



BRITISH COLUMBIA BUSINESS INDICATORS

September 1996

Manufacturing in British Columbia

Manufacturing continues to play a key role in the provincial economy...

British Columbia's manufacturers produce a wide variety of products ranging from computers, aircraft parts, scientific instruments, food, clothing and textiles, and transportation equipment, to the forest products which dominate manufacturing in the province.

Manufacturing plays a key role as an engine of the economy. In 1995, the sector produced a real gross domestic product (GDP¹) at factor cost of \$8.3 billion, or 12.0% of BC's total GDP (\$69.0 billion). Forty-three percent of the value added by goods-producing industries in 1995 originated in manufacturing. Just under half (43.0%) of the manufactured goods produced in the province are destined for foreign markets. Another 43.5% of the sector's output is consumed within the province, and the rest is sold to other provinces and territories².

A number of industries such as the transportation, wholesale and retail trade industries provide services to the manufacturing sector. These, and other service industries such as health, finance, education, business, personal, and government services, produced almost three-quarters (\$49.8 billion) of the economy's total value added in 1995.

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- 1 GDP, or value added, measures the value of an industry's output net of the costs of production. The GDP figures quoted in this article are measured at factor cost, that is, excluding net indirect taxes, and are expressed in real, or constant dollars. This means that they have been adjusted to remove the effects of price changes so that they measure "real" increases in value added over time. The GDP estimates are from the Industry Measures & Analysis Division of Statistics Canada
 - 2 These figures are based on 1990 estimates prepared by Statistics Canada for the province's Input-Output model.

...but growth in the sector has slowed since 1991

The manufacturing sector's contribution to BC's total economic output has declined since 1984, when 14.1% of the province's GDP originated in manufacturing industries. As Figure 1 illustrates, most of this decline has occurred since the beginning of the 1990s. One reason for the drop is that BC's manufacturing industries were hard-hit by a slowdown that affected the economies of eastern Canada and the US between 1989 and 1991. While GDP in manufacturing has now recovered to its previous level, the sector's total growth since 1991 (11.3%) has lagged behind the provincial average (14.2%) for all industries.

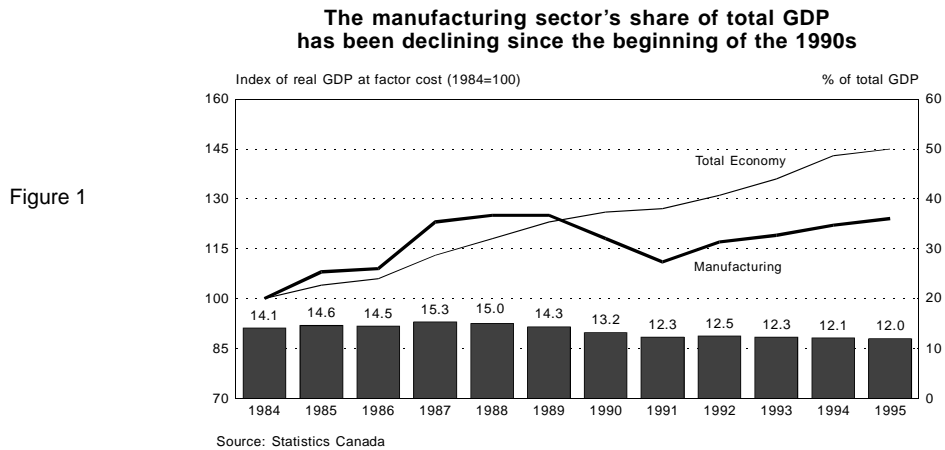


Figure 1

With its concentration of natural resource-based industries, and its dependence on exports to foreign markets, the manufacturing sector is vulnerable to changes in commodity prices, which are set internationally. Because such a large percentage of manufactured products are destined for sale outside the province, the sector is also affected by slowdowns (or expansionary periods) in the rest of Canada, and in other countries. Changing economic conditions in the United States and Japan, the province's major trading partners, are especially likely to influence BC's manufacturing sector. The slowdown in manufacturing during the late 1980s and early 1990s is due, in part, to weak economies in the rest of Canada, and in the United States. BC's economic growth also slowed during this period, but the province escaped the recession that affected most other regions of the country.

GDP in durables manufacturing has grown steadily since 1992

There is considerable variability in GDP growth among industries within the manufacturing sector. Producers of non-durable goods (those with an expected lifespan of less than one year) were most severely affected by the slowdown in manufacturing, and they have not yet regained the ground lost between 1989 and 1991. GDP in non-durables manufacturing increased only 2.3% during this period. However, some industries, such as the beverage industry (35.8%), which produce non-durable goods have expanded at above-average rates since 1991. Others, such as the food (11.3%)

Real GDP shares in manufacturing in 1995

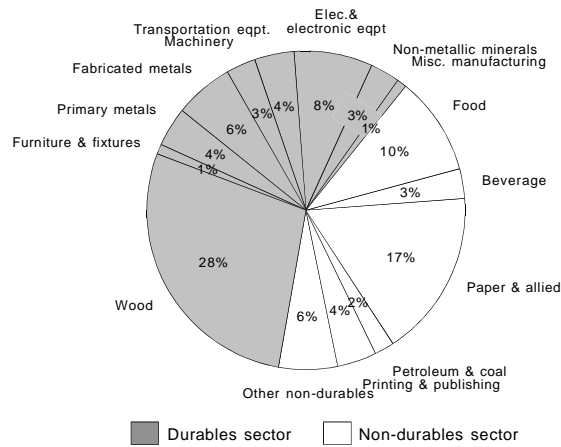


Figure 2

Source: Statistics Canada

Real GDP in the non-durables sector has not recovered to its pre-1990 level

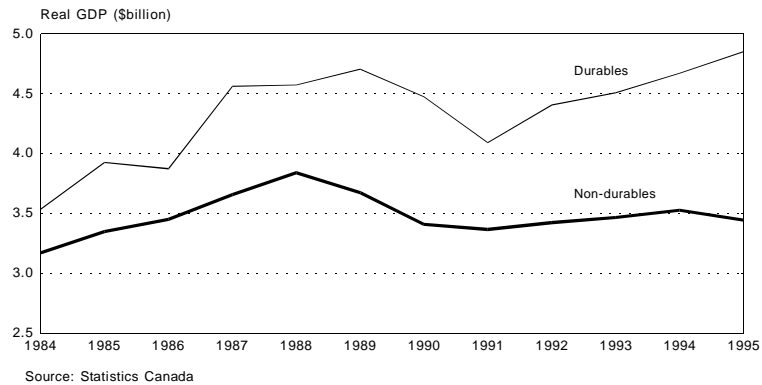


Figure 3

Source: Statistics Canada

and paper and allied products (9.2%) industries, have experienced more moderate growth. GDP in the petroleum and coals products (-47.2%) and printing and publishing (-17.2%) industries has declined since 1991.

GDP in durable goods production, however, has bounced back to pre-slowdown levels, growing 18.7% during the last five years. The strongest growth has been in the electrical and electronic equipment industry, where GDP has increased 212.8% since 1991. The miscellaneous manufacturing (30.4%) and machinery (32.7%) industries have also enjoyed above-average GDP growth. The wood industry, which dominates durables manufacturing, grew 12.5% between 1991 and 1995. Real value added declined in the primary metals (-19.1%), furniture and fixtures (-6.7%), and non-metallic mineral (-2.1%) products industries.

The manufacturing sector employed 192,000 British Columbians in 1995

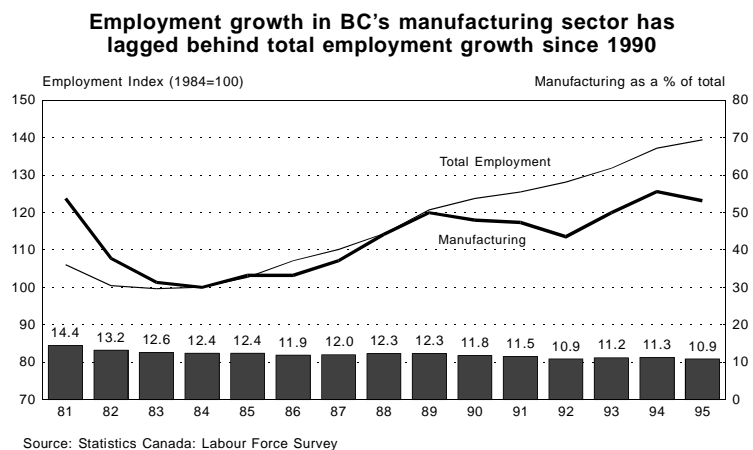
One in nine³ workers in British Columbia was employed in manufacturing industries during 1995. Twenty-five percent of these people had jobs in wood manufacturing. The paper industry was the second largest employer, providing 12% of the jobs in the sector. Other major employers include food and beverages (11%), printing and publishing (10%), metal fabricating (6%) primary metals (5%) and the transportation equipment (5%) industries.

Employment in the manufacturing sector declined from its record-high level of 196,000 in 1994 to 192,000 last year. The total number of British Columbians with jobs increased from 1,733,000 to 1,762,000 during the same period.

The drop in employment during 1995 follows two years of above-average job growth in the manufacturing sector. Among major industries, the largest decline (in percentage terms) occurred in food and beverage manufacturing, where employment fell 22% to 21,000. Job losses also occurred in the wood manufacturing (-11% to 47,000), metal fabricating (-8% to 12,000) and printing and publishing (-5% to 19,000) industries. In contrast, more people had jobs in the paper (+15% to 23,000), transportation equipment (+13% to 9,000) and primary metals (+11% to 10,000) industries.

As a result of job losses in the early part of this decade, the manufacturing sector's share of total employment has declined from 14.4% of the total in 1981 to 10.9% in 1995. As Figure 4 illustrates, the gap between employment growth in this sector and in the economy as a whole has widened since 1990.

Figure 4

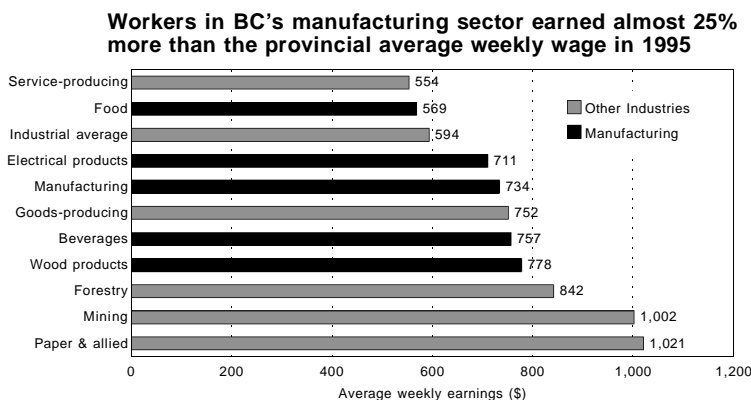


3 The data in this section comes from Statistics Canada's *Labour Force Survey*

Workers in this sector earned an average \$734 per week in 1995

Weekly earnings⁴ in BC's manufacturing industries averaged \$734 in 1995, an increase of 4.6% over the average in the previous year. The growth in earnings was mainly due to higher wages, as the average work week for hourly-paid manufacturing workers was virtually unchanged at 35 hours. The growth in earnings in the manufacturing sector was considerably higher than for the economy as a whole. In 1995, the average worker in BC earned \$594 for a 29-hour work week. As in the manufacturing sector, the 2.9% increase in average earnings last year was due to higher wages rather than a longer work week. For the economy as a whole, average weekly hours declined 1.7% in 1995.

Figure 5



Source: Statistics Canada: Survey of Employment, Payrolls and Hours

Within the manufacturing sector, workers in the paper industry earn the highest wages (\$1,021 for a 39-hour work week). Other industries with above average weekly earnings include the wood (\$778 for a 35-hour week) and beverage (\$757 for a 35-hour week) industries. Workers in the electrical and electronic products industry earned \$711, while those employed in food manufacturing earned considerably less (\$569), but worked fewer hours (32), on average, per week. Figure 5 compares average wages in manufacturing industries with those earned by workers in other sectors of the economy. The comparative ranking of earnings in different sectors of the economy has remained virtually unchanged since 1984.

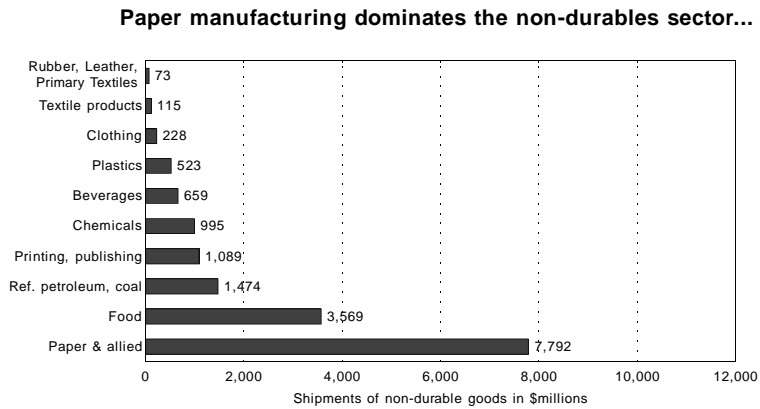
Forest products dominate the province's manufacturing sector

Just under half of the GDP—and more than half of all shipments—originating in BC's manufacturing sector is from the forest products industry. In 1995, wood products accounted for 31.3% of BC's total manufacturing shipments⁵, with another 22.8% coming from the paper and allied products industry. Food manufacturing is the

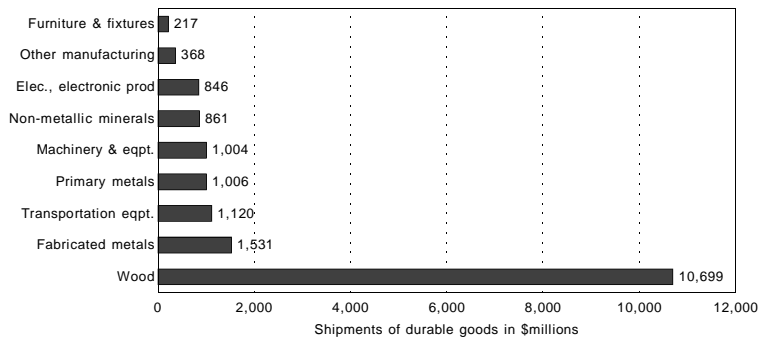
4 The data in this section comes from Statistics Canada's *Survey of Employment, Payrolls and Hours*

5 Data on manufacturing shipments comes from Statistics Canada's *Survey of Manufacturing*

Figure 6



...and wood products make up 61% of total shipments of durables



Source: Statistics Canada: Monthly Survey of Manufacturing

province's third most important manufacturing industry, making up 10.4% of total shipments in 1995.

In contrast, Canadian manufacturing activity is concentrated in the transportation equipment industry, which accounted for 22.0% of total Canadian shipments in 1995. The food industry (11.4%) is the second most important Canadian manufacturing industry, followed by paper and allied products (9.1%). Based on shipments, the wood industry is the seventh largest Canadian manufacturing industry.

Half of the wood, and a fifth of the paper products, shipped by Canadian manufacturers in 1995 was produced in British Columbia.

Manufacturing shipments increased to \$34.2 billion in 1995

The value of shipments of products manufactured in the province increased 10.1% to \$34.2 billion in 1995. Last year was the second consecutive year of double-digit growth in manufacturing shipments. The increase was driven by strength in the paper and allied products sector, which accounts for about a quarter of total shipments. During 1995, the value of shipments of paper and allied products rose 49.6% to \$7.8 billion. As a result of the strength in the

paper industry, shipments by non-durables producers rose 20.2% in 1995. Shipments by BC's third largest manufacturing industry (the food industry) rose by a much more moderate 2.4%, and beverage shipments were up only 0.8% from 1994.

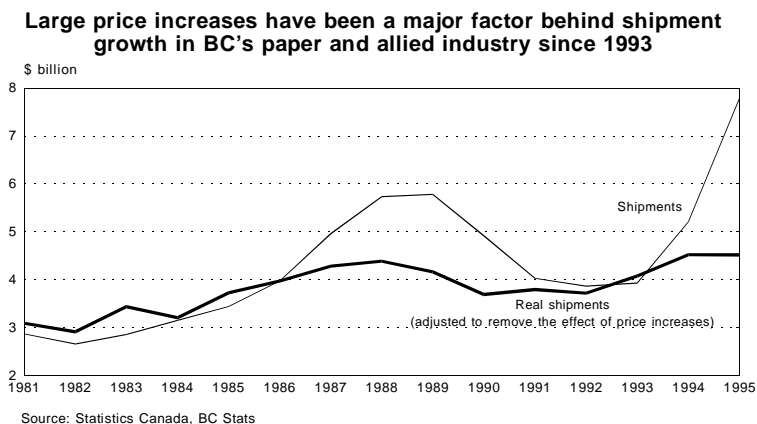
In contrast to the strength in the paper industry, shipments of wood products (which make up about a third of total shipments) declined 3.6% to \$10.7 billion in 1995. The decline in wood shipments counteracted the relatively strong growth in other durable manufacturing industries. As a result, durables shipments increased only 2.0% last year. Durables industries with particularly large increases in shipments last year include the electrical and electronic equipment (+26.7%), transportation equipment (+21.2%), and machinery and equipment industries (+15.1%).

Price increases have been a major factor behind shipment growth in the forest product industries

Strong growth in shipments of wood and paper products in recent years may seem to contradict the more modest increases in the GDP estimates for these industries. However, much of the growth in recent years is due to price, rather than volume, increases. When the shipment data are adjusted to remove the effects of inflation⁶, the large growth observed in the paper and allied products industry is severely dampened, as Figure 7 illustrates. Based on these estimates, most of the growth in the paper and allied products industry during 1995 appears to have been price-driven.

The wood industry has also benefitted from higher prices in recent years. Figure 8 compares shipment growth in the wood industry before and after adjusting for price changes. The volume of wood shipped by BC manufacturers has increased since 1991, but most of the increase is due to higher prices. Prices for forest products are often set internationally, and they reflect changes in international demand as well as fluctuations in the value of the Canadian dollar.

Figure 7



6 The price indexes used to estimate real shipments are BC-weighted industry product price indexes calculated by BC STATS using data provided by Statistics Canada

**In the wood industry, much of the increase in shipments
in recent years is also due to higher prices**

Figure 8

