Michigan Automotive Industry Update
Kristin Dziczek – Vice President, Industry, Labor, & Economics (ILE) Group
Consensus Revenue Estimating Conference
17 May 2019

THE CENTER FOR AUTOMOTIVE RESEARCH (CAR)
Automotive industry contract research and service organization (non-profit) with more than 30 years experience forecasting industry trends, advising on public policy, and sponsoring multi-stakeholder communication forums.
Sales & Production Overview

Areas to Watch

• Michigan’s share of U.S. vehicle production increased to 18.8%

• Michigan’s engine production will decrease and transmission production will increase over the next few years

• Electrified vehicle market share increased to 4.4%, the highest level ever recorded
Positive Factors in the CAR Forecast

- Projected moderate U.S. economic output growth in 2019
- Historically low U.S. unemployment rates
- Relatively low oil prices continue through 2020
- Underlying nominal wage growth continues
- High levels of consumer confidence were reached in Q4 2018, and
- Solid new housing starts and home prices rebounding to pre-recession levels

Risks to the Forecast

- Section 232 Steel & Aluminum Tariffs
- Section 301 China Tariffs
- U.S.-China Talks
- China Auto Sales Slowdown
- USMCA Ratification?
- Section 232 Auto & Parts Tariffs
- U.S.-Japan Talks
- Japan Economic Slowdown
- U.S.-EU Talks
- BREXIT
- U.S.-U.K. Talks
- Recession?
- Geopolitical Risks
- Consumer Confidence
- Interest Rates
- UAW Negotiations/Strike
- New
  - Business Models
  - Competitors
  - Technologies
CAR's U.S. Light Vehicle Sales Forecast 2019-2025

U.S. Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>12.4</td>
</tr>
<tr>
<td>2016</td>
<td>12.5</td>
</tr>
<tr>
<td>2017</td>
<td>12.2</td>
</tr>
<tr>
<td>2018</td>
<td>12.3</td>
</tr>
<tr>
<td>2019</td>
<td>12.8</td>
</tr>
<tr>
<td>2020</td>
<td>12.9</td>
</tr>
<tr>
<td>2021</td>
<td>12.8</td>
</tr>
<tr>
<td>2022</td>
<td>12.3</td>
</tr>
<tr>
<td>2023</td>
<td>12.4</td>
</tr>
<tr>
<td>2024</td>
<td>12.3</td>
</tr>
<tr>
<td>2025</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Source: CAR Research, January 2023

U.S. Light Vehicle Monthly Sales and SAAR:
April 2016 to April 2019

Source: Ward's Auto/CDR Research
U.S. Light Vehicle Sales
Percent Change (YTD) Through April: 2019 vs. 2018

- Total: -2.2%
- Light Trucks: -8.5%
- Passenger Cars: -3.5%
- Trucks: +26,807 (69.9%)
- Cars: -148,941 (30.1%)

Percent Change in Sales of Light Vehicles Per OEM:
YTD Through April: 2019 vs. 2018

- Hyundai/Kia: -1.7%
- Honda: 1.1%
- Ford: -2.1%
- FCA: -3.9%
- Toyota: -4.0%
- GM: -0.2%
- Nissan/Mitsubishi: -4.7%
- Others: -0.4%

TOTAL LV Sales: 5,322,011
-22,114 (0.4%)
CAR's U.S. Light Vehicle Production Forecast 2019-2025

U.S. Production


2019 Light Vehicle Production:
Michigan Ranks 1st in the U.S.; 2nd in NAFTA Region
Michigan Powertrain Production Forecasts:
2019 to 2026

Transmission Production

Engine Production

Areas to Watch:

• At the end of Q1 2019, Michigan motor vehicle & parts manufacturing employment increased by 2.2% YOY.

• Michigan holds the highest share (21.4%) of U.S. automotive employment, down 0.5 percentage point from the fourth quarter last year.

Michigan Employment by Automotive-Related Industries
Professionals And Engineering, Vehicles & Parts Dealer Employment Increased March 2019
Michigan Automotive Supplier Establishments and Employment Per Establishment 2014 – 2018

Michigan Automotive Supplier Establishments and Supplier Employment Per Motor Vehicle Manufacturing Employment 2014 – 2018

Areas to Watch

- Since the recession, automakers have announced roughly $131.2B across North America.
- In Q1 2019, Michigan received 55% of U.S. investment.
- FCA has announced 2 of Michigan’s largest investments – both at $1.6B each for Mack Engine and Sterling Heights.

N.A. Announced Automaker Investment by Region
2009 to Q1 2019

<table>
<thead>
<tr>
<th>Region</th>
<th>Investment Amount ($USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>$8.2B</td>
</tr>
<tr>
<td>United States</td>
<td>$98.2B</td>
</tr>
<tr>
<td><strong>U.S. Great Lakes</strong></td>
<td><strong>$63.1B</strong></td>
</tr>
<tr>
<td>Michigan</td>
<td>$32.8B</td>
</tr>
<tr>
<td>South</td>
<td>$22.3B</td>
</tr>
<tr>
<td>Mexico</td>
<td>$24.8B</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$131.2B</strong></td>
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</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: MI vs. Other States

Michigan Announced Investment, 2009 to Q1 2019

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2.1</td>
</tr>
<tr>
<td>2010</td>
<td>3.4</td>
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<tr>
<td>2011</td>
<td>4.8</td>
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<tr>
<td>2012</td>
<td>6.3</td>
</tr>
<tr>
<td>2013</td>
<td>7.0</td>
</tr>
<tr>
<td>2014</td>
<td>8.7</td>
</tr>
<tr>
<td>2015</td>
<td>10.5</td>
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<tr>
<td>2016</td>
<td>12.1</td>
</tr>
<tr>
<td>Q1 2017</td>
<td>1.9</td>
</tr>
<tr>
<td>Q1 2019</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Share of U.S. Announced Automaker Investment by State, Q1 2019

- Michigan: 55%
- West Virginia: 2%
- Kentucky: 2%
- Alabama: 4%
- Ohio: 9%
- Wisconsin: 14%
- Illinois: 14%
- Maryland: 1%

Sources: American Auto Workers, Motor Vehicle Manufacturers Association

Automaker Investments in Michigan

Q1 2019

- **GM**: $356.0 Million (4 announcements)
  - Orion Township: $300.0M
  - Lansing Delta: $36.0M
  - Romulus Powertrain: $20.0M
  - Flint: Not Disclosed

- **Waymo**: $13.6 Million (1 announcement)
  - Detroit (AAM's Tech Center): $13.6M

- **FCA**: $3.5 Billion (6 announcements)
  - Mack Ave Engine: $1.5B
  - Jefferson North: $900.0M
  - Warren Truck: $500.0M
  - Sterling Heights/Warren (Stamping): $400.0M
  - Dundee Engine: $119.0M
  - Auburn Hills (Components Plants): $12.6M

Sources: American Auto Workers, Center for Automotive Research
GM Announcements

<table>
<thead>
<tr>
<th>Plant</th>
<th>Products</th>
<th>End of Production</th>
<th>Employment</th>
<th>Union Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detroit/Hamtramck</td>
<td>LaCrosse, Volt, CT6, Impala</td>
<td>June 4, 2019 January 2020</td>
<td>1,542</td>
<td>UAW Local 22</td>
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<tr>
<td>Lordstown</td>
<td>Cruze</td>
<td>March 1, 2019</td>
<td>1,618</td>
<td>UAW Local 1112</td>
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<tr>
<td>Oshawa</td>
<td>Impala, XTS, Silverado, Sierra</td>
<td>Q4 2019</td>
<td>2,900</td>
<td>Unifor Local 222</td>
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<tr>
<td>Warren Trans.</td>
<td>6 Speed Trans</td>
<td>August 1, 2019</td>
<td>335</td>
<td>UAW Local 909</td>
</tr>
<tr>
<td>Baltimore Ops.</td>
<td>Pickup transmissions</td>
<td>April 1, 2019</td>
<td>310</td>
<td>UAW Local 239</td>
</tr>
</tbody>
</table>

YOY Change in U.S. Passenger Car Market Shares

2013 – 2018

Export Overview

Areas to Watch

- Michigan automotive exports were **$26.8 Billion** in 2018
- **61%** of Michigan vehicles exports go to Canada
- **70%** of Michigan auto parts exports to NAFTA region
Top Ten U.S. States by Automotive Exports in Dollar Terms:
Michigan Motor Vehicle Exports decreased 1.03% in 2018 Total

- The main destinations for Michigan exports are Mexico and Canada

The United States cannot currently self-supply the vehicles American dealers sell to U.S. consumers.

Sourcing of U.S. Light Vehicle Sales

U.S. Production: 10.8 million
less U.S. Exports: -1.8 million
plus U.S. Imports: +8.2 million
U.S. Sales: = 17.2 million

FCA, Ford, & GM Represent 43% of Canada & Mexico Imports
Tariffs are piling up on light vehicles

U.S. Consumer & Economic Impacts of U.S. Automotive Trade Policies

- Assume:
  - USMCA is ratified,
  - Section 232 tariffs on steel & aluminum remain in place on all current countries,
  - Section 301 China tariffs remain at current levels, and
  - Section 232 auto & parts tariffs are levied at 25% on all trading partners except Canada, Mexico, & South Korea
Impact of USMCA, Section 232 Steel & Aluminum Tariffs, Section 301 China Tariffs & Potential Section 232 Auto & Parts Tariffs

+$2,750 average
+$1,900 U.S.-built
+$3,700 imports

-366,900 jobs

-$30.4B GDP

-1.3M fewer U.S. sales
-$43.6B dealership revenue
-77,000 dealership jobs

Steel & Aluminum Tariffs
NAFTA Timeline Under Trade Promotion Authority

![NAFTA Timeline Diagram]

U.S.-China Light Vehicle & Parts Trade (USD Billions) 2016-2018

2016-2018:

- **2017-2018:**
  - Domestic Exports: 8.3
  - Exports for Consumption: 6.0
  - Motor Vehicles: 1.2
  - Motor Vehicle Parts: 1.6

- **2016:**
  - Domestic Exports: 9.5
  - Exports for Consumption: 1.7
  - Motor Vehicles: 1.3
  - Motor Vehicle Parts: 3.5

- **2015:**
  - Domestic Exports: 2.3
  - Exports for Consumption: 3.7
  - Motor Vehicles: 2.7
  - Motor Vehicle Parts: 11.1

- **2014:**
  - Domestic Exports: 3.4
  - Exports for Consumption: 5.2
  - Motor Vehicles: 5.3
  - Motor Vehicle Parts: 15.2

- **2013:**
  - Domestic Exports: 5.3
  - Exports for Consumption: 7.3
  - Motor Vehicles: 7.3
  - Motor Vehicle Parts: 21.3

Source: CRS.
Trends in Monthly China Motor Vehicle and Parts Domestic Exports and Imports for Consumption

2016-2018

Motor Vehicle Exports

Motor Vehicle Imports

Motor Vehicle Parts Exports

Motor Vehicle Parts Imports

Sources: IHS, International Trade Centre

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Brief China Trade Update

U.S. raised tariffs from 10% to 25% – includes all automotive goods

U.S. moves to impose tariffs on nearly all Chinese imports – including consumer goods

China retaliates with tariffs on $60B U.S. imports (rates increase from 5-10% to 20-25%)

Average increase in cost due to tariffs/U.S.-built vehicle = $190
Section 232 on Autos & Parts Presidential Decision due by Saturday, 18 May 2019; Executive Order Expected TODAY
Thank you