



Research Seminar in Quantitative Economics
University of Michigan Ann Arbor, Michigan
734-764-2567

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Directors Emeriti

rsqe.econ.lsa.umich.edu

THE U.S. AND MICHIGAN ECONOMIC OUTLOOK FOR 2018–2020

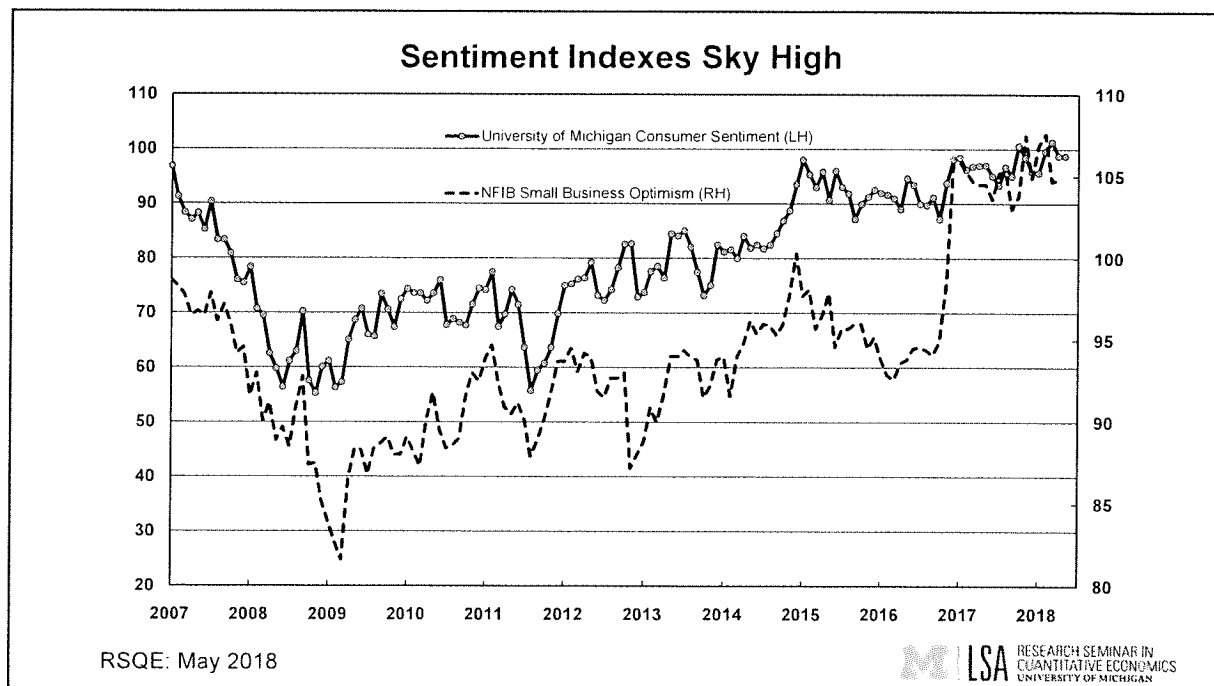
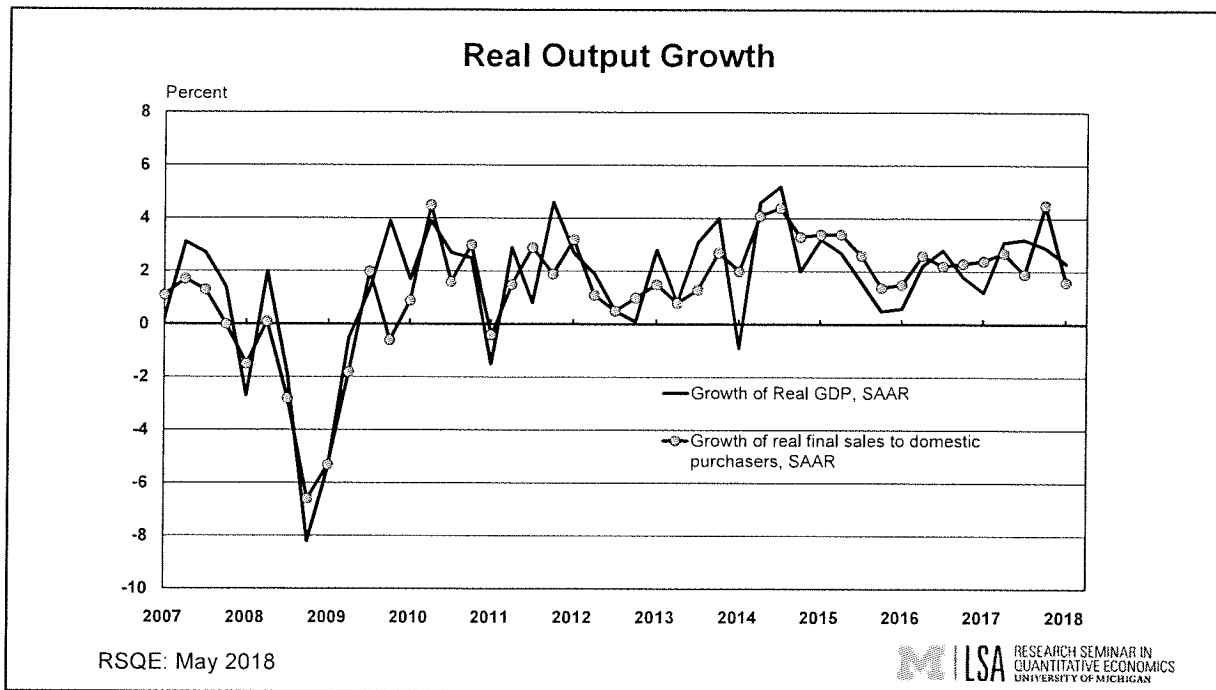
**PREPARED FOR PRESENTATION AT THE
CONSENSUS REVENUE ESTIMATING CONFERENCE**

**LANSING, MICHIGAN
MAY 16, 2018**

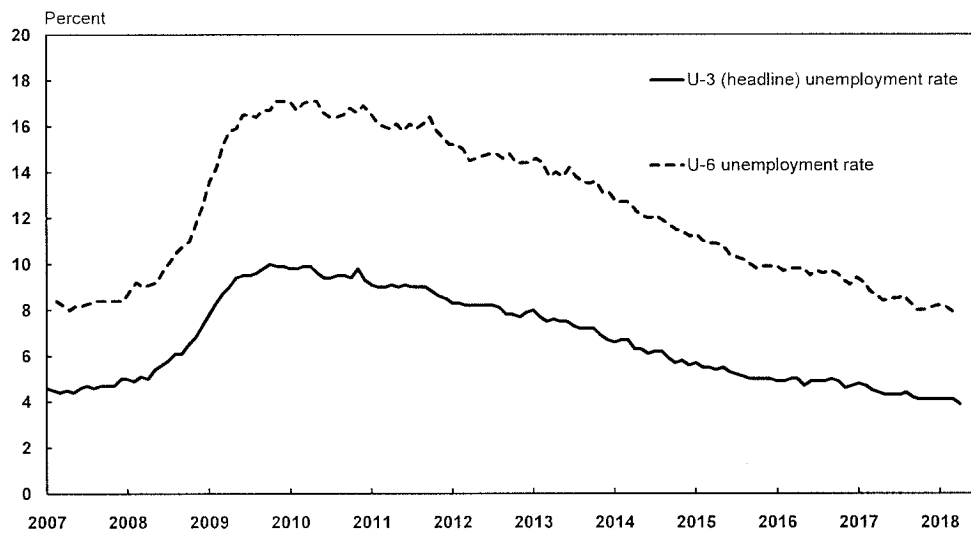
BY

**JACOB BURTON
GABRIEL EHRLICH
DANIIL MANAENKOV
MICHAEL MCWILLIAMS
OWEN NIE
ADITI THAPAR**

"The Michigan Model"



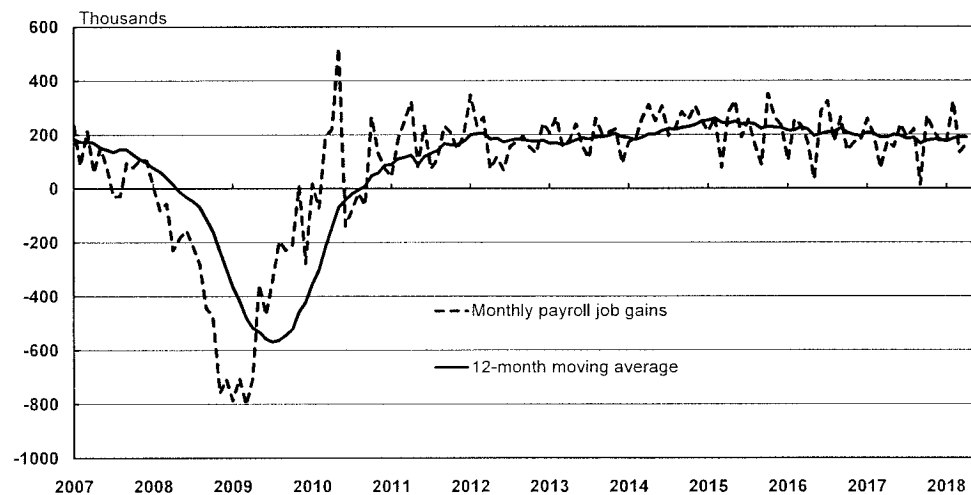
Unemployment Rates Trending Down



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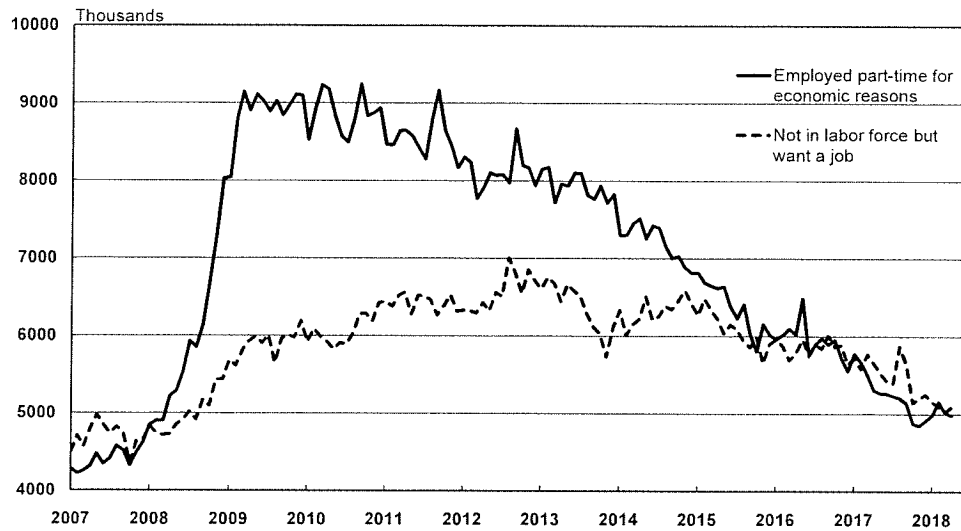
Solid Monthly Payroll Job Gains



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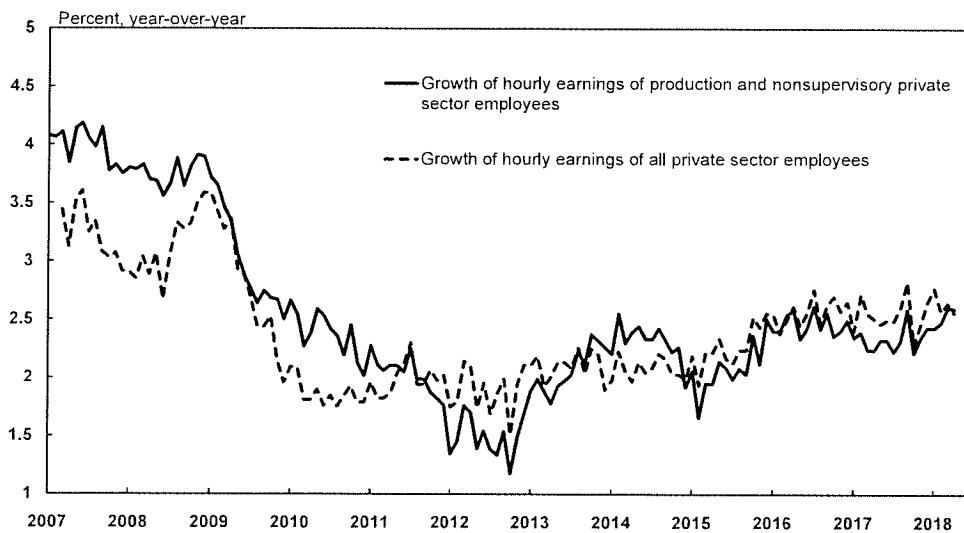
Other Measures of Labor Market Slack



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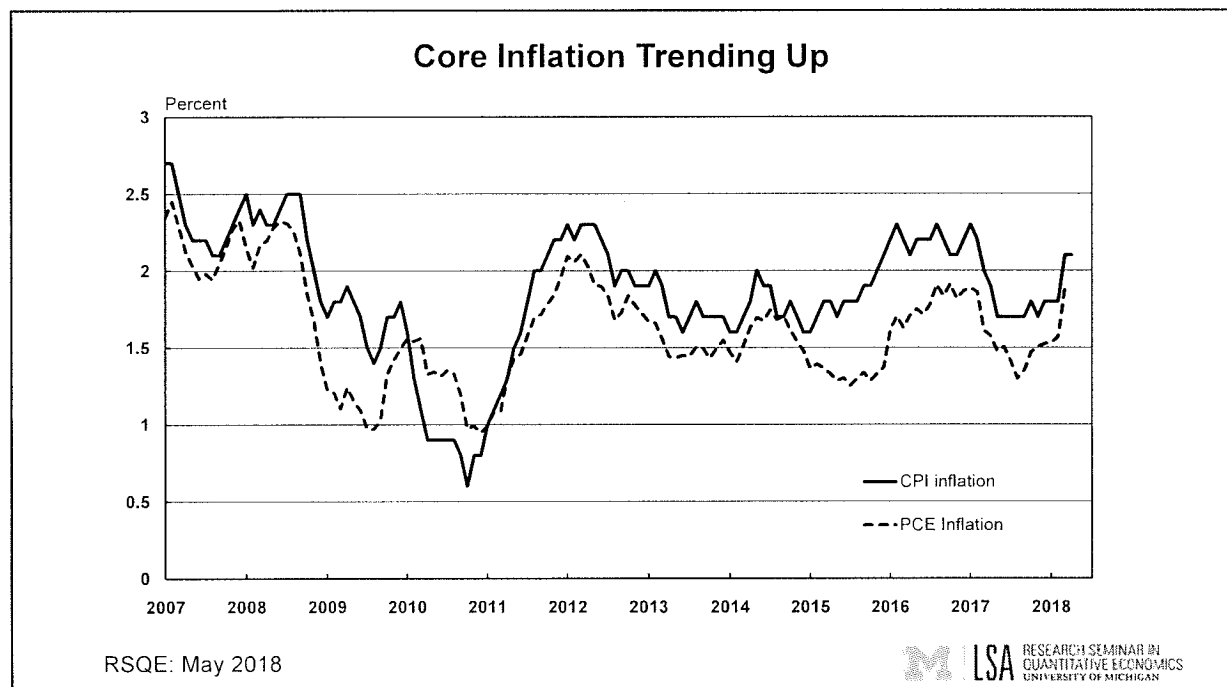
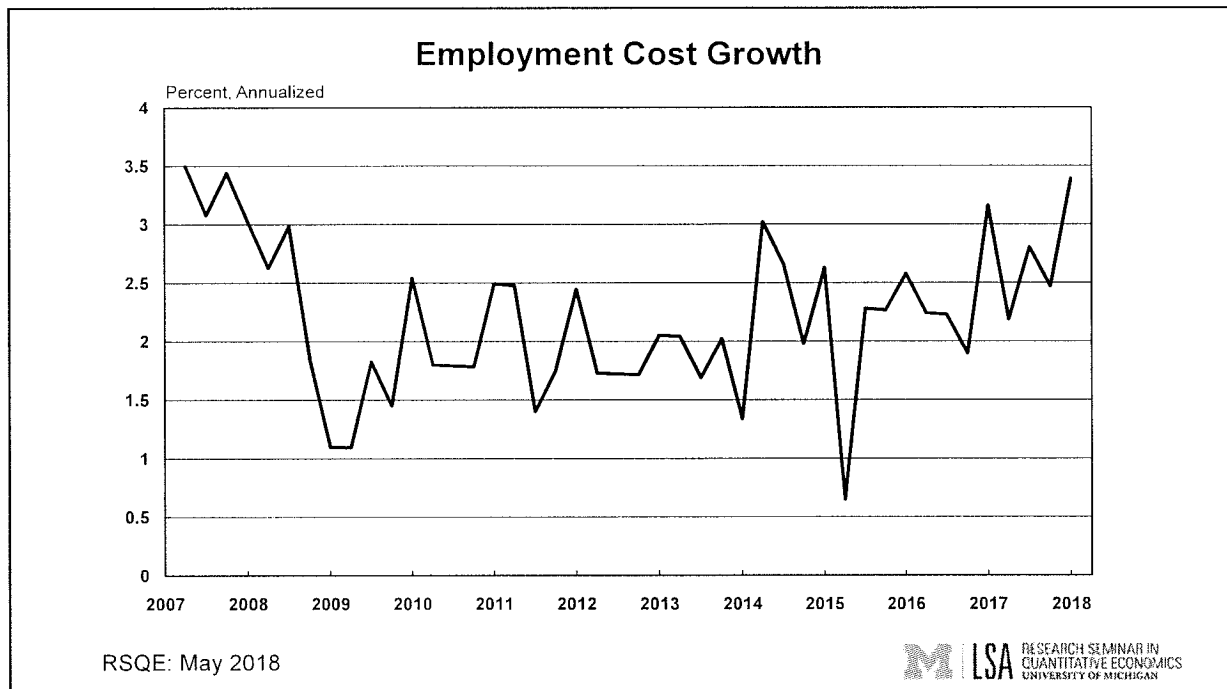
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Weak Growth of Hourly Earnings

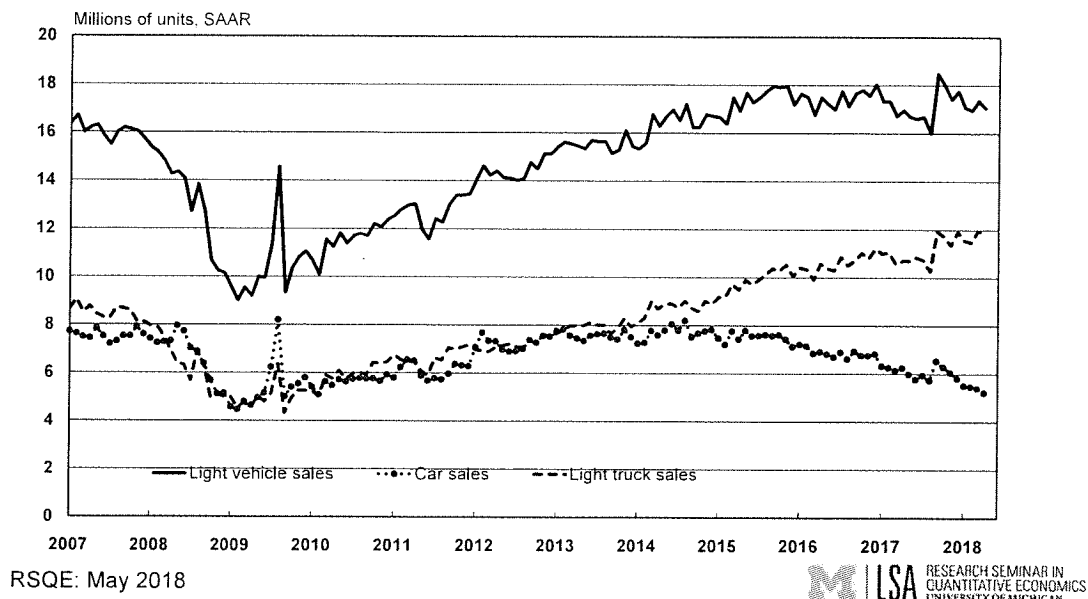


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Vehicle Sales Leveling Off



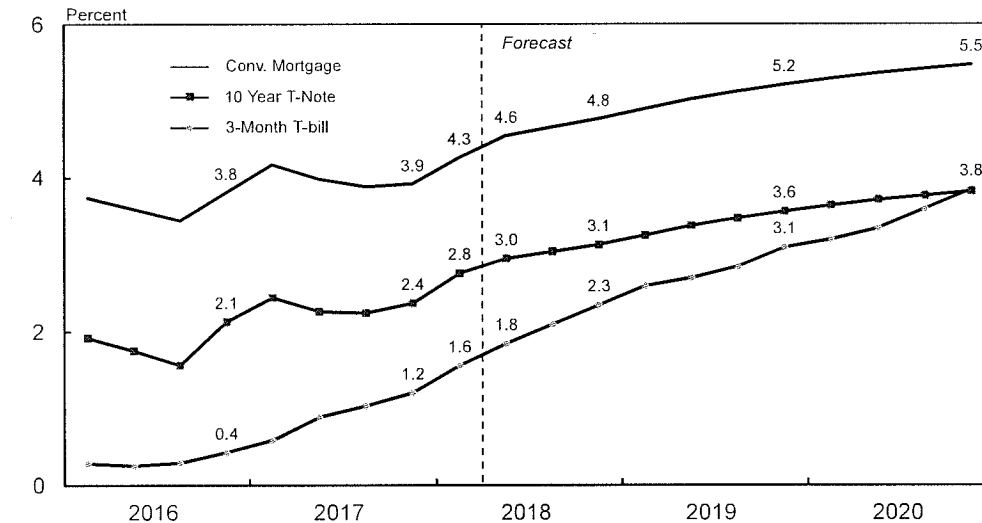
Monetary Policy: Steady Tightening

- Federal funds rate path consistent with our outlook:
 - Latest rate hike in March, 2018
 - Three more 25 basis point hikes in 2018, three in 2019
 - The latest Fed "dot plot" has only two more hikes
- New leadership at the Fed
 - Jerome Powell leadership style not yet clear. Continuity expected.
 - Four open seats at the Board of Governors

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Market Interest Rates



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Fiscal Policy—A Major Boost to the Outlook

➤ Tax Cuts and Jobs Act

- \$1.5 trillion in new deficits over 2018–27
- Boosted our GDP forecast by ~0.2pp in 2018–19

➤ Bipartisan Budget Act of 2018 & The Omnibus

- Authorized almost \$300 billion in new spending during fiscal 2018–19
- More than 12 percent increase in discretionary caps compared to 2017
- It will take time to ramp up government spending
- Lifted our GDP forecast by 0.2pp in 2018, 0.3pp in 2019, and 0.1pp in 2020

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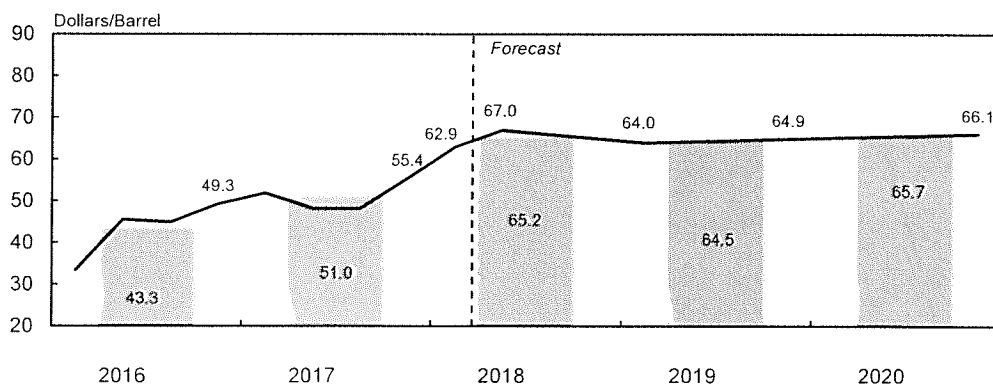
Federal Budget, NIPA Basis (Billions of Dollars)

	FY'17	FY'18	Forecast		
			FY'19	FY'20	FY'21
Current receipts	3560.8	3612.7	3749.5	3951.1	4183.1
% change	3.0	1.5	3.8	5.4	6.1
Current expenditures	4217.3	4462.3	4740.3	4994.9	5208.4
% change	2.4	5.8	6.2	5.4	4.7
Consumption	971.4	1012.5	1098.4	1156.7	1152.3
% change	0.8	4.2	8.5	5.3	1.7
Transfer payments	2693.5	2811.2	2932.2	3054.4	3190.8
% change	2.4	4.4	4.3	4.2	4.4
Surplus (+) or deficit (-)	-656.4	-849.5	-990.8	-1043.8	-1025.2
Percent of GDP	-3.4	-4.2	-4.7	-4.7	-4.5

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Price of Oil (West Texas Intermediate Crude)



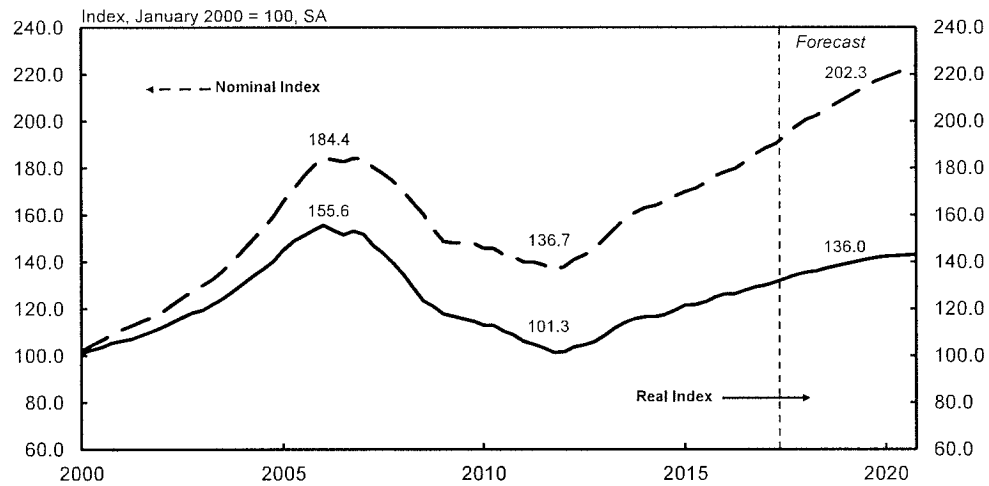
	4 th Quarter to 4 th Quarter % Change				
WTI	16.9	12.4	17.3	-0.2	1.9
Import*	5.1	21.8	23.6	-0.9	1.6

*Implicit deflator for petroleum & products

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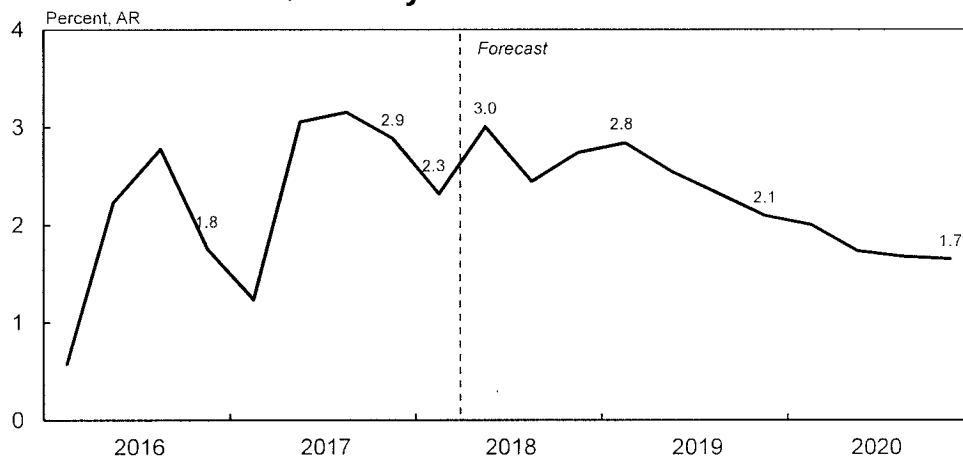
Single-Family Home Prices (National Case-Shiller Index)



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Quarterly Real GDP Growth

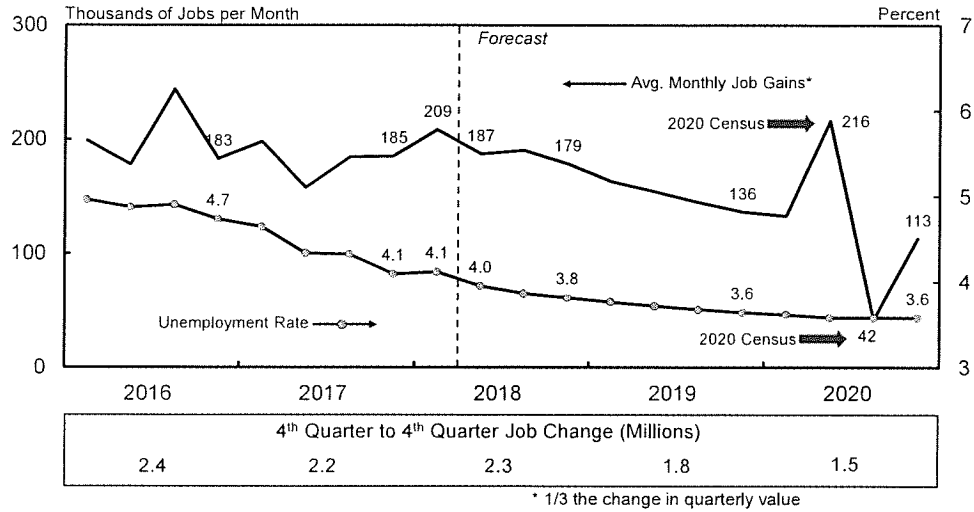


4 th Quarter to 4 th Quarter Growth Rate of Real GDP (%)				
1.8	2.6	2.6	2.5	1.8

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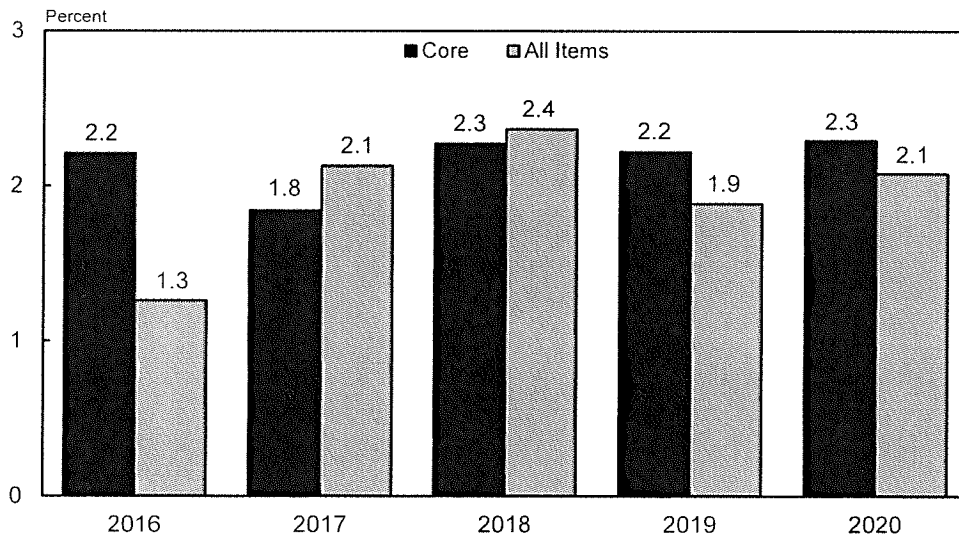
Nonfarm Payroll Employment Gains and Unemployment Rate



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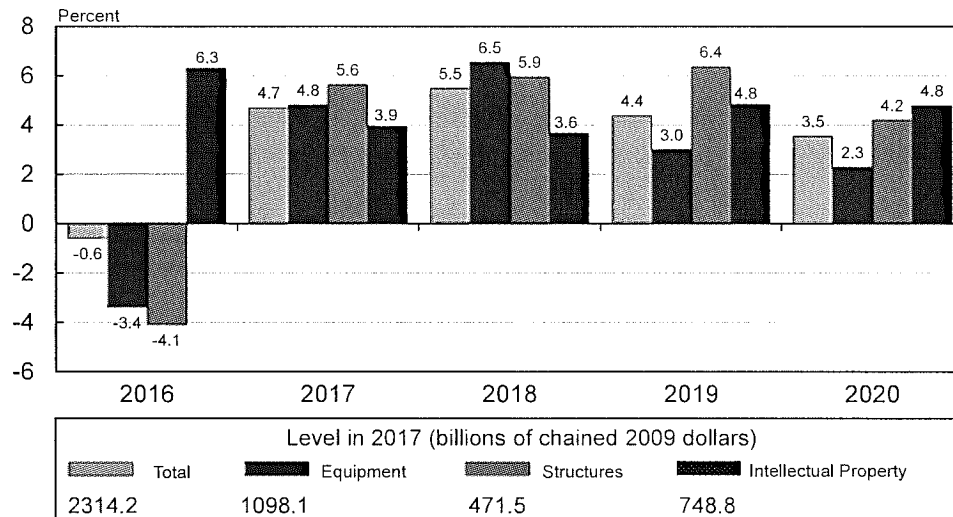
Consumer Price Inflation (CPI-U)



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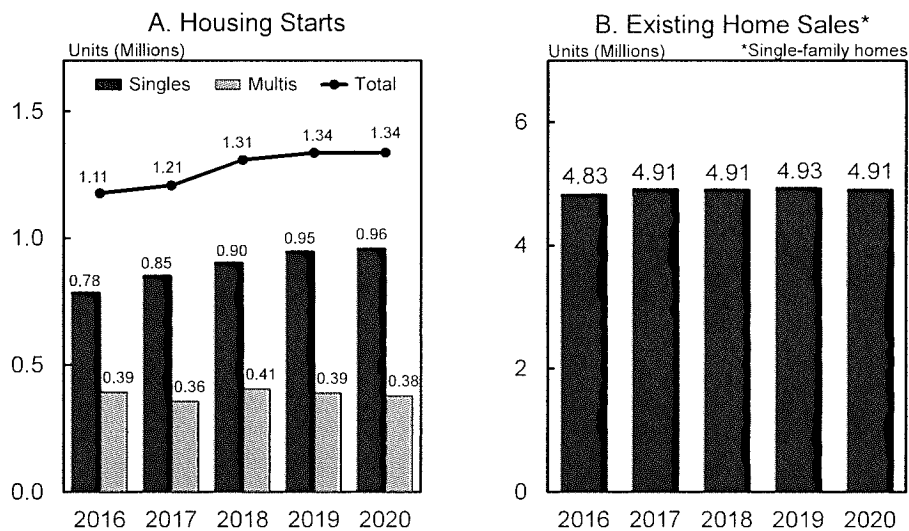
Growth of Nonresidential Fixed Investment



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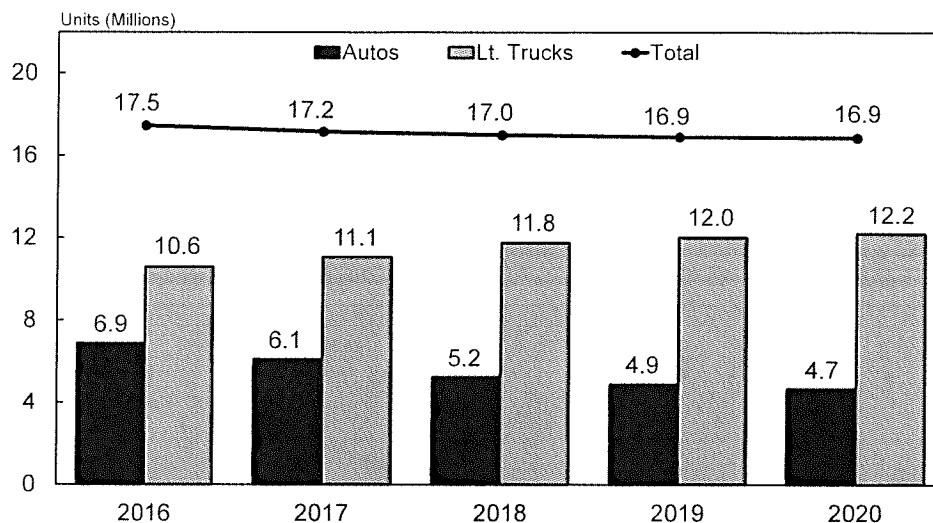
Housing Market



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Light Vehicle Sales



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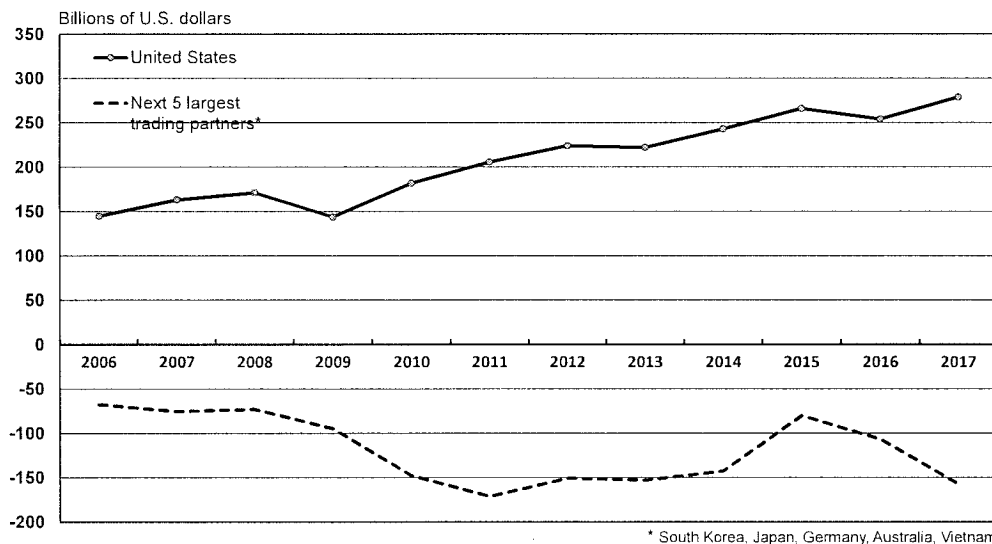
Brief Thoughts on China Trade Tensions

- China's current role in global supply chains: point of assembly
- China runs significant goods trade deficit with Australia, Brazil, Germany, Japan, South Korea, Switzerland
- And significant goods trade surplus with the United States
- Significant tariffs targeting China will lower trade with China, but might not narrow the trade deficit much
 - Supply chains will adjust eventually
 - Transshipping is hard to police when tariffs only target one country
- Raising trade barriers is unlikely to make up even a fraction of jobs lost due to globalization.

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China's Net Exports of Goods



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Limited China Escalation Scenario

- \$50 billion of Chinese and US goods subject to 25% bilateral tariffs
- Short-term, U.S. trade deficit shrinks by ~\$25 billion
 - Returns to baseline path in the longer-run
- Overall consumer price level goes up by 0.1 percentage points
- Investment prices for equipment jump by 1 percentage point
- Slower consumption and investment undo GDP boost from net exports
- Medium-term growth is weaker due to net exports rising back to trend
- About 200,000 jobs and 0.3 percent of GDP lost through 2021

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Risks to Our Outlook

- Oil Prices and Geopolitical Risks
- Fiscal Policy
- Monetary Policy
- Trade Policy
- Abnormal weather

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The Michigan Economic Outlook For 2018–2020

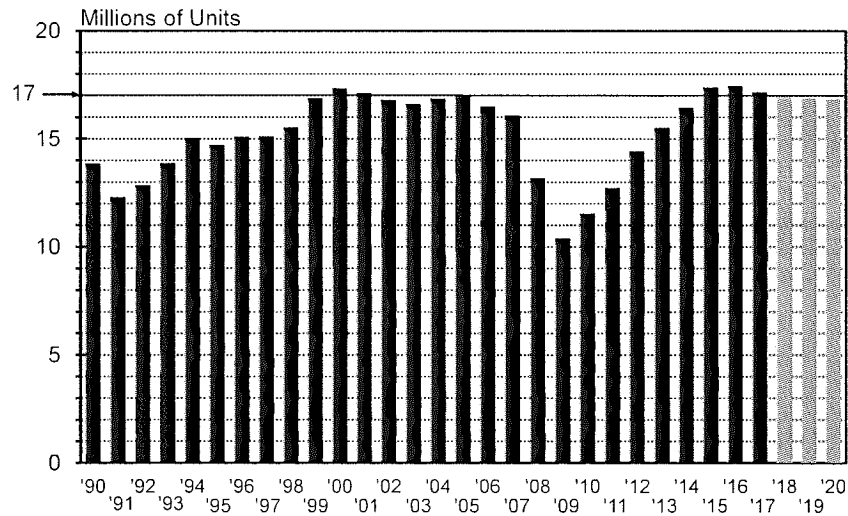


Consensus Revenue Estimating Conference
Lansing, MI
May 16, 2018

Research Seminar in Quantitative Economics

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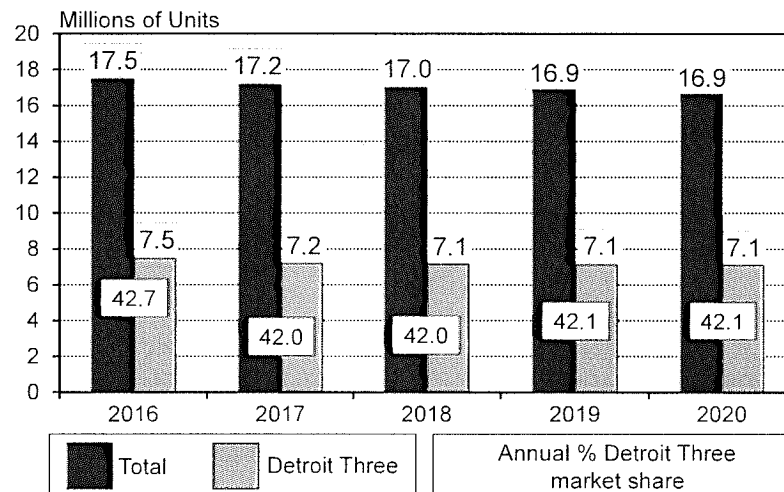
U.S. Light Vehicle Sales, 1990–2020



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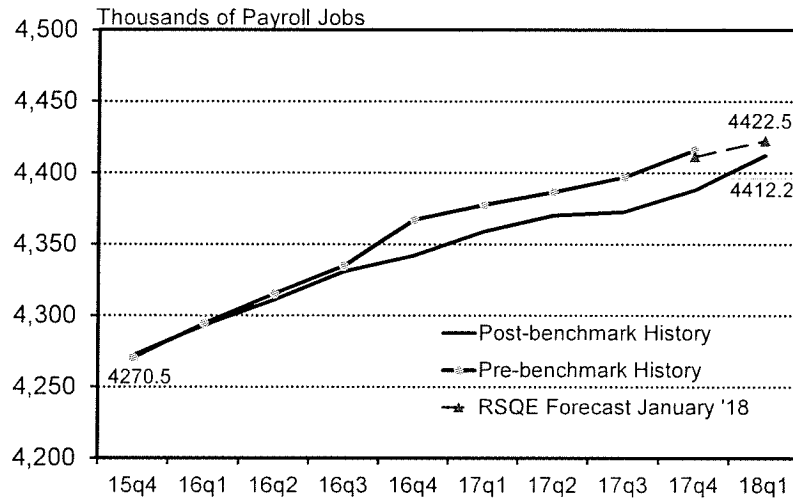
U.S. Light Vehicle Sales Total vs. Detroit Three, 2016–2020



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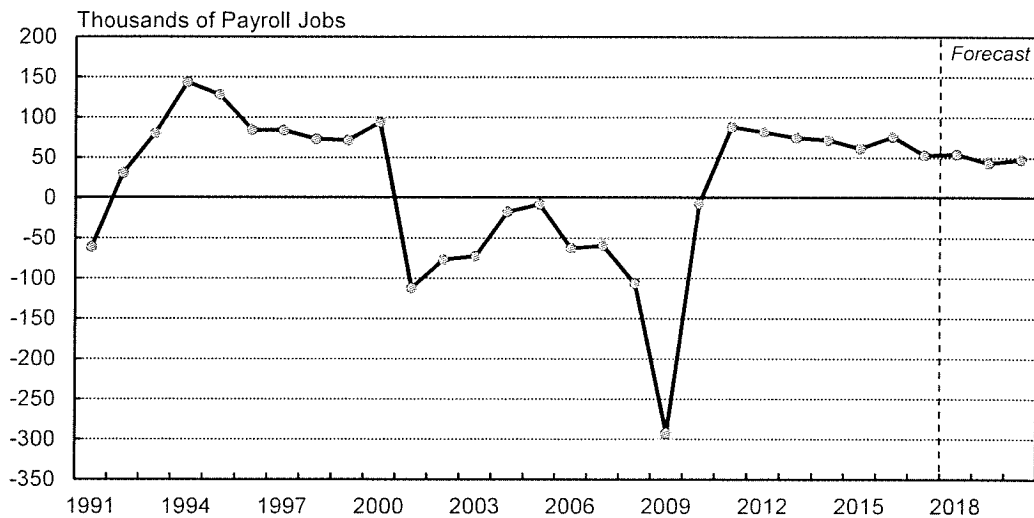
Michigan Payroll Employment 2015q4–2018q1



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Annual Job Growth in Michigan, 1991–2020

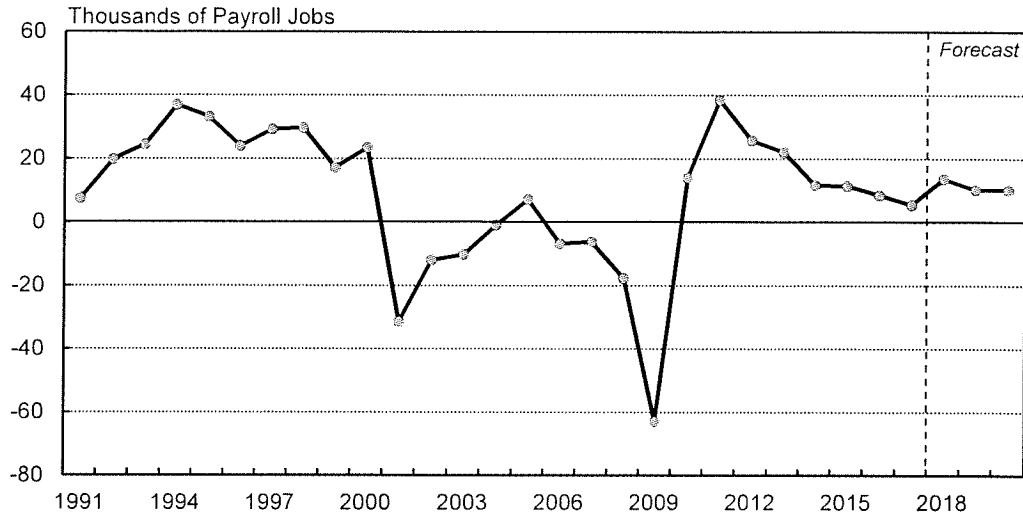


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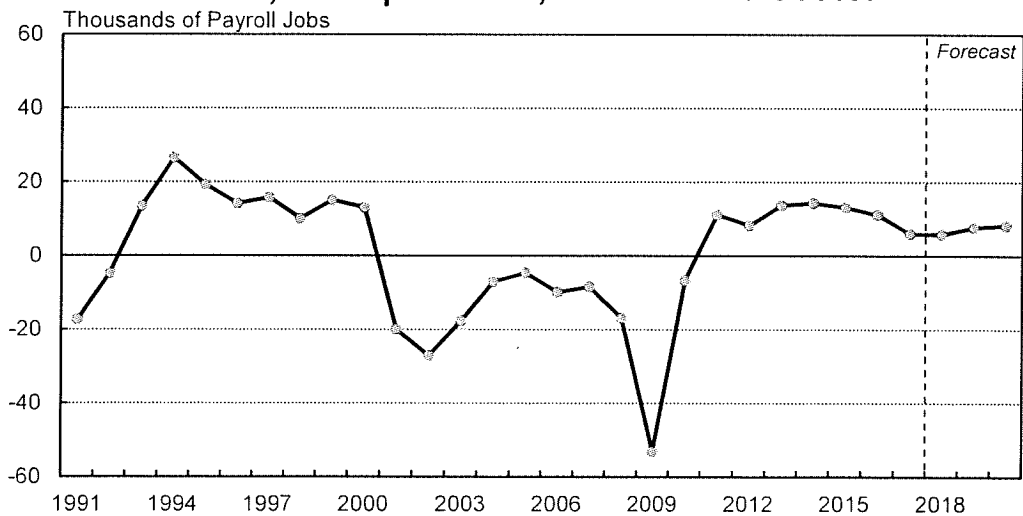
Annual Job Growth in Michigan, 1991–2020 Professional and Business Services Sector



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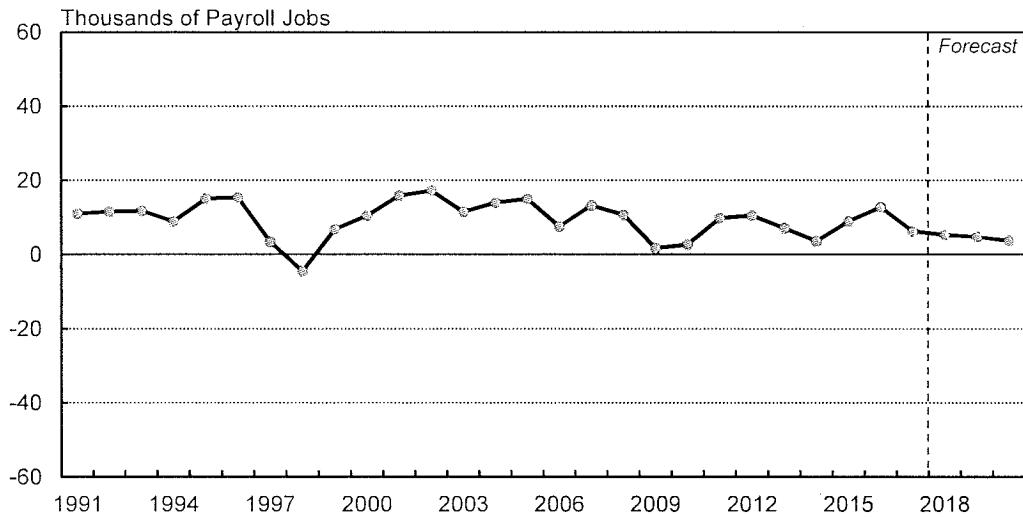
Annual Job Growth in Michigan, 1991–2020 Trade, Transportation, and Utilities Sector



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Annual Job Growth in Michigan, 1991–2020 Private Education and Health Services Sector



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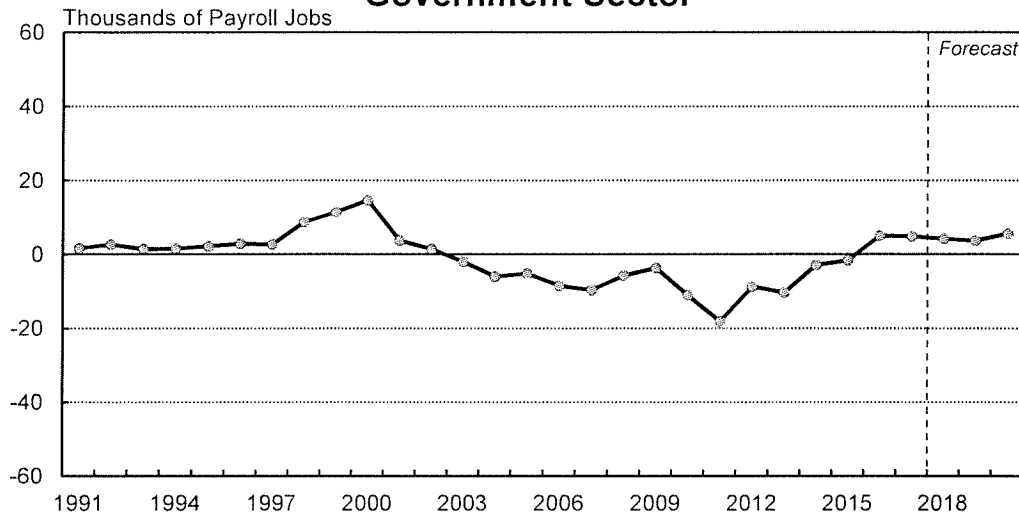
Annual Job Growth in Michigan, 1991–2020 Leisure and Hospitality Sector



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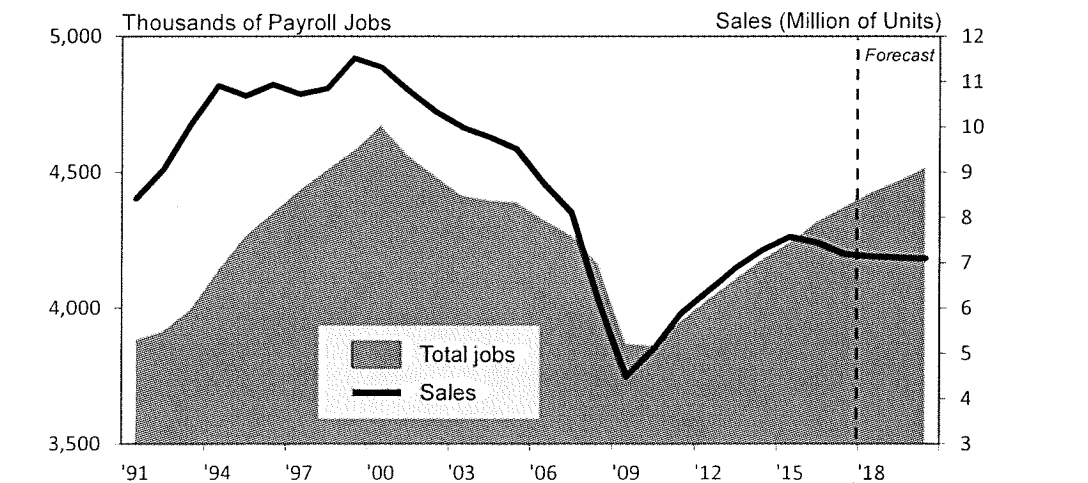
Annual Job Growth in Michigan, 1991–2020 Government Sector



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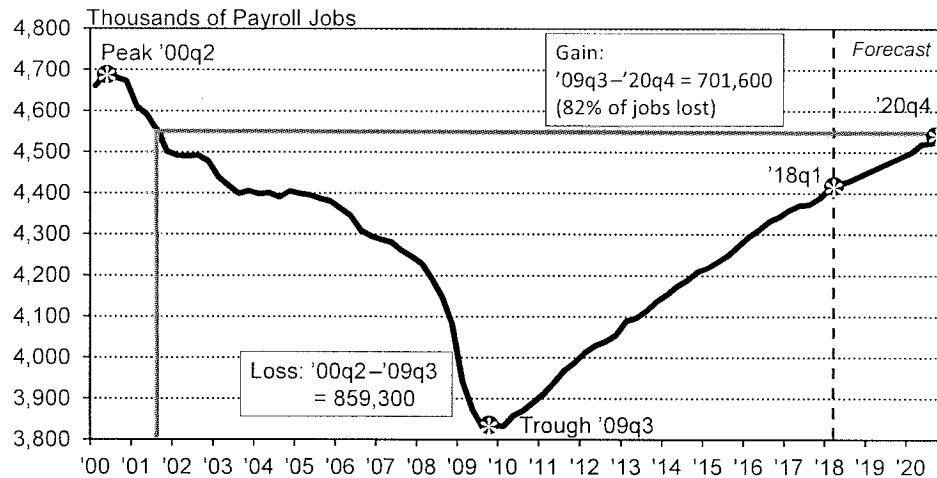
Michigan Total Jobs and Detroit Three Sales of Light Vehicles, 1991–2020



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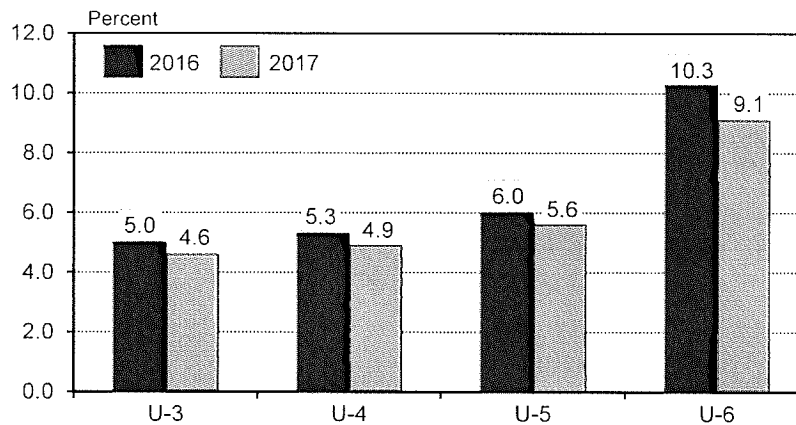
Michigan Wage and Salary Employment First Quarter of 2000 to Fourth Quarter of 2020



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Alternative Measures of Labor Underutilization Michigan, 2016 and 2017



U-3: Official unemployment rate

U-4: Unemployed (U-3) + discouraged workers

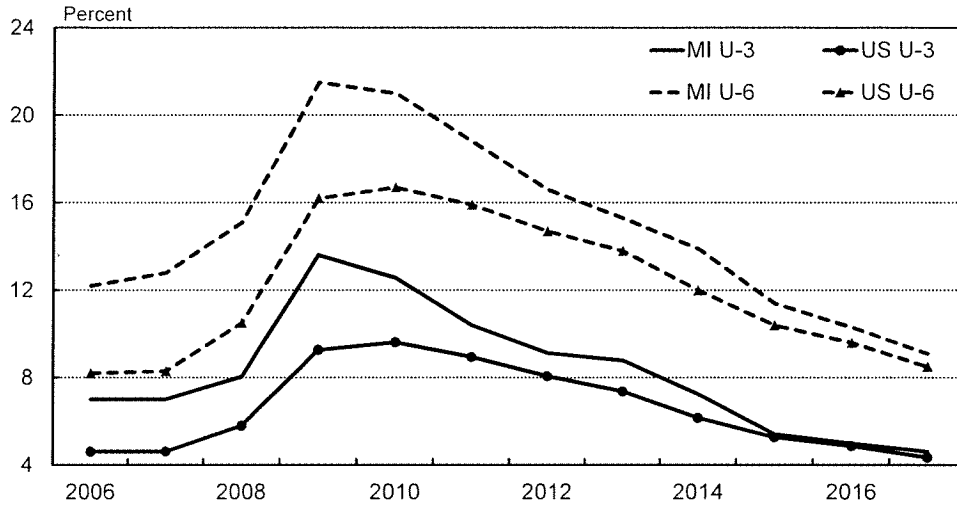
U-5: U-4 + all other marginally attached workers

U-6: U-5 + employed part-time for economic reasons

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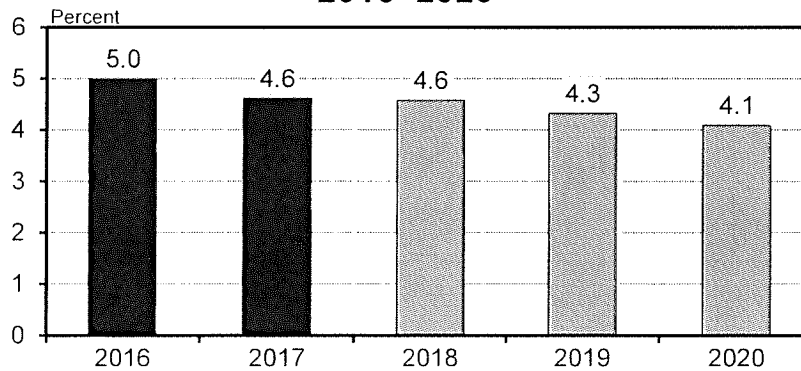
Alternative Measures of Labor Underutilization Michigan vs. United States, 2006–2017



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Michigan Unemployment Rate 2016–2020

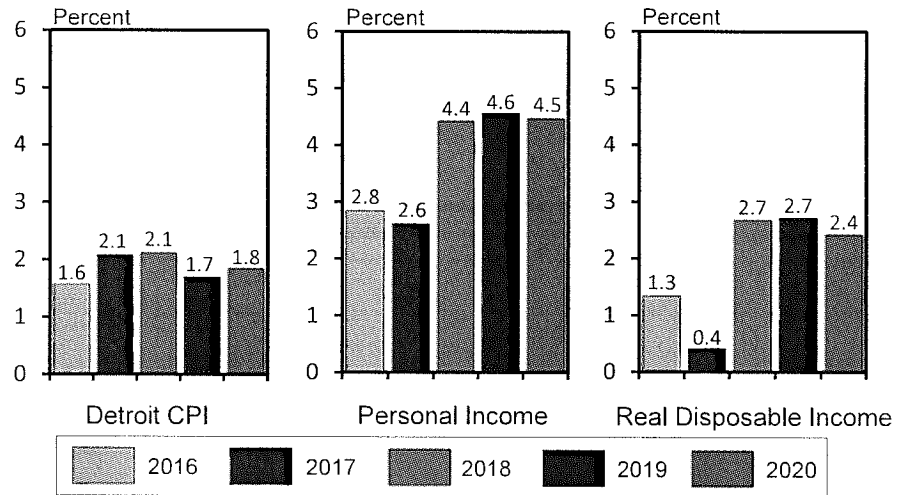


4th Quarter Unemployment Rate				
5.1	4.7	4.5	4.2	4.1
4th Quarter Labor Force Participation Rate				
61.5	61.6	61.5	61.5	61.6

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Michigan Inflation and Income Growth, 2016–2020



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Table 1
Forecast of Payroll Jobs in Michigan by Major Industry Division, 2017–2020
(Thousands of jobs)

	2017	Forecast Employment Change			
		'17–'18	'18–'19	'19–'20	'17–'20
TOTAL JOBS (Number of persons)	4,372.5	54.5	43.5	47.8	146.0
(Annual percentage change)	(1.2)	(1.2)	(1.0)	(1.1)	(3.3)
TOTAL GOVERNMENT	604.2	4.3	3.7	5.7	13.7
TOTAL PRIVATE	3768.3	50.2	39.9	42.1	132.1
Natural resources and mining	7.2	0.2	0.0	-0.1	0.1
Construction	162.8	10.2	5.8	6.3	22.2
Manufacturing	614.7	1.1	3.0	4.1	8.1
Trade, transportation and utilities	788.8	5.9	7.7	8.3	21.9
Information	56.4	-1.2	-0.5	-0.5	-2.2
Financial activities	218.0	2.2	2.7	2.4	7.3
Professional and business services	648.0	13.7	10.3	10.2	34.1
Private education and health services	671.1	5.4	4.8	3.8	14.0
Leisure and hospitality	433.3	9.5	5.2	6.7	21.4
Other services	168.0	3.3	0.9	1.0	5.2



Michigan Automotive Industry Update

Kristin Dziczek | Vice President
Center for Automotive Research

CREC
16 May 2018

AGENDA

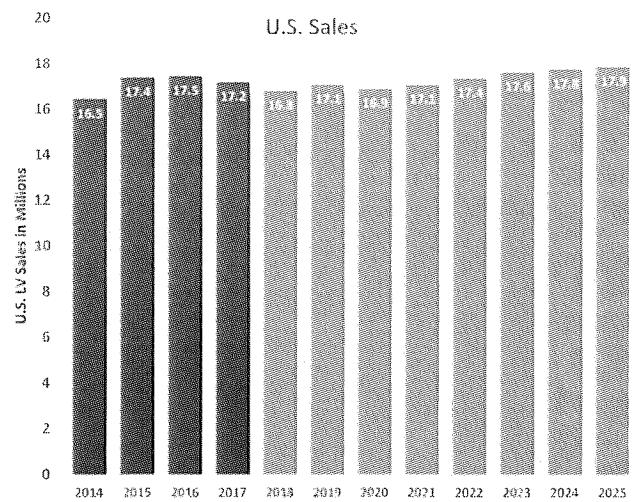
- Sales, Production & Employment
- Automaker Investments
- Trade
- Meridian

Sales, Production & Employment

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3

CAR's U.S. Light Vehicle Sales Forecast 2018-2025

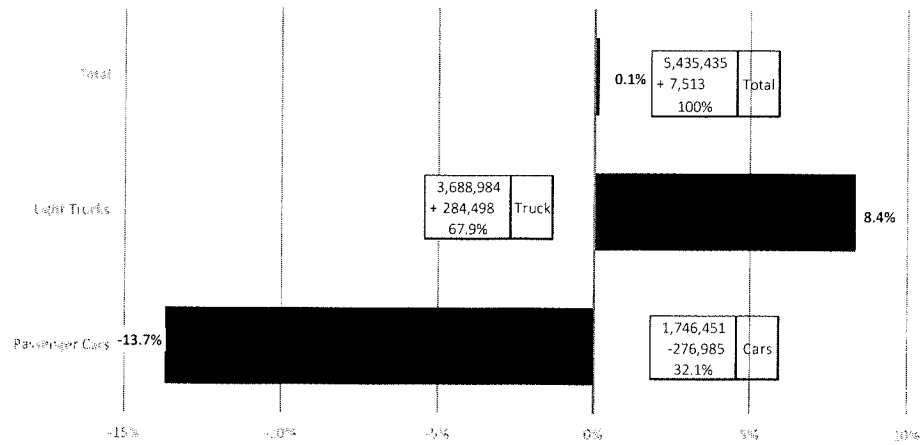


Source: CAR Research, April 2018

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U.S. Light Vehicle Sales

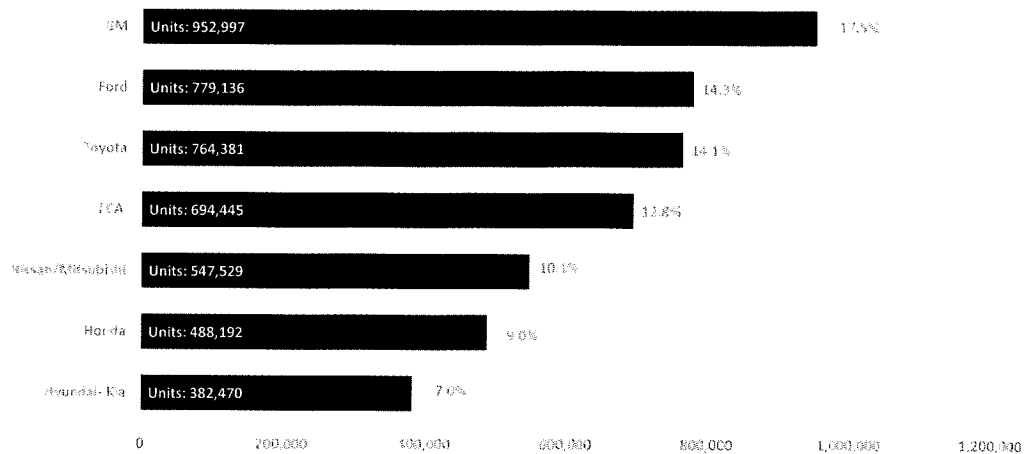
Percent Change (YTD) Through April: 2018 vs. 2017



Source: Motor Vehicle Council

Percent Change (YTD) Through April: 2018 vs. 2017

U.S. Market Share: YTD April 2018

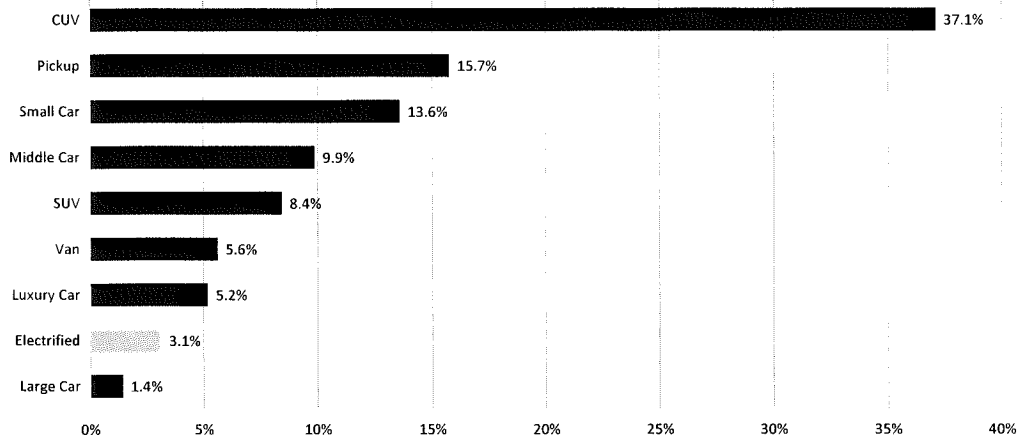


Source: Motor Vehicle Council

Percent Change (YTD) Through April: 2018 vs. 2017

Market Share: Segment Breakdown

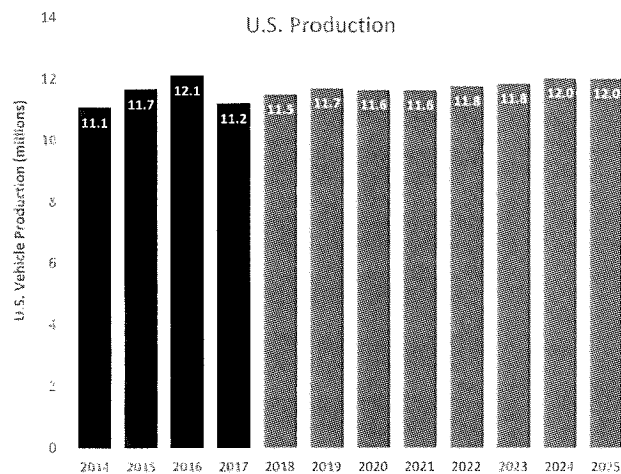
U.S. Light Vehicle Sales 2018 YTD Through April



Note: Excludes segment category of BUs, BUs and Trucks, all other segments are split because of hybrid vehicles.

Source: Wind's Automotive Reports and CAR Research

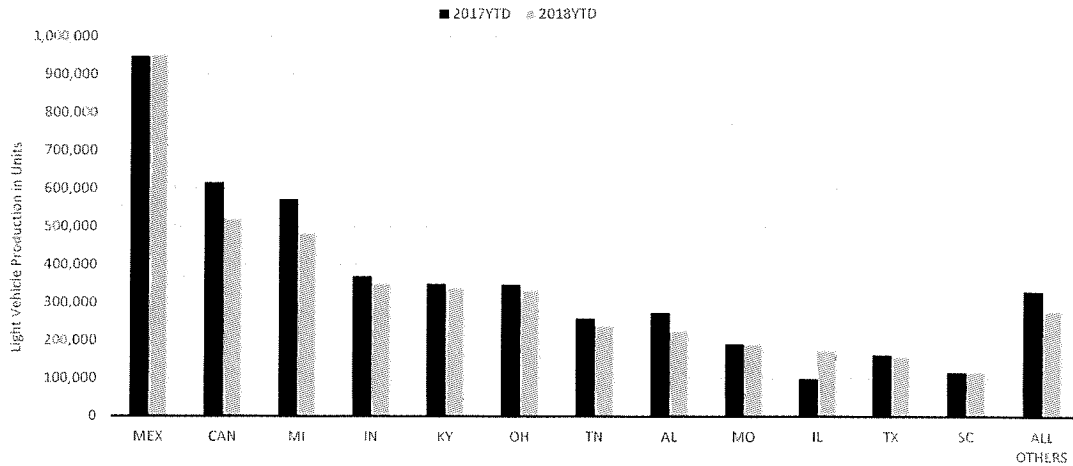
CAR's U.S. Light Vehicle Production Forecast 2018-2025



Source: CAR Research, April 2018

U.S. Light Vehicle Production (millions) 2014-2025

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

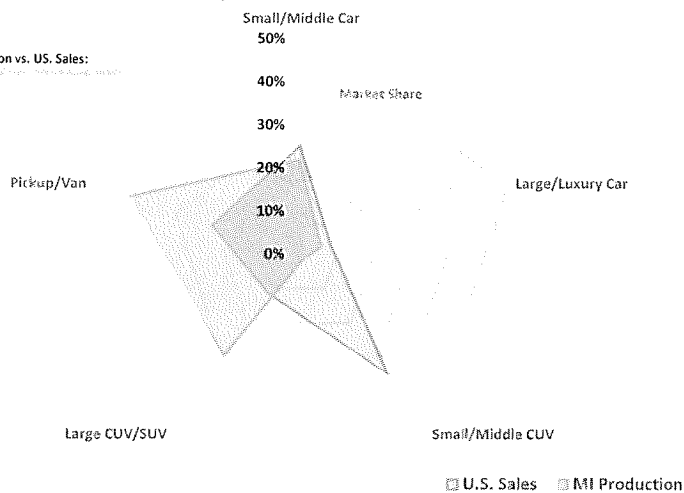


Source: Automotive News

Michigan produces proportionately more pickups & SUVs than the U.S. market buys.

Segment Breakdown of Michigan Production vs. U.S. Sales:

Source: Automotive News, U.S. Sales and Production, 2017, 2018 YTD (to date)

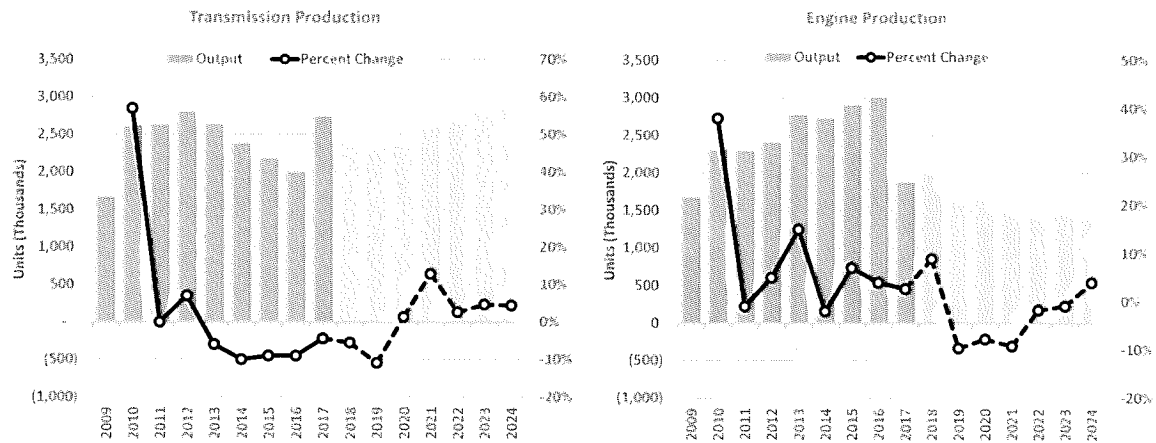


*Source: Automotive News, U.S. Sales and Production, 2017, 2018 YTD (to date)

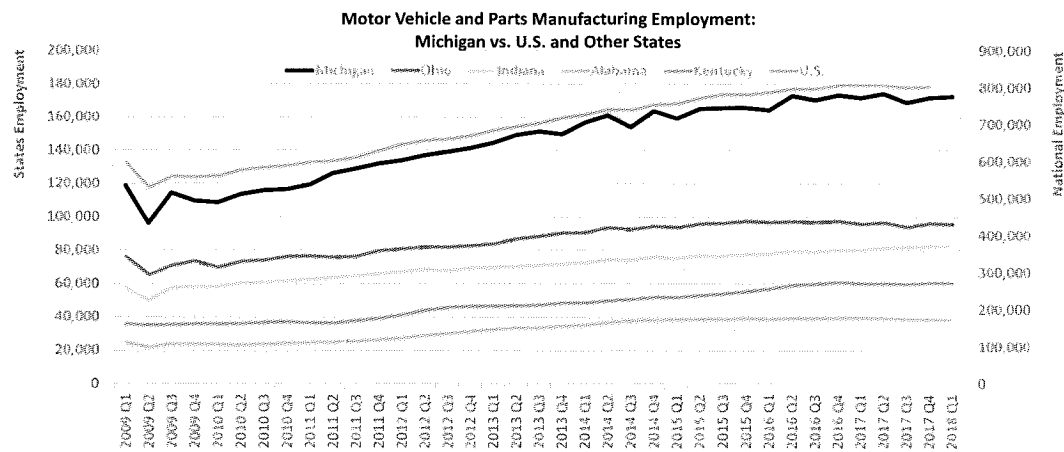
Source: Automotive News, U.S. Sales and Production, 2017, 2018 YTD (to date)

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.



Automaker Investments

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Michigan automaker investments greater than Mexico since 2009.
 North American Announced Automaker Investment by Region 2009 to Q1 2013

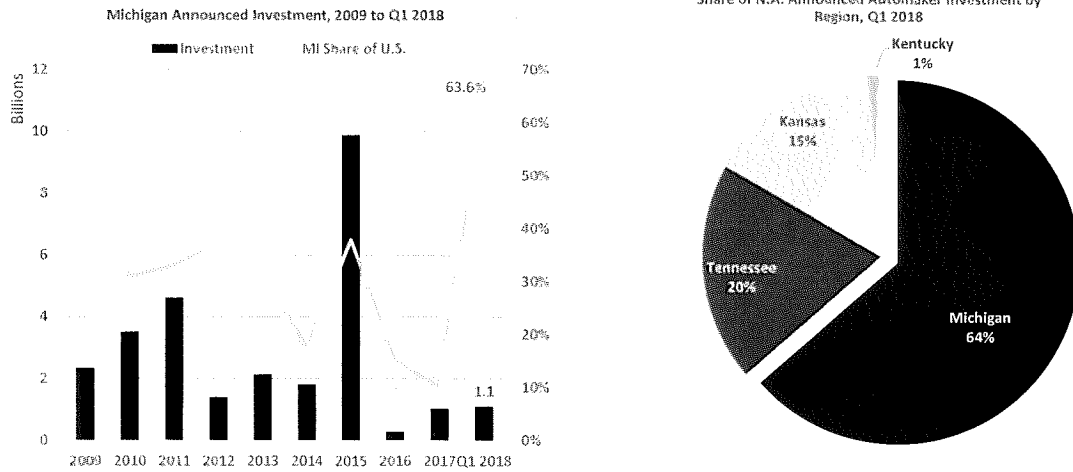
Region	Investment Amount (\$USD)
Canada	\$7.1B
United States	\$89.3B
<i>U.S. Great Lakes</i>	\$56.3B
<i>Michigan</i>	\$28.1B
<i>South</i>	\$20.4B
Mexico	\$24.8B
Total	\$119.5B

Note: U.S. Great Lakes includes: IL, IN, KY, MI, MO, and OH
 South includes: AL, FL, GA, MS, SC, TN, and TX



Sources: U.S. Bureau of Economic Analysis, 2013

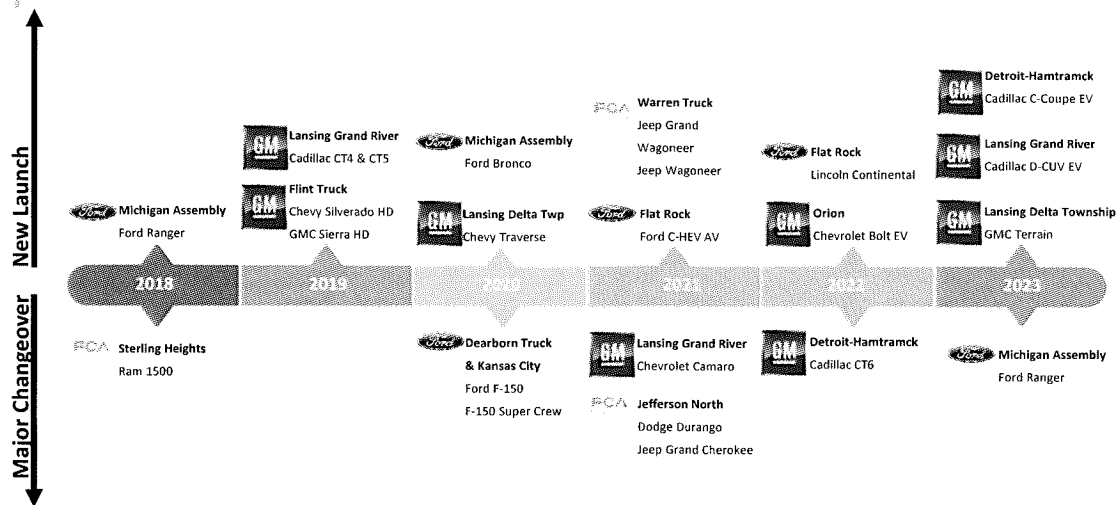
Automaker Announced Investment: Michigan vs. Other States Q1 2018



Source: CAR (Bank of America, March 2018)

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Michigan New & Major Change Launches



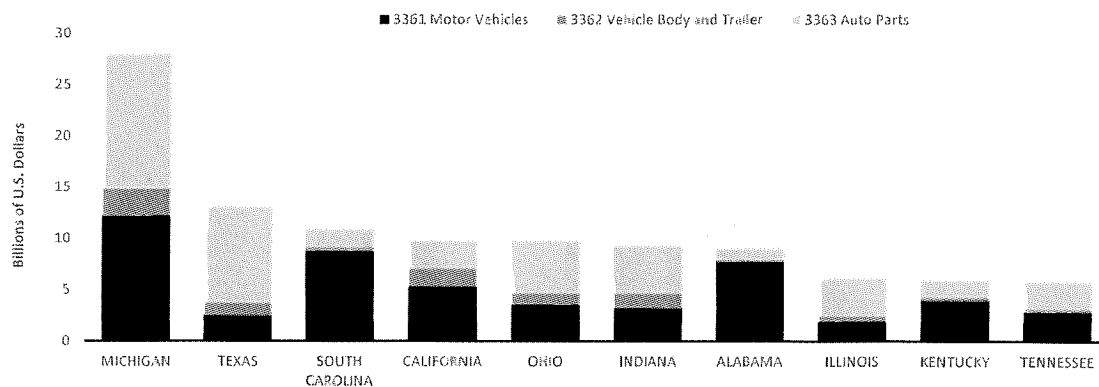
Source: CAR (Bank of America, March 2018)

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Return to Chapter 10



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



• The major destinations for Michigan exports are Mexico and Canada

Source: International Trade Administration, "Freight and Exporting"

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%



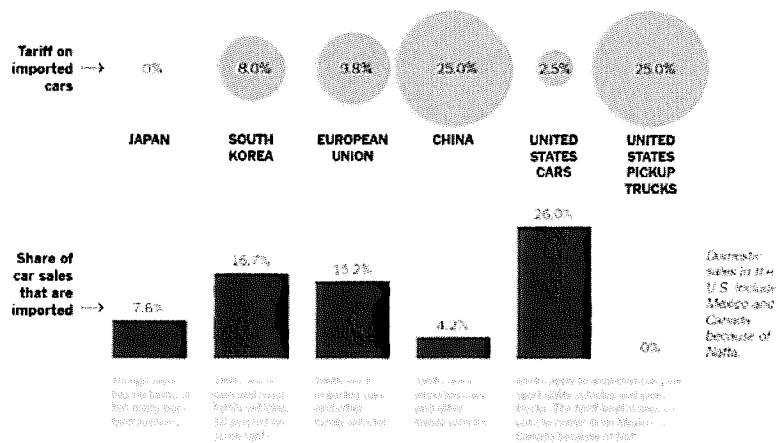
United States
International Trade Commission

**Harmonized Tariff
Schedule of the United
States (2018)
Basic Edition**

U.S. Tariffs on Imports from Selected Countries

5

Global Tariffs and Light Vehicle Imports



CENTER FOR AUTOMOTIVE ANALYSIS

<http://www.nytimes.com/interactive/2017/business/trade/standard-tariffs.html>

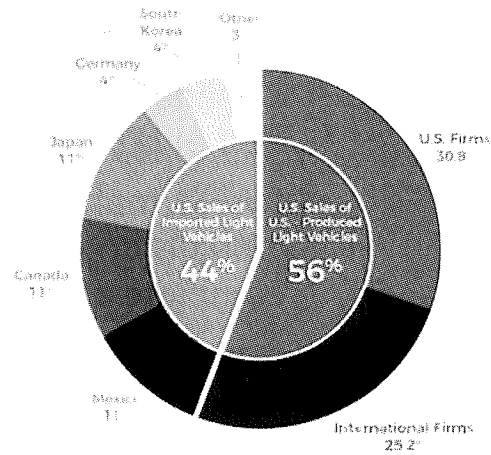
NAFTA Background

- 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.

U.S. Production	11 million
less U.S. Exports	- 2.4 million
plus U.S. Imports	+ 8.7 million
U.S. Sales	= 17.3 million

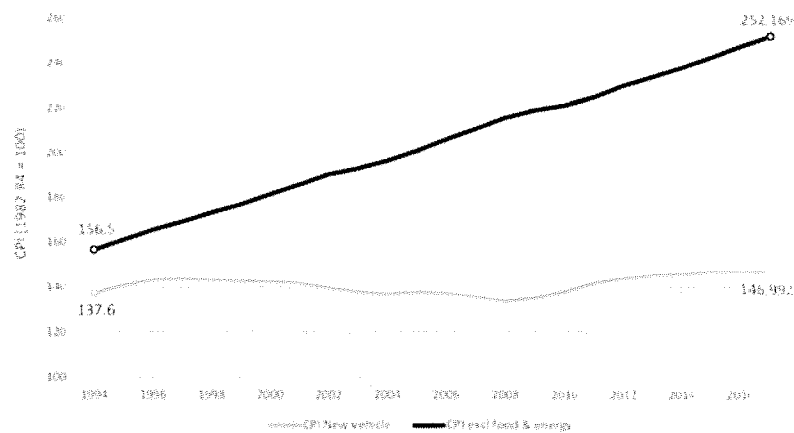
Sourcing of U.S. Light Vehicle Sales in 2017



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A competitive automotive industry is good for consumers.

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



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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

U.S. Trade Representative

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

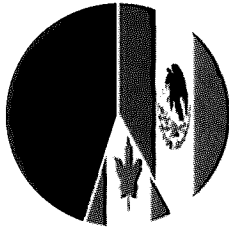
YEAR: 2017 in USD Billions	NAFTA	Civil Aircraft	No Program Claimed	Total	NAFTA share of Total
CANADA	Motor Vehicles	43.6	0.7	44.3	98.40%
	Motor Vehicle Bodies & Trailers	0.5	0.4	0.9	56.20%
	Motor Vehicle Parts	11.1	0.04	11.2	84.30%
	CANADA TOTAL	55.2	0.04	58.4	94.50%
MEXICO	Motor Vehicles	57.5	0.1	57.7	99.80%
	Motor Vehicle Bodies & Trailers	0.05	1.4	1.5	3.50%
	Motor Vehicle Parts	34.6	0.01	34.7	76.90%
	MEXICO TOTAL	92.2	0.01	104.2	88.50%
CANADA/MEXICO TOTAL		147.5	0.1	162.6	90.70%

Source: U.S. International Trade Commission

U.S. Trade Representative

China, Japan & South Korea Could Replace Canada & Mexico to be U.S.'s Largest Automotive Parts Importers

2017 Total U.S. auto parts imports: \$108.8B



Mexico: \$45.7B
Canada: \$14.0B

	Mexico	Canada	Next Largest Importers			
Engines & Parts	38%	21%	Japan 13%	Germany 5%	China 5%	
Transmission & Powertrain Parts	35%	13%	Japan 18%	China 8%	South Korea 7%	
Electrical & Electronic (excl. Lighting)	52%	2%	China 11%	Japan 8%	Taiwan 4%	
Steering & Suspension Parts	40%	10%	Japan 21%	China 7%	South Korea 7%	
Seating & Interior Trim	64%	10%	UK 6%	China 6%	Germany 3%	
Brake Systems	31%	8%	China 31%	Japan 6%	Germany 5%	
Metal Stampings	13%	38%	Taiwan 20%	South Korea 9%	China 5%	
Other Motor Vehicle Parts	38%	16%	China 18%	South Korea 7%	Japan 6%	

Source: U.S. International Trade Commission

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7

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

CAR 2018 U.S. Light Vehicle Importation Research

8

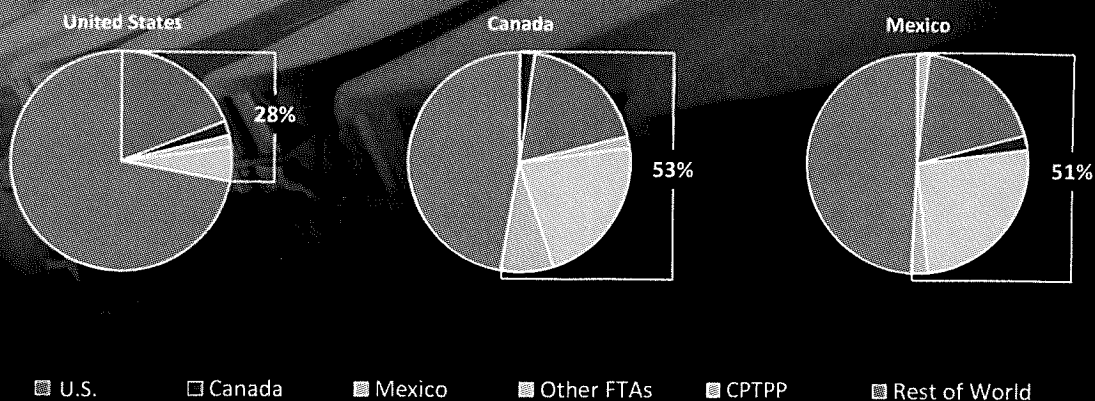
Timeline and Phase-In

- 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

Source: U.S. Trade Representative

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



Sources: OICA; United Kingdom included as part of the EU; Canada's CPTPP reach is larger than Mexico's because Mexico had FTAs with CPTPP partners prior to CPTPP

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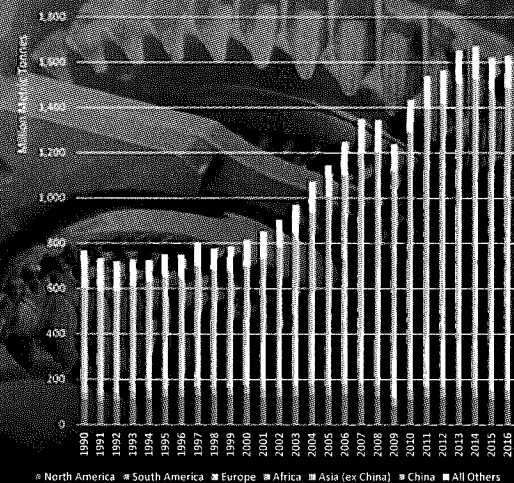
NAFTA & Steel/Aluminum Tariffs

- 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.

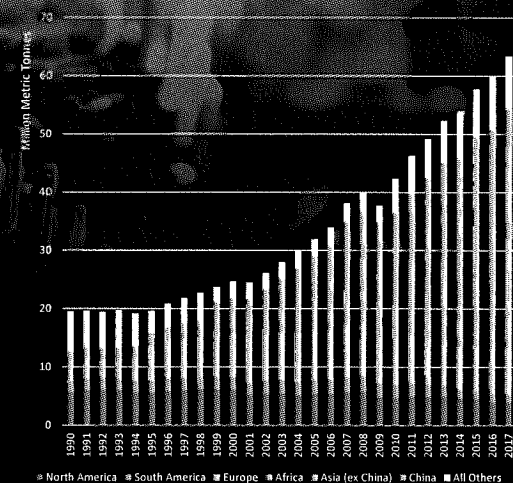
U.S. STEEL INDUSTRIES ASSOCIATION

Global Steel & Aluminum Production Capacity 1990-2017

WORLD CRUDE STEEL PRODUCTION BY REGION, 1990-2016



WORLD ALUMINUM PRODUCTION BY REGION, 1990-2017

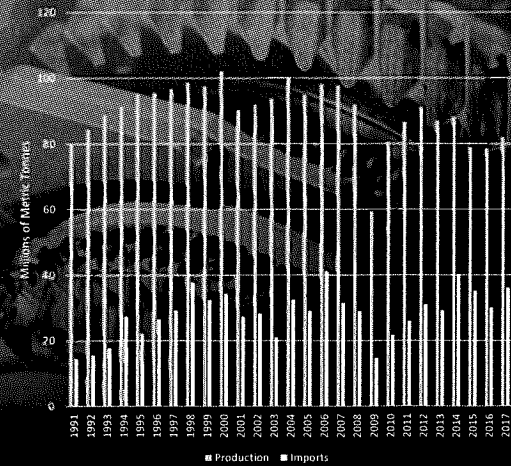


Source: World Steel Association, 2018; International Aluminum Institute, 2018

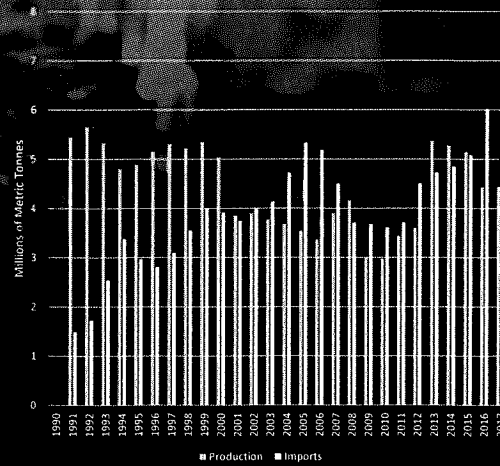
32

U.S. Steel & Aluminum Production & Imports 1991-2017

U.S. STEEL PRODUCTION AND STEEL MILL PRODUCT IMPORTS, 1991-2017



U.S. ALUMINUM PRODUCTION AND IMPORTS, 1991-2017



Source: U.S. Geological Survey

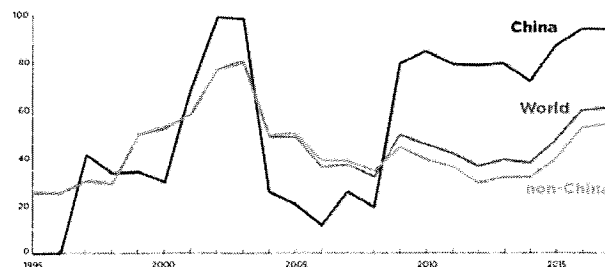
33

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.

Percent of US steel imports subject to special tariffs, by exporting region



Source: See Figure 1 in blog post, "Trump's Steel and Aluminum Tariffs: Are Counterproductive? Here Are 5 More Things You Need to Know".
Note: Special tariffs include safeguards, antidumping, and countervailing duties.
Learn more at <https://pnie.com/newsroom/pnie-charts/10-steel-imports-are-already-highly-protected>
Calculations by Chad P. Brown

#PNECharts



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34

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.

U.S. Trade Representative, U.S. Trade Representative, U.S. Trade Representative

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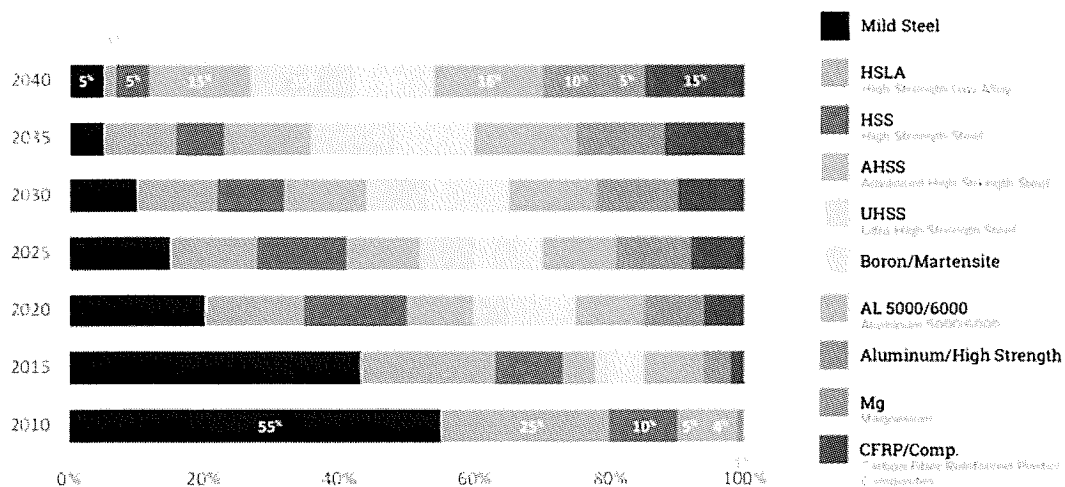


Impact of Meridian Fire



APR 2018: FOX 47 NEWS REPORTS ON THE MERIDIAN FIRE

Material Percentage Use by Year, 2010 to 2040



Note: Between 2010 to 2020 the mix of material represents the mix throughout the industry as some vehicles in the fleet still use predominantly mild or lower grade steels while few higher end vehicles use ultra high strength steels with aluminum. Automotive engineers want 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 optimized mixed-material body structure; therefore, From 2025 to 2040 the material percentages represents material mix in a single vehicle.

Source: CAR Research



Thank you

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