

Automotive Can Manufacturing Jobs Return To The United States—or Are They Lost Forever?

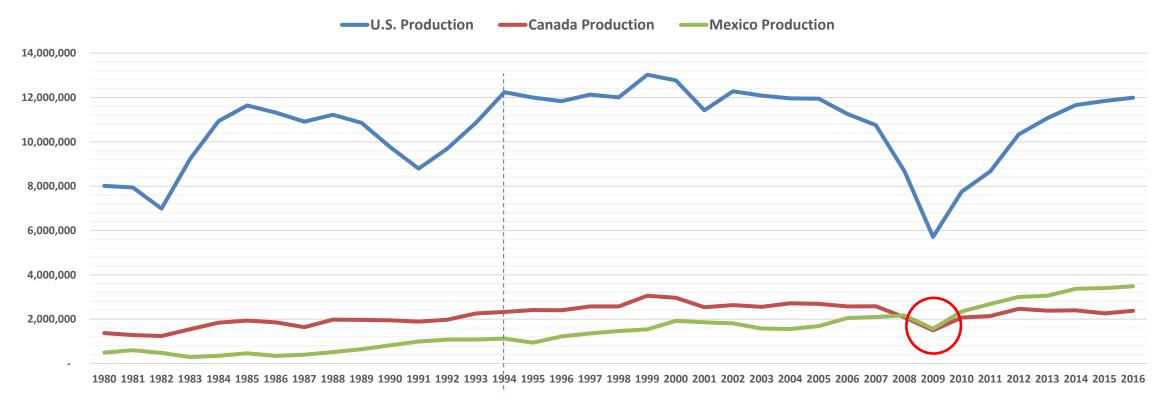
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NABE Economic Policy Conference Washington, D.C. 6 March 2017

North American light vehicle production didn't change much with introduction of NAFTA

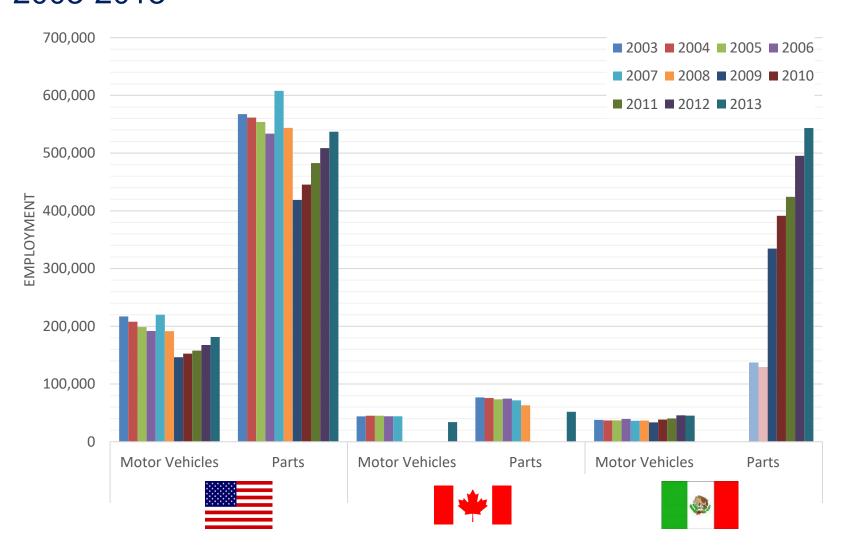
U.S., Canada, and Mexico Light Vehicle Production: 1980-2016







North American Motor Vehicle & Parts Employment 2003-2013



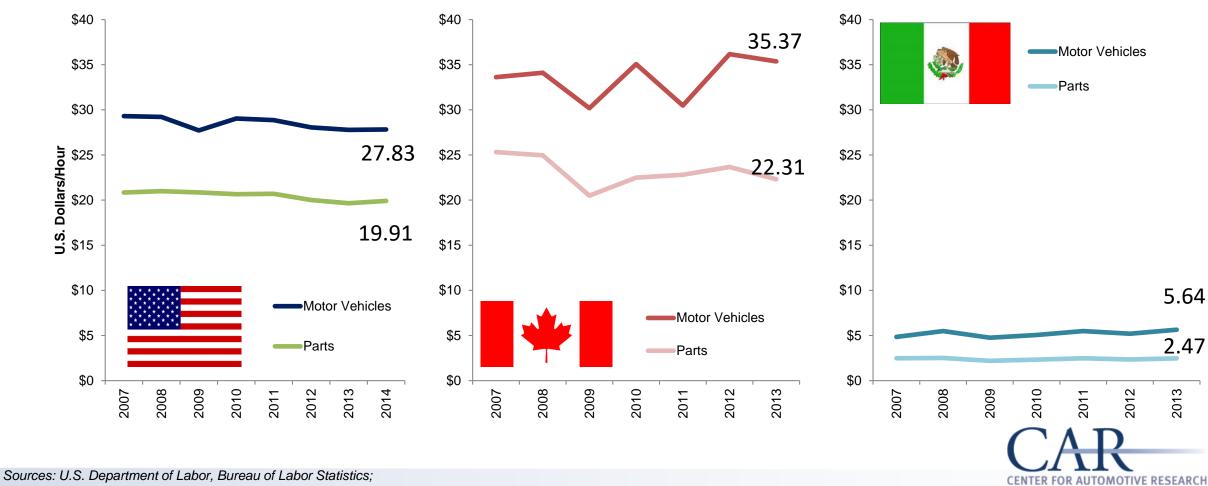
- 2016 Production:
 - U.S.: 12.1M
 - Canada: 2.3M
 - Mexico: 3.5M
- Current Assembly plants:
 - U.S.: 53
 - Canada: 10
 - Mexico: 22

 Note: Mexico parts data not available <2007, and definition changed in 2009

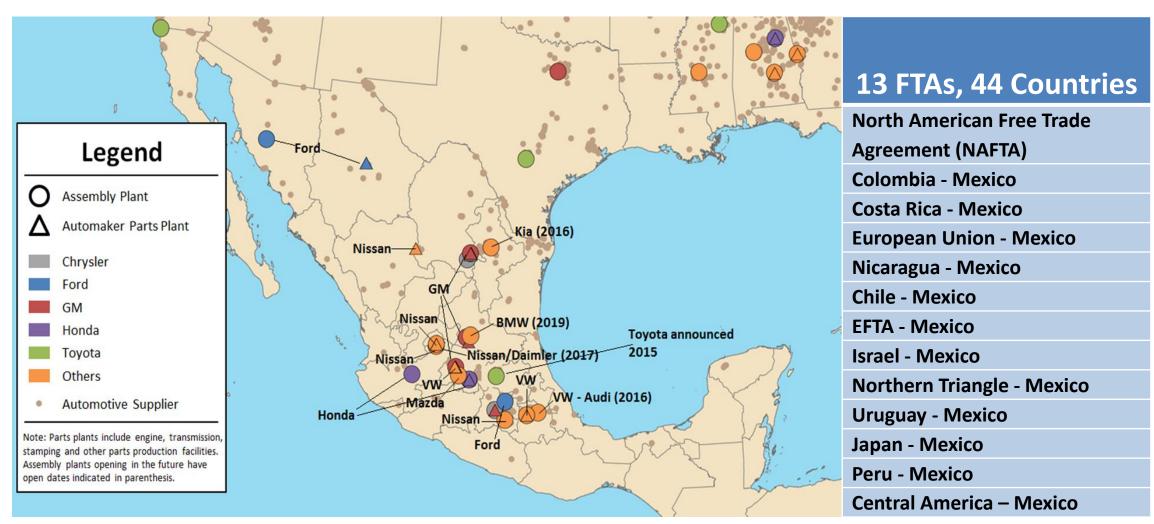


Mexican Automotive Wages are One-Eighth to One-Fifth the Wages Paid to U.S. Hourly Auto & Parts Workers

Average Hourly Wages for Production and Non-Supervisory Workers in Motor Vehicle and Parts in Current USD, 2007-2013/2014



Mexico is a Global Export Base for Autos and Parts

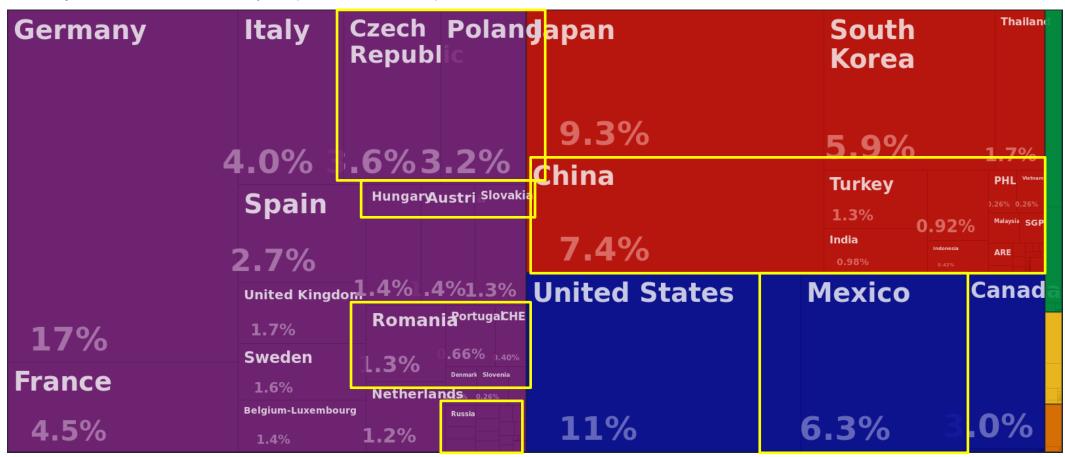


Note: Canada has FTAs with 40 countries; U.S. with 20 countries



Every Global Auto Production Region Has a Low-Cost Source of Materials, Parts & Components

Share of Global Automotive Parts Exports (Total: \$363B in 2014)



What Would It Mean to Bring Back Automotive and Auto Parts Manufacturing from Mexico?

Automakers

Assume that small cars are produced elsewhere (45% of all Mexico exported vehicles to the U.S.), and that production facilities in Mexico that export to non-U.S. markets remain in Mexico

- Net add: 1 million additional units of U.S. capacity across 10 automakers
- Add 22,200 total automotive manufacturing related employees (17,640 hourly)
- New capacity investments would amount to an estimated \$4.7B to \$6.5B (CAR analysis due to current capacity utilization @94%
- Costs could go higher—added U.S. capacity spread across 10 automakers

Suppliers

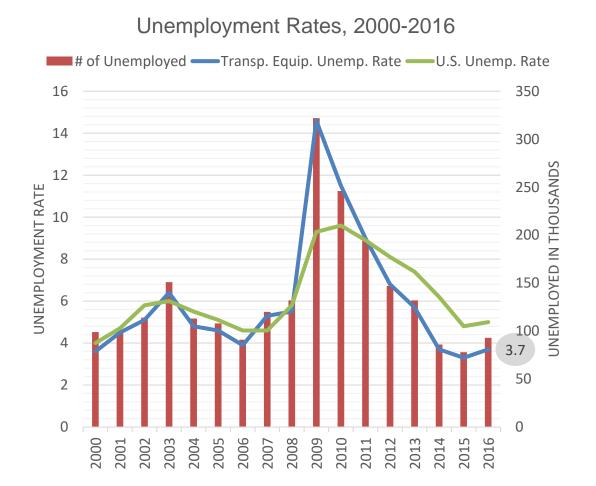
- Canada: largest export market for U.S. automotive parts (\$22.0B); Mexico: a close second (\$20.2B)
- 19 % of Mexico suppliers are U.S.-based (18% Japanese,
 12% Germany)
- Mexico's auto supply industry employed just over 500,000 people in 2013 (460,000 hourly)
- Cannot determine what is OE/Aftermarket
- Potential to move back: JIT plants and other bulky, fragile, or otherwise difficult to ship parts and components
- Unless other changes are made (such as border adjustment tax proposal), few parts will come back

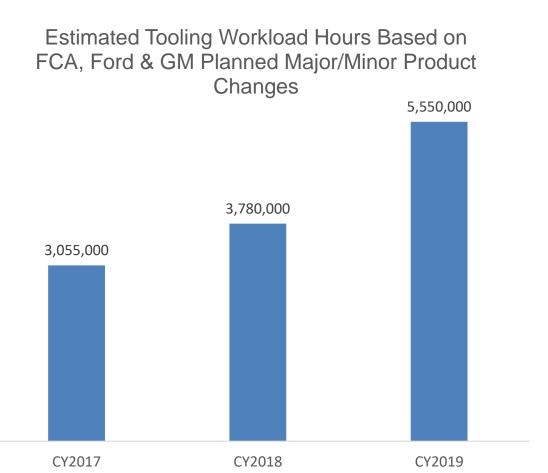




WILL AUTO JOBS COME BACK TO THE UNITED STATES?

Reason #1 for pessimism: Talent

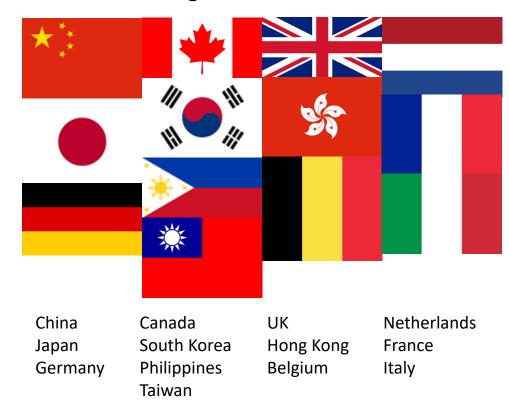






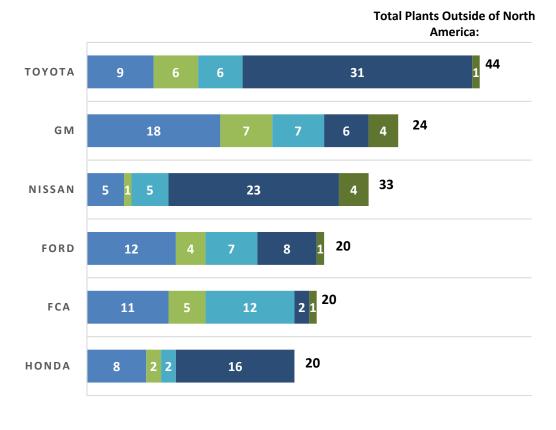
Reason #2 for pessimism: It's a truly global industry

If trade policy targets only Canada &/or Mexico, other countries will gain...



These countries are the top importers of parts, materials & machinery to the U.S.

Global Locations of Top Six Automakers by Region, 2016

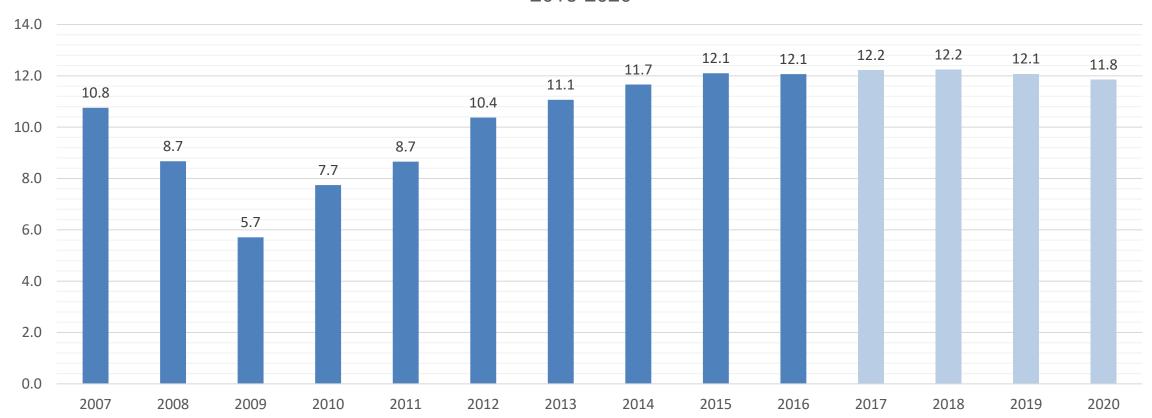


■ North America ■ South America ■ Europe ■ Asia



Reason #3 for pessimism: We are at or near market peak

CAR U.S. Vehicle Production Forecast: 2016-2020



Border Adjustment Tax: Estimated Impact on U.S. Light Vehicle Prices

$$(R_D + R_E) - (C_D + C_I) = TaxBase$$

$$R_D - C_D = TaxBase_{BAT}$$

Methodology:

- Based on confidential financial data received from automakers representing over 50 percent of U.S. light vehicle sales
- Exchange rates constant; examined only a price response to the implementation of border adjustment
- Estimates of consumer price changes are based on:
 - Vehicle manufacturers' change in effective taxable income
 - Changes in auto manufacturers' input costs from the automotive parts sector
 - No change in unit sales or domestic production
 - No shifts in sourcing or production investments

Immediate responses to border adjustment:

- Automotive parts and material prices would increase by
 8.4 percent
- U.S. light vehicle prices would increase
 5.6 percent
- Average per vehicle price increases are estimated at \$1,970
- Given 2016 U.S. sales at 17.5 million, the price increase represents an aggregate \$34.6 billion in higher costs to consumers



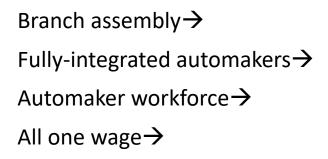
Thank you

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The structure of the auto industry has gone through some massive changes in my lifetime.







Platform-based production→
Spin-off suppliers→
Growth of supplier content→
Automaker/Supplier wages→

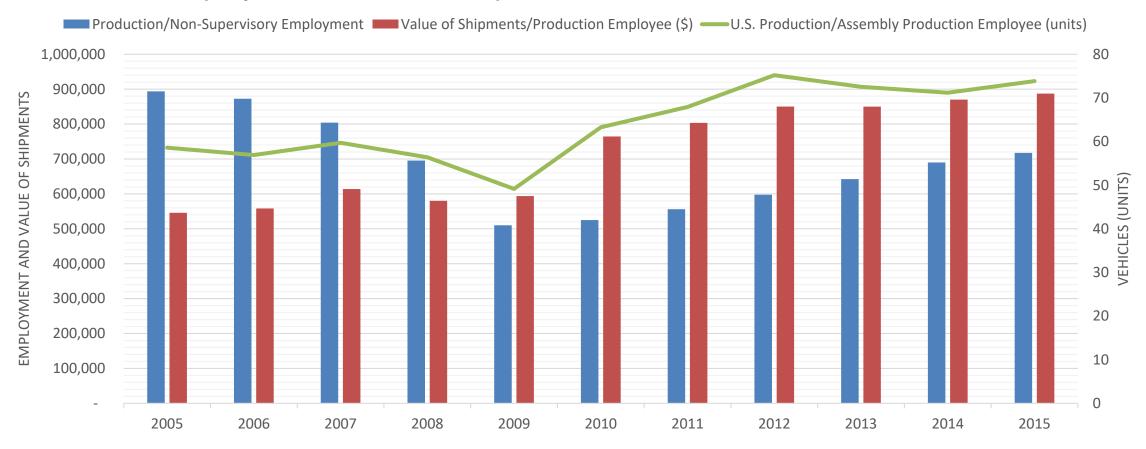


Global platforms
Global supply chains
Fully-integrated suppliers
Many wages in one plant



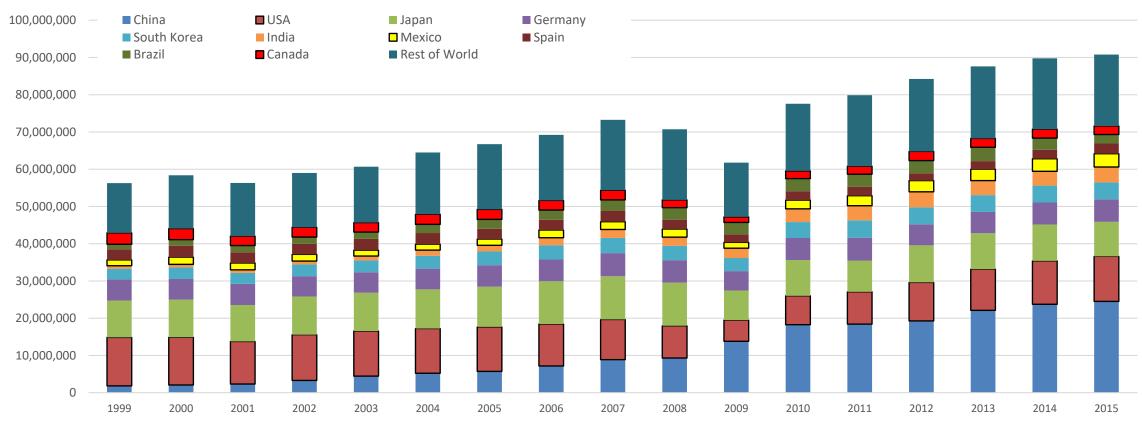
U.S. motor vehicle employment, output & productivity are up; is it technology, trade, or something else?

Employment, Value of Shipments & Vehicles/Production Worker



The U.S. is no longer the largest light vehicle producer

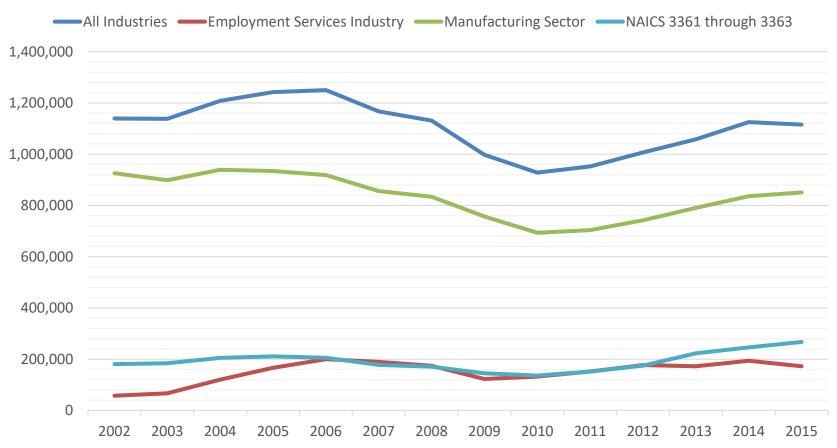






It's not just technology & trade—domestic outsourcing has increased, too.

Employment of Team Assemblers



- -75,000 team assemblers in manufacturing 2002-2015, but only -24,000 all industries
- Not every automotive job is in NAICS 3361-3363
- Tooling and suppliers with more diverse customer base are (and have always been) classified elsewhere
- Many jobs that were once classified in automaker or supplier NAICS are now in employment services, janitorial, shipping, or logistics categories



Automaker Investment Announcements

2009-2016



Total North American Investment Announcements	\$116.5 billion
Canada	\$6.7 billion (6%)
U.S.	\$85.0 billion (73%)
Michigan	\$30.3 billion (26% of North America)
Mexico	\$24.7 billion (21%)

