

# **NAFTA and the North American auto industry**

**Thomas Klier  
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**GACC Midwest Business Luncheon Series  
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*Disclaimer*

*The analysis and conclusions set forth are those of the author and do not indicate concurrence by other members of the research staff or the Federal Reserve Bank of Chicago*

# NAFTA in the news

## Donald Trump's Nafta Plan Would Confront Globalized Auto Industry

The Wall Street Journal, November 10, 2016

Tens of thousands of parts that make up a vehicle often come from multiple producers in different countries and travel back and forth across borders several times.

## Trump Threatens to Undo Nafta's Auto Alley

“Then you have to play whack-a-mole with every low-cost country.”

by Brendan Greeley, David Welch, and Austin Weinstein

January 26, 2017 1:39 PM

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January 26, 2017

## FINANCIAL TIMES

### Mexico urges Trump to create Nafta powerhouse to rival China

• Aborted TPP said to provide common ground • Readymade process presented as win-win

JONATHAN WHEATLEY — LONDON

JOE WHEATLEY — MEXICO CITY

Mexico is urging Donald Trump to come to grips with the fact that the renegotiations failed to provide a “fair deal” for all.

Mr. Guajardo, who is also Mexico's lead trade negotiator, said using sections of the TPP would offer the US president a quick and relatively easy victory.

backtracked again yesterday when he told CBS news he could still terminate the pact if the renegotiations failed to provide a “fair deal” for all.

Mr. Guajardo, who is also Mexico's lead trade negotiator, said using sections of the TPP would offer the US president a quick and relatively easy victory.

“A package is already in your pocket,” he said. “But my message is that if you become extremely greedy you may waste a victory that is already there.”

My Guajardo said that rather than seeing Mexico as a rival because of its trade surplus with the US, Washington should regard it as a partner in competition with low-cost Chinese manufacturers.

“We are fed up with complaints that Mexico is stealing jobs from US manufacturers,” he added. “We are part of the solution that has maintained competitiveness for the US versus China.”

He said that instead of fighting, the nations should “team up to face the challenges” of the digital economy and robotization. The Mexican minister said talks could become an immediate



reformed Mexican sectors such as energy and telecoms.

Mr. Guajardo said he had raised the suggestion of basing talks on TPP with Wilbur Ross, saying the US commerce secretary had reacted positively.

However, another person close to Mexico's negotiating team said that if the US insisted on strict rules of origin, for example, it risked playing into the hands of Chinese manufacturers.

The Mexican government is keen to reach a deal by the end of December, ahead of campaigning for elections in July next year.

May 1, 2017

# Germany in the news

*Automotive News 05/29/17 p. 36*

## the final say ...

**"The Germans are bad, very bad. Look at the millions of cars that they sell in the U.S. Terrible. We're going to stop that."**

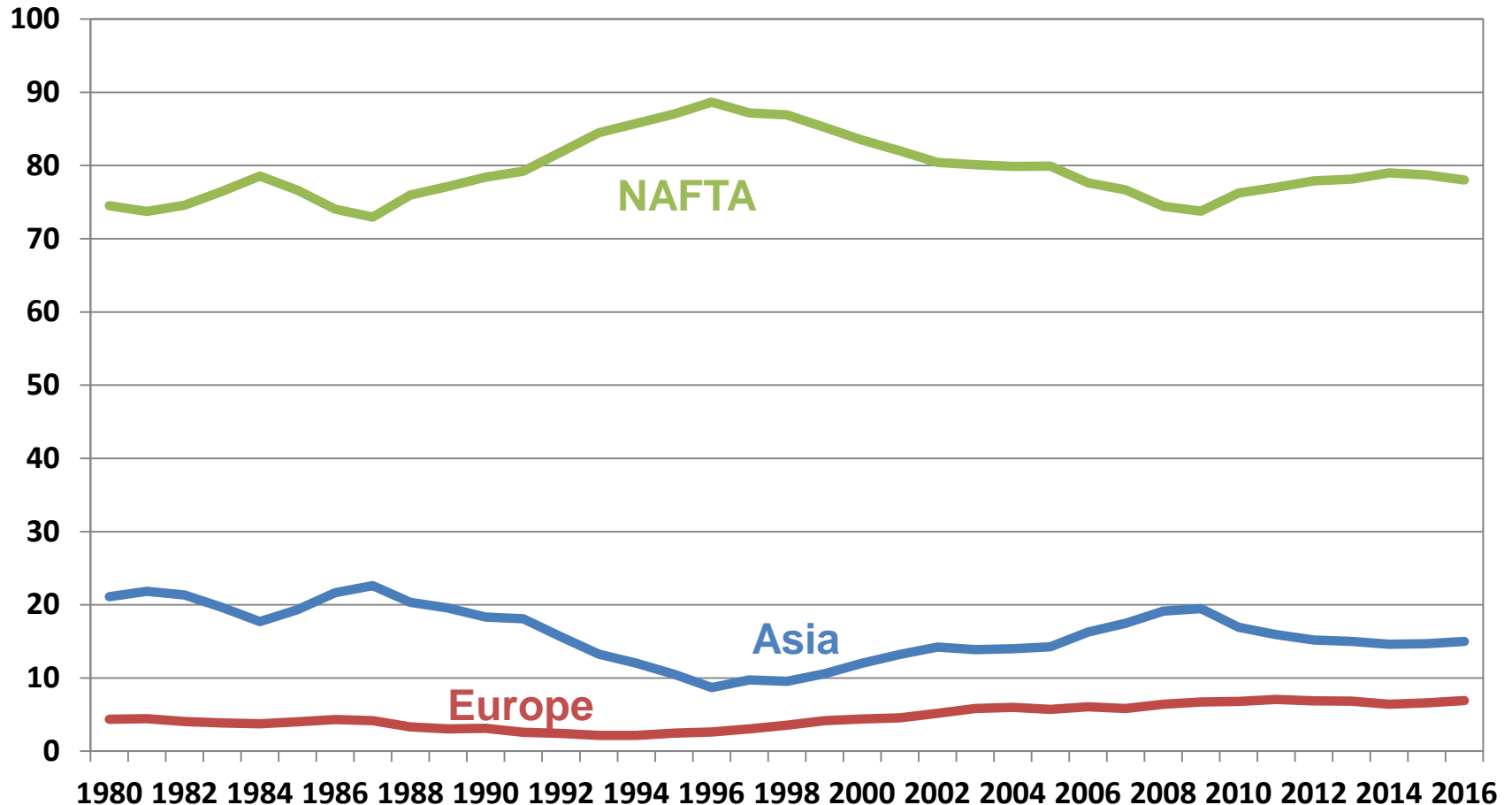


President Donald Trump to European Union officials in a closed-door meeting, according to German magazine *Der Spiegel*, which cited unidentified attendees.

**Fact: In 2016, VW, BMW, Audi and Mercedes sold 1.28 million autos in the U.S. market**

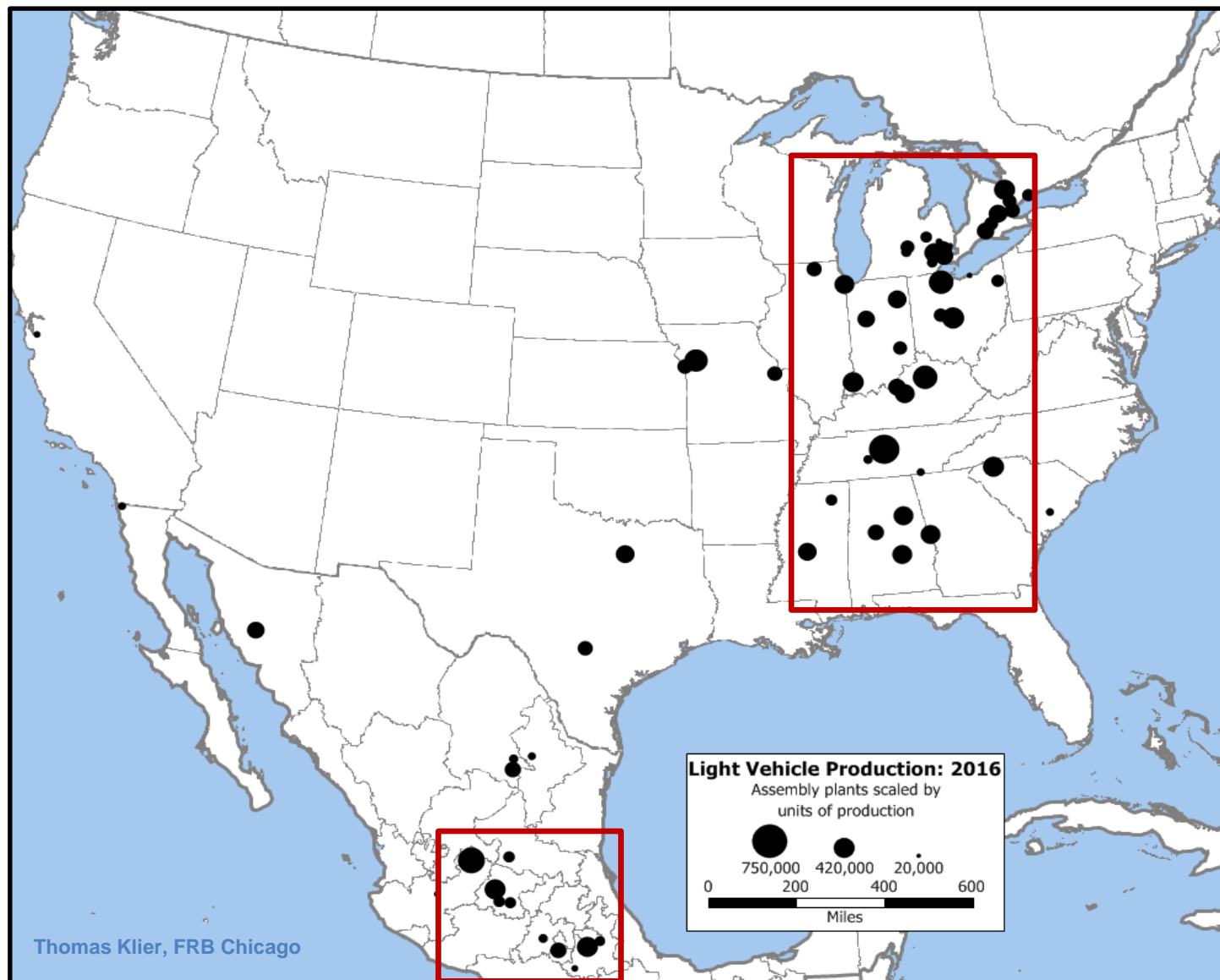
# Most vehicles sold in U.S. produced in N.A.

U.S. light vehicle sales by major production region, %



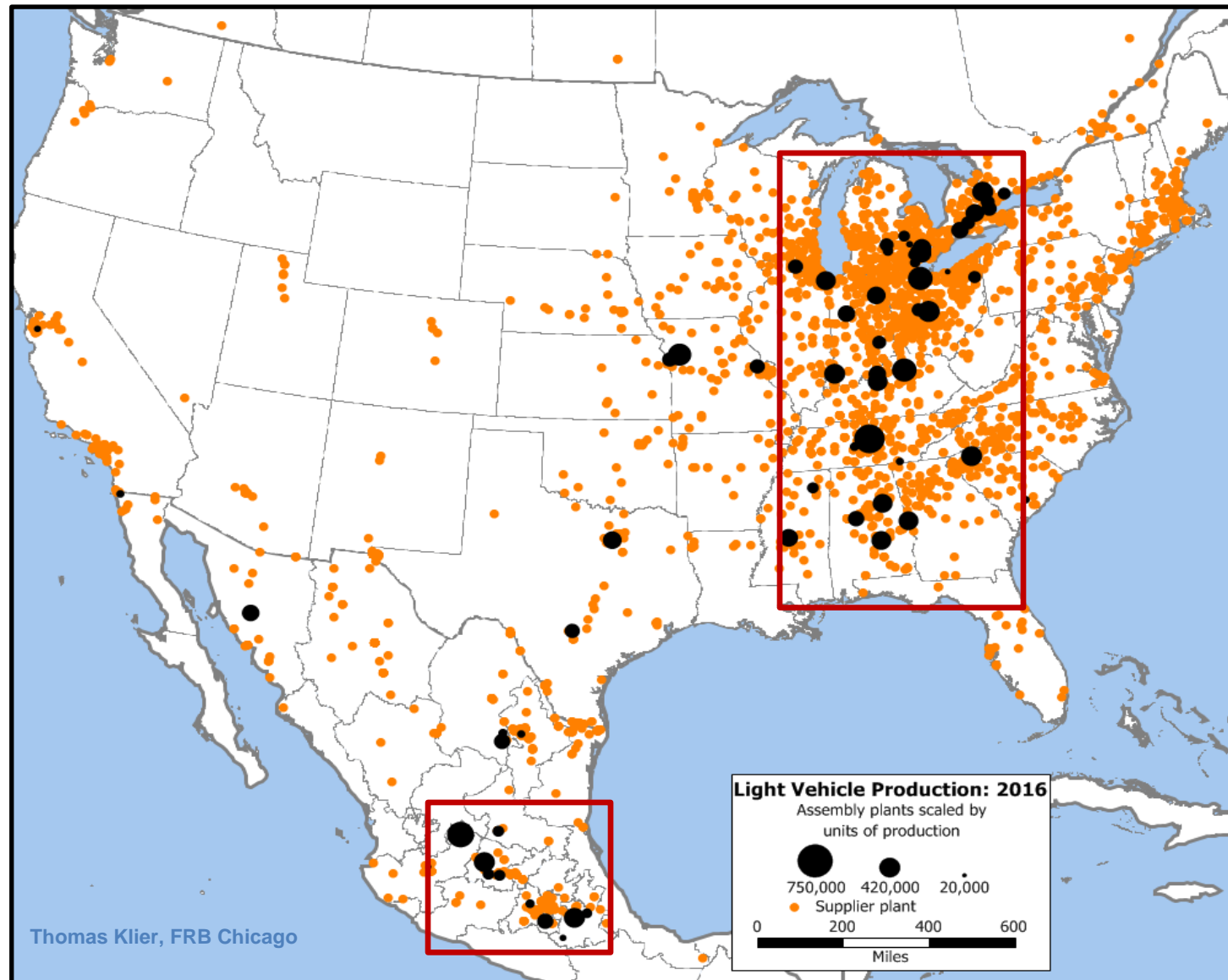


# North America's auto production footprint



2016

# Parts and vehicle assembly co-locate



2016

# Mexico is now larger than Canada

Share of NAFTA's light vehicle production (%)

Country	1995	2000	2010	2016
Canada	16	17	17	13
Mexico	6	11	19	20
U.S.	78	72	64	67
Total	100	100	100	100
<i>Vehicles (millions)</i>	<i>14.9</i>	<i>17.2</i>	<i>11.9</i>	<i>17.7</i>

# Mexico's auto industry: pre-NAFTA

- Long history of vehicle production in Mexico
  - Model T (1925); GM and Chrysler in 1930s
  - 15 carmakers operated low volume assembly plants
  - No Mexican-owned carmaker
- Importance of industry-specific trade policy
  - First: import substitution, later: export promotion
  - By late 60s: 5 producers in Mexico: Detroit 3 plus Nissan and VW
- Note: Vehicle production in Mexico:
  - 1960: 50k; 1970: 193k; 1980: 490k



# Mexico's auto industry at NAFTA

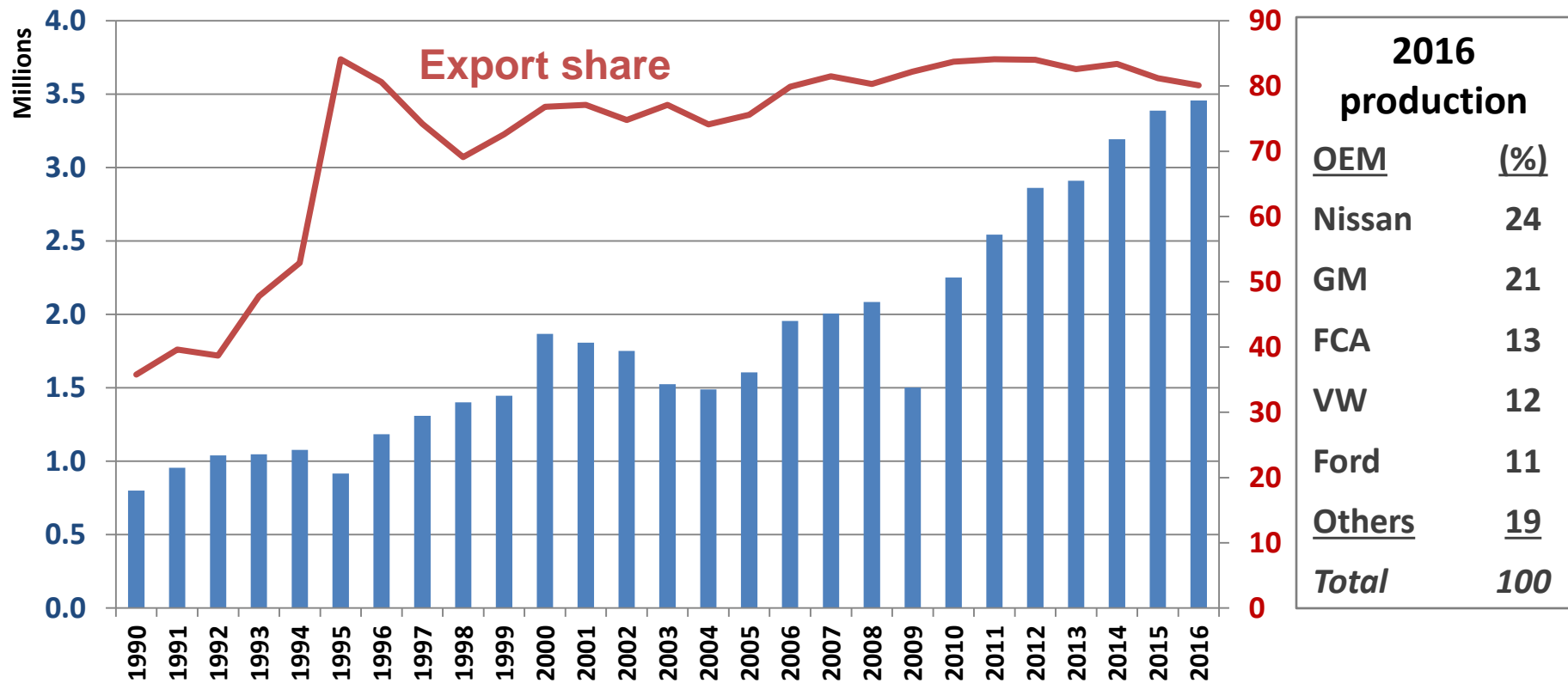
- By '95: D3 each operate two assembly plants, Nissan (2), VW (1)
  - Original Detroit 3 plants have been replaced
- NAFTA removes trade barriers and quotas over 10-year transition period (1995-2004)
- Mexico is becoming fully integrated into North-American production space (started slowly, in 80s)
  - E.g.: PT Cruiser exclusively produced in Mexico from 2001-2010
- Until 2004 only the 5 “legacy” carmakers benefit from NAFTA

# Mexico's auto industry since 2004

- Mexico pursues many free trade agreements
- BMW, Daimler, Kia (Hyundai subsidiary), Mazda, Toyota, Audi (VW division) decide to assemble vehicles in Mexico
- The legacy carmakers open additional assembly plants
- Assembly plant count increases from 11 in 2004 to 21 in 2019. Only two of those are by Detroit 3

# Exports drive Mexico's strong growth

## Light vehicle production in Mexico

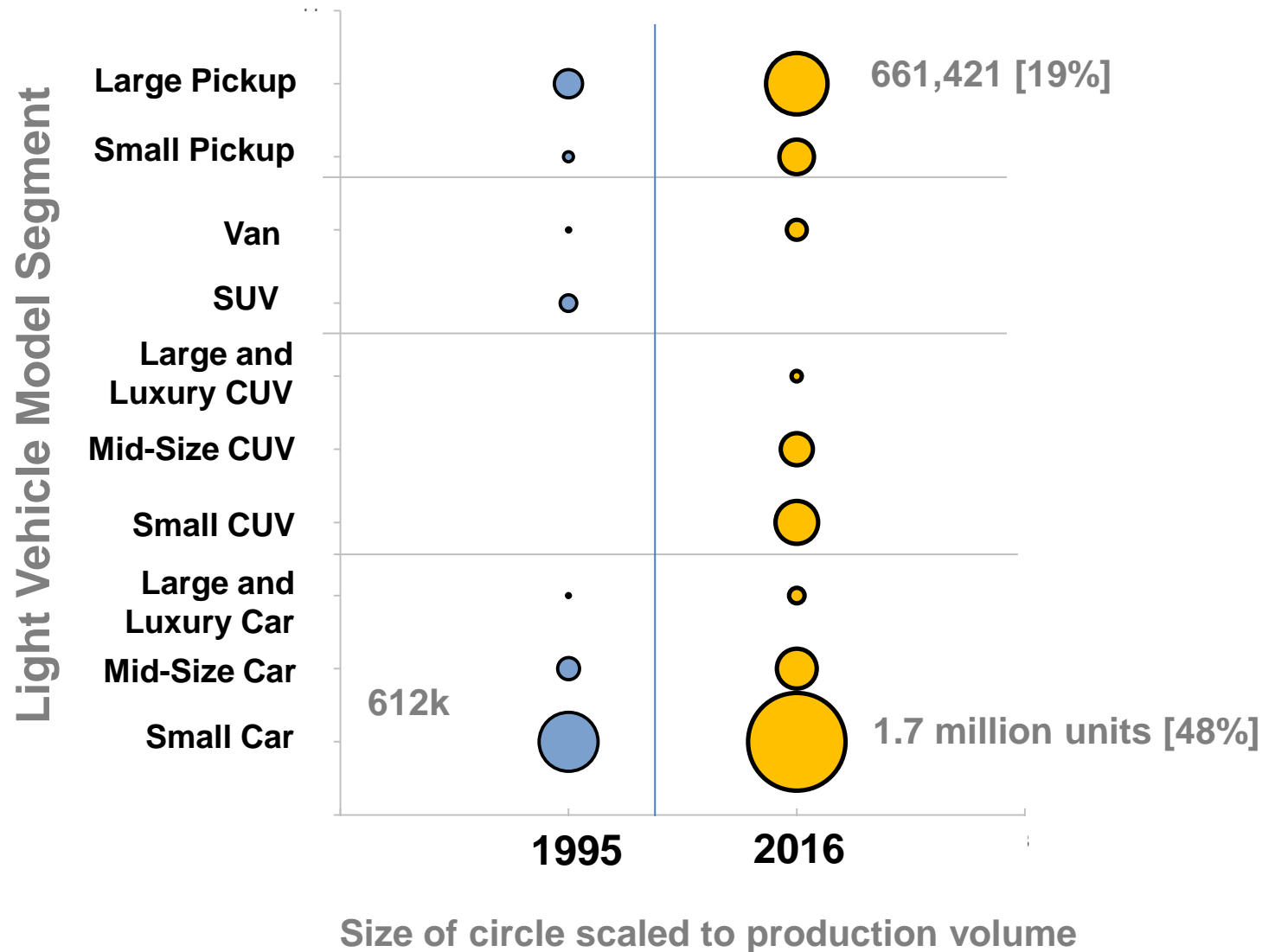


Production has increased by 2.5 million units since 1995



# What is produced in Mexico?

## LV production in Mexico, by segment



# Who produces what?

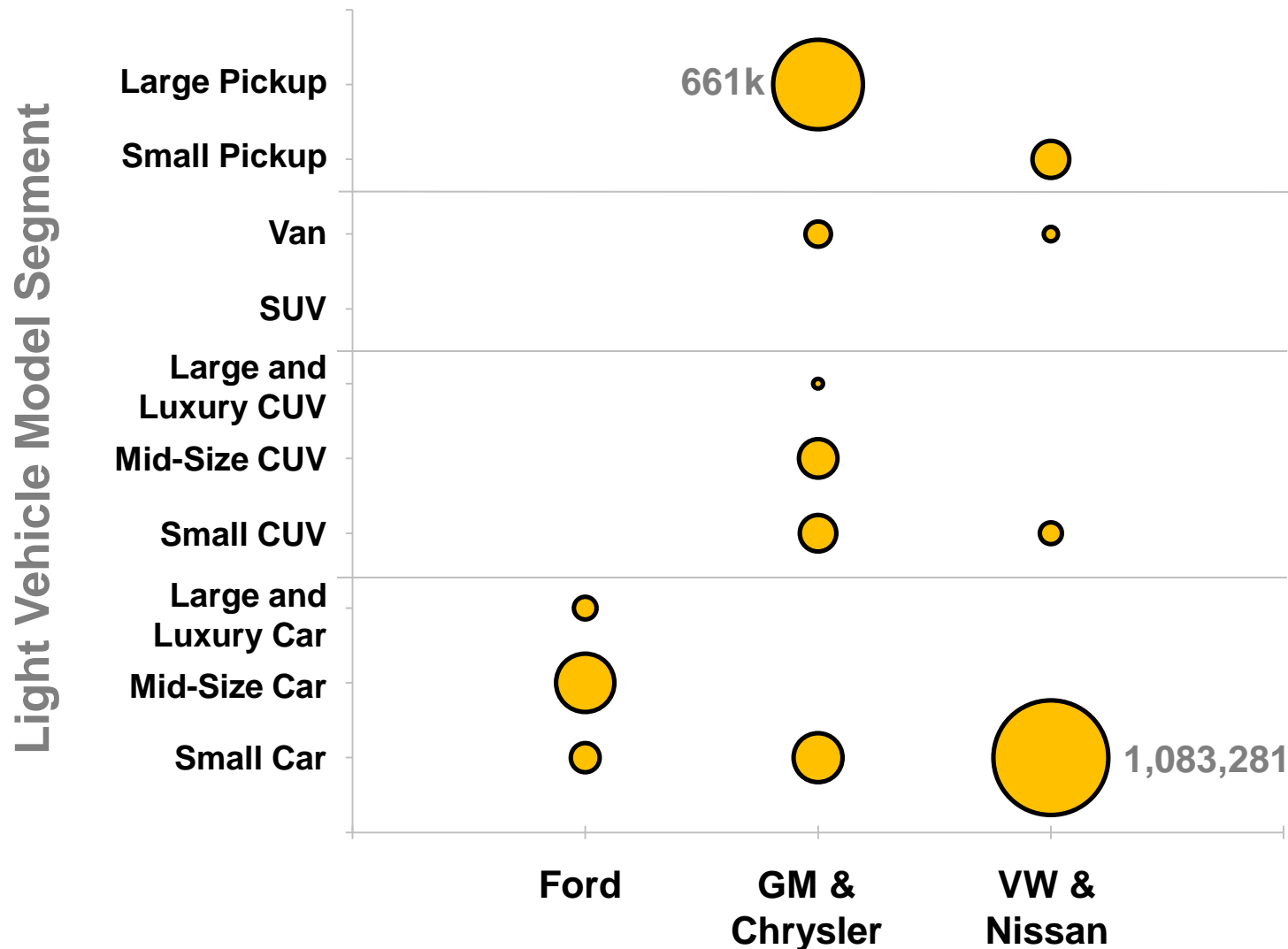
Carmaker	2016
Nissan	Sentra
GM	Silverado
FCA	Ram pickup
VW	Jetta
Ford	Fusion
<i>5 <u>highest volume</u> <u>models total</u></i>	<i>39% of production</i>





# Who produces what?

LV production in Mexico, by segment, 2016



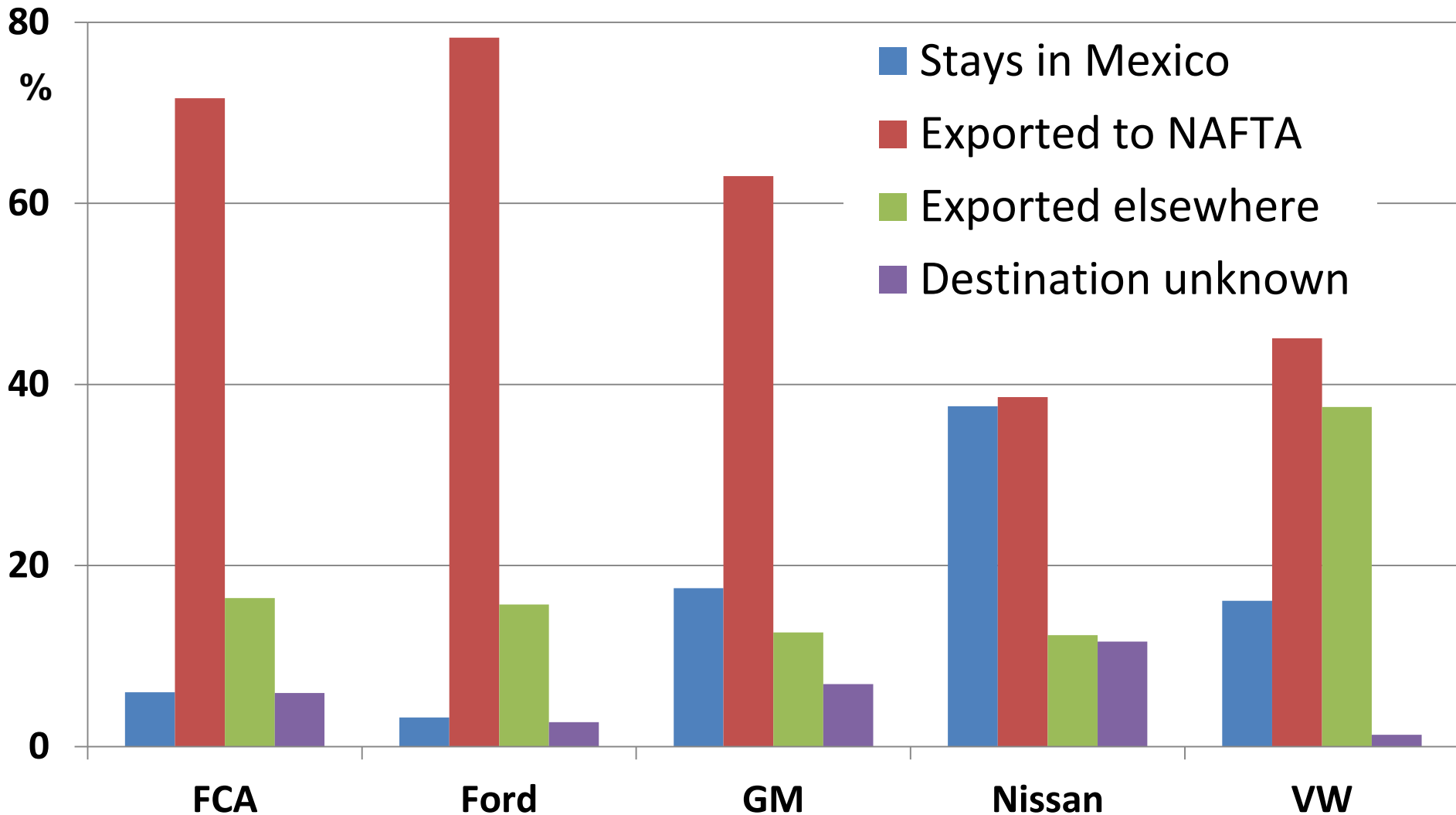
# Exposure to Mexico varies

Share of NAFTA light vehicle production in Mexico, by OEM

Carmaker	1995	2016
Nissan	17	45
GM	4	20
FCA	8	18
VW	100	82
Ford	5	13
<i>MEX total</i>	<i>6</i>	<i>20</i>

# So do destinations of Mexican production

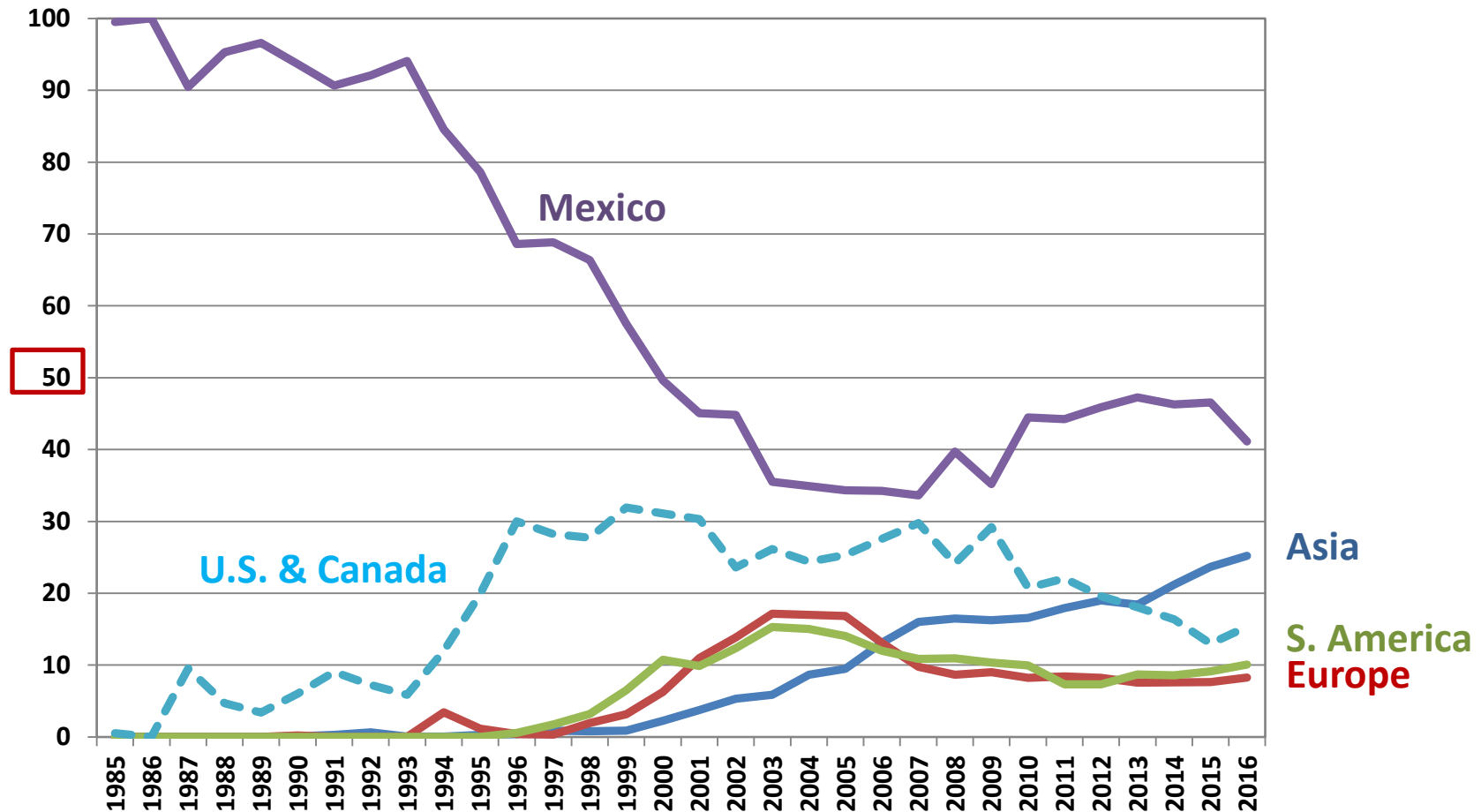
Mexican production by destination region, 2012-14 average





# Majority of Mexican sales are imported

Mexican light vehicle sales by region of production, %



# Mind the supply chain and its linkages



## Example: journey of a seatbelt

1. Produce nylon fibers
2. Dye and weave fibers
3. Cut and sew finished cloth
4. Fit finished seat belt into car



# Supply chains extend across borders



The average Mexican content in U.S.-produced vehicles is about 13.5%

The average U.S. content in Mexico-produced vehicles is about 26%

Source: author's calculations based on AALA data from 2016

# Possible changes in U.S. trade policy

- From NAFTA to NAFFTA
  - Raise the North American content requirement from the current 62.5%
  - Possibly introduce a U.S. peg
- Tariff on imports from Mexico
- Border tax
  - Envisioned as part of broad corporate tax reform

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extras

# North America goes international

Detroit's light vehicle production share in North America, by country, in percent

	1995	2016
U.S.	81	53
Canada	91	57
Mexico	67	45

# Close-up of auto alley

