ECONOMIC COMMENTARY

How Are Low Oil Prices Affecting Alberta's Manufacturing Industry?

January 18, 2016

Highlights:

Revenues in Alberta's manufacturing industry were on a downward trend in 2015. Most of this decline can be traced back to those manufacturing sectors that are closely tied to the oil and gas sector. Sharply lower sales in manufacturing's largest sector, refined petroleum products, are especially impacting overall manufacturing revenues, but sectors that provide oil and gas field machinery and equipment have also been hurt.

Alberta Government

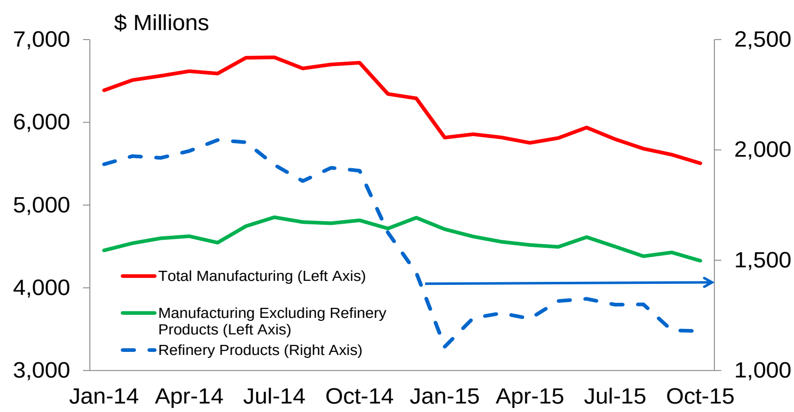
The sharp decline in crude oil prices tipped the Alberta economy into recession in 2015. Slumping investment in the oil and gas sector is the major factor behind the current slowdown, and has led to layoffs in the sectors that provide the goods and services to these projects, such as oil and gas rigging services, construction and engineering services. Many other sectors have also been indirectly impacted by lower oil prices. In this commentary we will examine how Alberta's manufacturing industry was performing in 2015 in light of weaker oil prices and declining oil and gas investment.

Manufacturing sales are impacted in two ways: through lower oil prices which lead to lower product prices for select chemicals and especially for refinery products; and through lower sales volumes of oil and gas field machinery and equipment. Lower crude oil prices have also caused a fairly sharp decline in the Canadian dollar which will benefit some Alberta companies that export manufactured goods to the U.S. Manufacturing sales totaled $57.6 billion in the first 10 months of 2015, down 13.1% from the same period of 2014.

The refined petroleum sector accounts for about 28% of total manufacturing sales. The sales value of refinery products, such as gasoline and diesel fuel, was sharply lower in 2015 than in 2014 (see Chart 1) as lower input costs of crude oil are passed on to the consumers. Between January and October of 2015 sales of refinery products totaled $12.4 billion, a decline of 36% from sales of $19.5 billion in the same period of 2014. While total manufacturing sales fell 13.1%, shipments of manufactured goods excluding refinery products were only 3.5% lower.

Chart 1

Refinery Products are driving down Manufacturing Sales



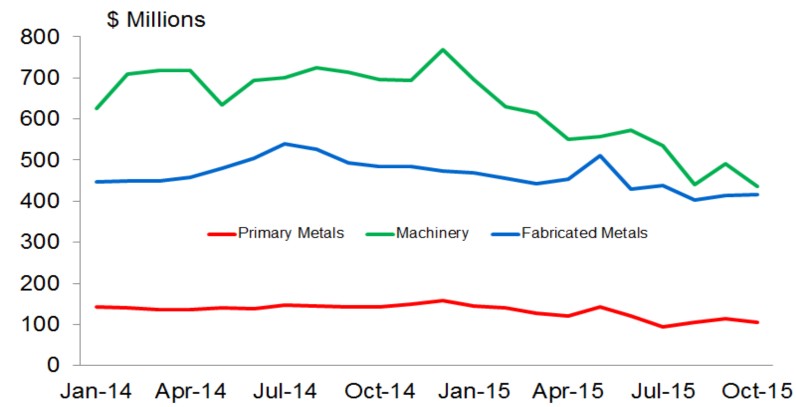
Source: Statistics Canada and Alberta Economic Development and Trade

Alberta's chemicals sector uses very little crude oil as an input, but its petro-chemicals sub-sector does process significant volumes of natural gas and gas liquids such as ethane which also saw their prices drop sharply in 2015. Sales of petro-chemicals were at least 15% lower in the first 10 months of 2015 as a result of a 20% drop in prices. As petro-chemicals only account for about one-quarter of chemical sales and sales of ethylene polymers such as polyethylene, the largest chemicals sub-sector, increased strongly, overall chemical sales only dropped by 3.6% in the first 10 months of 2015 from the same period of 2014.

In a number of manufacturing sectors, such as primary metals, fabricated metals and especially machinery, a large share of their sales is destined for oil and gas fields in Canada and in other countries. These three sectors account for about 20% of total manufacturing sales. In the first 10 months of 2015, machinery sales totaled $5.5 billion, 21% less than in the first 10 months of 2014 (Chart 2). Machinery's largest sub-sector is mining and oil and gas field machinery which saw its sales slump by 36%. Sales of fabricated metal products were 8.5% lower at $4.4 billion: the largest declines were registered for the machine shops and metal tank sub-sectors, both of which saw their sales drop by 34%. Primary metal shipments fell 14% in the first 10 months of 2015 from the same period of 2014 to $1.2 billion on a 19% drop in sales of steel products such as steel pipes and tubes.

Chart 2

Sales of Machinery and Metals also lower in 2015

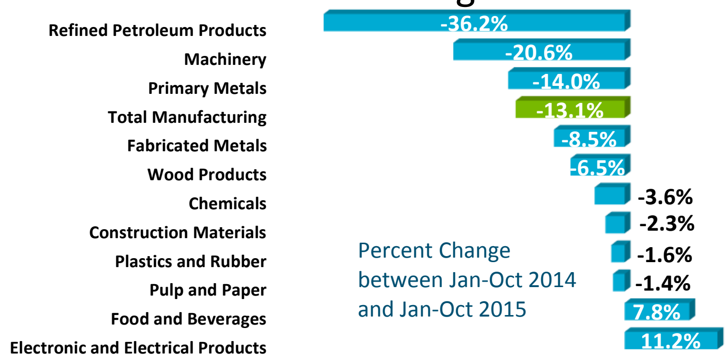


Source: Statistics Canada and Alberta Economic Development and Trade

Besides the five sectors that were discussed in the previous sections a number of other sectors also declined in 2015 (Chart 3). Wood product revenues tumbled 6.5% to $2.9 billion, but surprisingly this is not the result of falling revenues for lumber or engineered wood products such as oriented strand board, but rather to sharply lower sales of wood homes and other wood buildings (some of it probably destined for oil and gas related work camps). Sales of construction materials, such as cement, fell 2.3% and of plastics and rubber 1.6%.

Chart 3

Growth Rates in Alberta's largest Manufacturing Sectors



Source: Statistics Canada and Alberta Economic Development and Trade

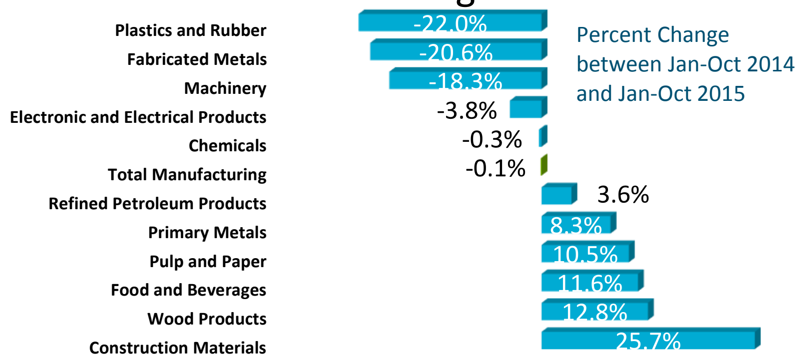
One of the two sectors that saw sales increases in 2015 is the food and beverage sector. It was Alberta's third largest sector in 2014 behind refined petroleum products and chemicals, but is now close to becoming the largest sector again (it was Alberta's largest sector in the years prior to 2004). It saw its sales rise 7.8% year-to-date 2015 to $11.4 billion as a result of higher prices for its largest sub-sector meat products. Sales of electronic and electrical equipment jumped 11.2% on sharply higher sales in one of its largest sub-sectors, switchgear, switchboard and industrial control apparatus. A significant share of the output of the latter sub-sector is also destined for Alberta's oil and gas fields and for oil sands projects.

Although total manufacturing sales were sharply lower in 2015, exports of manufactured goods were stable, falling 0.1% to $19.7 billion during the first 10 months of 2015. In other words, most of the decline in the manufacturing industry was the result of lower domestic demand, especially within Alberta, rather than of lower international exports.

There are a number of reasons for this better export performance. First, the manufacturing sectors that either use crude oil in the manufacturing process or that sell most of their products to the oil and gas sector take up a much smaller share of exports than of total manufacturing shipments. While the refinery products, primary and fabricated metals and machinery sectors together account for about one-half of total manufacturing sales they only account for about one-quarter of manufacturing exports. Second, the lower Canadian dollar shelters Alberta exporters somewhat from lower international prices. Third, although sales of refinery products fell by 36% in the first 10 months of 2015 exports of refinery products actually increased almost 4% as export volumes of diesel, gasoline and other fuel oils to the U.S. surged in 2015 which more than offset lower prices. Finally, a very small share of Alberta's primary metals exports is destined for the international oil and gas sector.

Chart 4

Export Growth in Alberta's largest Manufacturing Sectors



Source: Industry Canada and Alberta Economic Development and Trade

Between December 2014 and October 2015, the number of non-farm payroll employees fell by 3.1% or about 64,000 in Alberta. Most sectors saw their employment levels drop in 2015. The largest decline was registered for the oil and gas sector, which saw its payroll employment drop by just over 25,000 between December 2014 and October 2015 because of a similar decline in its oil and gas services sub-sector. Construction sector employment fell by about 18,000 as a result of a very large decline in its oil and gas oriented heavy and civil engineering construction sub-sector.

The manufacturing industry lost about 15,400 workers during the first 10 months of 2015. Losses were broad-based but were especially large in the sub-sectors that manufacture products for the oil and gas sector.

In the 12 months to October[1], the number of payroll jobs decreased the most in the following sub-sectors:

- Machinery: employment fell 5,167 or 22% to 17,928 employees in October
- Fabricated metals: employment was down 3,566 or 13% to 23,035 employees
- Wood products: employment was down 1,250 or 11% to 10,011 employees
- Pulp and paper: employment was down 667 or 19% to 2,864 employees
- Primary metals: employment was down 541 or 17% to 2,620 employees
- Refined petroleum products: employment was down 544 or 9% to 5,829 employees
- Printing and publishing: employment was down 497 or 9% to 4,750 employees
- Transportation equipment: employment was down 443 or 18% to 2,024 employees
- Food and beverages: employment was down 403 or 2% to 19,635 employees

[1] As seasonally adjusted payroll employment estimates are not available for the manufacturing sub-sectors, year-over-year employment changes are discussed. Manufacturing losses totaled 13,383 year-over-year.

- Electronic and electrical equipment: employment was down 309 or 5% to 5,413

The three sub-sectors that primarily sell oil and gas field machinery and equipment, the primary metals, fabricated metals and machinery sectors, collectively lost 9,274 workers during the past year and accounted for 69% of total manufacturing employment losses.

Alberta's manufacturing industry is expected to continue to struggle in 2016 as the sharp drop in oil and gas prices will depress capital spending by oil and gas companies which in turn will have negative impacts on a number of manufacturing sectors, such as machinery and fabricated and primary metals, which supply machinery and equipment to the oil and gas sector. Prices of refinery products may also remain weak this year.