

Import Content of BC's Exports

One measure that is often used to gauge economic health of a region is the ratio of exports to GDP. The rationale for this is that exports create jobs and increase income by expanding the marketplace for locally produced goods and services. If a significant portion of the economy is derived from exports, this means that producers have a more diversified market for their goods and services and are exposed to less risk from downturns in either the local economy or in the economy of any one of the other markets for their products.

The problem is that comparing gross exports to GDP is like comparing apples to oranges. GDP measures only the value-added content of output, whereas gross exports are a measure of the total value of the goods and services traded, regardless of where the intermediate inputs were produced. In order to do a true comparison, only the value-added content produced in the exporting region should be included. In other words, the import content of the exports should be removed.

Statistics Canada has produced a number of papers examining this exact issue and has developed a methodology to measure the import content of exports using Input-Output tables.¹ The report produced in June 2003 (Ghanem and Cross) did a provincial comparison of the import intensity of exports, but only the data for Canada as a whole has been updated since that time by Statistics Canada. However, the BC Progress Board recently commissioned BC Stats to produce updated data for BC using the latest available data (2004 is the latest available year for data from the Input-Output tables).²

The results of the BC Stats study indicate that, in 2004, the import content of goods and services exported from BC to international destinations was 16.6%. Using the traditional measure of gross exports as a percent of GDP yields a figure of 29.0%, but when the import content is removed and value-added exports as a percent of GDP are examined, the number drops to 24.2%, almost five percentage points lower than the gross export ratio. The difference has been fairly consistent, ranging between 5 and 6 percentage points, although since peaking in 2000 at 6.4

¹ Statistics Canada's Input-Output tables consist of three large matrices: an output matrix with the commodities that each industry produces, an input matrix that specifies the inputs needed to produce those outputs and a final demand matrix that looks at the consumption of these goods by various end users, including personal use by residents, export markets and capital expenditures by business and government. The reports produced by Statistics Canada on the input content of exports give more detail on the methodology:

G. Cameron and P. Cross, "The Importance of Exports to GDP and Jobs." *Canadian Economic Observer*, Statistics Canada Catalogue 11-010-XPB, Nov. 1999.

P. Cross, "Cyclical Implications of the Rising Import Content in Exports." *Canadian Economic Observer*, Statistics Canada Catalogue 11-010-XPB, Dec. 2002.

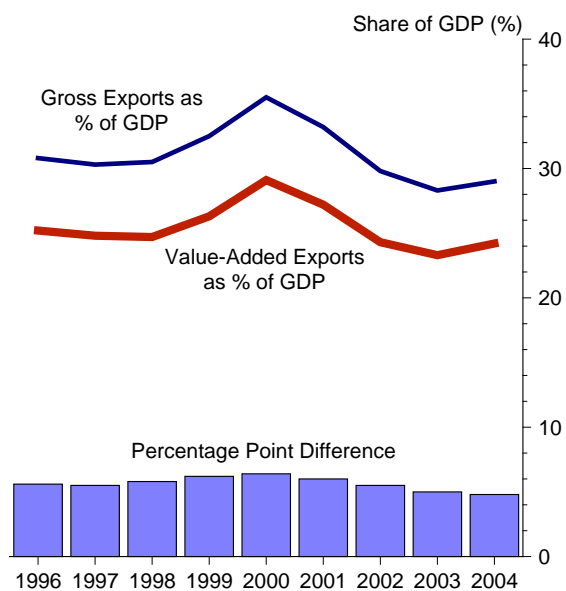
Z. Ghanem and P. Cross, "The Import Intensity of Provincial Exports." *Canadian Economic Observer*, Statistics Canada Catalogue 11-010-XPB, June 2003.

P. Cross and Z. Ghanem, "Tracking Value-Added Trade: Examining Global Inputs to Exports." *Canadian Economic Observer*, Statistics Canada Catalogue 11-010-XPB, Feb. 2008.

² Garry Horne, "The Import Content of Exports: A British Columbia Perspective." BC Stats, July 2008.

percentage points, it has been shrinking. This is mainly due to the fact that the import content of exports has been reduced. In fact, the 16.6% figure recorded in 2004 was the lowest in the nine-year period studied. The peak occurred in 1999 when 19.0% of BC's exports were comprised of imported content.

After taking into account the import content of exports, the value-added exports' share of GDP is 5 to 6 points lower than that of gross exports



Source: BC Stats

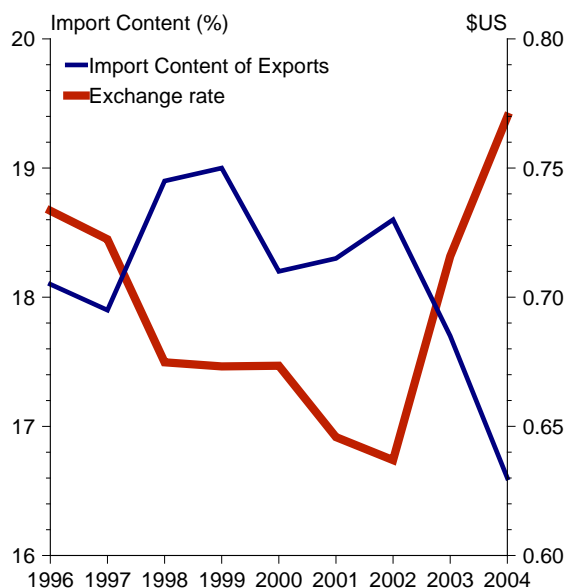
The results for British Columbia appear to contradict expectations. One might predict that the import content would increase as the Canadian dollar rises, since imports from the United States are cheaper. The higher dollar means that exports priced in Canadian currency are more costly to customers in the US, or conversely, that exports priced in US dollars will bring a smaller return to Canadian companies when the revenue is converted into Canadian money.

In order to remain competitive when the Canadian dollar appreciates, Canadian exporters have to boost their productivity. One way to do

this is to increase efficiency by making capital improvements; therefore, one might expect that as imports of US-made equipment and technology become less expensive to Canadian businesses, these imports would climb. If exporting companies increase their imports of goods and services, then the import content of their exports is likely to increase. However, this has not been the case.

In fact, the exact opposite appears to be happening. The import content of BC's exports has been falling when the dollar was rising and increasing when the dollar was dropping.

Contrary to what one might expect, the import content of BC's exports appears to fall as the Canadian dollar rises



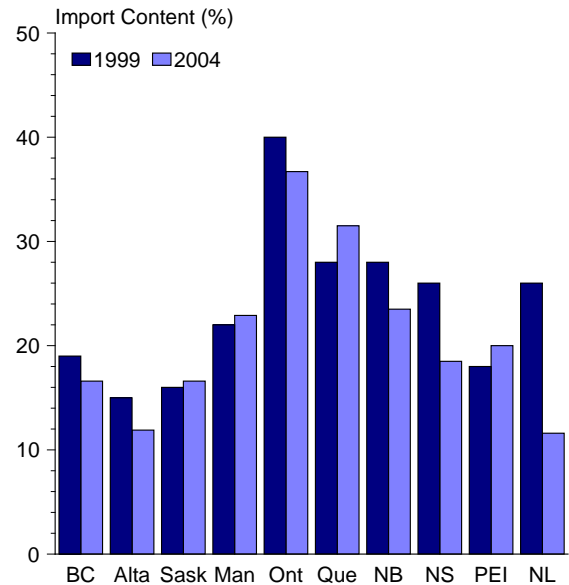
Source: BC Stats

The explanation for this apparent contradiction may lie in the structure of BC's economy. The majority of BC's goods exports are comprised of resource-based materials. The analysis from both Statistics Canada and BC Stats shows that resource industries generally have a far smaller proportion of import content in their exports compared to manufacturers. There are a couple

of reasons for this. For one, resource goods have a far simpler production system, with fewer discrete processes and, therefore, it is not as amenable to outsourcing portions of production. Secondly, most of the raw materials are available within the province and do not have to be imported. One significant exception is in the production of primary metals, where the availability of inexpensive electricity makes the province a good place to build a smelter, but often the ore is imported from elsewhere. A prime example of this is the aluminum smelter located in Kitimat, which imports alumina ore from Australia and transforms the ore into aluminum.

The influence of resources in the economies of certain provinces can clearly be seen when comparing the import content of their exports. Manufacturing-intensive provinces such as Ontario and Quebec have far more import content compared to resource-rich provinces such as BC and Alberta.

Manufacturing-intensive provinces tend to have more import content in their exports



Sources: 1999 data - Statistics Canada; 2004 data - BC Stats

The results of Statistics Canada's study using 1999 data and BC Stats' more recent analysis is reasonably consistent, with the notable exception of Newfoundland and Labrador.³ The reason for the steep decline in import content in that province is almost certainly related to the oil refining industry. In 2002, production from the Terra Nova oil project came on-stream, which reduced the need for imported oil from elsewhere to be used in Newfoundland and Labrador's oil refineries.

So we've seen that provinces in which the resource sectors play a major role are less likely to have import content in their exports, but how does this explain the fact that, in BC at least, the import content of exports declines as the Canadian dollar appreciates instead of vice versa? The most likely explanation resides in the

³ Note that the data for provinces other than BC in the BC Stats report should be used with caution, since they are based on a more limited data set and may be

subject to larger variance. For more information see Appendix A in Garry Horne's report.

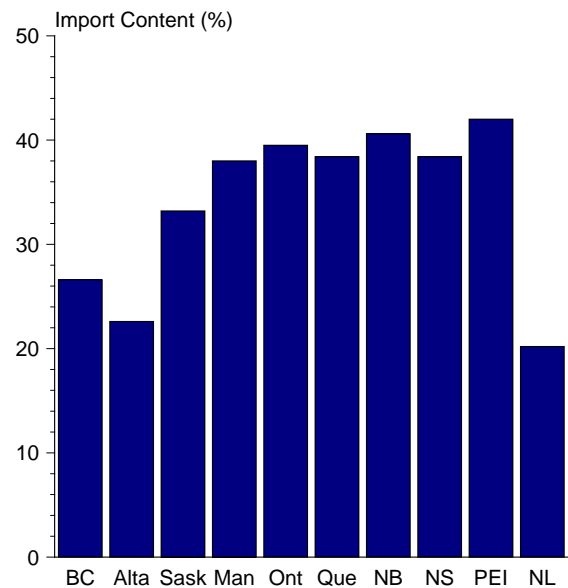
elements that drive the exchange rate. Generally, when commodity prices rise, the Canadian dollar follows. The high prices for commodities such as metals and energy products have had a strong influence on the value of the Canadian dollar in the last few years and were instrumental in the dollar's rise to par with its American counterpart. At the same time, the composition of BC's exports has shifted toward a greater proportion of products from resource industries. The mining, oil and gas industry, in particular, has seen strong growth in exports in the last several years. The import content of exports in this industry is significantly lower (10% compared to 17% overall), such that a shift toward more exports from this industry will naturally drive down the import content of overall exports.

In other words, the rise of the dollar happens to often coincide with higher demand for resource goods, which in turn boosts BC's exports of these goods. As a result, the import content of BC's exports tends to fall when the dollar rises simply because exports shift to commodities with lower import content to begin with.

Given the continued strength in demand for outputs from the mining, oil and gas industry and the subsequent increase in exports of these goods, it is probable that BC's overall import content of exports has fallen even further since 2004. Another factor that could be driving down the import content is the increasing importance of services in the economy as they generally have much lower import content. Although service exports are only about a fifth the value of goods exports, they have been growing as a share of overall exports.

While international exports are most often the focus of analysis, it is important to look at inter-provincial trade as well. Based on the BC Stats analysis, BC has significantly less import content in its total exports (international plus inter-provincial) compared to most provinces. Only oil-rich Alberta and Newfoundland and Labrador have lower import intensity in their exports.⁴ For both of these provinces, a significant portion of their interprovincial exports are mineral fuels, which have very little import content. For British Columbia, services play a larger role in interprovincial exports than in most provinces, which is one of the reasons for the lower import intensity of its overall exports.

BC has one of the lowest ratios of import content in total exports (including interprovincial exports)



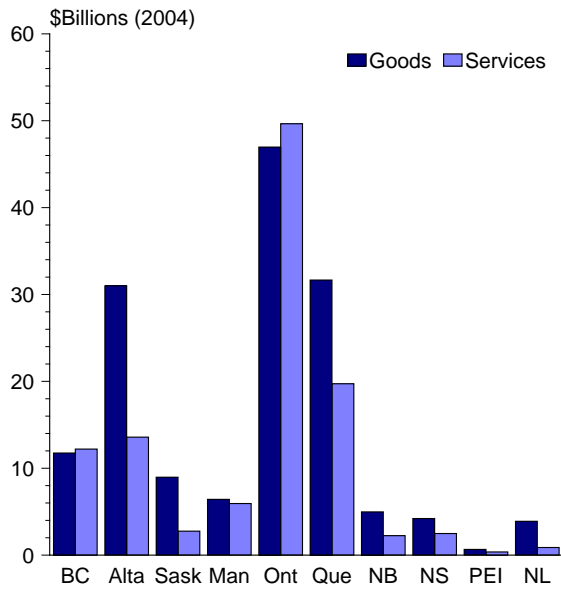
Source: BC Stats

⁴ Once again, the data for other provinces are prone to more error given the limitations of the data

available to BC Stats and should be considered rough estimates.

Services are a larger part of BC's interprovincial exports than for most provinces

indicate that BC should be looking to add more value to its resource products before shipping them abroad.



Source: Statistics Canada

It is clear that British Columbia has less import content in its exports, but is this a good thing? Although it is not clear cut, the answer may be that it is not a good thing. The author's of the first Statistics Canada report referenced earlier suggest, "The importance of trade to the economy does not come from an excess of exports over imports: rather, it is from the productivity gains that accrue with increased specialisation."⁵

The low import content in BC's exports could signal that producers in BC are not taking full advantage of opportunities for outsourcing, which could be resulting in less than optimal productivity.⁶ It is also a reflection of the nature of BC's resource-centred economy and could

⁵ Cameron and Cross (Nov. 1999), p. 3.3.

⁶ Overall productivity in BC has been shown to be lower than average compared to the rest of the

country. For example, see Lillian Hallin, "Labour Productivity: BC's Achilles Heel?" *Business Indicators*, Issue 08-06, BC Stats, June, 2008.