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Analysis in Brief

Performance of oil and gas field machinery manufacturing

by Elizabeth Richards

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
p	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

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Performance of oil and gas field machinery manufacturing

by Elizabeth Richards

1 Oil and gas extraction supports sales growth among machinery manufacturers

The oil and gas extraction industry in Canada saw significant growth during the post-recession period of 2009 to 2013. This growth also generated economic activity for Canadian manufacturers of oil and gas machinery products. This Analysis in Brief highlights the recent sales performance of this sector.

Real gross domestic product for the oil and gas extraction industry increased 15.0% from 2009 to 2013, compared with 11.2% for the economy as a whole. Over half of the gains in crude oil extraction reflect an increase in extraction from non-conventional sources, for example in-situ and surface mining bitumen extraction, in particular the Alberta oil sands.

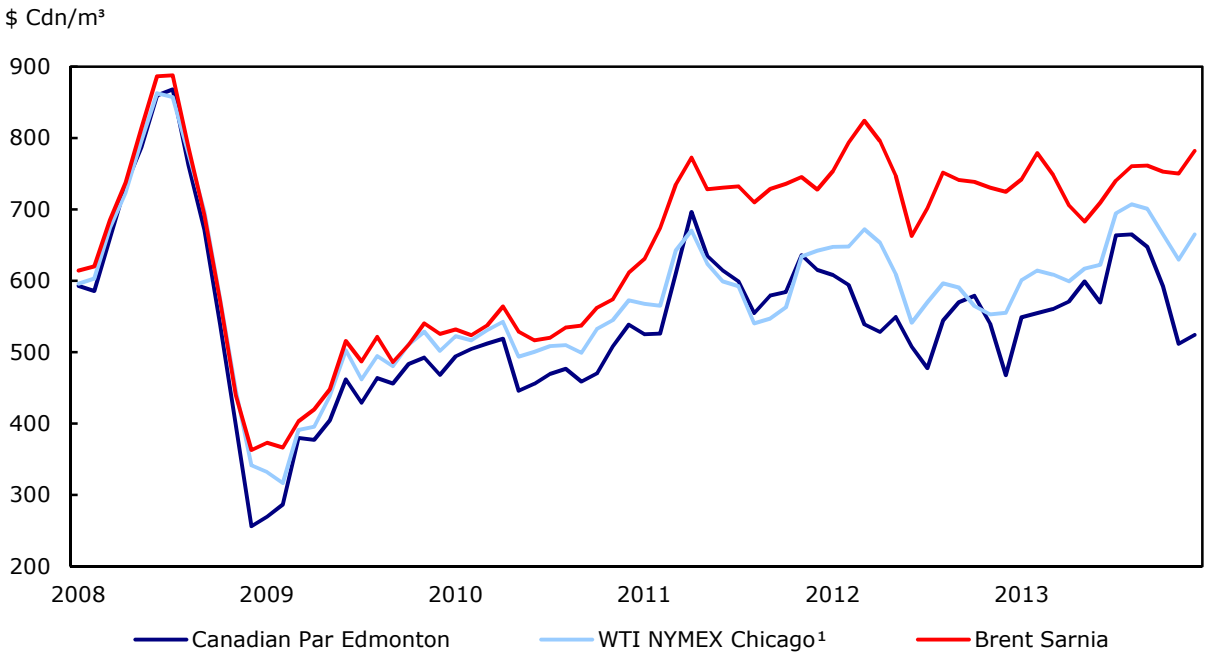
Table 1
Supply and disposition of crude oil and equivalent

	2008	2009	2010	2011	2012	2013
	millions of cubic metres					
Total crude oil production	**148.4**	**148.0**	**156.7**	**166.8**	**180.7**	**191.7**
Heavy crude oil	27.1	25.2	24.6	24.8	26.3	26.4
Light and medium crude oil	51.4	45.4	46.6	48.3	49.9	53.7
Non-conventional crude oil	69.9	77.3	85.5	93.6	104.5	111.5

Note(s): Non-conventional crude oil includes crude bitumen and synthetic crude oil.
Source(s): CANSIM table 126-0001.

In volume terms, the total amount of crude oil extracted increased 29.5% from 2009 to 2013, while the extraction of non-conventional crude oil rose 44.2% over the same period. At the same time, crude oil prices have been trending upwards after falling from their 2008 record high.

Chart 1
Crude Oil Prices, monthly average in Canadian dollars per tonne



1. West Texas Intermediate (WTI); New York Mercantile Exchange (NYMEX).
Source: Natural Resources Canada, crude oil prices.

The expansion of the Alberta oil sands has buoyed the demand for machinery products used in oil and gas production, supporting sales growth among manufacturing industries that supply these products. Similarly, the recent expansion of oil production in Texas and North Dakota has led to higher Canadian exports of machinery products in some years.

2 Investment spending in oil and gas bolsters demand for machinery

Capital expenditures include the costs of setting up infrastructure for oil and gas extraction projects as well as spending on machinery and equipment. Concurrent with the growth in real gross domestic product for oil and gas extraction, capital expenditures grew substantially following the recession. Following a 38.7% decrease in 2009, investment rebounded quickly from the economic downturn, up 57.0% in 2010, and nearly reaching its 2008 value. From 2010 to 2013, the amount invested in oil and gas extraction continued to increase, rising 43.8% to $69.4 billion.

Although investment in non-conventional and conventional industries have both exceeded pre-recession levels, growth for non-conventional oil and gas extraction has outpaced conventional. As of 2013, non-conventional extraction represented roughly half of total oil and gas extraction, almost doubling in value from 2010 to 2013 to $32.7 billion.

Table 2
Capital expenditures, annual

	billions of dollars					
	2008	2009	2010	2011	2012	2013
Oil and gas extraction [211]	**50.2**	**30.7**	**48.3**	**57.8**	**65.3**	**69.4**
Conventional oil and gas extraction [211113]	29.5	20.2	31.1	35.3	38.2	36.7
Non-conventional oil extraction [211114]	20.7	10.6	17.2	22.6	27.2	32.7

Source(s): CANSIM table 029-0007.

Many manufacturers supply machinery and equipment used in both the conventional and non-conventional oil and gas extraction industry, including controlling devices, transportation equipment and other engine and power transmission equipment. Pumps and compressors used in bitumen recovery are also used in non-conventional extraction.

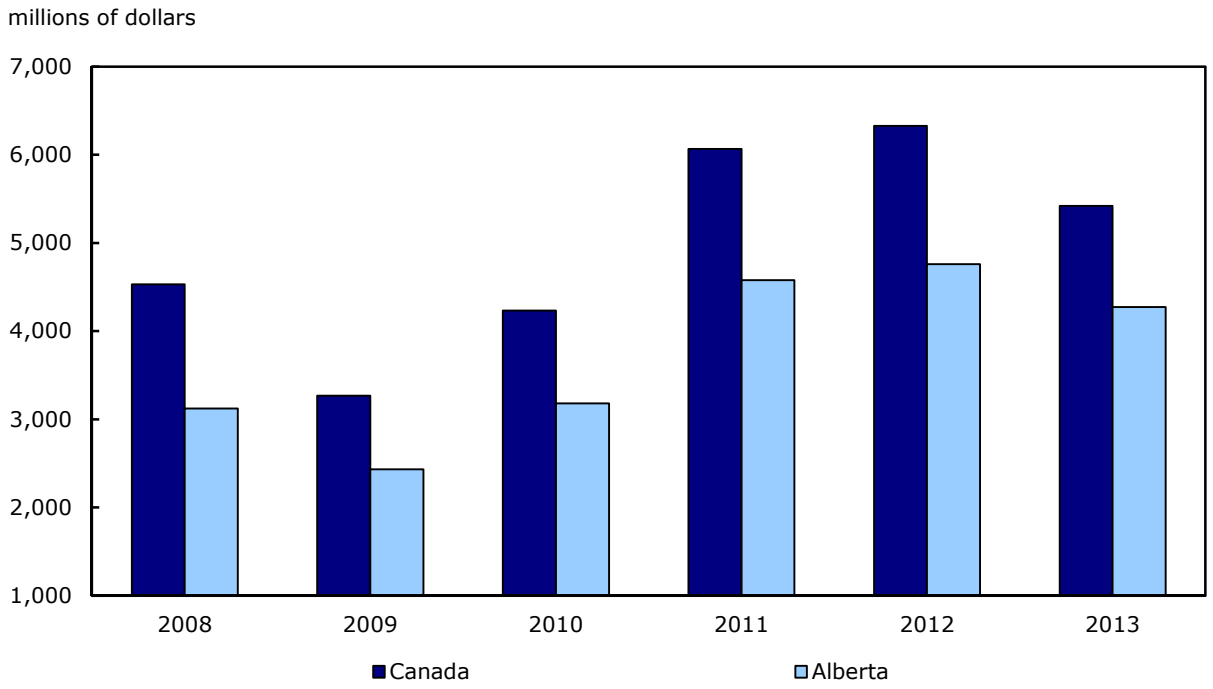
However, the bulk of demand for both non-conventional and conventional oil extraction stems from mining and oil and gas field machinery. The establishments in this industry produce a wide range of products, including derricks, drilling rigs and parts, as well as oil sands extraction machinery. Growth in non-conventional extraction has led to widespread gains in the industry, among the numerous companies that supply oil sands projects.

3 Oil and gas field machinery manufacturing leads growth

Sales of mining and oil and gas field machinery increased almost every year from 2003 to 2013, more than doubling in value. While other manufacturing industries have struggled post-recession, sales for mining and oil and gas field machinery rose every year from 2010 to 2012. Sales for the industry fell 27.9% in 2009 to $3.3 billion, but rebounded quickly. Sales rose 29.6% in 2010 and 43.3% in 2011. The increase in 2011 represents one of the highest percentage increases for the manufacturing sector that year. Annual sales in 2011 were 33.9% above their pre-recession peak, while durable goods sales stayed below 2008 levels. Sales for the industry continued to increase in 2012, up 4.3% to a record high of $6.3 billion.

Sales of mining and oil and gas field machinery declined 14.3% in 2013, as the industry experienced a downturn. Sales continued to decrease in the first three quarters of 2014, declining 1.1% on a year-to-date basis. Similarly, unfilled orders have been trending downwards in 2014 after advancing every year from 2009 to 2013. They reached a peak of $1.1 billion in March 2013. Sales and unfilled orders for the industry can fluctuate and depend heavily on the implementation of oil and gas projects.

Chart 2
Sales for mining and oil and gas field machinery manufacturing



Sources: CANSIM tables 304-0014 & 304-0015.

The manufacturing of mining and oil and gas field machinery is concentrated in Alberta, with Edmonton-based manufacturers accounting for over half of the sales in the province's industry in 2012. While mining and oil and gas field machinery manufacturers in Ontario and Quebec reported higher sales during the post-recession period, sales of oil and gas field machinery manufacturers in Alberta rose 75.6% from 2009 to 2013, accounting for the bulk of the national growth. In 2013, Alberta manufacturers accounted for over three-quarters of the industry's total sales. In contrast with the national trend, sales of mining and oil and gas field machinery in Alberta increased 4.7% on a year-to-date basis in the first three quarters of 2014.

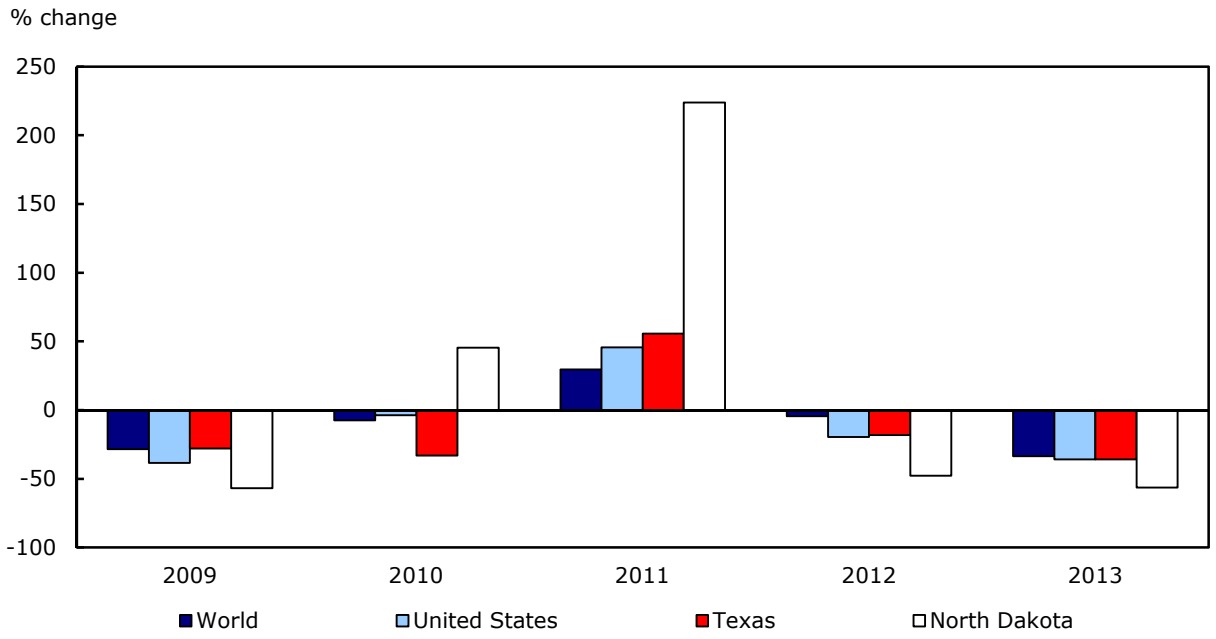
4 Oil and gas projects in Texas and North Dakota increase demand for Canadian products

International demand has also bolstered sales for Canadian manufacturers of oil and gas field machinery. Although oil and gas projects in other countries (such as Russia and Australia) have contributed to higher demand for Canadian products in recent years, the United States continues to be Canada's most important trading partner in this sector. In particular, new oil and gas projects in Texas and North Dakota have contributed to increased demand for Canadian products.

A significant segment of exports for mining and oil and gas field machinery manufacturers are accounted for by boring or sinking machinery (self-propelled and not self-propelled), along with the associated parts for this equipment. Total domestic exports for these commodities fell 28.4% in 2009 and have yet to recover to pre-recession values.

However, exports were stronger in 2011 and 2012, reflecting higher sales for mining and oil and gas field machinery during those years. About two-thirds of the growth in 2011 reflects higher exports to the United States, mainly to Texas and, especially, North Dakota. Higher sales in North Dakota reflected increased crude oil extraction via horizontal drilling and hydraulic fracturing in the shale Bakken formation. But, 2013 saw total exports drop 33.6%, in line with the trend observed for mining and oil and gas field machinery.

Chart 3
Annual change in domestic exports of boring and sinking machinery and related parts



Sources: Canadian International Merchandise Trade Database (Catalogue number 65F0013X): boring and sinking machinery (self propelled) (HS 8430.41.00), boring or sinking machinery (not self-propelled) (HS 8430.49.00) and parts of boring or sinking machinery, whether or not self propelled (HS 8431.43.00).

The oil and gas field machinery industry remains very much project-driven and will fluctuate in the future depending on the implementation of new exploration and extraction operations in North America and abroad. This Analysis in Brief highlights the dependence of the industry on extraction projects. This relationship will likely continue to shape the industry's development. The sales decrease observed in 2013 may indicate a turning point for the industry, particularly given recent declines in crude oil prices.