THE IMPORT CONTENT OF EXPORTS
A BRITISH COLUMBIA PERSPECTIVE

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1. Introduction

The BC Progress Board uses Exports per Capita as one of its economic performance indicators. The justification for this is that "strong exports tend to increase productivity and income levels in a jurisdiction due to additional markets available beyond the domestic market." This is certainly true, but it is somewhat mitigated by the fact that exports often have significant import content. This consideration reduces the importance of exports to domestic productivity.

The purpose of this report is to examine this issue from a number of perspectives. All of the analysis for British Columbia has been done using the British Columbia Input Output Model (BCIOM). This model is particularly well-suited for this task. It consists of three large matrices: an output matrix that specifies the commodities that each industry produces, an input matrix that specifies for each industry the commodity inputs that it needs to produce its outputs, and a final demand matrix that specifies the commodity demands made by various end-users like personal demands by residents, export markets, and capital expenditures by business and government. In this model imports are seen as a negative final demand. With this information the model is able to estimate the total economic impact of particular commodity exports. These are experienced by the industry that produces the exported commodity, but also by industries that supply inputs to that industry. For example, the fibre that gets exported in the form of wooden furniture has provided value added in a number of BC industries – the furniture industry that actually exports the product, the sawmill industry that produces the lumber from which the furniture is made, and the logging industry that supplies raw logs to the sawmill. The impact on other domestic industries that supply inputs to these industries can also be estimated by the model. The model can also be used to identify the imports used in the production of exports and to estimate their value, and that capability is what makes the BCIOM particularly useful for this study.

The terms "exports" and "imports" have potentially ambiguous meanings in the provincial context. In common usage these terms usually refer to international trade. However, those of us concerned with the provincial economy tend to include interprovincial trade in the same term. The analysis in this report will look at both trade measures: we use the term "Total" to mean both interprovincial and international, and the term "International Only" when we exclude the interprovincial component.

Statistics Canada has studied this issue and released a number of reports on it over the last ten years. Most of their work has been concerned with Canada and the import content of international exports. However, one report[1] published in 2003 extended their analysis to the provinces, using data for the year 1999. The work reported herein may be regarded as an update to that report with a greater emphasis on British Columbia.

[1] Z. Ghanem and P. Cross, The Import Intensity of Provincial Exports, CANADIAN ECONOMIC OBSERVER, June 2003, Statistics Canada Catalogue no. 11-010.

The next section presents results for British Columbia for the year 2004, the most recent year for which we have the appropriate data.

Section 3 provides tables showing for BC how the import content of exports varied by industry in 2004.

It may be of interest to know how these results have varied over time. Fortunately, we have input output data going back over a number of years, and this data has also been analyzed in the same way. Section 4 reports on these findings.

It is natural to ask how British Columbia compares with other jurisdictions in this matter. We have applied the same methodology to data for the other provinces. Section 5 reports on these results. While the methodology is the same as in the analysis for BC, the data we have for other provinces is much less detailed and also less reliable. This issue is discussed in greater detail in a technical appendix.

Section 6 extends the analysis to the BC Progress Board measure of exports per capita, and discusses the results.

Section 7 looks briefly at import replacement as a way of reducing the import content of exports and thus increasing the GDP associated with exports.

Finally, there is a technical appendix that provides more detail on the data sources, methodology, difficulties encountered and challenges overcome in carrying out this project.

2. Results for British Columbia in 2004

Table 1

Measure	International Only	Total
Gross Exports as a % of GDP	29.0	45.1
Import Content of Exports (%)	16.6	26.6
Value-added Exports as a % of GDP	24.2	33.1

Notes

1. We actually export commodities (goods and services) whereas GDP is commonly thought of as the value-added by the various industries that produce those commodities, so the initial step in arriving at the above estimates is to turn the commodity exports into industry exports.
2. The imports estimated in line 2 of the table are not all imports to the province, many of which are purchased by domestic consumers, but only those which are components of the export commodities.
3. The third line in the table is not independent of the other two. In fact, Line 3 = Line 1 x (100 – Line 2)/100.

3. Results by Industry for British Columbia in 2004

Table 2

Industry	Share of BC GDP (%)	International Only			Total		
		Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
Crop and Animal Production	0.7	92	17	77	149	31	103
Forestry and Logging	1.9	6	19	5	19	29	13
Fishing, Hunting & Trapping	0.1	130	26	96	144	40	87
Support for Agric & Forestry	0.3	1	19	1	21	11	18
Mining & Oil & Gas Extraction	5.1	68	10	61	105	16	87
Utilities	1.8	15	3	14	17	7	16
Construction	6.2	0	15	0	0	26	0
Manufacturing	11.0	134	22	105	180	34	119
Wholesale Trade	4.8	23	7	21	54	15	45
Retail Trade	6.1	2	6	2	10	13	9
Transportation & Warehousing	5.3	41	14	35	72	26	53
Information & Cultural Industries	3.6	15	15	13	38	23	29
Finance, Insurance, Real Estate, Renting & Leasing	21.6	3	7	3	9	14	8
Professional, Scientific & Technical Services	4.3	24	9	22	43	17	35
Administrative & Other Support Services	2.1	12	7	11	31	14	27
Education Services	0.3	20	6	18	20	11	18
Health Care & Social Assistance	2.9	0	5	0	0	9	0
Arts, Entertainment & Recreation	1.0	37	12	32	48	19	38
Accommodation & Food Services	3.1	43	12	37	59	23	45
Other Services (except Public Admin)	2.1	5	6	5	11	13	10
Non-profit Institutions serving Households	1.7	3	11	2	5	17	4
Government Sector	14.1	2	9	1	3	15	2
Total	100.0	29	17	24	45	27	33

Notes

1. At first sight it may seem odd that for some industrial sectors Exports as a percent of GDP is greater than 100%. (After all, exports only comprise part of GDP so how can the part exceed the whole?) The reason this happens in Table 2 is that we are expressing exports *by the sector* as a percent of value added *in the sector*. In many sectors the manufacturing component gets "credit" for most of the exports, but contributes only a smaller portion of the value added to the final products that are exported.
2. It may also be somewhat surprising that the import content is as high as it is in the primary sectors like agriculture, forestry and fishing. The reason for this is that from an economic perspective the resource itself is essentially free; the cost for these industries is in the extraction or utilization of the resource. Much of the latter is in value-added domestic labour, but there are also significant fuel costs in the form of imported diesel oil and gasoline.

Table 2a below displays similar results for several special industry groups.

Table 2a

		International Only			Total		
Industry Group	Share of BC GDP (%)	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as %of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
Agriculture, Fishing, Food & Beverage	2.2	71	25	53	146	40	87
Logging, Wood, Paper & Allied	7.0	130	15	111	158	26	116
Mining & Mineral Processing (inc. Oil & Gas)	12.6	38	16	32	55	21	43

4. Historical Results for British Columbia

Table 3						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1996	30.8	18.1	25.2	43.5	27.8	31.4
1997	30.3	17.9	24.8	43.5	26.9	31.8
1998	30.5	18.9	24.7	44.5	27.7	32.2
1999	32.5	19.0	26.3	47.2	28.5	33.7
2000	35.5	18.2	29.1	51.3	28.5	36.6
2001	33.2	18.3	27.2	49.3	28.9	35.1
2002	29.8	18.6	24.3	45.9	28.5	32.8
2003	28.3	17.7	23.3	44.7	27.6	32.4
2004	29.0	16.6	24.2	45.1	26.6	33.1

Notes

1. Not too much change in these figures over time. Small upward trend in Exports as a percent of GDP from 1996 to 2000, and a small downward trend since then. The Import Content of Exports has been even more stable.

5. Comparisons with Other Provinces for 2004

Table 4						
	International Only			Total		
Province	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
British Columbia	29.0 (8)	16.6	24.2 (6)	45.1 (9)	26.6	33.1 (7)
Alberta	38.6 (2)	11.9	34.0 (1)	62.4 (4)	22.6	48.3 (1)
Saskatchewan	38.2 (3)	16.6	31.9 (2)	64.8 (2)	33.2	43.3 (3)
Manitoba	29.6 (7)	22.9	22.9 (7)	63.4 (3)	38.0	39.3 (5)
Ontario	42.9 (1)	36.7	27.1 (4)	67.6 (1)	39.5	40.9 (4)
Quebec	33.1 (4)	31.5	22.7 (8)	53.5 (7)	38.4	33.0 (8)
New Brunswick	31.9 (5)	23.5	24.4 (5)	56.7 (6)	40.6	33.7 (6)
Nova Scotia	19.7 (10)	18.5	16.1 (10)	38.5 (10)	38.4	23.7 (10)
Prince Edward Island	25.5 (9)	20.0	20.4 (9)	53.3 (8)	42.0	30.9 (9)
Newfoundland	31.2 (6)	11.6	27.6 (3)	57.0 (5)	20.2	45.5 (2)

Notes

1. The figures in parentheses are the relative rankings of the ten provinces in each column, with 1 being the highest and 10 the lowest.
2. With respect to these measures the provinces appear to fall into natural groups: a top group consisting of Alberta, Saskatchewan, Newfoundland and Ontario; a middle group consisting of NB, BC, Manitoba and Quebec; and at the bottom, PEI and Nova Scotia.
3. Ontario drops from 1st place to 4th place when import content is taken account of.
4. Alberta ends up in 1st place because of the low import content of its exports.
5. Manitoba is in the bottom half of the provinces when only international trade is considered, but rises into the top half when interprovincial trade is included – its position in the middle of the country may contribute to this.
6. Looking only at international trade, the high import content of Quebec's exports drops it from 4th place to 8th place among the provinces by this measure.
7. When total trade is considered, including imports in the estimate of value-added exports helped Alberta rise from 4th to 1st place and Newfoundland go from 5th to 2nd.

8. BC is in the bottom half of the provinces by all trade measures but inclusion of import content in the calculations improved its ranking from 8th to 6th for international and from 9th to 7th for total trade.
9. Appendix B presents similar results for each province except BC for the years 1997-2004. However, these results should be regarded with some caution because the data on which they are based is highly aggregated and unbalanced.

How are we to interpret all of these figures? What do they mean? If we could make the figures move up or down in future years which way would we want them to go?

On the one hand, it seems self-evident that exports are good. They bring money into the province from other provinces and the rest of the world. And, if exports are good then value-added exports (with the import content removed) are even better. Using this reasoning it appears we would be happiest if exports increased and the import content of those exports decreased. From this perspective, Alberta is the clear winner among the Canadian provinces.

On the other hand, there are issues of dependence and vulnerability that should not be ignored. An economy that is heavily dependent on export markets is also much more vulnerable to adverse changes in those markets caused by such things as currency fluctuations, protectionism, other political pressures, competition from emerging nations, and changing consumer tastes. From this perspective, Nova Scotia may be the winner – it is the province that is least vulnerable to downturns in export markets.

6. Exports per Capita

Following the lead of Statistics Canada[1] in its reports on this subject our results have presented Gross Exports and Value-added Exports as a percent of GDP. One advantage of using this measure is that it is independent of inflation – in any given year both exports and GDP can be evaluated in current dollars so the ratio is essentially independent of inflationary changes over time.

However, the BC Progress Board has used Exports per Capita as one of its performance indicators. For this estimate to be most meaningful the value of the exports needs to be expressed in constant dollars. Otherwise, inflation could be misinterpreted as growth.

Table 5			
Year	Total Exports per Capita ($1997)	Import Content of Exports (%)	Value-added Exports per Capita ($1997)
1996	12,336	27.8	8,907
1997	12,585	26.9	9,200
1998	12,827	27.7	9,274
1999	13,854	28.5	9,906
2000	14,940	28.5	10,682
2001	14,533	28.9	10,333
2002	14,583	28.5	10,427
2003	14,861	27.6	10,759
2004	15,603	26.6	11,453

Notes

1. Total Exports per Capita ($1997) are taken directly from Table P13 on Page 149 of the Sixth Annual BC Progress Board Benchmarking Report, December 15, 2006.
2. Import Content of Exports are from Table 3 of this report.
3. Column 4 is derived from Columns 2 and 3 by the relationship

   Col 4 = Col 2 x (100 – Col 3)/100

   This calculation is actually an approximation for every year except 1997 because the import content is based on current dollar calculations and the exports per capita are expressed in constant 1997 dollars. However, simulation results suggest that the error introduced by this approximation is less than 1 percent.
4. A nice numerical way to compare two different trends is to put a least-squares regression line through each of them and then compare the slopes of the lines. The trend line for Total Exports per Capita has a slope of 401 (this means that, on average over the nine years of data, Total Exports per Capita has risen by $401/year in 1997 Dollars). The corresponding trend line for Value-added Exports per Capita has a slope of 293. There is positive growth in both cases but the impact on the domestic economy is seen to be less when imports are taken into account.
5. If we do the same thing but look only at the last four years of data (2001-2004) the situation is reversed: Total Exports per Capita has a positive slope of 349 while Value-added Exports per Capita has a positive slope of 369. In this interval it would appear that taking imports into account has actually improved British Columbia's performance as measured by this indicator.

There is also a per Capita version of Table 4 comparing the provinces in 2004.

Table 6			
	Total Exports per Capita ($1997)	Import Content of Exports (%)	Value-added Exports per Capita ($1997)
British Columbia	15,603 (8)	26.6	11,453 (7)
Alberta	25,161 (2)	22.6	19,475 (1)
Saskatchewan	22,923 (3)	33.2	15,313 (3)
Manitoba	19,056 (5)	38.0	11,815 (6)
Ontario	25,986 (1)	39.5	15,722 (2)
Quebec	17,368 (6)	38.4	10,699 (8)
New Brunswick	20,798 (4)	40.6	12,354 (5)
Nova Scotia	13,348 (10)	38.4	8,222 (9)
Prince Edward Island	13,505 (9)	42.0	7,833 (10)
Newfoundland	16,682 (7)	20.2	13,312 (4)

Notes

1. As for the previous table, the figures in Column 2 come from the BC Progress Board Report Table P13, the figures in Column 3 come from Table 4 of this report, and Column 4 is calculated from Columns 2 and 3.
2. The relative rank of each province is shown in parentheses in the above table. The biggest change was for Newfoundland which moved from 7th to 4th because of the low import content of its exports. BC moved up one spot, from 8th to 7th.

7. Avoidable Imports and Import Replacement

According to the 2004 BC Input Output Model database, 92 of the 719 commodities used by industries in BC are not produced at all in the province. Within the BCIOM we can define a parameter μ (mu) as the ratio of total imports of each commodity to total domestic demand for it. Every one of the 719 commodities thus has a particular value of μ associated with it. Commodities that are not produced in the province have $\mu = 1.0$. Commodities that are mostly imported have high values of μ. Commodities that we never import have $\mu = 0$.

In addition to the 92 commodities that have $\mu = 1$, there are another 134 commodities where $0.95 < \mu < 1.0$. Obviously, domestic production capabilities for these commodities are also severely limited.

In this report we have focussed attention on the imports imbedded in our exports. It may be of interest to know to what extent we might be able to replace those imports with domestic production of the required inputs. We can examine this question by analyzing the μ's associated with the present imports. If μ is 1 we are probably correct

in assuming that we can't replace this import, but a μ of 0.5 indicates that BC does produce the commodity in question, but just not enough of it.

Using this reasoning we can split import commodities into two categories: Avoidable and Unavoidable. Unavoidable imports are those for which μ is 1 or at least very high, indicating no, or very little, domestic production capability for this commodity. On the other hand, avoidable imports are those import commodities that have $\mu < \mu_{c,}$ where μ_c is set to some arbitrary value.

Coming back to this study, we found that in 2004 British Columbia exports had an import content of 26.6%. If we want to reduce this percentage in order to increase the value added of BC's exports we should focus on the avoidable imports. If most of the 26.6% were made up of unavoidable imports there wouldn't be much room for improvement.

The BCIOM was used to determine how the percentage changes as μ_c changes. The results are shown in the following table.

μ_c	>1	1	.95	.90	.80	.70	.60	.50	.35	.20
%	26.6	25.3	19.9	17.9	15.0	12.3	11.1	9.6	6.5	2.8

The first column in the above table confirms our previous result: if all imports are deemed as avoidable then these imports make up 26.6% of all exports. The second column deems the 92 commodities that are not produced at all in the province as unavoidable imports – now the avoidable imports still make up 25.3% of exports.

As we move to the right in the above table we are in effect imposing tougher conditions on commodities before they can be deemed avoidable. For example, at $\mu_c = .6$ we are specifying that for an import commodity to be an avoidable import, BC must presently (in 2004) produce at least 40% of domestic demand for that commodity. Commodities that don't meet this test are deemed unavoidable imports. When all commodities for which $\mu_c > .6$ are deemed unavoidable, the avoidable imports still make up 11.1% of all exports.

Table 7 provides some examples of the information that this analysis could develop for a few arbitrarily selected BC industries. For this table, μ_c was set to 0.95 – any imported commodities for which μ was smaller than 0.95 were deemed to be avoidable. The four commodities listed for each exporting industry are those avoidable imports that have the largest value in the exports of that industry.

Table 7		
Import Replacement Opportunities		
Exporting Industry	Largest Avoidable Imbedded Imports	% Share of Avoidable Imports
Animal Aquaculture	Custom work, meat & food	13.6
	Complete feeds	12.4
	Pharmaceuticals	8.4
	Feeds from animal byproducts	6.7
Motor Vehicle Body & Trailer Manufacturing	Aluminum & aluminum alloy fabricated materials (except castings)	60.6
	Commercial trailers & semi-trailers	5.6
	Wholesaling margins	4.1
	Fastener hardware	2.4
Motion Picture & Video Production, Distribution & Post-production	Motion picture, audio & video production & distribution	27.9
	Photographic film & plate	7.4
	Recorded media (including music & movies)	6.5
	Royalties & licence fees (excluding natural resources)	6.0

Table 7 probably raises as many questions as it answers but, while the BCIOM could be used to delve more deeply into these issues, such investigation is beyond the scope of the present project.

Appendix A – Technical Details

The same approach is used to produce all of the results in this report. It is most easily explained by looking at Table 2. We begin with gross exports by commodity. The input output model database tells us which industries make those commodities so we can generate a vector of gross exports by industry. We then use the input output model to estimate the import content of those exports by industry. This is the trickiest part of the procedure and there is an implicit assumption that production for export and production for domestic consumption are treated in the same way with respect to industry imports.

Every result in this report starts with a table like Table 2. The provincial results are then just the sum over all industries of the results by industry.

All of the results for British Columbia use large aggregation unsuppressed data provided to British Columbia by Statistics Canada in order to support the development of the British Columbia Input Output Model. "Large aggregation" in this case means that in recent years there are 303 industries represented, 719 commodities made and/or used by those industries, and approximately 170 categories of final demand. "Unsuppressed" means that the data all balances, in the sense that, for every commodity, supply equals demand, and for every industry, input equals output.

Unfortunately, we do not have such a wealth of good data for the other provinces. The information that we have to work with comes from CANSIM. This is data for 25 industrial sectors and 51 commodities. As well as being highly aggregated this data also suffers from imbalances due to the suppression of confidential information. Nevertheless we have tried to carry out the same analysis with this flawed data for the other provinces. The results look reasonable but there may be distortions due to the combination of aggregation and suppression, each of which alone could be expected to affect the accuracy of results.

To provide some indication of the extent of these effects CANSIM data for the year 1999 was used to produce results for comparison with the published Statistics Canada results for the same year. Table 8 presents the results of that comparison.

Table 8						
	1999, International Only, using CANSIM data			1999 Results from Statistics Canada report[1]		
Province	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
British Columbia	35.1	24.1	26.6 (5)	33	19	27 (6)
Alberta	37.0	19.4	29.8 (1)	37	15	31 (3)
Saskatchewan	35.9	22.4	27.8 (3)	39	16	33 (1)
Manitoba	26.6	25.0	20.0 (9)	30	22	24 (9)
Ontario	46.1	39.4	27.9 (2)	53	40	32 (2)
Quebec	34.7	30.9	24.0 (7)	39	28	28 (4)
New Brunswick	30.4	24.0	23.1 (8)	36	28	26 (7)
Nova Scotia	26.4	26.9	19.3 (10)	25	26	18 (10)
Prince Edward Island	33.7	20.4	26.8 (4)	30	18	25 (8)
Newfoundland	33.9	25.1	25.4 (6)	38	26	28 (5)

Notes

1. In columns 4 and 7 the relative rankings are shown in parentheses.
2. The top 3 provinces – Alberta, Ontario and Saskatchewan – are the same in both sets of results although their relative rankings differ.
3. The middle 5 provinces – BC, Quebec, NB, PEI and Newfoundland -- are also the same in both sets of results although the relative rankings differ.
4. Manitoba ranks 9th and NS is 10th in both sets of results.
5. Generally, Value-added Exports as a % of GDP is several percentage points higher in the Stats Can results, but NS and PEI are exceptions to this.
6. The results for BC in the above table were calculated using CANSIM data. They are not the same as those shown for 1999 in Table 3. The latter are closer to the Statistics Canada results.

Appendix B – Provincial Results for the Years 1997–2004

There is a table here for each province except British Columbia. Each table has exactly the same format and interpretation as Table 3.

Alberta						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	36.6	19.0	29.6	62.0	29.9	43.5
1998	36.5	21.2	28.8	60.2	32.2	40.8
1999	37.0	19.4	29.8	60.5	29.9	42.4
2000	42.8	14.8	36.4	68.7	25.5	51.2
2001	41.5	15.0	35.3	64.9	26.3	47.9
2002	37.7	15.2	32.0	61.6	27.0	45.0
2003	37.6	12.5	32.9	61.8	23.5	47.3
2004	38.6	11.9	34.0	62.4	22.6	48.3

Saskatchewan						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	35.8	22.3	27.8	56.6	37.4	35.4
1998	34.8	21.8	27.2	56.0	37.1	35.2
1999	35.9	22.4	27.8	60.8	36.7	38.5
2000	22.3	27.2	16.3	43.0	40.8	25.5
2001	38.5	17.9	31.6	65.0	38.2	40.2
2002	38.8	17.8	31.9	64.0	37.9	39.8
2003	35.8	15.7	30.2	60.6	35.0	39.4
2004	38.2	6.6	31.9	64.8	33.2	43.3

Manitoba						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	22.7	23.9	17.3	51.6	39.0	31.5
1998	26.4	25.9	19.5	57.0	39.7	34.3
1999	26.6	25.0	20.0	59.3	39.7	35.8
2000	27.0	22.0	21.1	61.2	36.4	38.9
2001	30.5	23.8	23.2	64.7	39.1	39.4
2002	29.9	24.5	22.6	62.7	38.9	38.3
2003	29.3	23.5	22.4	61.0	39.4	36.9
2004	29.6	22.9	22.9	63.4	38.0	39.3

Ontario						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	41.3	38.8	25.3	59.3	42.8	34.0
1998	44.1	39.6	26.6	61.2	42.8	35.0
1999	46.1	39.4	27.9	67.5	42.0	39.2
2000	46.7	36.4	29.7	69.3	39.2	42.1
2001	50.1	37.6	31.3	74.6	40.3	44.6
2002	47.8	37.4	29.9	72.5	39.9	43.6
2003	43.3	35.5	27.9	68.0	38.6	41.8
2004	42.9	36.7	27.1	67.6	39.5	40.9

Quebec						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	28.3	31.8	19.3	53.9	39.8	32.4
1998	30.4	31.1	20.9	55.5	39.2	33.7
1999	34.7	30.9	24.0	54.0	37.8	33.6
2000	39.6	30.9	27.4	59.2	38.4	36.5
2001	39.4	31.8	26.9	60.7	39.0	37.0
2002	37.2	31.6	25.5	58.3	39.0	35.6
2003	32.7	30.7	22.7	53.5	38.2	33.1
2004	33.1	31.5	22.7	53.5	38.4	33.0

New Brunswick						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	25.6	23.8	19.5	52.6	41.4	30.8
1998	27.5	24.4	20.8	54.3	41.3	31.9
1999	30.4	24.0	23.1	58.2	40.7	34.5
2000	31.5	24.2	23.8	57.8	40.7	34.3
2001	32.7	23.6	25.0	57.0	40.1	34.1
2002	33.5	25.6	24.9	58.6	42.2	33.9
2003	31.3	25.2	23.4	56.2	41.6	32.8
2004	31.9	23.5	24.4	56.7	40.6	33.7

Nova Scotia						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	24.3	24.9	18.2	44.4	41.8	25.8
1998	24.9	27.1	18.2	45.6	42.2	26.4
1999	26.4	26.9	19.3	49.2	41.7	28.7
2000	29.6	25.8	22.0	51.8	39.4	31.4
2001	22.0	23.0	16.9	41.7	39.2	25.3
2002	22.4	23.1	17.3	42.1	39.7	25.4
2003	19.4	20.7	15.4	38.4	38.5	23.6
2004	19.7	18.5	16.1	38.5	38.4	23.7

Prince Edward Island						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	25.2	14.3	21.6	56.8	42.4	32.7
1998	29.0	16.7	24.2	59.4	42.2	34.3
1999	33.7	20.4	26.8	64.6	43.7	36.3
2000	32.1	20.6	25.4	62.3	43.3	35.3
2001	30.4	20.9	24.0	57.9	43.9	32.5
2002	28.8	24.5	21.7	55.6	42.6	31.9
2003	28.3	17.6	23.3	53.5	41.3	31.4
2004	25.5	20.0	20.4	53.3	42.0	30.9

Newfoundland						
	International Only			Total		
Year	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP	Gross Exports as % of GDP	Import Content of Exports (%)	Value-added Exports as % of GDP
1997	19.9	30.6	13.8	30.7	39.9	18.5
1998	24.7	24.4	18.7	37.1	36.2	23.7
1999	33.9	25.1	25.4	45.0	37.0	28.4
2000	43.6	26.8	31.9	60.1	36.5	38.2
2001	35.1	31.5	24.0	57.9	37.8	36.0
2002	17.3	19.7	13.9	55.0	23.8	41.9
2003	15.8	17.2	13.1	56.1	21.6	44.0
2004	31.2	11.6	27.6	57.0	20.2	45.5

In all of the above tables, GROSS EXPORTS means "Gross Exports as a % of GDP", ICE means "Import Content of Exports (%)", and VA EXPORTS means "Value-added Exports as a % of GDP".

It is tempting to try to draw some inferences or conclusions from these provincial tables but, as discussed in Appendix A, the data on which they are based is less than ideal, so it would be very difficult to make valid comparisons between provinces or between years. Any differences or changes observed may be due to differences or changes in data suppression rather than differences or changes in economic variables.