Michigan Automotive Industry Update

Kristin Dziczek | Vice President
Center for Automotive Research
CREC
16 May 2018

AGENDA

• Sales, Production & Employment
• Automaker Investments
• Trade
• Meridian
U.S. Light Vehicle Sales
Percent Change (YTD) Through April: 2018 vs. 2017

U.S. Market Share: YTD April 2018
Market Share: Segment Breakdown
U.S. Light Vehicle Sales 2018 YTD Through April

- CUV: 37.1%
- Pickup: 15.7%
- Small Car: 13.6%
- Middle Car: 9.9%
- SUV: 8.4%
- Van: 5.6%
- Luxury Car: 5.2%
- Electrified: 3.1%
- Large Car: 1.4%

Source: J.D. Power, January 2019

CAR’s U.S. Light Vehicle Production Forecast 2018-2025

U.S. Production

Source: CAR Research, April 2018
2018 YTD Light Vehicle Production:
Michigan Ranks 1st in the U.S.; 3rd in NAFTA Region

Michigan produces proportionately more pickups & SUVs than the U.S. market buys.
Michigan engine production was down; transmission production up between 2016-2017.

Michigan Powertrain Production Forecasts: 2017 to 2024

---

Michigan motor vehicle & parts employment is up 49% from January 2009, but flat over the past 12 months.
Michigan automaker investments greater than Mexico since 2009.

North American Announced Automaker Investment by Region 2009 to Q1 2018

<table>
<thead>
<tr>
<th>Region</th>
<th>Investment Amount ($USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>$7.1B</td>
</tr>
<tr>
<td>United States</td>
<td>$89.3B</td>
</tr>
<tr>
<td>U.S. Great Lakes</td>
<td>$56.3B</td>
</tr>
<tr>
<td>Michigan</td>
<td>$28.1B</td>
</tr>
<tr>
<td>South</td>
<td>$20.4B</td>
</tr>
<tr>
<td>Mexico</td>
<td>$24.8B</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$119.5B</strong></td>
</tr>
</tbody>
</table>

Note: U.S. Great Lakes includes: IL, IN, KY, MI, MO, and OH
      South includes: AL, FL, GA, MS, SC, TN, and TX
Automaker Announced Investment:
Michigan vs. Other States Q1 2018

Michigan Announced Investment, 2009 to Q1 2018

Share of N.A. Announced Automaker Investment by Region, Q1 2018

Michigan 60%
Tennessee 20%
Kentucky 15%
Kanas 1%

Michigan New & Major Change Launches

New Launch

Major Changeover

2018
2019
2020
2021
2022
2023

- Lansing Grand River
- Cadillac CTS
- Michigan Assembly
- Ford Bronco
- Flint Truck
- Chevy Silverado HD
- GMC Sierra HD
- Lansing Delta Township
- Chevy Traverse
- Flat Rock
- Ford C-Max
- Otten
- Chevrolet Bolt EV
- Lansing Delta Township
- GM/OnStar
- Sterling Heights
- Kam 1500
- Dearborn Truck
- Kansas City
- Ford F-150
- F-250 Super Crew
- Lansing Grand River
- Chevrolet Camaro
- Detroit-Hamtramck
- Cadillac CTS
- Michigan Assembly
- Ford Ranger

Source: LMC/ Automotive, Tioga Group, Data from J.D. Power汽车行业, 2018
Trade Update

Top Ten U.S. States by Automotive Exports in Dollar Terms:
Michigan Motor Vehicle Exports Grew 9.2% in 2017

- 3361 Motor Vehicles
- 3362 Vehicle Body and Trailer
- 3363 Auto Parts

Billions of U.S. Dollars

Michigan Texas South Carolina California Ohio Indiana Alabama Illinois Kentucky Tennessee

* Top major destinations for Michigan exports are Mexico and Canada.
Standard U.S. Tariffs On Imported Steel, Aluminum, Automotive Parts & Passenger Cars/Trucks Under WTO

Most-Favored-Nation Tariff Rates

- Steel—0%
- Aluminum—0-6%
- Automotive Parts—2.5%
- Passenger Cars—2.5%
- Pickup Trucks/Cargo Vehicles—25%

Global Tariffs and Light Vehicle Imports
NAFTA Background

- Enacted in 1994, NAFTA eliminated tariffs and created a unified trading region
- Canada & Mexico responsible for half of U.S. light vehicle imports
- NAFTA makes North America a globally competitive and complete auto region
- Every global automotive region relies on low-cost content

The United States cannot self-supply.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Production</td>
<td>11 million</td>
</tr>
<tr>
<td>less U.S. Exports</td>
<td>- 2.4 million</td>
</tr>
<tr>
<td>plus U.S. Imports</td>
<td>+ 8.7 million</td>
</tr>
<tr>
<td><strong>U.S. Sales</strong></td>
<td><strong>17.3 million</strong></td>
</tr>
</tbody>
</table>
Sourcing of U.S. Light Vehicle Sales in 2017

A competitive automotive industry is good for consumers.

U.S. Consumer Price Indices for All Items Except Food & Energy and New Vehicles, 1990-2017
Overview of U.S. Proposal

- Increases Regional Value Content (RVC) from 62.5%—already the highest of any U.S. trade agreement
- Institutes an RVC for steel and aluminum content
- Institutes a Labor Value Content (LVC) requirement for a share of work to be done at or above a specified wage

Not everything traded in NAFTA Region uses NAFTA preferential rates

| 2017 U.S. Motor Vehicle, Bodies & Trailers, and Parts Imports from Canada and Mexico by Trade Program |
|--------------------------------------------------|-----------------|----------------|-----------------|-----------------|----------------|
| YEAR: 2017 in USD Billions            | NAFTA | Civil Aircraft | No-Program Claimed | Total | NAFTA Share of Total |
| Motor Vehicles                     | 43.6  | 0.4            | 0.7               | 44.3  | 98.40%               |
| Motor Vehicle Bodies & Trailers    | 0.5   | 0.4            | 0.9               | 1.8   | 56.20%               |
| Motor Vehicle Parts                | 11.1  | 7.0            | 11.2              | 28.3  | 84.30%               |
| CANADA TOTAL                       | 55.2  | 8.4            | 1.6              | 85.2  | 94.50%               |
| Motor Vehicles                     | 57.3  | 0.1            | 37.7              | 99.80%|
| Motor Vehicle Bodies & Trailers    | 0.01  | 3.4            | 1.5               | 3.90%  |
| Motor Vehicle Parts                | 34.6  | 10.3           | 45.0              | 76.00%|
| MEXICO TOTAL                       | 92.2  | 13.8           | 304.2             | 88.50%|
| CANADA/MEXICO TOTAL                | 147.5 | 15.0           | 362.6             | 90.70%|

Source: U.S. International Trade Commission
China, Japan & South Korea Could Replace Canada & Mexico to be U.S.’s Largest Automotive Parts Importers

<table>
<thead>
<tr>
<th>Category</th>
<th>Mexico</th>
<th>Canada</th>
<th>Next Largest Importers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engines &amp; Parts</td>
<td>58%</td>
<td>21%</td>
<td>Japan 12%, Germany 5%, China 5%</td>
</tr>
<tr>
<td>Transmission &amp; Powertrain Parts</td>
<td>35%</td>
<td>13%</td>
<td>Japan 12%, China 8%, South Korea 7%</td>
</tr>
<tr>
<td>Electrical &amp; Electronic (excl. Lighting)</td>
<td>52%</td>
<td>3%</td>
<td>China 11%, Japan 8%, Taiwan 4%</td>
</tr>
<tr>
<td>Steering &amp; Suspension Parts</td>
<td>40%</td>
<td>10%</td>
<td>Japan 21%, China 7%, South Korea 7%</td>
</tr>
<tr>
<td>Seating &amp; Interior Trim</td>
<td>64%</td>
<td>10%</td>
<td>UK 6%, China 6%, Germany 3%</td>
</tr>
<tr>
<td>Brake Systems</td>
<td>31%</td>
<td>8%</td>
<td>China 31%, Japan 6%, Germany 5%</td>
</tr>
<tr>
<td>Metal Stampings</td>
<td>13%</td>
<td>18%</td>
<td>Taiwan 20%, South Korea 9%, China 5%</td>
</tr>
<tr>
<td>Other Motor Vehicle Parts</td>
<td>38%</td>
<td>16%</td>
<td>China 18%, South Korea 7%, Japan 6%</td>
</tr>
</tbody>
</table>

Mexico: $45.7B
Canada: $14.0B

Source: U.S. International Trade Commission

Results:
At least 22 and as many as 40 vehicle nameplates that currently qualify under NAFTA would not qualify under the U.S. proposal CAR evaluated.

CAR estimates that the U.S. proposal as of 26 April 2018 would:
- Add USD 2.1-3.8 billion to the cost of light vehicles in the United States
- Averages USD 470-2,200 to the cost of these particular vehicles
- Assuming manufacturers pass through increased costs, result in an estimated 60,000-150,000 lost U.S. light vehicle sales
Timeline and Phase-In

- 2-year, 3-year, or 4-year transition periods are inadequate
- Minimum time to launch new assembly capacity is 3 years once the decision has been made
- Adjusting and re-sourcing the supply chain also takes time
- And all of this might cost more than the 2.5% MFN tariff

U.S., Canadian, and Mexican Free Trade Reach
Share of the New Motor Vehicle Market That Can Be Reached Tariff-Free 2016 Market; Free Trade Agreements in Place as of March 2018

- United States: 28%
- Canada: 53%
- Mexico: 51%
- Other FTAs
- CPTPP
- Rest of World

Source: OECD, sourced from figure 1. This figure looks at the share of the New Motor Vehicle Market that can be reached tariff-free under Free Trade Agreements in place as of March 2018.
NAFTA & Steel/Aluminum Tariffs

- Removing the exclusion for Canada and Mexico would endanger NAFTA.
- Canada is among the top 5 countries that import rolled steel products and bar and ingot steel to the U.S. and the number one import source for unwrought, bar, and sheet aluminum.
- Mexico is a top 5 rolled steel exporter to the U.S.
U.S. Steel & Aluminum Production & Imports 1991-2017

U.S. Steel was already highly protected from imports

- As of April 19, 2017, the U.S. has 152 antidumping (AD) and countervailing duty (CVD) orders in place on steel from 32 countries.
- Twenty-eight of the 152 orders (18%) are on steel products from China – 16 AD and 12 CVD.
- The steel orders represent almost 40 percent of all AD/CVD orders in place.
- There are also 25 investigations underway for steel products, 16 in which Commerce has yet to issue final determinations and 9 investigations (on cut-to-length plate) for which Commerce has issued final determinations and are waiting for final determinations from the International Trade Commission.

Special restrictions already cover 94 percent of steel imports from China, which now make up only 3 percent of all US steel imports.
Conclusions

- The steel & aluminum tariffs may impact the automotive supply chain more than automakers themselves.
- Suppliers could move work to:
  - A FTZ (tariff inversion in effect) or
  - Outside the United States since imported articles, parts & components made of steel or aluminum are not subject to the tariff.
- There are more workers in steel- and aluminum-consuming industries than there are in metals production in the United States.
- The last broad steel tariffs under President Bush lasted 18 months.
Impact of Meridian Fire

Material Percentage Use by Year, 2010 to 2040

Note: Between 2020 to 2021 the mix of materials represents the mix throughout the industry as some vehicles in the fleet still use predominantly mild or lower grade steels whilst the higher end vehicles use ultra high strength steels. Automotive engineers use the right material at the right place but are currently constrained with issues such as mixed material joining, supply chain risk, infrastructure etc. In the future, no single material wins the race to lightweighting. Future vehicles will have highly utilized mixed material body structure; therefore, from 2022 to 2040 the material percentages represent material mix in a single vehicle.

Source: Chery Research
Thank you