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Motor Vehicle Manufacturers Reposition in 2015

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
0^s 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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Motor Vehicle Manufacturers Reposition in 2015

by Elizabeth Richards, Analytical Studies Branch

This *Economic Insights* article highlights recent data for motor vehicle manufacturers, focusing on industry developments in 2015 and 2016. The paper provides context on recent economic events influencing the competitiveness of the industry and highlights the interdependency between Canadian auto manufacturing and the U.S. retail market. Motor vehicle manufacturers in Canada repositioned in 2015 by increasing investment and shifting production towards light trucks. This report discusses the impact of these activities on sales, output and operating profits.

The tabulations presented in this report are based on data available in CANSIM on February 15, 2017.

Overview

Motor vehicle assembly remains one of Canada's largest manufacturing industries despite substantial declines in production and investment during the post-recession period. Given that the majority of vehicles assembled in Canada are destined for the retail market in the United States, the performance of Canadian auto manufacturers is influenced by global competition and fluctuating exchange rates. Economic events in recent years have shaped current industry trends, including the impact of the global recession and subsequent recovery, as well as heightened competition from Mexican producers for market share. Despite increased retail demand in the United States, which was bolstered by pent-up demand, subprime automotive lending and low oil prices in recent years, the output of Canadian motor vehicle manufacturers remained below pre-recession levels until early 2016. Coinciding with the recent shift in consumer preferences to light trucks, Canadian manufacturers invested in upgrades to existing plants in early 2015 and shifted production to light trucks, an important turning point for the industry, which led to notable output gains in late 2015 and early 2016.

The report will examine how the shift to light trucks in late 2015 and early 2016 is reflected in key indicators, including investments made in early 2015 and the subsequent trends in sales, output, employment, earnings, profits and investment. The analysis complements *Differences in Post-recession Performance for Auto Manufacturers and Service Industries* (Richards 2017), which highlights differences in the economic performance of auto industries in the manufacturing sector and auto industries engaged in the distribution and retail of motor vehicles and their parts since the 2008-2009 recession.

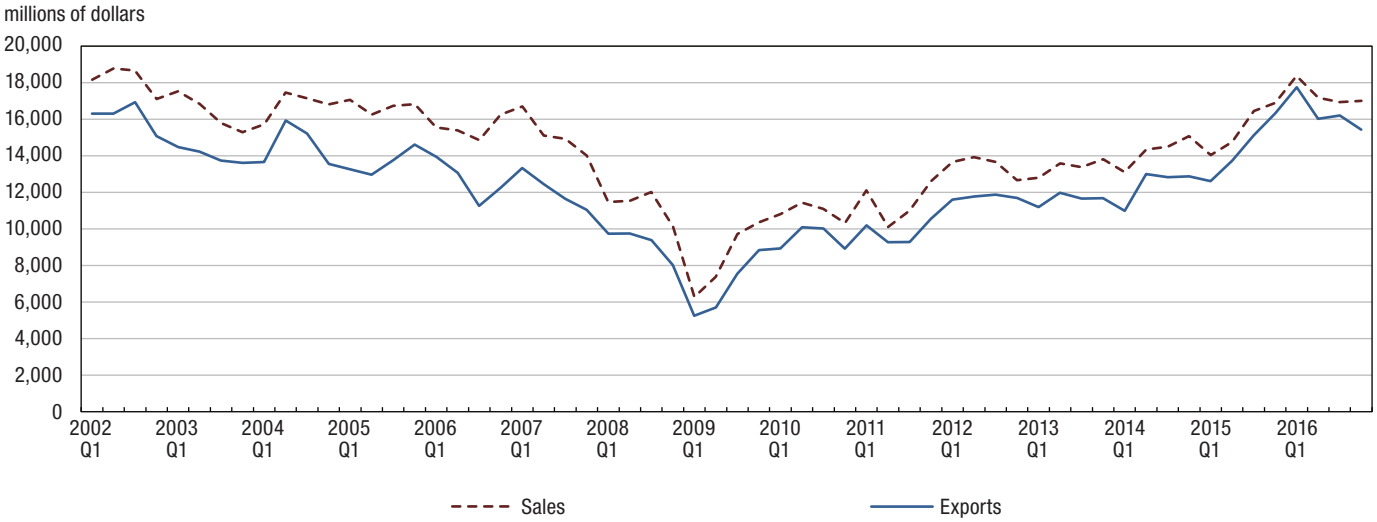
Canada's motor vehicle industry closely related to U.S. retail market

The performance of Canada's motor vehicle manufacturing industry is closely related to retail demand south of the border, as over three quarters of manufacturing sales are destined for the U.S. market.[1] Over the last decade, the share of motor vehicles assembled in Canada that are exported rose from 79.8% in 2007 to 87.1% in 2014 and 93.0% in 2015, indicating that the Canadian market has become increasingly linked to foreign demand (Chart 1).[2] During the last recession, the decrease in U.S. retail demand and the subsequent recovery from 2010 to 2013 strongly influenced the performance of Canadian motor vehicle manufacturing. Continued strength in U.S. retail demand led to significant growth in motor vehicle manufacturing in late 2015 and early 2016.[3]

Despite the increase in export propensity, Canadian auto manufacturers faced increased competition from abroad in recent years, as Canada's share of the U.S. market declined. In current dollars, Canada accounted for 25.4% of U.S. imports of passenger cars in 2015, down from 27.4% in 2007.[4] During the same period, Mexico's share of U.S. imports rose from 10.1% to 14.1%. The shift is more significant for trucks, buses and special purpose vehicles, a category which includes light trucks, as Canada's share of the U.S. market declined from 49.1% to 7.6%, while Mexico's share increased from 44.9% to 85.4% during the same period. Canada's export performance was affected by a loss in market share, which may reflect the stronger Canadian dollar prior to the recession (Nye 2014, p. 2).

1. For the purpose of this paper, motor vehicle manufacturing, or motor vehicle assembly, refers to industry 3661 of the North American Industry Classification System (NAICS).
2. Note that exports of passenger cars can also include used vehicles. In 2015, the Canadian dollar weakened relative to the U.S. dollar, which led to an increase in demand for used vehicles from Canada in the United States (Owram 2016). According to data from the Canadian Vehicle Manufacturers Association (2016), which collects data on units produced by the main motor vehicle manufacturers in Canada, 90.4% of vehicles were exported in both 2015 and 2014.
3. All quarterly data used in this article are seasonally adjusted unless otherwise stated.
4. The analysis related to U.S. market share is conducted with data on end-use imports for passenger cars, new and used, published by the United States Census Bureau (n.d.).

Chart 1
Canadian sales and exports of motor vehicles



Notes: Exports of passenger cars can include used cars exported to foreign countries. Q stands for quarter.

Sources: Statistics Canada. CANSIM tables 304-0014 and 228-0059.

Similarly, Canada's share of total North American vehicle production has declined since reaching a peak of 17.4% of total units in 1999.[5] Since then, the U.S. and Canadian share of North American production has trended downwards, while the Mexican share has increased. For Canada, the largest declines occurred after the 2008-2009 recession, as the share of production decreased from 17.0% in 2010 to 12.7% in 2015. During the same period, Mexico's share of North American production was relatively stable. The largest gains in market share for Mexico occurred prior to the recession, from 2005 to 2008, when Mexico's share of North American production rose from 10.3% to 16.8%, mainly at the expense of declines in U.S. production.

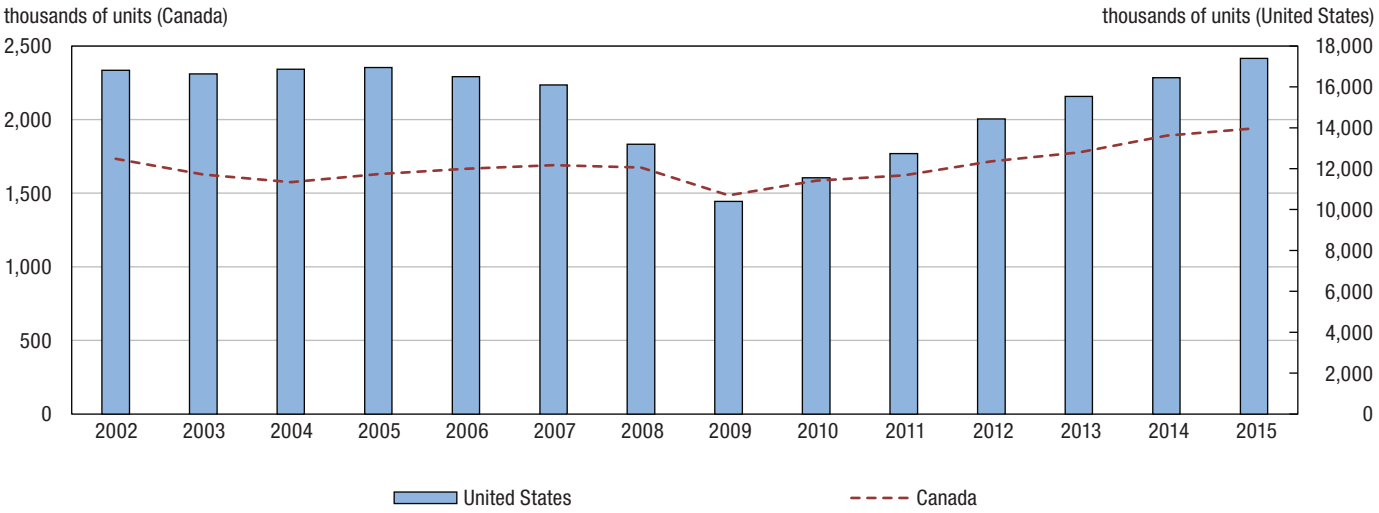
Consumer preferences shifted to light trucks in recent years

In both Canada and the United States, sales of new motor vehicles decreased sharply during the 2008-2009 recession. Following these declines, unit sales of new motor vehicles partly recovered in 2010, increasing 6.7% in Canada and 11.1% in the United States, and continued to advance each year thereafter. In 2015, new motor vehicle sales in both countries reached record highs (Chart 2). Growth in sales of light trucks are mainly responsible for post-recession gains in both countries.

Several economic events contributed to the overall increase in demand, including the shift in consumer preferences to light trucks. For example, in the United States, lower gasoline prices and increased access to subprime automotive lending led to higher sales of light trucks in 2015 (Bond 2016, p. 3). In addition, pent-up demand or under-spending on motor vehicles from 2009 to 2014 supported recent growth, as consumers who waited longer to replace their vehicles started to exchange them (Bond 2016, p. 3-4). Although the average age of vehicles in operation in the United States has been trending upwards since the mid-1990s, the pace of growth accelerated in the post-recession period, as the average age of vehicles rose from 10.3 to 11.4 years from 2009 to 2013.[6] In 2014, the average age of vehicles in operation remained at 11.4 years and edged up to 11.5 in 2015 (IHS Automotive 2015). Similar economic conditions contributed to a shift in higher demand for light trucks in Canada. An analysis of recent economic developments in the Canadian retail market is included in Richards (2017).

5. The following analysis is conducted using units of production data from the United States Department of Transportation (n.d.*a*) on passenger cars and commercial vehicles. This category includes passenger cars, commercial vehicles, trucks, buses and light trucks, such as pickups, sport utility vehicles and minivans.
6. Data used for the analysis are from the United States Department of Transportation (n.d.b), up until reference year 2014.

Chart 2
New motor vehicle sales for the United States and Canada



Sources: Statistics Canada, CANSIM table 079-0003; and Bureau of Economic Analysis, 2017, *Motor Vehicle Unit Retail Sales: Table 6 - Light Vehicle and Total Vehicle Sales.*

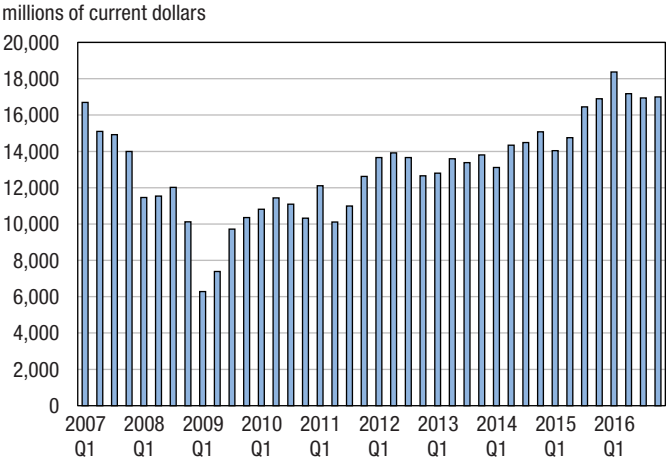
Canadian auto manufacturers shifted production to light trucks in 2015

The shift in consumer preferences to light trucks coincided with a similar shift in motor vehicle manufacturing. Since the 2008-2009 recession, Canadian manufacturers have increased their production of light trucks. From 2010 to 2015, the proportion of light trucks produced relative to total light vehicle production in Canada rose from 53.1% to 60.8%, reflecting growth in sport utility vehicles.[7]

Manufacturing sales of motor vehicles declined markedly during the 2008-2009 recession, reflecting lower retail demand from the United States. Despite a quick recovery in the U.S. retail market, manufacturing sales in Canada have only recently surpassed pre-recession levels, as the recovery from declines during the recession was slower than for other manufacturing industries.[8] More recently, in 2015, as motor vehicle manufacturers repositioned by shifting production to light trucks and investing in plant upgrades, the industry embarked on a period of growth.

Following a decline in the first quarter of 2015 related to plant upgrades, current dollar sales of motor vehicle manufacturing posted notable growth in late 2015 and in early 2016. Sales reached a recent peak in the first quarter of 2016, up 8.7% to the highest level since the third quarter of 2002. On account of supply disruptions related to the April 2016 earthquake in Japan, sales declined 6.5% in the second quarter of 2016 (Statistics Canada 2016*a*). Although sales remained below the peak reached in the first quarter of 2016 in the next three quarters, sales were 11.8% higher in 2016. The gains in late 2015 and 2016 partly reflected higher prices and a shift in production to light trucks.

Chart 3
Canadian manufacturing sales for motor vehicles



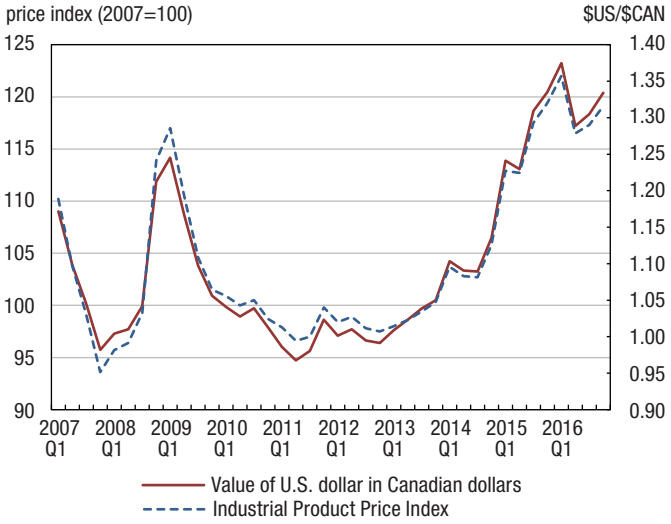
Note: Q stands for quarter.
Source: Statistics Canada, CANSIM table 304-0014.

7. Data from DesRosiers Automotive Consultants Inc. (2016). The author would like to gratefully acknowledge the contribution of Denis DesRosiers of DesRosiers Automotive Consultants Inc. (www.DesRosiers.ca) for data provided and important peer review comments provided for this article.
8. For an analysis of the immediate post-recession recovery, please see Bernard (2013).

Notable movements in the Canadian exchange rate have influenced motor vehicle prices and motor vehicle sales in recent years. In the last quarter of 2014, the Industrial Product Price Index (IPPI) for motor vehicles rose 3.0% and continued to trend higher, increasing 6.7% in the first quarter of 2015 (Chart 4). Following a slight decline in the second quarter of 2015, the IPPI rose for three consecutive quarters thereafter. Price increases in 2015 coincided with a weakening of the Canadian dollar relative to the U.S. dollar.

Given that the bulk of motor vehicle assembly in Canada takes place in Southwestern Ontario and that product moves quickly throughout the automotive supply chain, parts suppliers are often located nearby, in Ontario and in the Northern United States. Motor vehicle manufacturers typically negotiate pricing agreements with parts suppliers from the United States, Canada and other countries throughout the year. These contracts can be priced in U.S. dollars. In the fourth quarter of 2014, the U.S. dollar appreciated 4.3% relative to the Canadian dollar and a further 9.3% in the first quarter of 2015 (Chart 4). After a slight depreciation in the second quarter of 2015, the U.S. dollar continued to strengthen until the second quarter of 2016.

Chart 4
Price index for vehicles manufactured in Canada and value of the U.S. dollar relative to the Canadian dollar



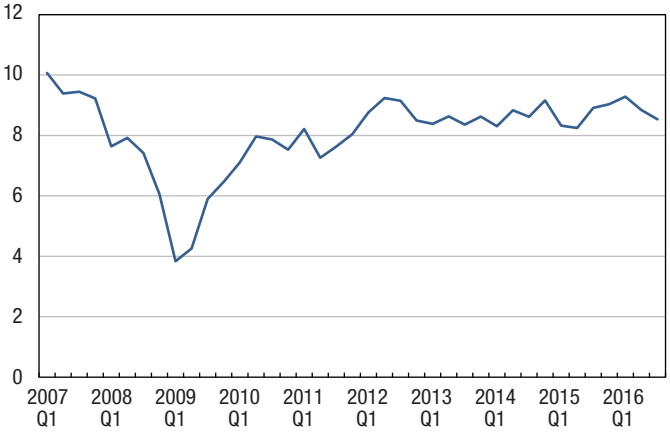
Note: Q stands for quarter.
Sources: Statistics Canada, CANSIM tables 329-0077 and 176-0064.

Motor vehicle output accelerated in late 2015 and early 2016

Similar to current dollar sales, real gross domestic product, a measure of the volume of motor vehicles produced, slowed in early 2015 and accelerated later in the year. Output declined in early 2015, as major Canadian manufacturers invested in upgrades to existing plants (Bounajm, 2015, p. 6-7). Following these investments, output increased 8.1% in the third quarter of 2015 and 1.4% in the fourth quarter (Chart 5). Output continued to accelerate in the first quarter of 2016, advancing 2.7% and surpassing pre-recession levels (late 2007) for the first time. Output slowed in the second and third quarters of 2016, following the recent peak reached in the first quarter.

Export volumes for passenger cars and light trucks also increased markedly in late 2015 and early 2016. Following a decline in the first quarter of 2015, export volumes increased in late 2015, exceeding pre-recession levels for the first time in the fourth quarter of 2015. Export volumes continued to increase, up 7.7% in the first quarter of 2016 to the highest level since early 2006.

Chart 5
Real gross domestic product for auto manufacturers, Canada



Note: Q stands for quarter.
Source: Statistics Canada, CANSIM table 379-0031.

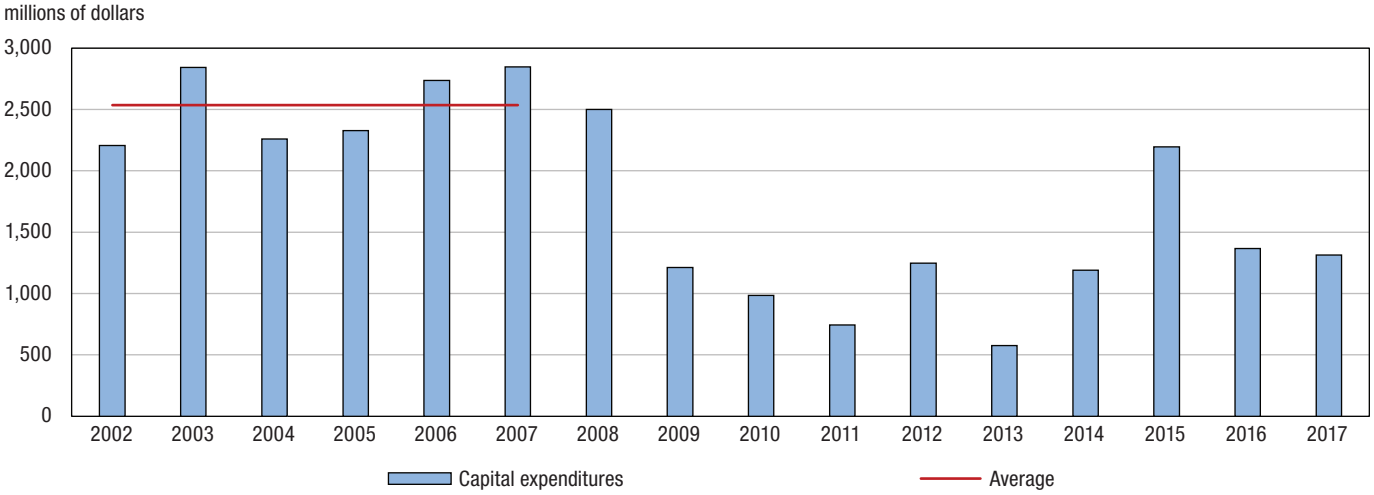
Investment in motor vehicles remained modest despite 2015 gains

Capital spending in motor vehicle assembly plants has generally remained low in the post-recession period, except for a notable increase in 2015 (Chart 6). Some manufacturers modernized existing motor vehicle plants in early 2015 (Bounajm 2015, p. 6-7). Investment returned to lower levels in 2016 and is expected to decline in 2017 based on intentions. In the five years prior to the recession, investment in machinery and equipment for motor vehicle assembly plants reached an average of $2.5 billion annually, increasing to $2.8 billion in 2007. Investment decreased 12.1% to $2.5 billion in 2008 and fell to $1.2 billion in 2009. Except for the 2015 increase, investments in recent years have remained low compared to pre-recession levels.

Since the 2008-2009 recession, the Canadian federal government provided loans to several motor vehicle and motor vehicle parts companies as part of the Automotive Innovation Fund (AIF). The goal of the AIF was to promote research and development, to improve fuel efficient technologies, as well as to foster Canadian competitiveness (Government of Canada, n.d.*a*). Some of the projects funded since the recession were related to fuel efficiency (Government of Canada, n.d.*b*).

By contrast, capital expenditures in Mexico increased markedly prior to the recession and recovered relatively quickly from lows during the recession. From 2005 to 2008, when Mexico's share of North American production grew rapidly, gross fixed capital formation for motor vehicles, trailers and semi-trailers rose by 43.5%.[9] During this period, the Canadian dollar strengthened relative to the U.S. dollar. Investment recovered to pre-recession levels by 2011 in Mexico, while outlays in Canada remained low until 2015. Similarly, significant investments have been announced since the recession to build new plants in Mexico (Bond 2016, p. 7). No new plants have been opened in Canada since 2008 (Bond 2016, p. 7).

Chart 6
Capital expenditures for auto manufacturing, annually and average from 2002 to 2007, Canada



Note: Data for capital expenditures are not available on a quarterly basis. Due to methodological changes, data from 2002 to 2012 and data from 2013 onwards are not directly comparable. Data for 2016 are preliminary and will be revised. Intentions for 2017 will be revised with preliminary estimates in the next Survey of Capital and Repair Expenditures release. Data for capital expenditures are collected at the enterprise level, as opposed to data for manufacturing sales and output, which are collected at the establishment level.
Source: Statistics Canada, Survey of Capital and Repair Expenditures.

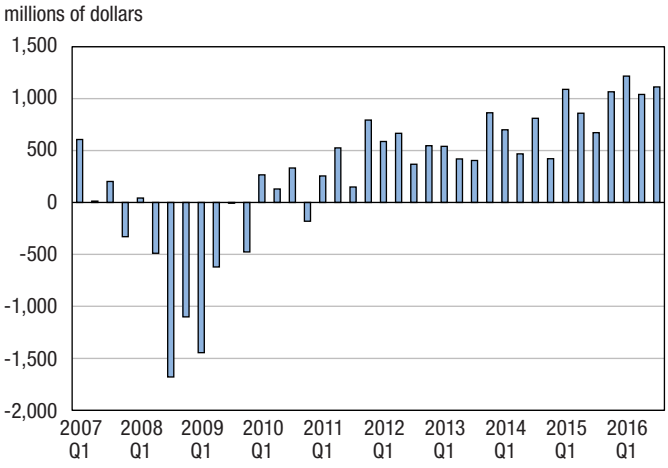
9. Please see OECD (2016). Note that the data are only available for motor vehicles, motor vehicle parts and motor vehicle body and trailer combined, and not on an industry basis.

Higher profits related to shift to light trucks and the weaker dollar

Motor vehicle manufacturers and motor vehicle and body and trailer manufacturers reported large operating losses during the 2008-2009 recession, starting in the second quarter of 2008 (Chart 7). Motor vehicle manufacturers experienced losses totalling $4.7 billion from the second quarter of 2008 to the first quarter of 2009. In 2010, manufacturers returned to earning operating profits and profits generally trended upward in recent years. In the last quarter of 2015, profits advanced markedly and remained high in the first three quarters of 2016, reaching a peak of $1.2 billion in the first quarter of 2016. Similarly, operating profit margins, defined as the share of operating profits to operating revenues, increased substantially in 2015 and stayed high in 2016. Following a recovery in profit margins during the post-recession period, profit margins rose to 2.6% on average in 2013 and in 2014. This percentage rose to 3.9% in late 2015, reached a recent peak of 4.4% in the first quarter of 2016 and stayed high in the second and third quarters of 2016.

Revenues for motor vehicle manufacturers have increased as a result of the shift in model mix towards higher-margin light trucks (Bond 2016, p. 10). As output accelerated in late 2015 and in early 2016 following plant upgrades, operating profits increased. The depreciation of the Canadian dollar, which contributed to higher prices for motor vehicles in 2015 and led to higher revenues, also provided an incentive for manufacturers to increase production (Bond 2016, p. 10-11).

Chart 7
Operating profits for motor vehicle manufacturing and motor vehicle body and trailer manufacturing, Canada



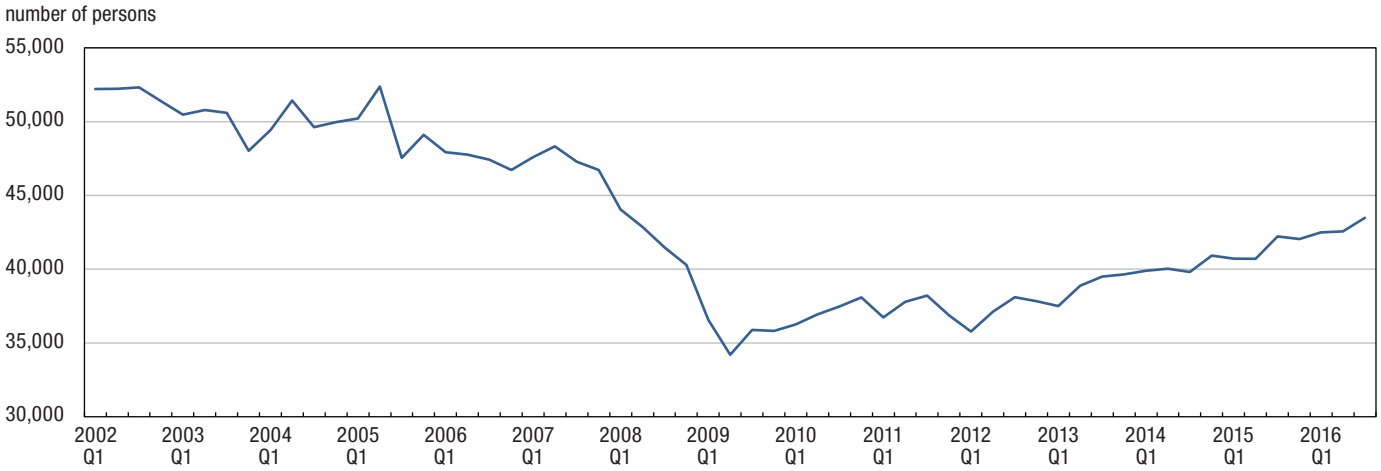
Notes: This series includes operating profits for motor vehicle body and trailer and is not seasonally adjusted. Data for operating profits are produced at the enterprise level, while other series included in this paper are compiled at the establishment level. Q stands for quarter.
Source: Statistics Canada, Quarterly Financial Statistics for Enterprises.

Overtime increased in late 2015 and early 2016 to meet production targets

Employment grew at a slower pace than output in late 2015, indicating that increased work intensity for workers at motor vehicle assembly plants contributed to higher output (Chart 8). Employment edged down to lower levels in early 2015 and rose in the third quarter, up 3.7%. Following this increase, employment has generally edged up. To meet increased demand in late 2015, manufacturers increased the number of overtime hours, as average weekly hours reached 49.8 in October 2015.[10] By contrast, hours worked averaged 37.9 in 2013 and ranged from 32.5 to 38.3 in 2014.

10. Data on hours worked are from Statistics Canada, CANSIM table 281-0032. Data are not available for all months. The datum for October 2015 is of lower quality than the other months analyzed.

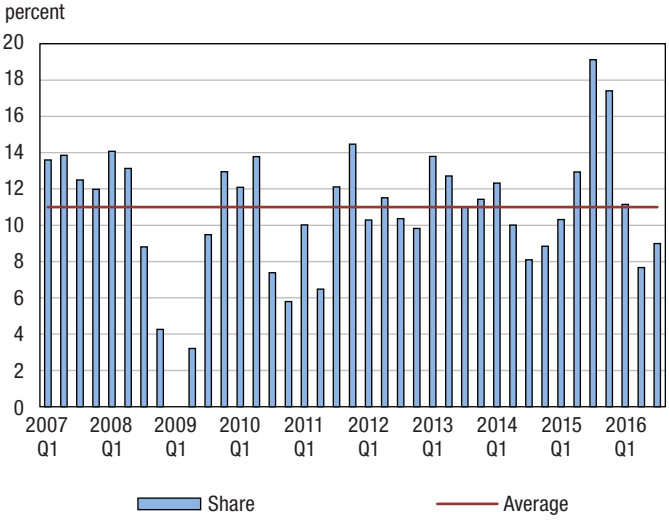
Chart 8
Employment for motor vehicle manufacturing, Canada



Notes: Quarterly employment for motor vehicle manufacturers is a non-seasonally adjusted series. Q stands for quarter.
Source: Statistics Canada, CANSIM table 281-0023.

Corresponding with the increase in hours worked, overtime earnings as a proportion of total earnings increased in late 2015. From the pre-recession period to recent periods, the average share of overtime was 11.0% of total earnings (Chart 9). The share of overtime earnings increased in the first three quarters of 2015, reaching a peak of 19.1% in the third quarter. Despite a small decline in the fourth quarter, the share of overtime earnings stayed high at 17.4%, indicating that overtime continued to be more important to earnings in late 2015 than in previous years. In the second quarter of 2016, the share of overtime earnings decreased, coinciding with the decline in output and stayed at lower levels in the third quarter.

Chart 9
Share of overtime earnings for average weekly earnings and average from 2007 to current, Canada

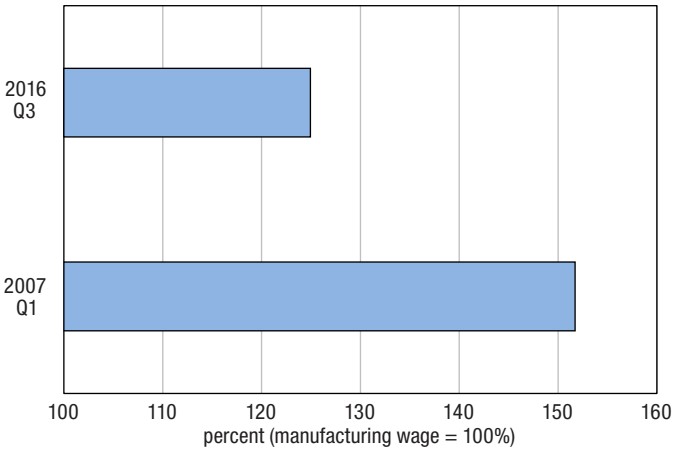


Notes: Data for the first quarter of 2009 are not available due to quality issues. Data for this series are not available on a seasonally adjusted basis. Q stands for quarter.
Source: Statistics Canada, CANSIM table 281-0026.

Relative wages for motor vehicle manufacturers declined from pre-recession levels

Although employees of motor vehicle assembly plants continue to earn a relatively high wage in dollar terms compared to the manufacturing sector on average, the industry's relative wage has declined from pre-recession levels. Growth in earnings for overall manufacturing has outpaced motor vehicle assembly since the pre-recession period. Prior to the recession, earnings for motor vehicle assembly employees were over 50.0% higher than those for the manufacturing sector (Chart 10). In the third quarter of 2016, employees working in the motor vehicle industry earned 24.9% more than employees in manufacturing as a whole. Earnings for the manufacturing sector increased 12.2% from 2010 to 2015, advancing each year, while earnings for motor vehicle assembly employees declined 3.4% during the same period. Similarly, average hourly earnings in the U.S. edged down during this period (United States Department of Labor, n.d.). During the recession, the workforce in Canada experienced some demographic changes, as retirements increased for the industry (Statistics Canada 2016b). By contrast, earnings for wholesalers and retailers of motor vehicles have increased since the recession.[11]

Chart 10
Relative wage for motor vehicles, compared to the manufacturing sector, Canada



Note: Q stands for quarter.
Source: Statistics Canada, CANSIM table 281-0026.

Summary

Canadian motor vehicle manufacturers are highly integrated in global automotive value chains. Because the majority of vehicles assembled in Canada are destined for the U.S. market, the performance of the industry can be influenced by heightened global competition and exchange rate fluctuations. Higher retail demand in the U.S. in the post-recession period reflected a shift in consumer preferences towards light trucks, which was supported by low oil prices, subprime automotive lending and pent-up demand. These economic events contributed to recent record highs in retail demand in the United States. Despite continued strength in the U.S. retail demand, motor vehicle output in Canada remained below pre-recession levels until early 2016, as manufacturers lost market share in the post-recession period, and capital investment in the industry moderated.

In 2015, Canadian motor vehicle manufacturers have repositioned after a slow post-recession recovery. Manufacturers invested in the re-tooling of existing plants in early 2015 and shifted production to light trucks, which led to an increase in investment and an acceleration in output late in the year. Output surpassed pre-recession levels for the first time in early 2016. Recent trends in operating profits also highlight the industry's repositioning, as profits rose in late 2015 and profit margins edged up in 2015, reflecting higher prices for the industry, which coincided with a weaker Canadian dollar, as well as the industry's shift to higher-margin vehicles. Gains in employment were weaker in comparison to output and other indicators, as manufacturers increased overtime to meet higher demand.

11. See Richards (2017) for an analysis on post-recession differences in earnings growth.

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