



It's Bigger Than You Think: Non-Resource Manufacturing in BC

Highlights

- Despite making sizable contributions to the province's economy and export base, non-resource manufacturing garners little attention in BC.
- Non-resource manufacturing is very diverse, being comprised of many different industry segments. Some are heavily export oriented, while others are tilted more towards domestic (within-province) consumption.
- In 2014, the value of all non-resource manufacturing production (GDP) amounted to nearly \$9 billion, equivalent to 4.4% of British Columbia's real GDP.
- The sector currently employs 117,000 people across the province, many of whom earn above average wages. Of interest, employment in non-resource manufacturing is three times greater than in resource-related manufacturing.
- Non-resource manufacturing underwent a painful contraction during the 2008-09 recession and has yet to regain its pre-2008 level of output. The sector's downturn in BC, however, was milder than in Ontario and Quebec.
- BC's exports of non-resource manufactured products have increased significantly over the past decade and reached a new high in 2014. In light of this trend, as well as the weaker Canadian dollar, the sector looks well-positioned for ongoing export gains.
- Non-resource manufacturing has proportionally more mid-sized business establishments than the overall private sector economy. This reflects the fact that local manufacturers can take advantage of economies of scale by selling products into larger markets within Canada and abroad. It also speaks to the reality that manufacturing businesses are generally more capital-intensive than businesses in other industries.

In British Columbia the processing of resources is a highly visible part of the manufacturing sector, particularly the processing of logs harvested from the province's forests. But non-resource manufacturing is also a significant part of the provincial economic landscape.

This issue of Policy Perspectives takes a closer look at non-resource manufacturing in British Columbia. The sector comprises a bigger piece of the industrial base than most people realize. Looking ahead, we see non-

resource manufacturing as a promising source of economic and export gains for British Columbia.

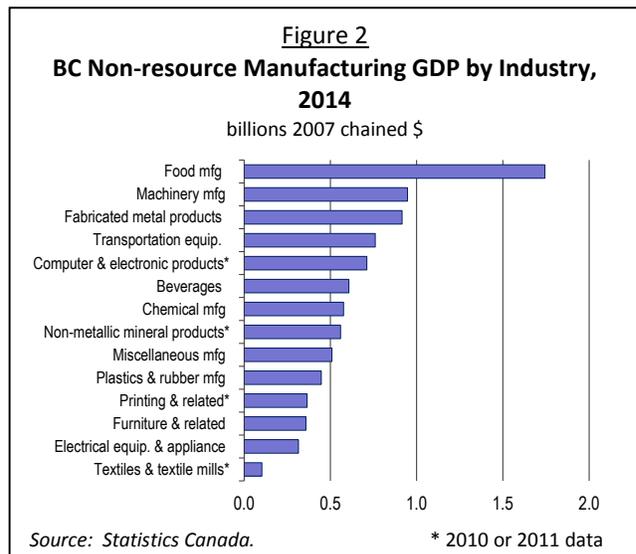
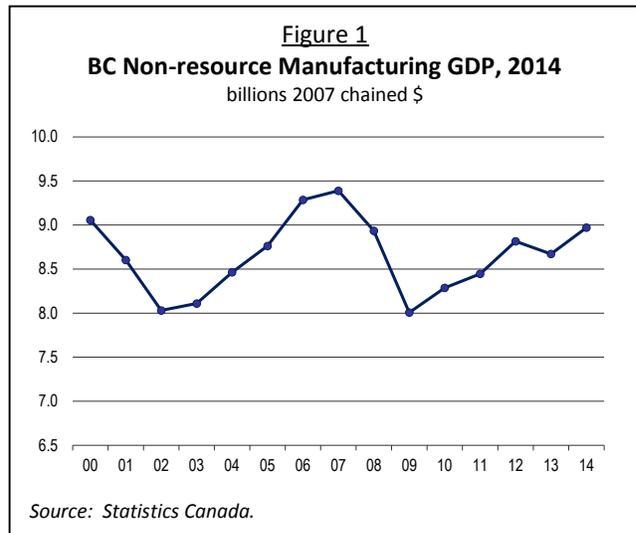
An Overview of the Sector

Non-resource manufacturing in BC is larger than resource-based manufacturing, measured in terms of both output (GDP) and employment. In 2014, real GDP in the non-resource manufacturing sector amounted to \$8.9 billion (4.4% of BC's total GDP), whereas for resource-based manufacturing the comparable figure was \$5.7 billion (2.8% of

GDP).¹ Comparisons of this sort can be misleading because they depend on what activity is included as an “industry cluster.” We are in no way diminishing the importance of downstream resource manufacturing in the BC context. After all, resource-based manufacturing includes only a handful of industries (wood products, pulp and paper, petroleum and coal product manufacturing, and primary metal manufacturing), whereas the non-resource grouping contains 14 industries (see Figure 2 for a list). Moreover, when analysts speak about the resource sector, they are typically referring to an integrated industry which combines upstream and related downstream processing activities. It is also worth noting that resource-based manufacturing accounts for a larger share of BC’s international exports than the non-resource component. Still, non-resource manufacturing occupies a prominent place in the BC economy.

Output growth across the province’s non-resource manufacturing sector is a mixed story. During the recession, the sector suffered a steep downturn, with real GDP tumbling 5% in 2008 and a further 10% in 2009. In the years since, non-resource manufacturing has rebounded, more or less keeping pace with overall economic growth.

The 2008-09 slump was deep and the sector has yet to return to its 2007 level of output. But in recent years, non-resource manufacturing has fared somewhat better in BC than in other provinces. In Ontario, non-



resource manufacturing GDP in 2014 was still 11% below the 2007 level, while in Quebec the sector was 6% smaller. In comparison, BC’s non-resource manufacturing GDP in 2014 was ~4.5% lower than the level in 2007.²

Within BC’s non-resource manufacturing sector, Food Manufacturing is the leading

Due to Statistics Canada’s privacy requirements and data suppression, GDP data for the sector in Saskatchewan cannot be estimated.

¹ Most of the data cited in this paper are taken from Statistics Canada’s CANSIM tables accessed via the agency’s web site.

² In both Alberta and Manitoba non-resource manufacturing GDP in 2014 was higher than in 2007.

segment (measured by GDP and shown in Figure 2 above), with the value of final output nearly double that of the next-largest industry, Machinery. Fabricated Metal Products, Transportation Equipment and Computer and Electronic Products also stand out within BC's broad non-resource manufacturing sector.

Over the past five years the Transportation Equipment industry has seen the most robust expansion, with real GDP increasing by 80%. The next strongest gain was in Electrical Equipment and Component Manufacturing (+52%), followed by Machinery Manufacturing (+37%). Food Manufacturing grew by a modest 4% (in GDP terms) over the period, but it did not experience a contraction during the 2008-09 recession. Indeed, Food Manufacturing and Beverage Manufacturing were the only two manufacturing industries that did not shrink during the most recent economic downturn.

Employment

As of 2014 approximately 117,000 British Columbians were employed in non-resource manufacturing. This count is down from the pre-recession figure of 133,000. In terms of employment stability, non-resource manufacturing has been more resilient than resource-based manufacturing, which saw employment plummet by 34% in the wake of the 2008-09 recession (compared to a ~15% drop for non-resource manufacturing). Since the downturn, employment in both parts of the manufacturing sector (resource- and

non-resource) has inched up by slightly more than 4% overall.

An important characteristic of manufacturing is that it generally pays well. The average weekly wage in the aggregate BC manufacturing sector stands at \$1,003, which compares to the all-industry average of \$882. Resource-based manufacturing industries, such as pulp and paper, are known for providing generous compensation, and in 2014 they reported some of the highest average weekly wages among all industries. However, many parts of non-resource manufacturing are also on the higher end of the pay scale. One example is Computer and Electronic Parts Manufacturing (average weekly wage: \$1,330). Another is Machinery and Equipment Manufacturing (\$1,144).

Export Performance

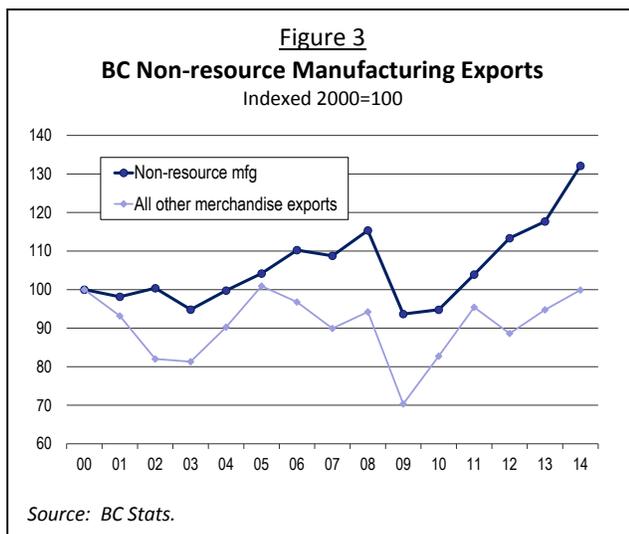
As a small, trade oriented economy, exports are critical to BC's prosperity. Export-oriented firms and industries are able to take advantage of economies of scale to achieve production efficiencies. Subject to the discipline of international competition, they typically boast above average productivity and pay higher than average wages. Exporting firms also generally score better than non-exporters on key measures of business innovation.³

In 2014, BC's non-resource manufacturing exports amounted to ~\$9 billion, equal to one-quarter of international merchandise exports. The value of these exports has risen

³ J. Baldwin and B. Yan, "Trade and Productivity: Insights from Canadian Firm-Level Data," in Institute for Research on Public Policy, Redesigning Canadian Trade Policies for New Global Realities, Volume VI,

edited by Stephen Tapp, Ari Van Assche and Robert Wolfe, 2015; available from irpp.org.

over time. Since 2000 BC's non-resource manufacturing export shipments have climbed by 30%, whereas the value of all other exports is basically unchanged from the early 2000s (Figure 3).⁴ Although non-resource manufacturing was hit by the 2008-09 recession, the data on exports suggests that the sector is not subject to the same gyrations as most resource-based industries.



Establishment Counts

Statistics Canada tracks the number of business establishments in different industry sectors by employment size ranges. This information provides useful insight into the business entities that operate across the various industries in the province.

An examination of establishment counts reveals that non-resource manufacturing is populated by a surprisingly large number of firms. The sector accounts for 60% of manufacturing output⁵, but it is home to 87% of all manufacturing entities in the province.

⁴ To some extent this reflects the impact of very low prices for natural gas in 2013-14 compared to several years ago, as well as a sharp but temporary

This is due to the plethora of smaller firms in segments such as food processing, fabricated metals, plastics, and furniture. In contrast, resource-based manufacturing tends to be dominated by larger establishments.

British Columbia has 6,200 non-resource manufacturing establishments. Some 2,500 of these have 1 to 4 employees, another 1,370 provide jobs for between 5 and 9 people, and 900 have 10 to 19 employees. So in total there are ~4,900 non-resource manufacturing firms with fewer than 20 employees, which is almost 80% of all non-resource manufacturing establishments in the province. Across all BC industries collectively, 88% of firms have fewer than 20 paid staff.

Compared to most other industries, non-resource manufacturing is tilted more towards what can be described as mid-sized companies. Within the sector there are 783 establishments with 20-49 employees and more than 400 in the next two size categories. Adding these three categories together results in 1,211 establishments with between 20 and 199 employees, representing one-fifth of all non-resource manufacturing operations in BC. In comparison, across all industries in the province barely 10% of registered businesses have between 20 and 199 employees.

Concluding Thoughts

The non-resource manufacturing sector in BC is diverse and growing. It garners little attention, in part because resource-based manufacturing is a more visible part of our economy and is populated by larger

jump in the value of BC's electricity exports in the early 2000s.

⁵ Measured in real GDP.

companies. Measured by GDP, however, non-resource manufacturing is larger than resource-based manufacturing, and it employs almost three times as many people.

Machinery Manufacturing

Measured by GDP, Machinery manufacturing is the second largest component of non-resource manufacturing in BC. The industry is comprised of a diverse array of companies producing machinery for the agriculture, construction and mining sectors as well as sawmill and woodworking equipment. Metal working machinery is also a part of this sector. The production of pumps, compressors and engines is also captured in this category.

Machinery manufacturers in BC sold a total of \$2.5 billion worth of products in 2014. The sector is export oriented, with 70% of this total shipped to international destinations. The remaining 30% was used in other industries in BC or other parts of Canada.

There are 499 establishments in BC in the Machinery Manufacturing industry. Two thirds have fewer than 10 employees. At the other end of the scale, there are 25 establishments in the sector with more than 100 employees.

A significant share of BC's non-resource manufacturing output is consumed domestically rather than exported, especially in sectors such as food processing, and parts of metal fabrication and non-metallic mineral products (which includes glass and cement and concrete products). Having these manufacturing industries in the province means that BC does not need to

import what they produce, thereby helping to strengthen the province's trade balance.

BC's non-resource manufacturing sector has enjoyed relatively healthy growth in recent years, notably in the case of export shipments. The sector is well-positioned to continue expanding. Many manufacturers in BC stand to benefit from the lower Canadian dollar and the ongoing revival of the giant US economy.

Finally, the presence of a substantial cluster of mid-sized non-resource manufacturers in BC suggests that the sector may provide fertile ground to grow more small locally-based companies into mid-sized firms while also boosting the province's export capacity.

Given the importance of non-resource manufacturing, what can public policy do to encourage growth in the sector? This is a complex question, not least because of the diverse mix of industries that fit under the rubric of non-resource manufacturing. Tax policy is one area that matters, with the federal government playing a larger role in this domain than the province. Canada has relatively low statutory corporate income tax rates as well as tax provisions that permit accelerated depreciation for investments in machinery and equipment used in manufacturing; both of these features of the tax system are positive for manufacturing in the country. To make manufacturing more attractive in BC, the province could consider investment tax credits that are tied to business expansions and the purchase of sophisticated equipment and advanced technologies – arguably this would do more to spur BC manufacturers to grow and to improve productivity than simply lowering income tax rates.

Computer and Electronic Product Manufacturing

Given the dominance of China and other low cost manufacturing jurisdictions, some people may be surprised that BC has a sizable industry engaged in manufacturing computers and other electronic equipment.

In 2014 BC manufacturers in this industry sold \$1.3 billion worth of goods. This included \$280 million worth of computers and related peripheral equipment, and \$243 million for semiconductors and other electronic components. The largest sub-industry in this grouping is Navigational, Measuring, Medical and Control Instruments, which manufactured and sold \$570 million worth of advanced equipment in 2014. Electronic products manufacturing generated more than \$1 billion in export earnings.

There are 215 establishments in this BC industry. This includes seven establishments with more than 200 employees and another seven with between 100 and 199 employees.

With the restoration of the PST sales tax in 2013, BC took a big step backwards in business tax competitiveness – and manufacturing has suffered more than most industries as a result. The return of the PST has increased production and tax compliance costs for BC manufacturers by hundreds of millions of dollars per year. The Business Council believes the province needs to explore ways to mitigate the PST burden on manufacturers and other export-oriented industries, which have been put at a disadvantage because of the shift back to a cumbersome retail sales tax system.

Access to talent is vital to the success of most industries, and manufacturing is no exception. Many manufacturing CEOs are concerned about future shortages of workers with suitable qualifications and aptitudes, in occupations ranging from the skilled mechanical trades to technicians, engineers, production managers and supervisors, and machine operators and assemblers. As part of the BC Jobs Plan, the province should keep a close watch on the demand for skills in the broad manufacturing sector and how this aligns with the supply capacity of the post-secondary education and training system. In terms of immigration policy, the Provincial Nominee Program offers an avenue to recruit manufacturing workers with in-demand skills. The province should also work with local manufacturers to enable them to make effective use of the federal government's new "Express Entry" system for managing the selection of skilled immigrants. Finally, we believe that manufacturing as a whole warrants a higher profile within the province's overall economic development strategy. Building a more innovative and globally competitive BC economy is a major and continuing challenge -- and the presence of a robust local manufacturing sector can help to get us there.

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