolution, but there has been little public indication that ministers are prepared to come to grips with the relationship and attempt to guide it in a particular direction.[35] The conspicuous exception to this placid indifference to Canada's most important relationship has been Pierre Pettigrew during his tenure as Minister of International Trade. In a little-noticed speech in Toronto in October 2002, he outlined an inspired vision of the further evolution of Canada-US trade and economic relations. He set out six goals that add up to an ambitious agenda that is unlikely to be achieved in the absence of serious negotiations to refine and upgrade the rules and institutions governing the shared Canada-US economic space.[36] It remains to be seen whether in his new assignment as foreign minister he will pursue any aspects of this agenda or inspire his successor, Jim Peterson, to take a bolder approach.

During his campaign for the Liberal leadership, Prime Minister Paul Martin hinted strongly at the need to improve Canada-US relations. Once in office, he took a few modest steps in that direction, including two early meetings with President Bush, the establishment of a cabinet committee dedicated to Canada-US relations, and a task force in the Privy Council Office to oversee a more coordinated approach to Canada-US relations. During the June election, however, he relied on a Canadian standby of running against getting too close to the United States, and this strand of his thinking appears to predominate the attitude of his minority government. Should President Bush be returned to office in November, Martin's ambivalence may come back to haunt him as he tries to resolve the normally heavily charged Canada-USA agenda, let alone move the relationship forward to address the challenges of deepening integration and accelerating policy convergence.[37]

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[34] See, for example, David Dodge, "Economic Integration in North America," Remarks at the Couchiching Institute on Public Affairs, Geneva Park, Ontario, 7 August 2003, accessed at http://www.bankofcanada.ca/en/speeches/2003/sp03-11.htm.

[35] It should be noted, however, that while results to date are minimal, activity is not. Various task forces, committees, and initiatives throughout the government are seized of the need to gain a batter appreciation of the challenges facing Canada-US relations, including coordinating work by the Policy Research Initiative and the Canadian School of Public Service (formerly the Centre for Management Development). Little of this will emerge for public consumption until such time as a more welcoming political climate is perceived in Ottawa.

[36] Pierre Pettigrew, "The Canada We Want in the North America We Are Building," Address at the 8th Annual Canadian-American Business Achievement Award and International Business Partnership Forum, Toronto, 16 October 2002, accessed at dfait-maeci.gc.ca

[37] Martin appears to have fallen into a familiar Canadian trap: failing to differentiate between Canadian interests and Canadian political values. For Canada, good bilateral relations with its giant neighbour to the south are a *sine qua non* for pursuing almost any other policy issue. They should be pursued regardless of who occupies the White House or controls the Congress. We explore this issue further in "The 2002 US Election and

Before the discussion of options gets too advanced, it needs to be recalled that three-quarters of a century of bilateral and multilateral treaty making have created a complex web of multilateral and bilateral rights and obligations that has steadily eroded the autonomy of policy making in both countries. Over the past six decades, Canada has been a pre-eminent leader in promoting, negotiating, and accepting a rules- and regime-based system for the conduct of international relations. The drivers of Canadian rule making and institution building are Canada's perception of itself as a country whose most intimate foreign relations are with powerful countries that, unrestrained, will take little account of, or even damage, Canadian interests. Hence, the instinct to resolve problems through international rules and regimes has been a constant factor throughout the whole range of Canadian foreign policy endeavours. An integral component of this activist diplomacy has been a readiness to accept increasingly more stringent limits on the scope for autonomous decision making, particularly in relations with the United States, in return for increased discipline on our foreign partners and greater predictability and consistency in public policy making. The pursuit of more demanding forms of bilateral cooperation flows logically from earlier efforts. Deepening bilateral integration with the United States, in particular, challenges the two governments to take further steps down the mutually beneficial road of exercising their sovereignty to achieve important economic and other objectives.

Beginning with the 1935 and 1938 bilateral trade agreements and the formation of the GATT in 1948, through the negotiation of the Free Trade Agreement, the North American Free Trade Agreement, and the WTO, the two governments have accepted limits on their sovereign ability to deploy an impressive list of traditional instruments to interfere with cross-border exchanges, including:

- the levels of customs duties on imports; except for a small list of agriculture products, tariffs are bound at zero;
- the application of quotas on exports and imports;
- the application of anti-dumping and countervailing duties;[38]
- the application of internal regulations affecting trade, for example, sales and excise taxes; both governments have agreed not to discriminate in favour of domestic goods or producers;[39]
- the treatment of investments and investors; again, both governments have agreed to severe limitations on their ability to discriminate in favour of local investors;

Canadian Interests: Ottawa Must Get with the Reality of a Bush-Dominated Washington," *Policy Options,* February 2003.

[38] For example, until the anti-dumping agreement embodied in the results of the Kennedy Round in 1967, Canada did not need to find that a dumped good was causing injury to domestic producers. The US was similarly free respecting the application of countervailing duties until the conclusion of Tokyo Round in 1979 and the implementation of its results.

[39] Until the advent of the GST, Canada engaged in reverse discrimination by effectively applying higher internal taxes on manufactured goods (the manufacturers' sales tax — MST) than upon imports. Had the MST had the opposite effect, Canada would have been in violation of its GATT obligations.

- the use of subsidies and government procurement preferences (at the federal level) to promote economic development;
- intellectual property rights; and
- the protection of service providers in listed sectors.

As a result, there remain few implements in the traditional economic policy toolbox that, used consistently with the rights and obligations set out in the NAFTA and the WTO, would permit the two governments to reverse the course of integration. Indeed, removing the formal remaining obstacles to economic integration and addressing the problems that arise from such integration, for example through a customs union, would amount to a marginal increase in the level of obligations exchanged between the two governments and a correspondingly slight further reduction in policy sovereignty.[40] The immediate, direct impact would also be modest, but the longer term effect on cross-border investment and the evolution of cross-border supply chains would be much larger, thus making such a project worthwhile.[41]

Current networks of cooperation

There is already a vast network of collaboration at work covering virtually every area of public policy where the two societies connect. Four of these indicate the level of policy integration already in place and suggest opportunities as well as challenges to perfecting these arrangements.

Agriculture and Agri-food

A variety of mechanisms suggest a high level of trust and cooperation between officials and a solid foundation on which to build more formal mechanisms for further cooperation, joint decision-making, and problem solving. Food safety is an area already vested with a high degree of cooperation. The Canadian Food Inspection Agency (CFIA) and Health Canada and the US Animal and Plant Health Inspection Service (APHIS), Food Safety Inspection Service (FSIS), and the Food and Drug Administration (FDA) work closely together on the basis of hundreds of agreed protocols and understandings. Much of this, however, lacks the status of domestic law or international treaties, and any problems need to be resolved at the level of the Minister and Secretary of Agriculture.[42] Enshrining current levels of cooperation into a bilateral treaty and assigning supervisory responsibility for the continued

[40] To the charge that further integration will entail unacceptable sacrifices of Canadian sovereignty, there is no better response than that offered by IRPP President Hugh Segal: "Sovereignty is a vital national instrument. It is not a goal. Sovereignty is not hoarded, it is not locked away, it is there to be used to advance the legitimate social and economic interests of Canadians on a host of fronts." "New North American Institutions: The Need for Creative Statecraft," address to the Fifth Annual JLT/CTPL Trade Law Conference. Ottawa, 18 April 2002. Accessed at irrp.org.

[41] Someshwar Rao and Madanmohan Ghosh, for example, found that the implementation of a common external tariff and the elimination of the rules of origin would generate a permanent gain of 1.1% of GDP. Results of this research are reported in *Horizons*, 7:1 (June 2004) Policy Research Initiative.

[42] The continuing obstacles to resuming live cattle exports to the US are example of the limitations of this type of cooperation.

adaptation of its implementation to a new, bilateral institution would greatly enhance both consumer and producer confidence. Beyond food safety, the 1998 Canada-United States Agriculture "Record of Understanding" requires the Canadian Minister and the US Secretary of Agriculture to meet "at least" annually to review the state of bilateral trade. Sub-Cabinet level officials are required to meet at least twice per year. The Canada-United States Consultative Committee on Agriculture and the Province-State Advisory Group are intended to establish a "comprehensive early warning system" for the resolution of agricultural problems.

Energy

The North American energy market, and particularly the Canada-US energy market, is already substantially integrated with cross-border flows of energy in both directions. Canada is the leading foreign supplier of oil and gas to the US market, an important source of uranium, and an integral part of various electricity grids. Some regulatory hurdles remain, particularly in electricity, but are not substantial impediments to cross-border trade. Canada's energy potential is an important element in US thinking about its national security and energy strategy, and security of supply considerations and prospects for future development by US interests are high. Infrastructure development is the largest impediment to deeper integration in continental energy markets. The capacity to use energy as part of a strategic bargain in the broader context of a deep integration agreement, however, may be limited due to existing high levels of foreign investment and participation in Canada's energy sector, the absence of any major problems in cross-border trade, limited supply, and provincial control over resource exploitation. Nevertheless, while the scope for trading off security of supply for concessions by the United States in other areas may be modest, the constructive psychological impact of an energy pact may be broader. Here again, the catalogue of formal and informal mechanisms for cooperation is impressive in its length and depth. Seven separate bodies, only one of which originates in the NAFTA, are charged with various aspects of energy collaboration.

Customs

Through the *Smart Border Accord*, Canadian and US departments and agencies responsible for customs and immigration work together to pursue four main goals: enhanced protection against illegal and irregular border activity; facilitate movement of goods; promote international trade; and reduce costs by increasing efficiencies. Through the *Border Vision Process*, USCIS (U.S. Citizenship and Immigration Services) and CBSA (Canadian Border Services Agency) are working to develop a joint regional approach to migration though information and intelligence sharing, policy co-ordination, joint overseas operations and border cooperation. Again, the foundation for more formal cooperation and joint decision-making exists, but the institutional structure required to take it to the next level will need to be developed in order to invest bilateral joint decision-making with the required political oversight.

Environment

Canada and the United States have a long history of cooperation on environmental issues. More than thirty inter-governmental agreements on the environment have been reached between the two countries, beginning in 1909 with the Boundary Waters Treaty that established the International Joint Commission (IJC). While many bilateral initiatives maintain an advisory and regulatory role, the IJC is an excellent example of a bilateral agency with the power to develop and implement regulations, manage shared resources, and provide dispute settlement procedures. It has played a particularly important role in the cleanup of the Great Lakes waters and region since the 1970s. Through the Canada-US Air Quality Agreement, the countries have been successful in regulating and reducing the pollutants that cause acid rain, leading to reductions of acid rain in the 1990s. The general ideology and science behind environmental policy in both countries is very similar, permitting relevant government agencies in both countries collaborate closely to address trans-boundary environmental issues. Beyond bilateral arrangements, both countries belong to numerous international environmental organizations and treaties. The North American Commission for Environmental Cooperation (NACEC) provides a forum for Canada, the United States, and Mexico to manage shared environmental issues and to monitor and regulate the impact of trade on the environment. Canada's ratification of the Kyoto Protocol has been identified as a potential stumbling block to cooperation on climate change issues since the United States has refused to become a party to the protocol. Despite this, both countries have common approaches for addressing climate change and even without ratification by the United States, US efforts to reduce greenhouse gas emissions are more advanced than in Canada. In 2002, Canada and the United States signed a Joint Agreement to Fight Climate Change, with the objective of expanding and intensifying bilateral efforts to address climate change.

New Issues

To capture the full benefits of integration, address regulatory divergence, and streamline border administration, it is necessary to go beyond the confines of the classical models of trade agreements, including a customs union, and address three key constraints: regulatory divergence, border administration, and institutional capacity.

Regulatory divergence

In Canada and the United States, legislatures and officials, at national and sub-national levels, are engaged in a continuing process of rule making and adaptation. The vast majority of rules created by this constant process of amendment reflect similar policy objectives but different regulatory styles, histories, legislative practices, institutional assignments, and implementation experiences. Many of these differences are, however, marginal in their regulatory outcomes, particularly between Canada and the United States, but annoying and even dysfunctional in their economic impact. The nature of products (e.g., undifferentiated commodities versus

goods and services with unique attributes) and the basis upon which they compete (e.g., price versus quality or performance) have important implications for the role different regulations will play.

The need to produce multiple versions of the same good, for example, can increase design and production costs, and prevent firms from enjoying the economies of scale that would flow from producing to satisfy a single globally accepted standard. An ever-growing range of goods has to be tested and certified to exacting standards and regulatory requirements before they can be sold.[43] An equally exploding range of services faces onerous and often repetitive qualification and certification requirements. Compliance with different national rules, together with the repetition of redundant testing and certification of products and providers for different markets, raises costs for manufacturers and providers operating in the North American economy. Additionally, complex and lengthy product- or provider-approval procedures can slow down innovation, frustrate new product launches, and operate to protect domestic producers and providers from foreign competitors.

While well-conceived regulations can be trade promoting and facilitating, regulatory divergence with the United States undermines Canadian competitiveness and results in lost investment.[44] Recent research shows that that the benefits of convergence between Canada and the United States are positive and significant. At the same time, Canada's regime, even allowing for important reforms that occurred over the last two decades, imposes significantly heavier burdens on the economy than that of the United States. If the burden of regulation in Canada had been the same as that of the United State, there would have been an average increase of investment in Canada of about US $1 billion annually. If the rate of change in the Canadian regime had been the same as that in the United State, the total investment would have been about $400 million higher resulting in an average of 30 percent more investment annually than the level that occurred. One consequence of such increased investment would have been a 6 percent increase in the research and development share of the GDP.[45]

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[43] A study prepared by the US National Research Council, for example, indicated that already a decade ago, sixty percent of US exports to the EU had to be certified to EU standards, often requiring costly, redundant tests. US National Research Council, *Standards, Conformity Assessment and Trade Into the 21st Century* (Washington: National Academy Press, 1995), p. 112. It cites US Department of Commerce studies which suggest that up to 65 percent of US exports are affected by technical regulations; more than half of this amount is subject to non-US certification requirements and another 15 percent requires quality or environmental management system registration. The report also provides a sobering assessment of the cost of wasteful duplication in standardization and related regulatory requirements flowing from the highly decentralized US approach.

[44] As has been frequently pointed out by analysts of market economics, the successful operation of markets is critically dependent on the presence of supporting laws and institutions. Proponents of market-based reforms of economic regulation do not seek a retreat of the state but a refocusing of the state's activities to matters that ensure the efficient and beneficial operation of markets. For the critical role of institutions in the rise of modern market-based economies, see Nathan Rosenberg and L.E. Birdzell, *How the West Grew Rich: The Economic Transformation of the Industrialized World* (New York: Basic Books, 1986).

[45] See Fidele Ndayisenya, "Economic Impacts of Regulatory Convergence Between Canada and the United States," In *Horizons*, 7:1 (June 2004), Canadian Policy Research Initiative.

From the firm perspective, the impact of similar but differentiated regulatory regimes can influence investment decisions. These impacts can be divided into two broad categories: those intended to discriminate in favour of local producers, and those that are the incidental result of regulations aimed at other objectives. The first represents the residual elements of traditional trade liberalization negotiations, and includes such measures as remaining tariffs, government procurement restrictions, trade remedy laws, and similar measures. The second involves a wide range of measures that reflect the increasing complexity of modern economies and the response of governments to demands ranging from consumer protection to environmental stewardship and human rights. The trade and investment effects of the first should continue to be addressed with the traditional approach embedded in trade and investment liberalization agreements; the second requires higher levels of cooperation to identify those regulations that no longer serve any useful public purpose, those that can be implemented and administered on a basis that limits or eliminates the impact of differences, and those where differences are profound and important. Only the latter may need to continue to create any substantive barriers to trade and investment, but on a much more limited basis than is often the case today. For small- or medium-sized firms, which predominate in Western Canada, the cost of acquiring knowledge of and access to another country's regulatory regime can effectively dissuade them from attempting to develop that market altogether. Furthermore, the imposition of arcane and burdensome standards, testing, and certification requirements can be used effectively to frustrate imports and shelter domestic companies from competition.

In the final analysis, however, many of these differences are marginal in their regulatory outcomes, particularly between Canada and the United States, but annoying and even dysfunctional in their economic impact.[46] The need to produce multiple versions of the same good, for example, can increase design and production costs, and prevent firms from enjoying the economies of scale that would flow from producing to satisfy a single globally accepted standard. For companies exporting to multiple markets, the promise of "one standard, one test, accepted everywhere" has become increasingly more attractive.[47] Despite populist notions to the contrary, US regulatory requirements are often more stringent than those in Canada. More to the point, bilateral regulatory convergence is more likely to involve adoption of best

[46] Transport Canada's proposed new regulations requiring anti-theft devices on all cars manufactured after 2005 provide a telling example. Similar US regulations exempt entry-level cars in an effort to reduce costs and in recognition that few such cars are stolen. Transport Canada has decided not to exempt entry-level cars, thus imposing expensive engineering and manufacturing costs on manufacturers that will need to be recovered on the basis of the relatively small volume of cars sold in Canada. See Tom Blackwell, "Ottawa tries to rein in Joyriders," *National Post,* 29 July 2003, A1.

[47] The OECD's Philip Wagner indicates how everyone would benefit from achieving this goal: "With harmonised standards and certification procedures, consumers can be confident that products sold throughout the global marketplace meet the same high safety standards everywhere. Manufacturers can avoid costly and unnecessary testing, and their innovative products will gain access to markets more speedily. Regulators can deploy increasingly scarce resources elsewhere, confident that products have been adequately tested and meet exacting requirements." Christopher Wagner, "Safe Products and Global Trade," *The OECD Observer,* No. 202 (October/November 1996), 16.

practices than reliance on the most common denominator. As an Industry Canada survey of Canadian regulators notes: "All of those surveyed indicated that their broad policy objectives were similar to those of their US counterparts. However, many stressed that differences in the respective systems of government and authorizing legislation complicate efforts to cooperate, effectively limiting what can be achieved without significant legislative changes." The same survey also indicated that "most cooperation takes place at the operational level."[48] At the same time, as the survey notes: without an external prod such as a trade negotiation, regulatory cooperation among those operationally responsible quickly grinds to a halt; without the involvement of regulators in the negotiations, however, the required objectives and means may not be well framed, leading to sub-optimal results.

In the absence of an active approach to creating institutions and procedures for joint governance, Canada faces one of two undesirable prospects: either drift towards US-determined default positions on most matters related to the regulation of the market, or a conscious effort to assert Canadian regulatory independence. In both instances, Canada will enjoy the illusion of independence and the reality of economic performance well below potential.

[48] Industry Canada, *North American Regulatory Cooperation,* draft, February 2002.

Border Administration

One of the most pressing issues facing the two governments is the high cost of administering the physical border, high costs faced not only by the two governments, but also by firms and individuals that use the border frequently to conduct their affairs in the integrated North American economy. Establishing a common commercial policy, reducing border barriers, and eliminating most restrictions on the movement of people would not necessarily eliminate border administration, but would simplify and reduce its extent; rules-of-origin certification, for example, would no longer be required.

In addition to routine customs and immigration activities, both Canada and the United States use border controls to interdict illegal immigration, drugs, terrorism, and other criminal activities. Experience, however, suggests that the cost of border administration to pursue these goals is out of proportion to the results.[49] The border is simply too long and too porous to prevent determined cross-border criminal activity. Devoting even more resources at border checkpoints along the bilateral border seems unlikely to achieve additional results absent extraordinary further investments in human and physical infrastructure. Increasing resources to such an extent, however, risks causing considerable collateral damage to economic interests in an effort to find solutions to a problem that can be handled more effectively and efficiently through other initiatives.

To that end, the two governments need to find ways to reduce the impact of the border by, for example, strengthening institutional contacts, enhancing cooperation, and sharing information on matters small and large. They need to explore further investments in intelligence gathering and gradually focus ever larger parts of that effort at initial entries into North America. They could also make greater investments in infrastructure and in technology (both at ports-of-entry and the corridors leading to such ports). Both types of investments are critical components of any comprehensive effort at improving the management of the border and reducing its commercial impact. Such investments need not proceed on the basis of current inspection methodologies, but rely much more on risk assessments and random inspections.[50] They could also focus more on targeting resources toward pre-clearance programs for goods, vehicles, and people. Finally, the two governments

[49] This, of course, is not a view shared among customs and immigration officials, many of whom hold that no cost is too large to protect the country from illegal drugs, immigrants, and other criminal activity. This perspective was well represented by a story planted in Canadian newspapers on 22 July 2003 by the union representing customs officials. See Tim Naumetz, "Summer border policy: take operational risks," *National Post,* A2.

[50] To combat terrorism and other illegal activity, for example, Canada and the United States need rapid and timely exchanges of information on criminals and other individuals who may pose a security risk. Although there is information sharing at the moment, it may need to be significantly upgraded and some of the information databases need to be combined and made available at the border. Information from law enforcement agencies, immigration agencies, the courts, and other institutions may need to be jointly accessible, at the border, in real time. There is need for much greater collaboration and better information management. The database management tools and software developed in the last five years, as well as leading-edge networking software, can be deployed at the border and connected to main databases in Canada and the United States.

could enhance discussions about increasing the level of convergence in US and Canadian policies governing such matters as cargo and passenger pre-clearance programs, law enforcement programs of all types, and immigration and refugee determination procedures.

Efforts to make the border more effective and efficient are integral to the current Smart Border Accord. These discussions are proceeding at a snail's pace because they are both limited by the decision to work within the confines of existing legislative mandates and by the lack of a strategic framework. Furthermore, they assume continued need for current levels of border administration and thus are not aimed at eliminating or limiting the impact of the border, but at making that impact more efficient. Adding this effort to a broader commitment to negotiate a deep integration agreement would provide officials working on this file with the strategic vision they need to move beyond existing legislative mandates and provide them with greater scope to make useful trade-offs among competing priorities. The objective should be to create a border that is considerably more open and less bureaucratic, within a North America that is more secure. If Canadians and Americans want a smarter and less intrusive border between them, they will need to cooperate to create a more secure perimeter. The result should be a more open, more prosperous, and more secure continent.

The focus of governance agreements revolves around much more dynamic institutions and procedures affecting a much more varied range of cross-border transactions, including the movement of all the factors of production. Border administration remains important to the enforcement of these differences, but the key to addressing them is less a matter of liberalization and more a matter of designing a co-operative or co-ordinated approach to governance of the market. In North America, the trade policy of shallow integration based on liberalization is giving way to the challenge of forging rules for deep integration.

Institutional capacity

To offset the negative, unintended impacts of difference and not hinder or impede desirable integration and increased market efficiencies, governments need increasingly to cooperate and coordinate their decisions. The traditional approach focused on negotiating rules aimed at providing a framework within which governments pursued their regulatory responsibilities. In the face of deepening integration, such an approach is no longer sufficient. Instead, any new framework of rules needs to be supplemented by institutions and procedures geared to achieving a much higher level of coordination and even joint decision-making.

Much of this coordination activity could involve existing institutions or invest officials in agencies on both sides of the border with new responsibilities. A good basis for this kind of cooperation already exists in both the informal networks among officials, and in the relatively minor differences in regulatory approach. What is missing is an agreed mandate to resolve differences and a more formal institutional framework with authority to ensure mutually beneficial outcomes.

In some areas, more formal and independent coordination mechanisms might be required, either on a permanent basis or as transitional measures. As discussions proceed in fleshing out and implementing the contours for resolving the issues raised

by deepening integration and accelerating convergence, officials will need to identify areas where it would be appropriate to establish a joint bilateral forum charged with responsibility for coordinating the regulatory activities of the two governments and address any conflict arising out of the regulatory activities of the states and provinces, as well as the two federal governments.

Establishment of such joint bodies could be phased in over time as progress is made in implementing the new commitments, and as confidence develops in the efficacy of such joint decision-making. As with the existing International Joint Commission, ultimate political authority would continue to rest with the two governments, but by appointing high-quality commissioners and pledging to maintain an arms-length relationship with each commission, the two governments would seek to foster a similar, respected status for the new commissions.

Conclusion

The Canadian and US economies have become intertwined in response to demands by Canadians and Americans alike for each other's products, services, capital, and ideas, creating jobs and wealth across many sectors and accelerating the forces of mutually beneficial integration. Whatever the homilies about the value of independence, there is no sentiment that the government should interfere in private business and investment decisions to change the logic of resources, geography, and private choice that underpin economic integration. The framework of rules and institutions developed over the past seventy years have worked well to facilitate and govern this process of "silent," market-led integration, but the continued presence of a heavily administered border and of similar but differentiated regulatory regimes continues to undermine the ability of firms and individuals alike to reap the full benefits of deepening integration. Choices will soon have to be made.

It is a common and dangerous conceit of policy makers that they hold the sinews of policy in their hands and may mould them into the shape that satisfies their preferences. Humility is called for. As former French Foreign Minister Hubert Védrine observes, the "foreign office is not the control tower for the government's international relations." It should be beyond debate that the task of Canadian foreign policy outweighing all others is to manage the relationship with the United States. For the last decade there has been no discernable strategy to grasp the inexorable realities of geography. The result is drift in the relationship, generating growing criticism from both the Left, alarmed about the pace of integration, and the Right, anxious that the government has no strategy to harness the forces of integration to Canada's benefit. The United States is entitled to ask serious questions about the Canadian strategy for the relationship. By the time that a renewed Bush or a new Democratic Administration takes office in 2005, Canadian interests require that some coherent answers be offered.

Commentary by Moin A. Yahya[51]

The paper provides an excellent overview and analysis of the challenges that face Canaa generally and the West specifically in dealing with the United States. The paper describes aspects of past co-operation between Canada and the United States, and identifies issues will that face Canada and the West in the future.

In my comment, I will identify some more areas where the West and Canada will face interesting challenges and suggest some avenues for overcoming them. The first is the area of capital markets. While it is important to be able to have free trade in goods and labor, as the authors discuss, it is, in my view, more important that Western Canadians have ample access to financial capital. The high price of oil, for example, means that Western Canada will see a boom in physical investment that necessitates access to financial markets. Relying solely on the Toronto Stock Exchange and our oligopolistic banking sector for capital will not suffice. Rather, access to American (and other) capital markets is a must. For this to happen, restrictions on Canadians' ability to freely invest here and abroad must also be respected. Foreign content restrictions on RRSP accounts, for example, must be eliminated or substantially relaxed.

Building on Hart and Dymond's identification of regulatory divergence as an important challenge, I would like to propose legal divergence in general. By this, I mean the treatment of Canadian companies in American courts, particularly state courts. The experience of the Loewen group in a Mississipi courtroom where a jury awarded a Mississippi plaintiff $500 million against a Canadian funeral home conglomerate is one extreme example.[52] Canadian firms, both small and big, can also be caught by local emotions when facing local juries. For example, Enron and other scandals have made juries less tolerant of defendants accused of fraud, no matter how flimsy the evidence. An accusation of fraud against a Canadian defendant can easily render an outrageous verdict like that against the Loewen group. What solution is there for this? NAFTA's Chapter 11 does provide a mechanism to appeal such verdicts if there is evidence that the verdict was motivated by the defendant's nationality. This is a complicated process and is not always successful, because it is not always easy to show the bias. One solution is for Canada and the United States to agree that all disputes brought in the United States must be adjudicated in United States federal courts where foreign defendants might be treated more fairly. In any event, Western companies must be more aware of the American legal system and be aware of the various traps that await them south of the border. [53]

The challenge of integrated capital markets and legal regimes is one that will ultimately need a political solution. In fact, the softwood lumber and mad cow crises

[51] Moin A. Yahya is Assistant Professor of Law, University of Alberta.

[52] O'Keefe v. The Loewen Group Inc., 91-67-423 (Circ. Ct., Hinds Co., Miss. 1995). See Michael I. Krauss, *NAFTA Meets the American Torts Process: O'Keefe v. Loewen*, 9 Geo. Mason L. Rev. 69 (2000).

[53] The recently enacted Sarbanes-Oxley securities legislation by the Americans is another example of a legal regime that can ensnare Canadian companies.

will never be solved by traditional legal means. Only a negotiated political settlement will lead to long-term certainty and harmony. This means that the federal government must pursue a solution. Ironically, while many of these crises disproportionately affect the West, a political solution requires the exclusive efforts of the federal government. In my opinion, the lack of unified voice in foreign commercial affairs has not been helpful to the West's cause.[54] The Americans have always had a tradition of speaking with one voice on foreign matters. It is unheard of for Kansas, say for example, to pursue its own trade deal with Canada. Yet, in every trade dispute with the United States, each province seems to pursue separate legal and political avenues. This fragmentation and disunity is very harmful. The Western provinces need to collectively lean on the federal government to pursue their interests, as opposed to trying to pursue their own agenda individually. In fact, all the challenges identified by Hart and Dymond will require a political solution, and, as they state, the sooner, the better.

Overall the paper is a very good summary of the progress made by Canada and the United States in integrating their economic systems. It focuses on the key areas where more progress can be made. I hope that my comments have augmented their study

[54] Despite Ralph Klein supporting the United States in its war against Iraq, he was not able to convince the Americans to remove the restrictions on Alberta cattle exports. This, in my view, was not a reflection Premier Klein, but rather a reflection on the American's view of foreign policy that it must be conducted between national governments.

Increasing North-South Economic Integration in Western Canada and Implications for Tax Policy

by Yvan Guillemette and Jack M. Mintz[55]
C.D. Howe Institute

Policymakers are concerned that increased economic integration and openness may restrict their ability to use the tax-transfer system to achieve domestic policy goals. More specifically, some worry that openness may limit the scope for taxation and the ability of governments to redistribute income among citizens and provide the desired amount of public goods and services. To evaluate this concern, this paper provides a look at economic integration between Canada and other countries, particularly the United States, in the context of the free trade experience of the last 15 years. Where possible, the emphasis is on Western Canada.

The first part of the paper presents indicators of the current level of economic integration, as well as the rise in integration that has occurred during the free trade experience of the last 15 years, in three broad markets: goods and services, international capital, and labour. We then use the large body of work in the field of international taxation to discuss the broad implications of rising economic integration on personal and corporate tax policy. As will become clear, a key consideration in tax policymaking is the mobility of the factors bearing a particular tax. Except in situations where greater openness provides opportunities for governments to "export" taxes onto non-residents, globalization and free trade make some tax bases more mobile, resulting in a downward pressure on tax rates and a shift toward taxes on less mobile bases. Less mobile factors can be taxed relatively more heavily, but because taxes impose other economic costs, the overall real tax burden needs to be kept in check as well. Therefore, it will become increasingly difficult for Canada to maintain a much higher level of public spending than its main economic partners, and certainly the mix of taxes used to finance it will have to adapt to a new set of international constraints.

* The authors wish to thank Duanjie Chen for computing the effective tax rates on capital and Danielle Goldfarb for comments.

[55] Yvon Guillemette is Policy Analyst and Jack Mintz is President and Chief Executive Officer, C.D. Howe Institute.

1. Product Market Integration

How have patterns of trade in Western Canada evolved since the passage of the Canada-U.S. Free Trade Agreement (CUSFTA) in 1989 and the North American Free Trade Agreement (NAFTA) in 1994?[56]

1.1 Trade in Goods and Services

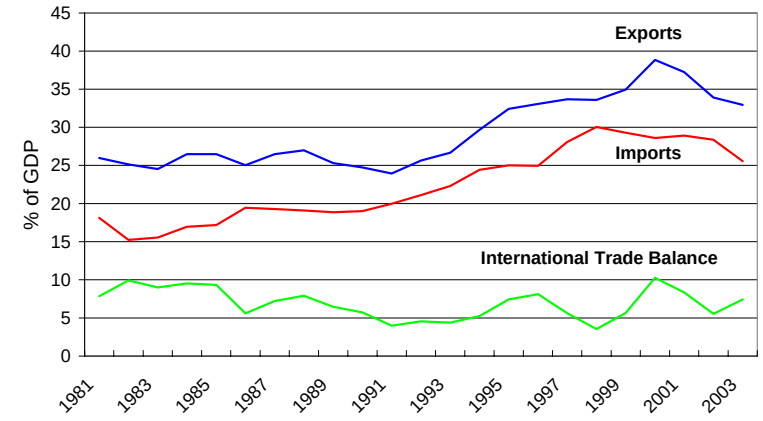
Western Canada, in which we include Manitoba, Saskatchewan, Alberta and British Columbia, has been running a trade surplus with other countries for more than 20 years (Figure 1).[57] Exports were at approximately 25 percent of total Western GDP for all of the 1980s. They picked up in 1991 and steadily increased during the 1990s to reach close to 40 percent of GDP in 2001. Although the pickup in exports seems to follow on the steps of the CUSFTA, the trend also coincides nicely with the steady depreciation in the Canadian dollar that began in 1991 and lasted into the year 2002.[58] It is therefore difficult to tell to what extent the general increase in western exports to other countries (particularly to the U.S.) during the 1990s resulted from trade barriers being reduced under the agreements as opposed to the behaviour of the Canada-U.S. exchange rate. Exports began declining as a share of GDP in 2001, together with the abrupt slowdown of the U.S. economy.

[56] Notice that this is a different question than asking how the agreements have *affected* trade patterns. Answering this question would require a very careful specification of the determinants of trade patterns and related variables for Canada and other countries in order to disentangle the various influences at work. Because our primary objective in this paper is not to isolate the effects of the trade agreements themselves, simple indicators will suffice to show how trade has evolved over the past 15 years.

[57] The data in this section are on a balance of payments concept and include both goods (merchandise) and services.

[58] By 2001, the real value of the Canadian dollar had fallen to 70 percent of its 1990 value. It has rebounded considerably since then, but it is clear that the gyrations of the Canada-U.S. exchange rate have affected the incentives for trade between the two countries. Also, fluctuations in the Canadian currency are driven to a large degree by changes in world real commodity prices, and changes in those prices (albeit somewhat buffered by currency fluctuations) have also affected trade volumes, especially for energy-intensive Western Canada.

Figure 1. International Trade in Western Canada



Source: Statistics Canada - Provincial Economic Accounts

The level of Western imports from other countries remained between 15 and 20 percent of GDP during the 1980s, and, as for exports, began steadily rising in 1991 to reach 30 percent of GDP in 1998. It has since come down slightly, beginning a little before the export slowdown. Contrary to exports, however, the declining value of the Canadian dollar relative to the U.S. dollar made imports in general more expensive, so the structural break of 1991 indicates that the CUSFTA and anticipation of the NAFTA might have been responsible for the rising share of imports in GDP during the 1990s.

Overall, both international exports and imports increased a lot more over the 1990s than during the 1980s. The difference between the two, or the international trade balance, hovered between 5 and 10 percent of GDP over the entire period, with no noticeable structural break or trend. A primary conclusion from this analysis is that international trade integration in Western Canada proceeded at a more rapid pace during the 1990s than during the 1980s, much of it probably attributable to an environment of freer trade in North America, but neither the CUSFTA nor the NAFTA seems to have affected Western Canada's overall international trade balance in a major way. It remains at approximately 7 percent of GDP in surplus today, the same as it was in 1981. In any case, economic theory teaches us that the gains from trade depend on the amount, not the balance, of trade. By this token, the 1990s have been very good years for Western Canada, as both international import and export intensities enjoyed tremendous growth. An interesting question is whether this growth in international trade in Western Provinces came at the expense of interprovincial trade.

1.2 Interprovincial Trade versus International Trade

In a now widely cited paper, McCallum (1995) demonstrated significant home bias in the pattern of Canadian trade. Using a simple gravity model for trade that controlled for distance, trading partner sizes, and a small number of other factors, McCallum found that trade among individual Canadian provinces was twenty times

greater than trade between individual Canadian provinces and similar individual U.S. states. The subsequent literature has somewhat tempered McCallum's estimates and challenged their interpretation, however. Also, his calculations were based on the year 1988, before the CUSFTA. Using data for 1993-to-1996, Helliwell (1998) found that the unexplained home bias had fallen to a factor of twelve.

Table 1 shows that the fall in the effect of the border on trade since the passage of the CUSFTA has continued in recent years. It traces the evolution of interprovincial (with any other Canadian province) versus international trade intensities from the pre-CUSFTA to the post-NAFTA period. Trade intensity is defined as the sum of imports and exports over provincial GDP. Five-year averages are taken to remove some of the year-to-year volatility.

Table 1. Interprovincial vs International Trade Intensity in the Canadian West

		1984-1988	1989-1993	1994-1998	1999-2003
		% of GDP (period averages)			
Manitoba	Interprovincial Trade	60.5	54.8	59.8	65.5
	International Trade	36.2	38.8	56.9	60.4
Saskatchewan	Interprovincial Trade	67.7	61.5	59.3	65.0
	International Trade	46.8	43.8	64.3	66.8
Alberta	Interprovincial Trade	59.4	53.1	48.5	46.3
	International Trade	40.4	44.5	58.4	67.4
BC	Interprovincial Trade	38.6	35.2	32.7	35.5
	International Trade	51.5	48.8	58.7	59.8
West Total	Interprovincial Trade	52.8	46.8	44.3	45.9
	International Trade	44.7	45.5	59.0	63.7

Source: Statistics Canada - Provincial Economic Accounts

The rise in international trade intensity in Manitoba, Saskatchewan and BC since the CUSFTA does not seem to have occurred at the expense of interprovincial trade, because these three provinces had similar or higher interprovincial trade intensities in recent years than they had before the passage of the CUSFTA. Only in the case of Alberta do the statistics suggest some trade diversion away from interprovincial trade. However, Coulombe (2003) examined the same data more formally using an econometric model and rejected the hypothesis of trade diversion in Alberta over the period 1981-to-2000. He found no causal effect going from international to interprovincial trade intensity in the period 1991-to-2000 that followed the trade agreements.

1.3 Sources of Increased International Merchandise Trade

If the rise in international trade in Western Canada did not come at the expense of interprovincial trade, did it mainly occur with North American countries at the expense of other countries? To help answer this question, Table 2 presents international merchandise trade[59] data for each Western province, with trade intensity again defined as the sum of imports and exports over provincial GDP. Data

[59] In this section, we use merchandise trade data (which excludes services), calculated on a customs basis, because they are the only publicly available data with a provincial and country of source/destination breakdown.

only go back to 1990, so they do not allow us to compare to the pre-CUSFTA period. As Figure 1 showed, however, most of the rise in international trade in the West occurred during the 1990s, so the data would still reveal where most of the increase has come from since the beginning of the removal of trade barriers between North American countries.

Table 2. International Trade Intensity in the Western Provinces from 1990 to 2003

Manitoba		1990-1991	1996-1997	2002-2003
		% of GDP (period averages)		
Africa		0.2	0.4	0.2
Eastern Europe		0.0	0.1	0.1
Western Europe		3.2	4.4	4.7
Central America excl. Mexico		0.1	0.1	0.1
South America		0.3	0.7	0.6
Middle East		0.3	0.5	0.2
Asia		3.2	4.2	4.3
Oceania		0.0	0.1	0.2
NAFTA Partners	Mexico	0.1	0.8	1.0
	U.S.	19.6	37.5	41.8
Total Mexico and U.S.		**19.7**	**38.3**	**42.7**
Total Rest of World		**7.4**	**10.4**	**10.5**
Others and/or N/A		0.9	0.3	0.4

Alberta		1990-1991	1996-1997	2002-2003
		% of GDP (period averages)		
Africa		0.3	0.3	0.1
Eastern Europe		0.0	0.1	0.1
Western Europe		1.0	1.8	1.5
Central America excl. Mexico		0.1	0.1	0.1
South America		0.3	0.5	0.3
Middle East		0.6	0.4	0.2
Asia		3.5	4.2	2.7
Oceania		0.2	0.2	0.1
NAFTA Partners	Mexico	0.1	0.3	0.6
	U.S.	21.2	31.9	35.4
Total Mexico and U.S.		**21.3**	**32.3**	**36.0**
Total Rest of World		**6.0**	**7.7**	**5.2**
Others and/or N/A		0.5	0.2	0.2

Saskatchewan		1990-1991	1996-1997	2002-2003
		% of GDP (period averages)		
Africa		0.7	1.7	1.4
Eastern Europe		0.1	0.1	0.1
Western Europe		1.5	3.0	2.8
Central America excl. Mexico		0.3	0.2	0.2
South America		1.0	2.3	1.4
Middle East		1.0	1.8	0.4
Asia		7.9	7.6	5.2
Oceania		0.2	0.4	0.3
NAFTA Partners	Mexico	0.1	0.8	0.7
	U.S.	17.3	30.6	29.6
Total Mexico and U.S.		**17.5**	**31.3**	**30.3**
Total Rest of World		**12.6**	**17.3**	**11.8**
Others and/or N/A		3.0	0.2	0.1

British Columbia		1990-1991	1996-1997	2002-2003
		% of GDP (period averages)		
Africa		0.2	0.2	0.1
Eastern Europe		0.0	0.1	0.1
Western Europe		4.4	3.0	2.5
Central America excl. Mexico		0.1	0.1	0.1
South America		0.5	0.5	0.5
Middle East		0.1	0.2	0.2
Asia		15.3	14.8	16.5
Oceania		0.8	0.6	0.6
NAFTA Partners	Mexico	0.2	0.3	0.5
	U.S.	16.9	23.3	22.9
Total Mexico and U.S.		**17.1**	**23.6**	**23.4**
Total Rest of World		**21.4**	**19.5**	**20.4**
Others and/or N/A		0.1	0.3	0.3

Sources: Strategis' (Industry Canada) Trade Data Online and Statistics Canada (CANSIM).

First, in the case of Manitoba, it is clear that over the past 13 years, trade intensity increased substantially with the rest of North America, more than doubling with the U.S. and increasing tenfold with Mexico. At the same time, trade intensity increased or stayed constant with all other regions of the world, with the exception of the Middle East, with which trade links are marginal. In any case, no other region of the world had lower trade intensity with Manitoba in recent years than it had at the beginning of the 1990s.

Saskatchewan's trade intensity with the United States and Mexico is also a lot stronger now than it was just following the CUSFTA, and trade intensity either increased or remained unchanged with most other regions. Only three regions have seen a fall. For two of them, Central America and the Middle East, the drops are small and from small bases. Asia is the only region with which Saskatchewan's trade intensity is significantly lower today than it was at the beginning of the 1990s.

Moving to Alberta, observations are similar. Oceania, the Middle East and Africa had slightly lower trade intensities with Alberta in recent years than 10 years prior, but the reductions were small and from low bases. Other regions kept the same trade intensities or saw increases, with the exception of Asia, which saw a moderate fall of 0.8 percent of GDP.

British Columbia is different than other Western Provinces in that its trade links with Asia are a lot stronger than in other Western Provinces and they rose slightly over the 1990s. BC's trade intensity with Mexico and the U.S. increased comparatively less than in other provinces and trade intensity with other regions remained quite stable, except with Western Europe where it fell by 1.9 percent of GDP over the period.

Overall, over the backdrop of relatively small shifts in trade patterns with regions outside of North America between the 1990-1991 period and the 2002-2003 period, all four Western Provinces saw substantial increases in trade intensity with the two other North American countries, and none of the four provinces saw anything like a comparable fall in their trade intensity with the rest of the world (all other countries added together except Mexico and the United States, abstracting from the N/As). Manitoba's trade intensity with the rest of the world rose and the three other provinces saw only small reductions, one percent of provincial GDP or less. In the case of Saskatchewan and Alberta, the reason for these small reductions is probably something other than the CUSFTA or the NAFTA, because both had higher trade intensity with the rest of the world in 1996-1997 than in 1990-1991. While there may have been higher increases in Western trade with other countries had it not been of the CUSFTA and the NAFTA, it does not appear that higher trade intensity with Mexico, and especially with the U.S., came at the expense of already existing trade with countries outside of North America – an observation that is inconsistent with the hypothesis of international trade diversion.

In any case, from a product market perspective, the economies of Western Canada are no more integrated today with those of the rest of the world than they were 15 years ago, but they are far more integrated with the U.S. economy.

2. Capital Market Integration

Together with flows of goods and services between countries, the last few decades have seen a tremendous rise in cross-border flows of capital. Although separating the present section on capital market integration from the previous section on trade integration may give the impression that the two phenomena are distinct from each other, this is not the case. Especially in the Canada-U.S. context, direct investment and trade are highly complementary activities. Canadian-based subsidiaries of foreign multinationals are much more trade oriented than their domestic counterparts. The ratios both of imports to sales and of exports to sales are higher for foreign subsidiaries compared to domestic companies, so much so that a relatively compact group of subsidiaries is responsible for a little more than half of

Canada's total merchandise imports and a little less than half of total exports (Cameron, 1998). The same goes for merchandise trade with the U.S.[60] Hejazi and Safarian (1999) confirm this complementary relationship between foreign investment and trade. Not only are American multinationals operating in Canada responsible for much of our international trade, they also account for a very significant share of all production taking place in Canada. In 2001, non-bank majority-owned Canadian affiliates of American companies accounted for more than 10 percent of the gross product generated in Canada and employed over 1 million Canadians, almost 7 percent of all employees in Canada.[61] These proportions have not changed much since 1989.

It goes without saying that foreign multinationals make use of capital markets outside of Canada. For large and global Canadian firms as well, financing options are not limited only to what is offered in Canada. Data show that large Canadian firms have developed the size and reputation to access global capital markets on a cost-effective basis. For example, in dollar value, Canadian corporations raise about half of their bond issues offshore, most recently mainly in the U.S. (Kennedy, 2004). Canadian firms have long taken advantage of opportunities in international equity markets as well. In 2003, over 180 Canadian firms were listed on a U.S., as well as a Canadian, exchange – the largest number of listings of any foreign country on a U.S. exchange (TSX, 2003). In recent years, Canadian interlisted stocks have represented roughly 15 percent of listings, up from 10 percent in the 1980s (Chouinard and D'Souza, 2003-2004).

Cross-border investments are usually distinguished according to whether they are long-term or short-term in nature. Capital provided by long-term investors who have more than a 10-percent ownership of the firm in which they are investing is called direct investment. Other types of cross-border financial flows are classified as portfolio investments.

2.1 Direct Investment

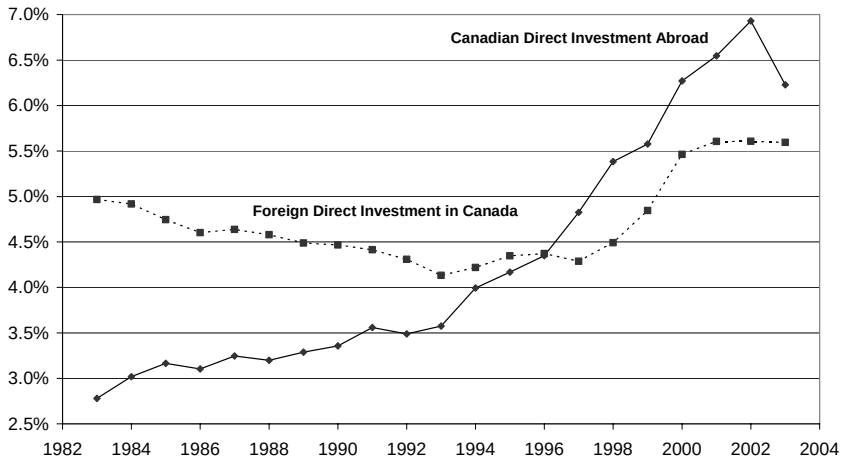
The stock of global foreign direct investment (FDI) grew at an average rate of 14.7 percent per year between 1986 and 1990, 9.3 percent between 1991 and 1995 and at an astounding 16.9 percent per year between 1996 and 2000 (UNCTAD, 2004). Growth in the global FDI stock slowed to 10.6 percent per year on average between 2001 and 2003, together with a slowdown in global economic activity, but the global stock of FDI remained more than three times as large in 2003 as it was in 1990. Canada was an active player in the international investment market, especially on the outward investment side. While the stock of foreign direct investment as a share of total Canadian business assets increased by only 1 percentage point since the passage of the CUSFTA, Canadian direct investment abroad (CDIA) doubled as a share of Canadian business assets over the same period (Figure 2). For the first time

[60] According to Clausing (1998), in 1994, 36 percent of U.S. exports and 43 percent of U.S. imports were of the intra-firm nature.

[61] Source: U.S. Department of Commerce, *Survey of Current Business* (November 2003), various tables. See also Eden (1998).

in decades, Canada became a net capital exporter in 1997 with a stock of direct investment abroad greater than the stock of FDI in Canada.

Figure 2. FDI Stocks as a Proportion of Canadian Business Assets*



**Business Assets refer to Total Assets, Corporations and Government Business Entreprises*

Source: Statistics Canada

It is difficult to establish to what extent this Canada-wide story was replicated in Western Provinces, because direct investment statistics are not available by province. They are available by broad industry groups, however, and because certain industries dominate the economic landscape of Western Provinces, we might be able to draw general conclusions from industry-level data. Industries that are particularly important in the West include 'Wood and Paper', 'Energy' and 'Metallic Minerals and Metal Products", among others. Table 3 shows the stocks of FDI in Canada and the stocks of CDIA in these three industries for 1989 and 2003, along with percentages associated with the U.S. It is clear that inward and outward stocks of direct investment increased substantially during the free trade period, and it is also clear that the United States remained the principal foreign investor. As for CDIA, it generally increased by an even greater factor than FDI in Canada, and although shares invested in the U.S. have diminished significantly since 1989, the U.S remains an important investment destination for these industries.

Table 3. International Investment Position – Selected Industries, 1987–2003

	Foreign Direct Investment in Canada		Canadian Direct Investment Abroad	
Industry	1989	2003	1989	2003
	$ Billions (% U.S.)			
Wood and Paper	7.3 (70.8)	15.2 (66.8)	3.3 (64.3)	8.3 (55.2)
Energy	20.9 (n.a.)	61.7 (n.a.)	6.6 (n.a.)	40.2 (n.a.)
Metallic Minerals and Metal Products	8.4 (n.a.)	21.8 (n.a.)	11.8 (n.a.)	47.7 (n.a.)
Total Energy and Metallic Minerals	29.3 (63.8)	83.5 (70.7)	18.4 (58.9)	87.9 (38.2)

Source: Statistics Canada

Other indicators of capital market integration between Western Canada and other countries are shares of new capital investment by country of control. We only have data for years 2000 to 2002, so it is not possible to assess how the shares have evolved over time, but the data do allow us to say something about levels and therefore about the current extent of integration. As Table 4 shows, the U.S. accounted for approximately 20 percent of all capital investment in the Prairie Provinces over the 2000-to-2002 period and 17 percent in BC. In Manitoba, Saskatchewan and BC, the U.S. alone accounted for more than 3 times the share of capital investment of all other foreign countries combined. In Alberta, countries outside of Canada and the U.S. accounted for a non-negligible 10 percent of all capital investment in recent years. Data not shown here indicate that a lot of it came from the Netherlands, a home country of Royal Dutch Shell Petroleum (also residing in the U.K.), a multinational company with an important presence in Alberta.

Table 4. Capital Investment in Western Provinces by Country of Control, Average 2000–2002

	Capital Investment*	Country of Control		
		Canada	U.S.	Other
	$Billions		*Percent*	
Manitoba	4.4	70.4	22.0	7.6
Saskatchewan	5.7	71.5	22.3	6.2
Alberta	33.1	70.1	19.8	10.1
BC	16.3	78.3	17.2	4.5

Source: Statistics Canada

* Includes construction and machinery. Data for 2001 are preliminary and for 2002 represent planned investments.

It is safe to conclude that Western Provinces have capital markets that are highly integrated with those of the rest of the world, particularly with those of the U.S. More than 60 percent of the stocks of FDI in industries that are especially important in the West originate in the U.S. and they have grown rapidly since 1989. These include the 'Wood and Paper' and 'Energy' industries, in which Canada is still a net capital importer. Moreover, with approximately 20 percent of all new capital investment in the West originating from U.S.-controlled corporations in recent years, it is clear that Western Provinces rely a great deal on their southern neighbour to finance their business capital stock.

2.2 Portfolio Investment

Foreign portfolio investment refers to financial investments that do not result in large ownership stakes (no more than 10 percent) in any one company. Global portfolio investment flows have risen over the past decades as countries have expanded their stock markets, debt has become securitized and financial wealth holdings have risen. According to the IMF, global portfolio investment flows increased to $US1.4 trillion in 2000, up from $US219 billion in 1990. Flows of foreign portfolio investment can be very important to an economy, as they provide equity

and debt capital to local businesses. Table 5 shows the difference in Canada's international portfolio investment position between 1989 and 2003.

Table 5. International Portfolio Investment, 1989–2003

	1989	2003
	$Billions (% U.S.)	
Canadian Investment Abroad	36.0 (81.3)	233.5 (53.8)
Foreign Investment in Canada	211.2 (35.0)	511.4 (62.7)

Source: Statistics Canada

Canadian portfolio investment abroad increased from$36 to $234 billion over the period 1989-to-2003, and while the U.S. share fell, more than half of all Canadian portfolio investment abroad was still in the U.S. in 2003. Foreign portfolio investment in Canada also increased over that period, albeit less rapidly, with the U.S. share rising significantly. In 2003, Americans held more than 60 percent of all foreign portfolio investment in Canada.[62] The conclusion here is that Canadian levels of cross-border portfolio investment are increasingly important, with the U.S. accounting for most of the inward and outward stocks alike.

3. Labour Market Integration

Both the CUSFTA and the NAFTA gave only secondary importance to the international movement of labour as opposed to trade and investment flows. Still, NAFTA expanded on migration arrangements made under the CUSFTA and extended some of them to Mexico. Most noteworthy, it secured the right of skilled professionals in 63 occupations to work temporarily within NAFTA space and guaranteed the existing privilege of intra-company transferees and business travelers to travel between the three countries. Of course, restrictions have been in place on the free movement of people for Canada and the U.S. in relation to Mexico in the presence of large per-capita income disparities. Whether, in the long term, increased trade and investment can raise Mexican GDP per capita enough to make the free movement of people feasible remains to be seen.[63]

3.1 Inflow and Outflow of Temporary Workers

In the meantime, the patchwork of temporary work visas and the new ones created by the CUSFTA and NAFTA may have increased labour mobility in North America – a point worth confirming by data. Once again, it is not possible to disaggregate the available data by Canadian province, so it is not possible to ascertain what has happened in the Western labour market specifically. Under the reasonable hypothesis that trends in Western Canada were similar to those in the

[62] Once again, it is not possible to obtain portfolio investment statistics broken down by province so as to say something specific about Western Canada, but it is likely that Western Canadians followed the same investment patterns with their financial wealth.

[63] The U.S. was planning to ease some restrictions on Mexican immigration prior to September 11, 2001, but security concerns since then have taken the issue off the table.

country as a whole, Table 6 shows flows of temporary workers admitted to the U.S. from Canada for 1989, 1996 and 2002.

Table 6. Canadian Nonimmigrants Admitted as Temporary Workers to the US., Selected Years

Type of Entry	1989	1996	2002
	*Number of admissions**		
Workers with specialty occupations	6,267	4,192	19,866
Intracompany transferees	4,138	7,037	20,320
CUSFTA/NAFTA professionals	2,677	26,794	71,878
Other nonimmigrant temporary workers	n.a.	9,892	21,303
Total	**n.a.**	**47,915**	**133,367**

Source: *The Yearbook of Immigration Statistics* , U.S. Bureau of Citizenship and Immigration Services, various years.

*Numbers reflect admissions, not individuals. In some cases, individuals may have entered the U.S. several times during a year.

As is evident from the table, there was quite a sharp increase in the number of Canadian temporary workers admitted to the U.S. between 1989 and 2002. The rate of increase was much higher than labour force growth in both Canada and the U.S. From a Canadian perspective, freer trade seems to have generated more movement of skilled workers to the United States, although the length of stay for these temporary workers is unknown. Compared to the size of the Canadian labour force, however, such temporary movements remain relatively small.

In sharp contrast, there was a slight reduction in the flow of temporary workers from the U.S. to Canada during the same period (Table 7). But while the number of temporary work permits granted to American citizens decreased, more of them were granted to workers coming from outside the U.S. The NAFTA certainly seems to have had an effect on flows from Mexico: the number of temporary works permits granted to Mexicans hardly changed between 1989 and 1994, but doubled in the post-NAFTA period between 1994 and 2001 (the 1994 statistics are not shown in Table 7). More than 60 percent of all temporary work permits granted by Canada in 2001 were to citizens of countries outside of North America.

Table 7. Flow of Temporary Workers to Canada, Selected Years

Source of Entry	1989	1996	2001
	Number of workers		
From U.S.	24,872	24,105	23,849
From Mexico	5,005	5,716	11,112
From Rest of the World	54,520	41,644	58,102
Total	**84,397**	**71,465**	**93,063**
	% of total flow		
From U.S.	29.5	33.7	25.6
From Mexico	5.9	8.0	11.9
From Rest of the World	64.6	58.3	62.4

Source: Grant and Townsend (2003), based on unpublished *Citizenship and Immigration Canada* data.

What accounts for this asymmetry in flows of temporary workers between Canada and the U.S.? The answer is no-doubt multi-faceted, but Grant and Townsend (2003) hypothesize that the explanation is to be found in the nature of multinational enterprises: "Their need to staff foreign affiliates with senior management and highly-skilled workers is limited given the tendency to locate key functions in the home economy and to the degree that expansion occurs through acquisition of existing enterprises. Moreover, to the extent that highly-skilled workers are required in the host economy, there is a preference for hiring locally rather than employing expatriates." (p. 13)

For the purposes of this paper, it is sufficient to note that labour markets have indeed become more integrated between Canada and the U.S., but that freer North American trade has generated a lot more movements of highly skilled Canadians to the U.S. than of highly skilled Americans to Canada. Work opportunities in the U.S. exert a great force of attraction for certain highly skilled Canadians. Apart from a doubling of temporary work permits granted to Mexicans, the number of temporary works permits given by Canada to Americans and other foreigners hardly changed in the last 15 years.

There are many reasons why labour mobility within NAFTA is likely to go up as economic integration proceeds forward. First, the growth in services trade is expanding rapidly between member countries, particularly in business services. The provision of business services (ex. servicing contract for specialized machinery) often requires sending workers abroad. Second, multinational firms often move staff across borders and the ease with which this is accomplished can affect FDI decisions. With the rise of multinational and FDI activity, we can expect more frequent movements of workers across borders. Third, demographics will soon make it beneficial for Canada and the U.S. to draw on a young Mexican labour force to supplement their aging ones. In the decades ahead, many U.S. and Canadian companies are likely to put pressures on governments to allow more flexibility in the mobility of workers and in labour markets in general within North America. Canada may also have to rely more on 'permanent' immigration in order to alleviate the pressures that a rising dependency ratio will apply on labour markets, public finances and a number of other areas.

3.2 Permanent International Migration

Whether due to the trade agreements or not, two-way permanent international movements of young people have also risen in the Western Provinces during the past 15 years. For each of the four Western Provinces, out-migration of people aged 25-to-44 increased as a share of the population in that age group between the pre-CUSFTA period and the last few years (Table 8). International immigration followed the same upward trend. Except for Saskatchewan in the last few years, however, all four provinces generally receive more international migrants than they lose.

Table 8. International In- and Out-Migration in 25 to 44 Age Group as a Percentage of Population in that Age Group, Selected 3-year Averages

	Direction of Migration	Period Averages		
		1986-88	1992-94	2001-03
		Percent		
Manitoba	In	0.47	0.59	0.64
	Out	0.16	0.27	0.21
Saskatchewan	In	0.27	0.37	0.28
	Out	0.11	0.19	0.29
Alberta	In	0.49	0.81	0.75
	Out	0.25	0.41	0.39
BC	In	0.56	1.42	1.40
	Out	0.20	0.31	0.54

Source: Statistics Canada

Presumably, most international migrants between the ages of 25 and 44 intend to join the labour market of the region they are entering. For many of them, and especially in the case of young Canadians moving abroad, work might even be the primary reason why they chose to migrate. As globalization continues and facilitates the flow of people across borders, as improved means of communication and travel makes it easier for expatriates to keep in touch with friends and family back home, we can expect permanent movements of people between countries to grow in importance over the coming decades. The next section considers the pressures such movements of individuals impose on tax policy.

4. Implications of Increasing Factor Mobility for Canadian Tax Policy

It is commonly thought that increased economic integration and factor mobility creates pressures for tax harmonization between countries, that is, for more similar tax structures. Yet the tax systems of the U.S., Canada and other developed countries differ from one another in significant ways, as Table 9 illustrates by examining the shares of tax revenue collections to GDP.

Table 9. Relative Importance of Major Taxes (% of GDP)

Canada	1980	1990	1995	2001
Personal Income	10.5	14.7	13.4	13.0
Corporate Income	3.6	2.5	2.9	3.5
Social Security	3.3	4.4	5.0	5.1
Payroll and Workforce	-	0.8	0.8	0.7
Property	2.8	3.6	3.8	3.5
Goods and Services	10.1	9.3	9.0	8.7
Total Tax Revenue (incl. other)	30.9	35.9	35.6	35.1

Mexico	1980	1990	1995	2001
Income and Profits	4.8	4.7	4.1	5.3
Social Security	2.3	2.3	2.8	3.2
Payroll and Workforce	0.2	0.2	0.2	0.2
Property	0.3	0.3	0.3	0.3
Goods and Services	8.3	9.6	9.0	9.7
Total Tax Revenue (incl. other)	16.2	17.3	16.7	18.9

United States	1980	1990	1995	2001
Personal Income	10.5	10.1	10.0	12.2
Corporate Income	2.9	2.1	2.6	1.9
Social Security	5.9	6.9	6.9	7.1
Payroll and Workforce	-	-	-	-
Property	2.9	3.0	3.1	3.1
Goods and Services	4.8	4.6	4.9	4.6
Total Tax Revenue (incl. other)	27.0	26.7	27.6	28.9

OECD Average (unweighted)	1980	1990	1995	2001
Personal Income	10.5	10.7	10.0	10.0
Corporate Income	2.4	2.7	2.9	3.5
Social Security	7.4	8.0	9.2	9.4
Payroll and Workforce	0.4	0.4	0.3	0.4
Property	1.6	1.9	1.8	1.9
Goods and Services	10.0	10.8	11.5	11.4
Total Tax Revenue (incl. other)	32.0	34.8	36.0	36.9

Source: OECD Revenue Statistics 1965-2002.

For example, the corporate income tax yields substantially more revenue as a share of GDP in Canada than in the U.S., but the U.S. makes more use of social security taxes than does Canada, and other OECD countries even more so. Canada makes greater use of goods and services taxes than the U.S., but less than the average OECD country. The total share of national income diverted to governments through taxes is also much higher in Canada and other OECD countries than in the U.S. Notice how these observations were true of the year 2001, but were also true of the year 1995 or 1990, despite increased economic integration since then. The point is that economic integration does not necessarily force uniformity in fiscal systems. This is the case for several reasons, as the following very brief survey of the main lessons from the international tax literature will explain.

4.1 Lessons from the International Tax Literature[64]

The first important lesson, dating back to Tiebout (1956), is that to the extent that tax differences are matched by fiscal benefit differences, there is no incentive for factors to move unless the benefits can be retained while the taxes are reduced by such movements, for example through income shifting.[65] The argument was first made with respect to individual mobility, but it applies equally well to capital. The

[64] This section draws on Boadway and Bruce (1992) and Gordon (1992).

[65] In the case of firms, the possibility of income shifting means that benefits received by firms must be somewhat conditional on taxes paid.

key insight is that individual movements give rise to inter-jurisdictional externalities. The externalities depend on the degree to which an individual pays an amount in taxes that differs from the costs the individual imposes on the jurisdiction, whether in the form of increased costs of public services or increased congestion. This applies in both the sending and the receiving jurisdiction. When a community gains on net from the presence of a certain category of individuals, the community has an incentive to encourage immigration of individuals in that category; the converse is also true. This competitive pressure pushes the tax system toward a benefit-tax structure in which the net gain to the jurisdiction from acquiring or losing an extra individual is competed down to zero. At that point, individuals simply pay for the costs they impose on the community. Competition for individuals who provide a net fiscal gain to the jurisdiction therefore reduces the degree to which the fiscal system can redistribute from rich to poor and pushes toward a benefit-tax system.

But the resulting tax structure cannot simply equate benefits and tax payments in present value over the lifetime, because individuals can remain in the country during those periods when they gain on net, and leave when they lose on net. Therefore, even the timing of taxes would be pushed to coincide with the timing of benefits. An illustration is provided by public subsidy of higher education, which tends to redistribute from income later in life (through taxes on higher salaries) toward the schooling period earlier in life. Currently, students can easily benefit from low tuition and preferential loan agreements when they are young and move to a lower tax jurisdiction once they have graduated.

In addition, the Tiebout conclusion rests on the assumption that jurisdictions can use non-distortionary lump-sum taxes to finance public programs. If they cannot, then efficiency costs to taxation will prevent them from offering a public services value equivalent to the tax revenue raised. At the very least, jurisdictions that choose to offer more extensive public services using distortionary taxes have to use as efficient a tax mix as possible, so as to minimize the welfare costs to taxation.

Which tax system would best approximate a benefit-tax structure depends on the composition of public expenditures. If consumption of public services roughly corresponds with consumption of private goods, then a flat consumption tax or value-added tax (VAT) may closely approximate a benefit tax. Differences in social security, payroll and workforce taxes levied on a residence basis and at a flat rate are also unlikely to prose problems, because they are relatively efficient economically and they conform fairly well to the benefit principle. User fees certainly approximate a benefit tax (ex. higher tuition fees for students). Such taxes tend to be regressive, however, so less equitable and therefore potentially unpopular. Property taxes are relatively efficient, but it is not clear how well they conform to the benefit principle. Also, because property taxes are usually assigned to lower levels of government, it makes it difficult to increase them to reduce other taxes because property is quite mobile within Canada and can move to other jurisdictions.

Another reason why different income tax structures can be sustained across countries is that most countries, including Canada, levy their personal income tax on the worldwide income of their taxpayers, as determined by residence. In addition, although mobility of workers is increasing, especially at the high-skill end of the spectrum, overall there remains considerable immobility of persons across national

borders. Thus, for a large number of citizens, the personal tax system exhibits 'factor export neutrality', that is, there is no incentive for taxpayers to locate their factors of production – for example portfolio investment – on the basis of differing tax systems because they are subject to the same domestic taxes on all income.[66]

The foregoing observation leads to two of the fundamental insights from the international tax literature on economic integration and tax policy. The first relates to the relative mobility of tax bases: with "tax base flight", the more internationally mobile a certain tax base is, the more difficult it will be to tax and retain it within a nation's borders. The second insight is that increased factor mobility provides opportunities for governments to "export" taxes onto non-residents by taxing factors that are wholly or partially owned by non-residents, creating upward pressure on tax rates. Which of the two effects dominates depends on the "market power" of a given country with respect to different tax bases. When a country has little or no market power, as in export markets or low-tech manufacturing for example, the "tax base flight" effect dominates and the pressure is for a country to reduce rates.[67]

To further illustrate the importance of relative tax base mobility with some degree of realism, consider a standard tax competition model with three factors of production in a small open economy (so no "market power" exists in international markets). Let us call these three inputs capital, high-skill labour and low-skill labour. Both types of labour are complementary to capital in production. The government introduces a tax on two of these three inputs in order to finance cash or in-kind transfers for another.[68] Suppose that the government redistributes to low-skill labour by taxing capital income at source and by taxing the wages of high-skill labour. If all three factors were immobile and perfectly-inelastically supplied, then this tax-transfer policy would have no allocative consequences. Suppose, however, that capital is freely mobile and high-skill labour moderately so. Both capital and high-skill labour can earn a given net rate of return/wage in the rest of the world. If the local economy is small relative to the rest of the world, then the redistributive policy cannot affect the net rate of return to capital; rather, it will drive capital out of the local economy until the before-tax rate of return rises sufficiently to offset the local tax. Correspondingly, it will reduce the derived demand and wages of high-skill labour in the local economy and increase the average tax rate on their personal income. Some high-skill labour will migrate to other countries. In this case, the tax-transfer policy does have real allocative consequences – the local economy ends up with less capital and somewhat less high-skill labour, but remains with the same amount of low-skill labour because they are assumed immobile. That is, each factor of production (and potential tax base) leaves the country in a proportion inversely related to its tax elasticity.

[66] The statement is true to the extent that bilateral tax treaties between Canada and other nations are broadly similar. In addition, we abstract here from any difference in the ability to evade taxes on foreign and domestic income.

[67] See Gordon (1983) and Mintz and Tulkens (1986); who spell out different fiscal spillover effects between jurisdictions that engage in tax competition.

[68] This thought experiment is adapted from Wilson and Wildasin (2004).

Notice that this tax-transfer policy would still benefit low-skill labour by financing fiscal transfers in their favour, but it would reduce the aggregate net income accruing to both types of labour by driving capital and high-skill labour from the local economy. The precise distributional effect of this policy between the two types of labour would depend on the exact complementarity relationship between capital and each type of labour. It is possible, but not necessary, that the policy would, on net, harm low-skill labour by reducing their gross income by an amount greater than any transfer they receive.

The conclusion here is that even if a factor is taxed on the basis of the source of its income and even if it is perfectly mobile between different tax jurisdictions, different tax rates can still be imposed – they just may not have the intended effects. In the example above, if the purpose of the higher tax was to raise more revenue from owners of capital, the tax does not achieve its objective, because the tax is shifted to non-capital (and non-internationally mobile) factors.

4.2 Comparing Personal Income Taxation in Canada and the U.S.

As section 3 suggested, in the U.S.-Canada context, highly skilled individuals are the most internationally mobile. Lower-skilled labour in Canada remains relatively immobile and less responsive to international tax considerations. In addition, young highly skilled individuals tend to be net contributors to the fiscal system and are most likely to be tempted by work opportunities in the U.S.

Because Canada follows the residence principle for personal income taxation, individuals, except certain professionals working for national partnerships (law and accounting for example), cannot allocate a portion of their personal income across jurisdictions – it is an all or nothing proposition. Therefore, as the preceding example noted, for individuals' decisions as to where to work, it is the average effective tax rate that matters.

The high complexity of personal income tax systems, with their progressive bracket structures and a plethora of tax credits, deductions and base differences, makes a comparison of effective personal tax rates difficult, however. Instead, and because presumably average tax rates are higher where marginal tax rates are higher, Table 10 shows the combined marginal income tax rate that a typical mobile high-skill worker (assumed to earn approximately $70,000 in Canadian or U.S. dollars) would face on their employment income for each of the four Western jurisdictions, the 50 U.S. states and Washington D.C.

Table 10. Combined Federal andProvincial/State Marginal Personal Income Tax Rate on Employment Income for Earners with Taxable Income of Approximately CAN/US $70,000; 2004

Rank	State/Province	Rate (%)	Rank	State	Rate (%)	Rank	State	Rate (%)
1	**Manitoba**	43.4	20	New York	34.9	39	Maryland	32.8
2	**Saskatchewan**	39.0	21	Nebraska	34.8	40	Arizona	32.7
3	Montana	38.0	22	New Mexico	34.8	41	Colorado	32.6
4	**British Columbia**	37.7	23	Oklahoma	34.7	42	North Dakota	32.3
5	California	37.3	24	West Virginia	34.5	43	Michigan	32.0
6	Oregon	37.0	25	Wisconsin	34.5	44	Indiana	31.4
7	Washington D.C.	37.0	26	Kansas	34.5	45	Pensylvania	31.1
8	Iowa	37.0	27	Georgia	34.0	46	Illinois	31.0
9	Maine	36.5	28	Kentucky	34.0	47	Alaska	28.0
10	Vermont	36.5	29	Louisiana	34.0	48	Florida	28.0
11	Hawaii	36.3	30	Missouri	34.0	49	Nevada	28.0
12	**Alberta**	36.0	31	Delaware	34.0	50	New Hampshire	28.0
13	Minnesota	35.9	32	Virginia	33.8	51	South Dakota	28.0
14	Idaho	35.8	33	New Jersey	33.5	52	Tennessee	28.0
15	North Carolina	35.8	34	Massachusetts	33.3	53	Texas	28.0
16	Rhode Island	35.8	35	Ohio	33.2	54	Washington	28.0
17	Arkansas	35.2	36	Alabama	33.0	55	Wyoming	28.0
18	South Carolina	35.0	37	Connecticut	33.0			
19	Utah	35.0	38	Mississippi	33.0			

Source: PriceWaterhouseCoopers (2004). U.S. Rates do not take into account the deductibility of state taxes for federal tax puposes, which would reduce the rates shown; and the full or partial deductibility of federal taxes for state tax purposes, which would reduce the rates shown for Alabama, Iowa, Louisiana, Missouri, Montana, North Dakota, Oklahoma, Oregon and Utah. See source for details.

Western Canada appears as a high personal tax region: Manitoba, Saskatchewan and British Columbia all rank within the 5 jurisdictions with the highest combined marginal personal tax rates. Moreover, if the table took account of the fact that the state of Montana allows some deductibility of federal taxes for state tax purposes, those three Western Provinces would occupy the 3 top ranks in the table. Other Canadian provinces, such as Ontario and Quebec (not shown in Table 10), do rival the tax rates found in Manitoba and Saskatchewan. This is to be expected, because labour mobility across provinces remains much higher than North-South mobility. One well-know implication is that the role of redistribution in Canada should be largely confined to the federal government. As North-South labour market integration proceeds, however, provinces will increasingly have to look to the south and evaluate the competitiveness of their personal tax systems for mobile high-skill workers. While it is true, as we said above, that public provision of certain services somewhat alleviates the disincentive effect of high marginal tax rates, young mobile individuals tend to be minimal users of such public programs. Therefore, the 'alleviating' effect of public spending might be particularly weak for those workers, and be overcompensated by the professional opportunities available to them in the U.S.

4.3 Preliminary Conclusions

The above discussion suggests the extent to which economic integration forces Canada to harmonize its personal income tax with other countries and in particular with the U.S. As long as people remain relatively immobile across national borders, residence-based personal income tax systems can be quite differentiated, especially as they pertain to labour income. As we just saw, even in the case of personal capital income, the small size and openness of Canada effectively segments the supply (savings) and the demand (business investment) sides of Canadian capital markets. Canadian personal taxes on savings therefore have a limited influence on the level of business investment in Canada and can be quite differentiated from those of other countries. Any distortions they create mainly affect the market for savings in Canada and, correspondingly, the relative incentives for work, saving and leisure that Canadians face. It is *marginal* personal income tax rates that especially matter for work incentives. The higher they are, the lower the incentives to work – that is, unless they are high and progressive enough to create substantial differences in *average* personal income tax rates compared to competing jurisdictions. Large differences in average effective personal income tax rates create incentives for people to move their residence altogether. Therefore, greater mobility of highly skilled labour will increasingly force Canada to keep average personal tax rates on high-income persons from being too differentiated from those of the U.S. in order to prevent fiscally-induced migration.

The increasing mobility of people across the Canada-U.S. border also has implications for sales and excise taxes, especially for products with high value but little weight or volume. As Canada found out in 1994 when the steep tax hikes on cigarettes introduced to discourage smoking proved ineffective and had to be revoked because of their ineffectiveness due to smuggling from the U.S., the possibility of cross-border shopping places a ceiling on sales and excise tax rates on tradables. With some airports becoming huge shopping centres, major shopping outlets close to the Canada-U.S. border, the rise of Internet purchases along with mail and phone-order shopping, such ceilings are bound to become more binding.

While international integration pressures on personal income and sales taxes are important, they are strongest with respect to corporate income taxes. We devote the next section to the corporation income tax.

5. Implications of Economic Integration on the Corporate Income Tax

Tax policies related to mobile multinational corporations are driven by two important and sometimes competing objectives: domestic economic growth and job creation on the one hand, and protection of the Canadian corporate tax base on the other. International realities over which Canadian policymakers have little control constrain the policy options of Canadian governments. A major theme of this section is that increasing capital market integration between Canada and other countries has rendered those constraints more binding than they used to be. Their challenge is to strike a balance between facilitating international trade and investment through a neutral and competitive tax system while protecting the domestic tax base that supports public-sector activities.

5.1 A Primer on the International Tax Treatment of Capital Income

In most countries, including Canada and the U.S., a corporation's income is directly subject to tax in the country in which it is located (source country), under the corporate tax. If the owners of the corporation reside in the same country, then they are taxed as well on the income they receive from the investment under the personal income tax. For foreign owners of the firm, however, the treatment is more complicated. Payments are usually first subject to a withholding tax in the source country. If the owner is an individual, the pre-withholding tax income is then taxable in the home country, but with a credit for any withholding tax under the existing treaty arrangement between the two countries in question. If the owner is a corporation, the pre-corporate tax income underlying the payment is subject to tax in the home country, but with a credit for any corporate income and withholding taxes already paid on this income, again depending on the bilateral treaty negotiated between the two countries involved.[69] Finally, payouts to the ultimate dividend owner are also taxed. These international tax arrangements imply that corporations are effectively taxed on a source basis, as opposed to individuals, who are in principle taxed on a residence basis.

Canada has negotiated over 80 bilateral international treaties with foreign countries, including almost all of our important trading and investment partners. Treaty agreements set the (reduced) rates of withholding tax for payments of dividends, interests, rents and royalties to non-resident corporations and shareholders. They also modify the taxation of cross-border income in a number of significant ways, primarily to reduce double taxation.

[69] In all cases, the credit is non-refundable, so it is limited to the amount of taxes due in the home country on that income.

5.2 Capital Tax Competition – A Bit of Theory[70]

The standard tax competition[71] model, introduced above in the 3-factor example, considers a world with many identical countries, each playing host to competitive firms producing a single output by means of a fixed stock of mobile capital and an immobile factor in fixed supply. The latter could be interpreted as land or labour, and may give rise to pure profits. It is assumed that each country's supply of a public good is financed entirely by a tax on capital employed within its borders (source tax). Tax policy affects the distribution of the world capital stock, that is, real physical assets in the form of buildings, machinery and equipment. The fundamental insight of the standard model is that a rise in the capital tax rate of one region benefits other regions by increasing their capital supplies and, hence, their revenues. Put differently, a tax increase in one region causes a positive fiscal externality for other regions. However, the government in each region neglects these externalities, because it is only concerned with the welfare of its own residents. The end result is that taxes are set too low resulting in underprovision of public goods levels, that is, an increase in all tax rates at the same time by a small amount would increase public goods supplies and hence welfare in all regions.

The standard model is highly stylized and incorporates a number of strict and unrealistic assumptions. A number of theoretical contributions have investigated how relaxing those strict assumptions affect the main conclusion. Refined models have allowed for a variable supply of capital, multiple tax instruments, foreign ownership, public input goods, public goods spillover effects, large regions (with influence on the equilibrium return to capital) and a number of other assumptions that added to the standard model's realism.

Some recent models, incorporating commitment problems, competition for firms (i.e. investment in large increments of capital), agglomeration economies and imperfect competition, show that tax rates need not converge to zero and that different regions can tax capital at different rates. On the last point for example, one finding is that small countries, because of higher elasticity of capital, find it in their interest to cut rates more deeply (Kanbur and Keen, 1993).

Public choice theorists have also taken a crack at modeling the effects of tax competition between countries. Using various 'Leviathan models' in which governments are concerned in part with maximizing the size of the public sector, the public choice literature challenges the notion that competition to attract capital is harmful. The basic idea is that competition reduces the rent-seeking activities of government officials and may force a more efficient use of public funds. In other words, the total size of government would be excessive in the absence of tax competition.

Some tax competition models even predict that tax rates may increase as competition intensifies and they have shown that corporate tax rates can in some

[70] This section draws on Janeba and Schjelderup (2003) and Slemrod (2004).

[71] Tax competition is defined as non-cooperative tax setting by independent governments, under which each government's policy choices influence the allocation of a mobile tax base among regions represented by these governments.

circumstances be too high. Again, the key point is that taxes can be exported – the burden being imposed on non-residents (see Mintz and Tulkens, 1986 and Haufler, 2001). For example, because tax arrangements between many countries allow multinational corporations to credit host-country withholding tax against corporate tax in the home country, the home country government can bear an increase in the corporate tax rate of the host country. Another instance is when corporate taxes lead to higher export prices on goods and services because a country has a significant share of production in international markets.

Whenever individual regions have some ability to tax away the returns earned by foreign investors, tax exporting may occur and taxes may be set inefficiently high unless competition for mobile factors limits this tendency. A somewhat opposing consideration arises in cases where foreign-owned assets generate pure profits. As argued by Mintz and Tulkens (1996), if pure profits could be isolated, this would be an efficient base for corporate taxation. Notably, several recent proposals for reforming corporate taxation, including cash flow taxes, are aimed at taxing only the 'rent' element of corporate profits. If successful, they collect revenue but levy a zero tax at the margin on new investment. Income from extracting natural resources, for example, is likely to have a large rent component, so corporate taxation of firms in the extraction business may be relatively efficient. Western Provinces, with a high level of foreign ownership in extraction activities, may be particularly tempted to tax immobile factors of production in resource sectors.[72] This would be an occurrence of tax exporting that, at least from the perspective of Canada, would score well on the efficiency scale.

A reasonable assessment of the literature is that it is divided in its view on capital tax competition: taxes may or may not fall, but it is not always a race to the bottom, nor is a fall in tax rates always bad. The general lesson appears to be that capital tax competition causes regions to reduce their taxation of mobile factors relative to immobile factors, and that a significant amount of tax exporting may occur where inelastic tax bases are partially owned by foreigners, especially if they generate economic rents. Once more, the key concept is the mobility of the tax base bearing the tax. Potential responses by multinational corporations to differing business tax systems across countries can be classified along two broad tax bases, one virtual and one real. The virtual base refers to 'accounting' movements of taxable income between parent and subsidiaries between countries. The second base refers to 'real' movements of actual physical assets. We examine the two in turn.

[72] There is an argument that firms making foreign direct investments in other countries must have some firm-specific assets that generate rents for them, otherwise domestic companies would have a natural advantage. According to this view, the mere existence of FDI may be taken to imply that the profits accruing to such operations must contain a rent element (Bird, 1986; Sorensen, 1995). Furthermore, as Bird (1996) emphasizes, if the host country doesn't tax the profits earned by foreign investors, the home country likely will.

5.3 International Movements of Reported Corporate Income

As we discussed above, the multitude of reciprocal tax treaties linking Canada with other countries signifies that corporation income taxes are effectively levied under the source principle. Because the corporation can manipulate the source of income, both in actuality and according to accounting records, differences in corporate tax systems can give rise to considerable cross-border tax shifting. Tax shifting arises from financial restructuring as well as through transfer pricing, and for these arrangements, statutory rates matter. Financial restructuring for tax purposes occurs for example when firms shift debt from countries with low tax rates to those with high tax rates to increase the tax value of interest deductions. Transfer pricing means setting prices on purchases from and sales to foreign affiliates too high or too low in order to effectively move taxable income between countries, that is, shift profits to low-tax countries.[73] For example, if an Ireland-based corporation overbills its Canadian subsidiary for materials purchased, it has in effect shifted profits from high-tax Canada to lower-taxed Ireland.

The existence of these strategies implies that profit is the most elastic tax base available to a treasury; in other words, even a small increase in statutory corporate income tax rates over that of other countries can lead to a large erosion of the corporate tax base. Therefore, Canada should aim for low statutory corporate income tax rates and broader bases, or at least, for statutory rates that are not too far apart from those of competing U.S. states. Table A-1 in appendix shows the eight principal U.S.-trade-partner-states for each of the four Western Provinces. Presuming that states that trade the most with a given province do so to a large extent through multinational enterprises, then those states give us a good idea of which U.S. jurisdictions Western Provinces are competing with when it comes to the allocation of profits between parent and subsidiaries. Table 11 shows the top statutory corporate income tax rate for the fourteen states with the largest trade intensities (from Table A-1) along with those of the four Western Provinces. The states of Washington, Texas and Wyoming do not have a corporate income tax. Apart from them, only Michigan and Illinois have rates lower than some Western Provinces and the rates are generally very close. Therefore, it appears that tax base flight on the basis of statutory corporate income tax rates is not a major concern for Western Provinces relative to the US.

[73] See Jog and Tang (2001) and Mintz and Smart (2004) for empirical studies related to income-shifting. Jog and Tang examined Canadian and foreign-controlled multinational debt-shifting and suggested that a point-increase in the tax rate would increase the tax base by 11 percent. Mintz and Smart examined provincial tax competition in Canada and found that the tax base would rise by close to 8.5 percent for each point increase in the corporate tax rate for multi-jurisdictional companies that do not allocate corporate income at the national level.

Table 11. Top Statutory Corporate Income Tax Rates (Federal + Province/State) for 2004, Western Provinces and Main U.S. Trade Partners

	Corporate Income Tax Rate	Flat Rate?
Pennsylvania	41.5	Yes
Minnesota	41.4	Yes
California	40.7	Yes
Wisconsin	40.1	Yes
New York	39.9	Yes
North Dakota	39.6	No - 6 brackets
Montana	39.4	Yes
Oregon	39.3	Yes
Tennessee	39.2	Yes
Saskatchewan	39.1	Yes
Illinois	38.1	Yes
Manitoba	37.6	Yes
Michigan	36.2	Yes
British Columbia	35.6	Yes
Washington	35.0	-
Texas	35.0	-
Wyoming	35.0	-
Alberta	33.9	Yes

Source: PriceWaterhouseCoopers (2004) and Federation of Tax Administrators (2004). The U.S. rates are adjusted for federal deductability of state corporate taxes.

However, multinational tax planning operates beyond the North American border and both Canada and the U.S. have relatively high corporate income tax rates compared to many other countries – Ireland (12.5 percent), Singapore (22 percent), Hungary (18 percent), the UK (30 percent), Sweden (28 percent) and Barbados' offshore regime (1 percent). Thus, while Western Provinces' corporate income tax rates are competitive with U.S. rates, income-shifting is a greater concern when considering other jurisdictions where service and financing operations could be located.

5.4 Corporate Taxation and the Location of Business Activity

While less mobile than accounting profits, the residence of a corporation is far more flexible than that of individuals, so firms can move the physical location of their facilities, including corporate headquarters, manufacturing plants, R&D facilities, etc. to the most economically attractive location. Already existing assets may be fairly immobile, but by location of business activity we also mean firms' decisions as to where to locate new investments. For location decisions, it is more than the statutory corporate tax rate, but the overall cost of doing business that matters.

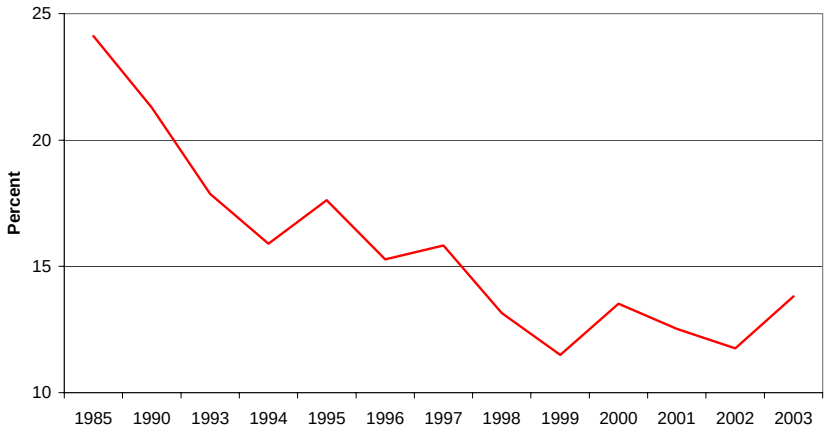
5.4.1 Attracting Foreign Direct Investment

One type of business capital that is especially mobile internationally is that financed by foreign direct investment (FDI). Indeed, much empirical research in recent years has demonstrated that FDI is becoming more sensitive to relative levels of taxation across countries. In a compilation of studies on the issue, Hines (1999) concluded: "recent evidence indicates that taxation significantly influences the location of FDI". A study by Rosanne Altshuler, Harry Grubert and Scott Newlon

(2001) found that U.S. multinationals became more sensitive to taxes on FDI between 1984 and 1992. For 1992, their results suggest that countries with tax rates 10 percent higher than those of other countries received 30 percent less U.S. FDI, controlling for other factors. Another study by the IMF found strong evidence that direct investment flows are affected by tax systems (Gropp and Kostial, 2000). The study showed that lower-tax countries had larger inflows of FDI than did the higher-tax countries examined. Four European countries with favourable tax regimes – Ireland, the Netherlands, Luxembourg and Switzerland – accounted for 9 percent of European GDP but attracted 38 percent of U.S. FDI to Europe between 1996 and 2000. An even more recent study analyzed bilateral FDI flows across 11 OECD countries for the 1984-to-2000 period and, after controlling for country size, distance and market potential for each country-pair, found that relatively high corporate taxation discouraged FDI inflows (Bénassy-Quéré et al., 2003). The most comprehensive study to date found that each percentage point increase in the corporate tax rate causes the stock of FDI to fall by 3.3 percent (de Mooij and Ederveen, 2003).[74] For example, the current stock of FDI in Canada is $360 billion — that estimates signifies that an increase in the effective tax rate by one percentage point would cause FDI in Canada to decline by $11.9 billion.

According to data from the United Nations Conference on Trade and Development (UNCTAD), the U.S. has fared much better than Canada in attracting businesses from third party countries. While the share of the world's stock of FDI located in North America (including Mexico) remained stable at approximately one quarter over the past 20 years, Canada's share of North American FDI fell significantly. Canada was home to almost a quarter of all North American FDI before the CUSFTA agreement was signed in the mid-1980s; by 2003, its share had decreased to less than 14 percent (Figure 3). Both Mexico and the U.S. saw their share of North American FDI increase during that time. What can account for this poor investment performance?

Figure 3. Canadian Share of the North American Stock of Foreign Direct Investment, 1985 to 2003



Source: UNCTAD

[74] The authors provide a comprehensive analysis of 25 studies on taxation and foreign direct investment.

5.4.2 Effective Tax Rates on Capital – Still Higher in Canada

A useful indicator to compare the attractiveness of investment climates across jurisdictions is the effective tax rate on capital, measured as the amount of taxes paid as a percentage of the return earned on a marginal investment project.[75] The marginal project is one that earns a sufficiently high after-tax rate of return on investment that it covers the cost of financing. For example, if a project earns a pre-tax rate of return on capital of 10 percent and corporate income, capital and sales taxes on capital components account for 40 percent of profits, then the after-tax rate of return on capital is 6 percent. If investors require a 6-percent return on investment or less, the project would be funded. Therefore, the effective tax rate on capital incorporates not only the influence of the statutory corporate income tax rate, but also the influence of capital cost allowances (depreciation deductions), investment tax credits, inventory and financing expenses, capital taxes, sales taxes on capital inputs and other features of the corporate tax burden (Chen and Mintz, 2003).

Effective tax rates on capital have fallen in OECD countries in recent years, but not as much as statutory rates since many countries have been broadening the tax base by scaling back accelerated depreciation, investment tax credits and other tax incentives. Effective tax rates have fallen more in other developed countries than they have in Canada, however, which may explain our poor performance in attracting FDI.

Notice that such statutory tax rate competition – for corporate profits, as opposed to competition for real capital expenditures like structures and machinery – is consistent with theory. As discussed above, corporate profits are highly mobile as a tax base and their allocation depends mainly on statutory corporate tax rates. Machines and buildings are less mobile, so governments have lower incentives to compete for them fiscally.

Canada's main competitor when it comes to attracting foreign investment is unavoidably the U.S. Unfortunately, despite our relative advantage with respect to statutory corporate income tax rates (as shown in Table 11 for Western Provinces), effective tax rates on capital for large corporations are still significantly higher in Western Provinces than in the U.S., except for Alberta (Table 12).

[75] Ideally, effective tax rates on capital would be calculated net of public subsidies and programs that lower the cost of doing business – examples include government expenditure on infrastructure and subsidy to business R&D expenditure – to produce what has been called 'effective tax rates on costs'. For example, if a given country's taxes increase the costs of doing business by 12 percent, but that some of the public programs financed by these taxes reduce the costs of doing business by 2 percent, the effective tax rate on costs would be 10 percent. Mintz (2001a) pioneered and presents such calculations for Canada with comparisons to the U.S. They are conceptually and practically more difficult to calculate, however, and we do not have enough province- and state-level results to present here.

Table 12. Effective Tax Rates on Capital Investments for Medium- and Large-Sized Companies, 2004

	Western Provinces	Selected U.S. States	
		Accelerated Depreciation	No Accelerated Depreciation
		Percent	
Manitoba	35.3		
Saskatchewan	37.2		
Alberta	24.2		
British Columbia	29.0		
California		22.3	25.9
Georgia		21.1	24.8
Illinois		22.6	26.2
Massachusetts		25.0	28.3
Minnesota		22.6	26.2
Michigan		22.7	26.2
Washington		20.8	24.4
U.S. Aggregate		22.2	25.8

Source: International Tax Program, Rotman School of Management, University of Toronto. See Chen (2000) for more details on the concepts and mechanics behind effective tax rates on capital. Note that the rates do not take into account Canadian property taxes. U.S. rates are shown with and without bonus depreciation since the provision is scheduled to expire.

As Chen and Mintz (2004) explain, this is the case for several reasons: (i) lower depreciation allowances are provided compared to the U.S., which offers a 50-percent bonus depreciation for shorter-lived assets (phased out after September 2004); (ii) more generous inventory cost deductions in the US compared to Canada[76]; (iii) Canada has higher capital taxes (Alberta and BC have eliminated them but not Saskatchewan and Manitoba), and (iv) Canadian provinces have somewhat higher retail sales taxes on capital inputs than U.S. states (no such tax applies in Alberta only of the four Western Provinces). As this list demonstrates, responsibility for the Canadian tax disadvantage is shared between the federal and provincial levels. Federal and provincial governments need to work together to lower the burden of taxation on Canadian corporations.

[76] The US allows companies to use Last-In-First-Out (LIFO) accounting for inventory costs under the tax system while Canada requires First-In-First-Out accounting (FIFO). LIFO provides a higher cost deduction since the inventory price used by the company is based on the last inventory introduced to the stock rather than the oldest inventory under FIFO.

6. Conclusions and Lessons for Policymakers

The mobility of goods, capital and people across national borders has been rising at a rapid pace throughout the developed word during the past 10-15 years. In Canada, the international economic integration trend has mostly manifested itself in greater North-South factor mobility with the United States. Among the three broad types of factors discussed in this paper, North-South goods trade has increased the most since the passage of the CUSFTA in 1989. In and of itself, freer trade in goods has limited implications for the design of tax systems. It is an entirely different story when it comes to the movement of people, particularly skilled workers, and the movement of capital, particularly FDI.

On the latter, attracting and retaining increasingly mobile domestic and foreign business capital requires that the cost of doing business in a jurisdiction be competitive with the cost of doing business in competing jurisdictions. As we just saw in the case of Western Canada, this is not currently the case. Effective tax rates on capital for large corporations in Manitoba, Saskatchewan and British Columbia are still significantly above those of competing U.S. states. By lowering effective corporate tax rates on capital, tax-sensitive business could be lured away from foreign economies and into Canada, bringing in their wake not only additional revenues but also growth, employment and wealth. This is a particularly attractive option for Canada, with relatively little domestic tax base to lose and a lot of foreign tax base to win, particularly given our proximity to the large U.S. market and its easy accessibility through the free-trade environment. Unfortunately, however, just the opposite has been happening: Canada has seen its share of North American foreign investment decline for over 20 years.

Second, once investments are made and businesses generate profits, it is important to minimize the extent of tax shifting and preserve the Canadian corporate income tax base. To do so, combined federal and provincial statutory corporate income tax rates should be further reduced, not just below those of competing U.S. states – which they now are – but to create a greater Canadian advantage to shift income from the U.S. and other countries into Canada. Lowering Canadian statutory tax rates below those of competitor countries and regions might even increase the corporate income tax base by attracting profits from abroad. Other specific corporate tax reforms that would increase the competitiveness of the Canadian business environment include giving more generous capital cost allowances for new investment, eliminating remaining capital taxes at the federal level and in provinces such as Manitoba and Saskatchewan, harmonizing provincial retail sales taxes in BC, Saskatchewan and Manitoba with the federal GST to reduce the taxation of capital inputs and eliminating withholding taxes on cross-border interest and dividend payments.[77]

[77] On the withholding tax issue, see Mintz (2001b).

If local governments can identify clusters of economic activity that generate economic rents, these represent relatively immobile and efficient bases for taxation. When levels of foreign ownership in these clusters are high, domestic tax revenue can be raised from foreigners. Otherwise, the usual prescriptions apply: federal and provincial governments should target neutral effective tax rates across industries and keep the corporate tax burden to a minimum, as corporate taxes are likely to be shifted to other less mobile factors at greater efficiency costs.

Concerning personal income taxation, the broad conclusion is much the same. As in the case of mobile capital taxation, labour mobility signifies that Canadian federal and provincial personal tax regimes have to stay competitive with those of competing neighbouring jurisdictions in the U.S., particularly as they apply to increasingly mobile high-skill labour. Average effective personal tax rates on high-income earners should be kept broadly in line with those observed in fiscally attractive U.S. states.

One way to reduce average tax rates on high-income people and alleviate the incentive for fiscally-induced migration without losing marginal rate progression is to raise the basic personal exemptions. Lessening marginal rate graduation would have the added benefit of enhancing labour market efficiency, however. Carrying out more redistribution in-kind rather than through the tax system could help reduce marginal rate progression of the personal tax. In general, the less progressive the rate structure, the greater the incentive to work, the more efficient the tax system and the higher the amount of labour income produced in the economy.

Also, because workers typically want to save part of their income, lower contribution limits in tax-preferred savings plans such as RRSPs in Canada than in the U.S. are one more disincentive for high earners – for whom contribution limits are more likely to be binding – to earn their living in Canada. Raising the contribution limits would reduce this disincentive and at the same time encourage more savings by alleviating double taxation.

Such tax reduction measures would tend to put a dent in government revenues, however, and possibly reduce redistribution within the tax system. To extract the same amount of revenue and achieve the desired level of redistribution, governments may find it necessary to rely more on benefit-related taxes and user fees.

Appendix

Table A-1. Top[U.S. Trade Partners for the Western Provinces – Average Trade Intensity, 2001 – 2003

Manitoba

Rank	State	% of GDP
1	Minnesota	6.3
2	Illinois	4.0
3	North Dakota	2.4
4	Wisconsin	2.3
5	Pennsylvania	2.2
6	Texas	2.0
7	Michigan	1.8
8	Iowa	1.7

Alberta

Rank	State	% of GDP
1	Illinois	5.8
2	Washington	4.3
3	New York	4.0
4	Minnesota	2.8
5	Texas	2.3
6	Tennessee	2.1
7	California	2.0
8	Michigan	1.7

Saskatchewan

Rank	State	% of GDP
1	Illinois	4.2
2	Montana	2.7
3	Wyoming	2.5
4	Minnesota	2.2
5	Wisconsin	1.8
6	Texas	1.7
7	North Dakota	1.5
8	Pennsylvania	1.2

British Columbia

Rank	State	% of GDP
1	Washington	6.8
2	California	4.2
3	Oregon	1.7
4	Illinois	1.2
5	Texas	0.8
6	N/A	0.8
7	New York	0.5
8	Ohio	0.5

Sources: Strategis' (Industry Canada) Trade Data Online and Statistics Canada (CANSIM).

Notes: Import data are attributed to the state of origin and the province of clearance, not necessarily the province of destination. Export data are attributed to the province of origin and the state of destination.

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Commentary by Dick Beason[1], Professor, School of Business, University of Alberta.

The paper provides an excellent summary of trends in trade, capital flows and labor mobility over the past twenty years, with a special focus on the post FTA and NAFTA period. Relevant charts and tables are presented, together with a summary of the literature relating to the key issues in Canadian trade, and Western Canadian trade in particular.

The general conclusion seems to be that both the FTA and NAFTA have had some positive influence in the growth of trade and increased capital and labor flows, but that many of the trends had been in place before the international agreements. Still, the more liberal trading regimes do appear to have enhanced the gains from trade.

While the paper is an excellent summary, and quite accessible to a general audience, many of the questions which are left open in this paper could have been answered. At numerous points in the paper, it is concluded that the multitude of factors involved make it difficult to disentangle the issues. For example, it is correctly noted that most of the period since the FTA and NAFTA coincides with a period of secular weakness in the Canadian dollar, making it difficult to note any obvious structural breaks in the various summary statistics. Such an issue is easily dealt with in the context of a more formal econometric analysis, so that many of the ambiguities could be eliminated.

Overall, however, the lack of more formal analysis is not a serious issue, since the paper is intended as an overview and introduction to the issues. Indeed, the paper provides a highly accessible summary, and identifies issues for further research.

[1] Dick Beason is a Professor of Business and Economics, University of Alberta.