

The auto industry and NAFTA- links between the U.S. and Mexico

**U.S.-Mexico ties in the 21st century:
trade and immigration in a new era**

Federal Reserve Bank of Dallas

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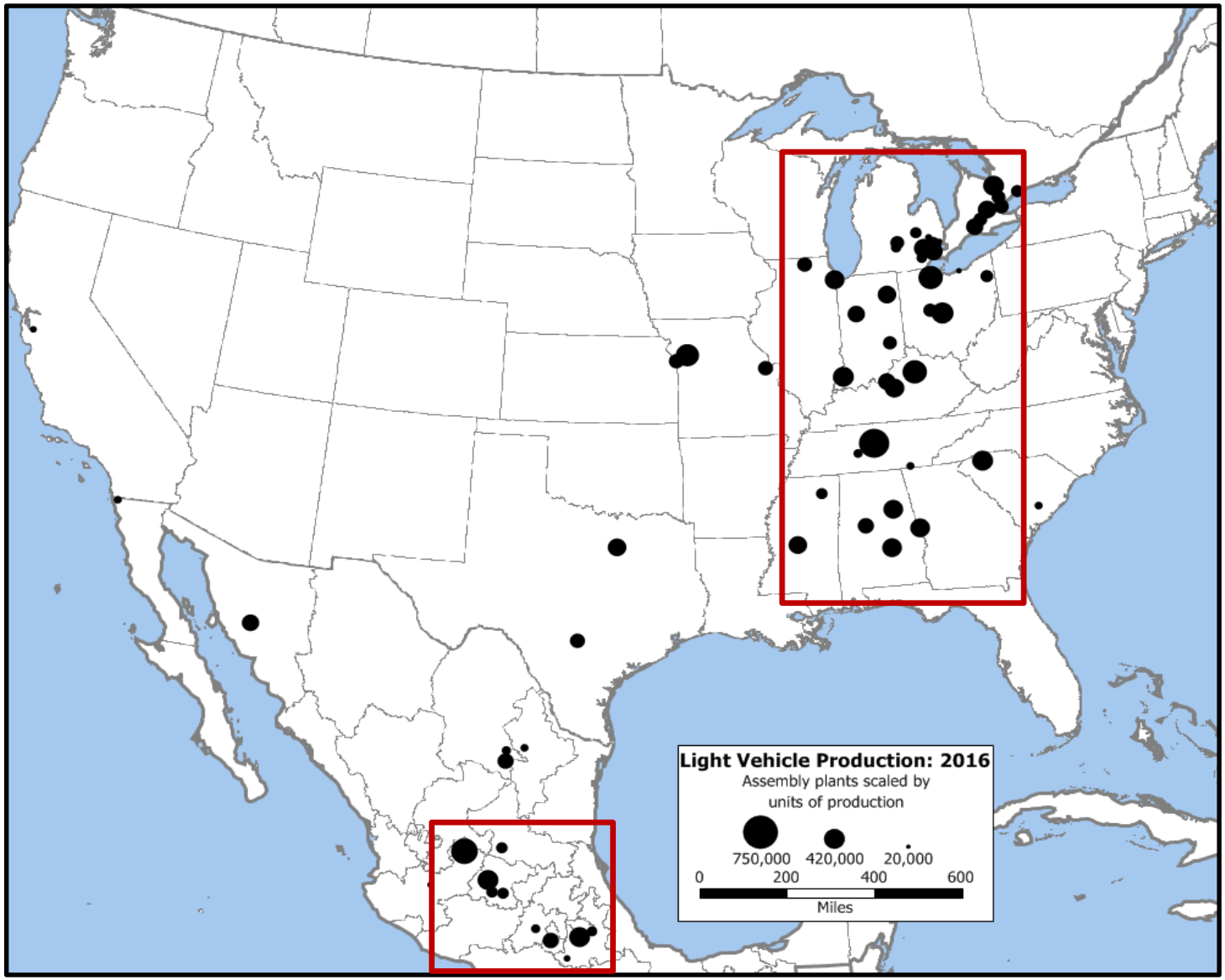
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Summary

- **Today the auto industry essentially knows no borders within North America**
 - 62.5% NAFTA content required to avoid tariffs
 - Mexico as the low labor cost production location
- **Mexico's strong growth in production is driven by exports**
- **Industry linkages between the U.S. and Mexico are extensive**

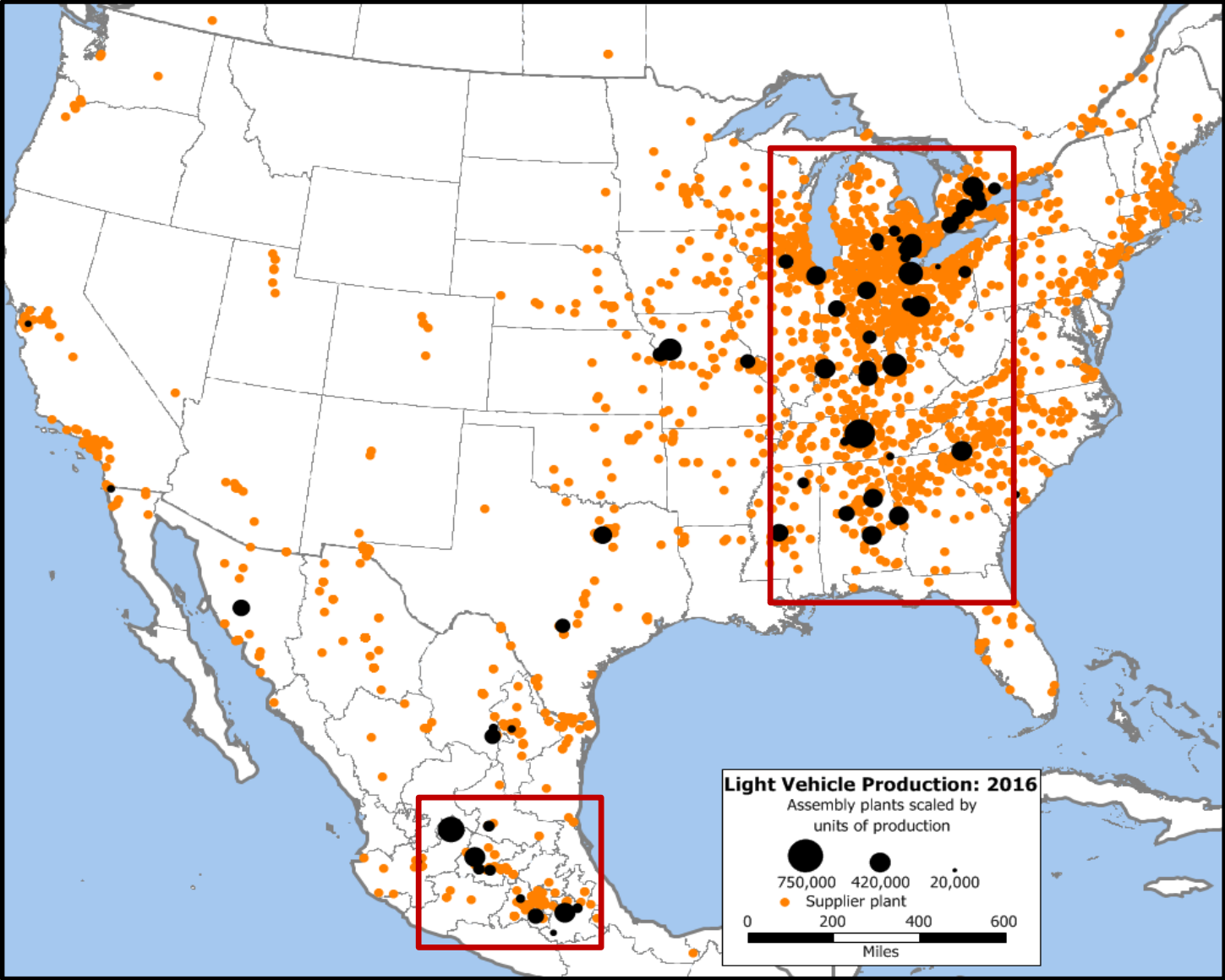
North America's auto production footprint

2016



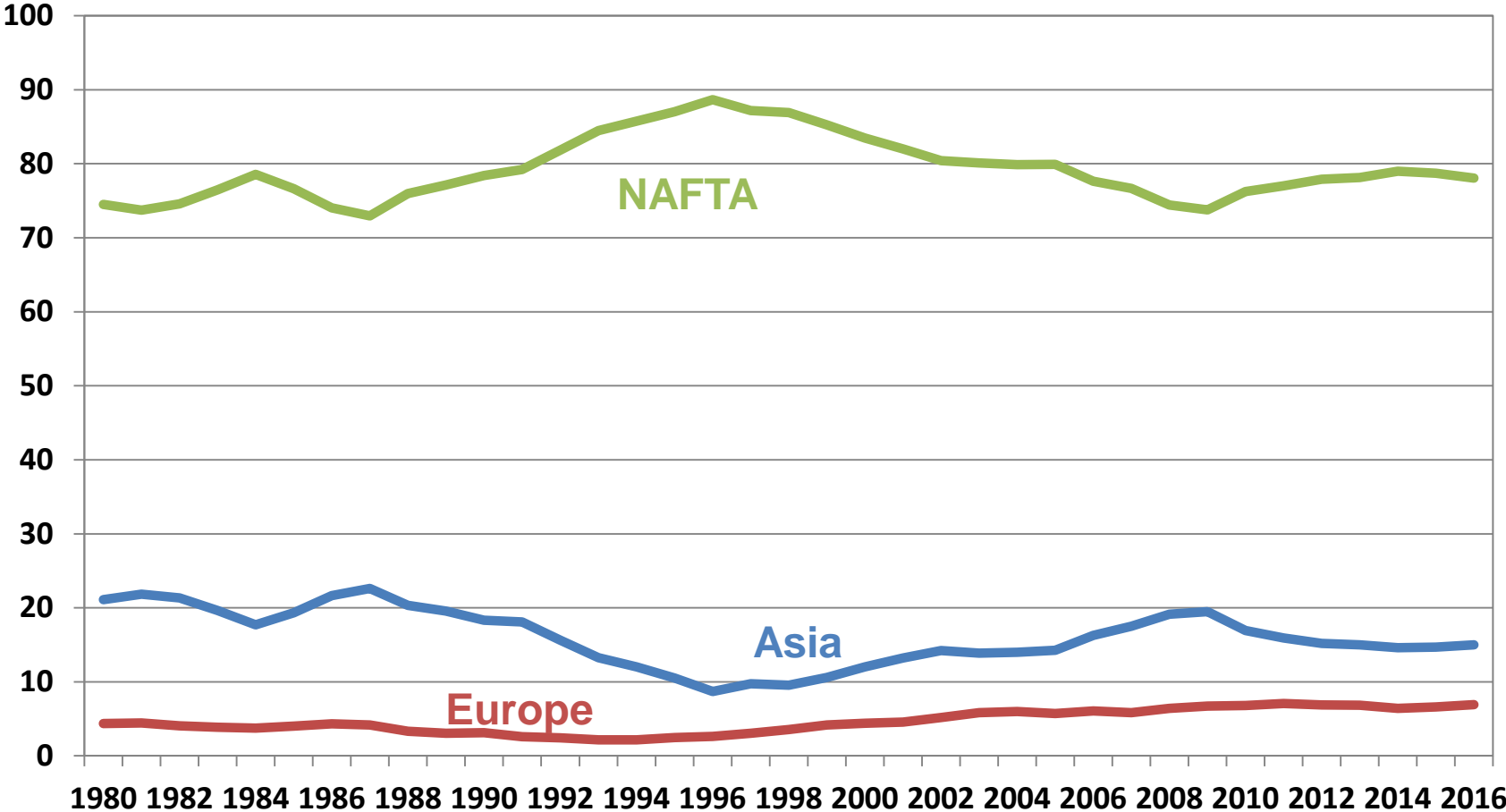
Parts and vehicle assembly co-locate

2016



Most vehicles sold in U.S. are made in N.A.

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



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

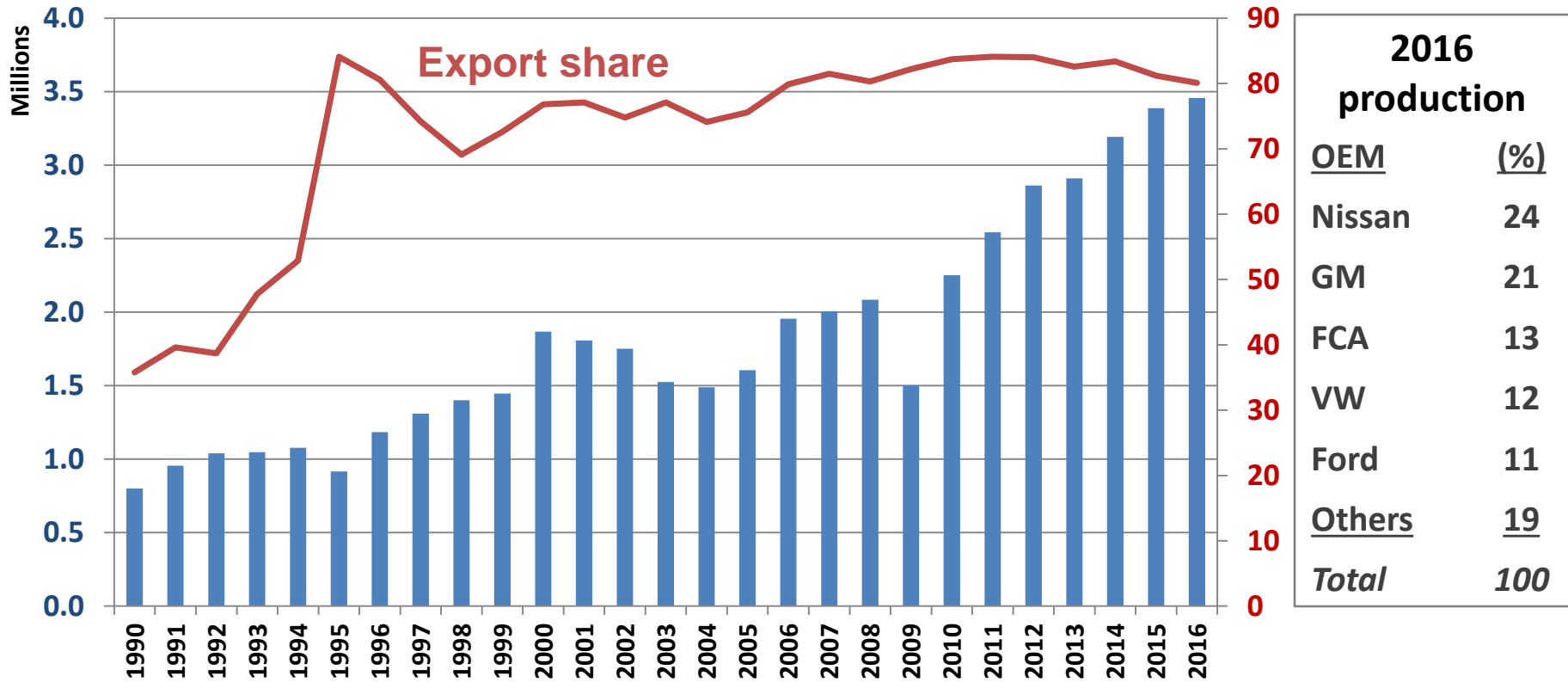
- By '95: D3 each operate two assembly plants, Nissan (2), VW (1)
 - Original Detroit 3 plants have been replaced
- NAFTA removes trade barriers and quotas over 10-year transition period (1995-2004)
- Mexico is becoming fully integrated into North-American production space (started slowly, in 80s)
 - 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

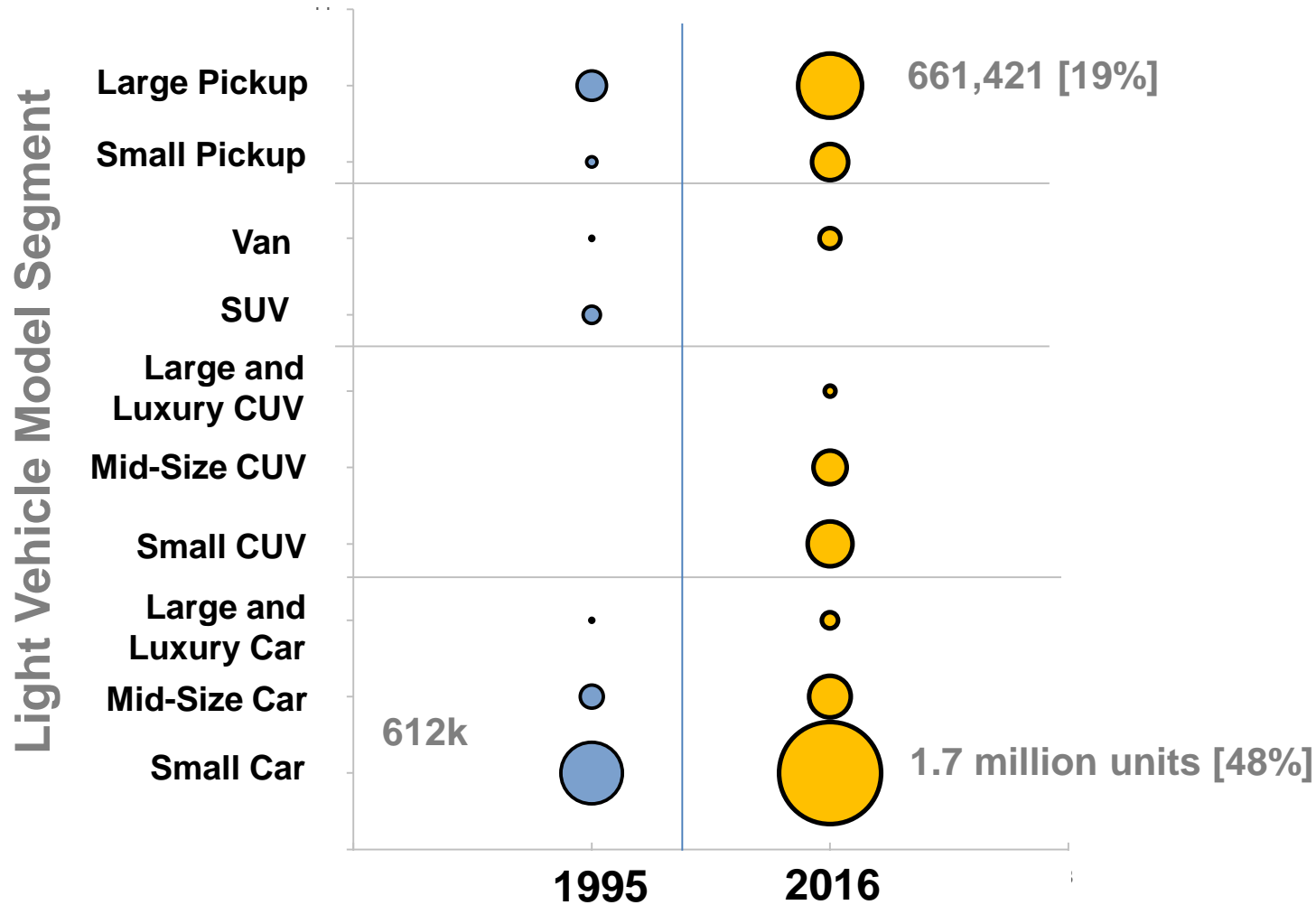
Light vehicle production in Mexico



Production has increased by 2.5 million units since 1995

What is produced in Mexico?

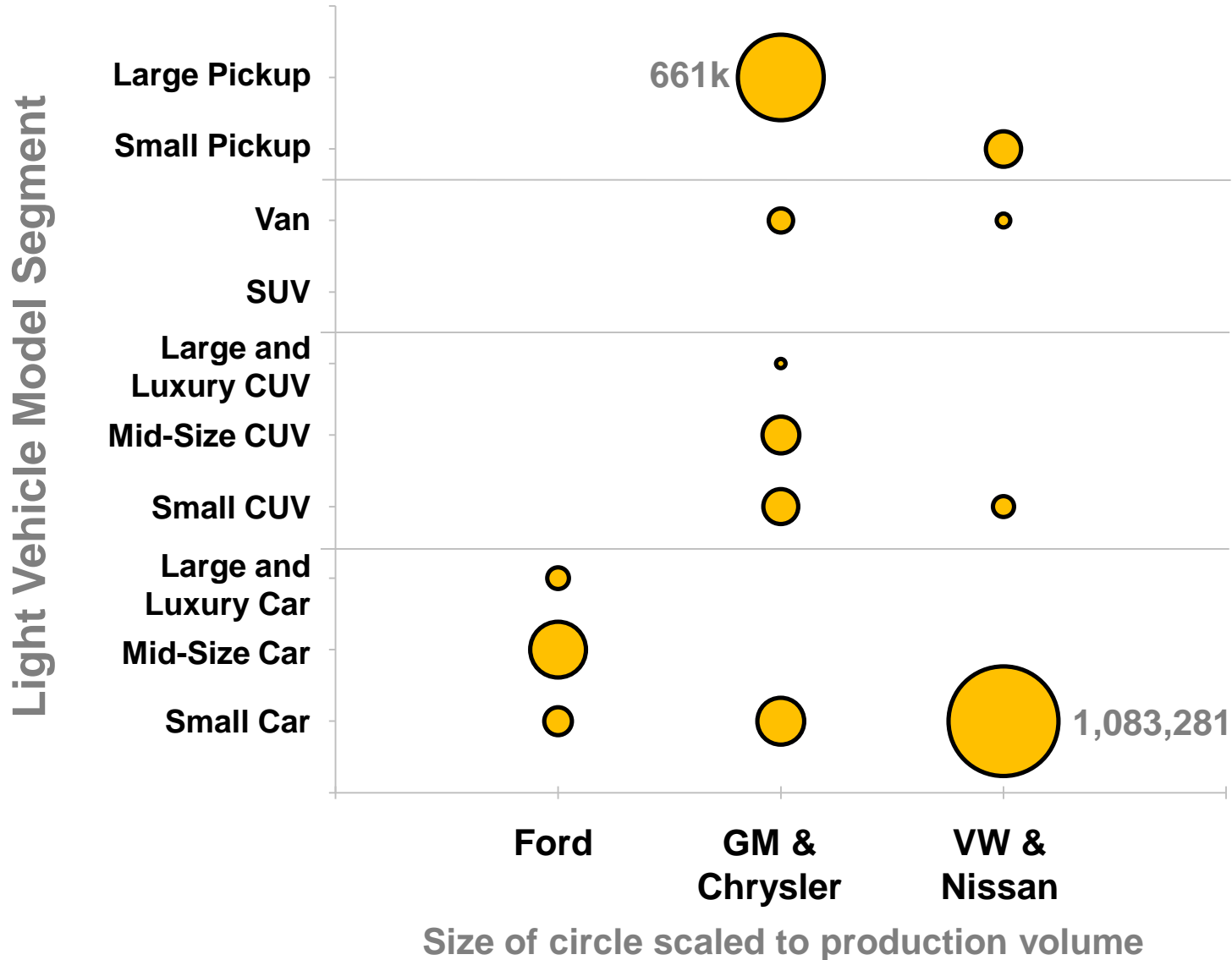
LV production in Mexico, by segment, 1995 vs 2016



Size of circle scaled to production volume

Who produces what?

LV production in Mexico, by segment, 2016



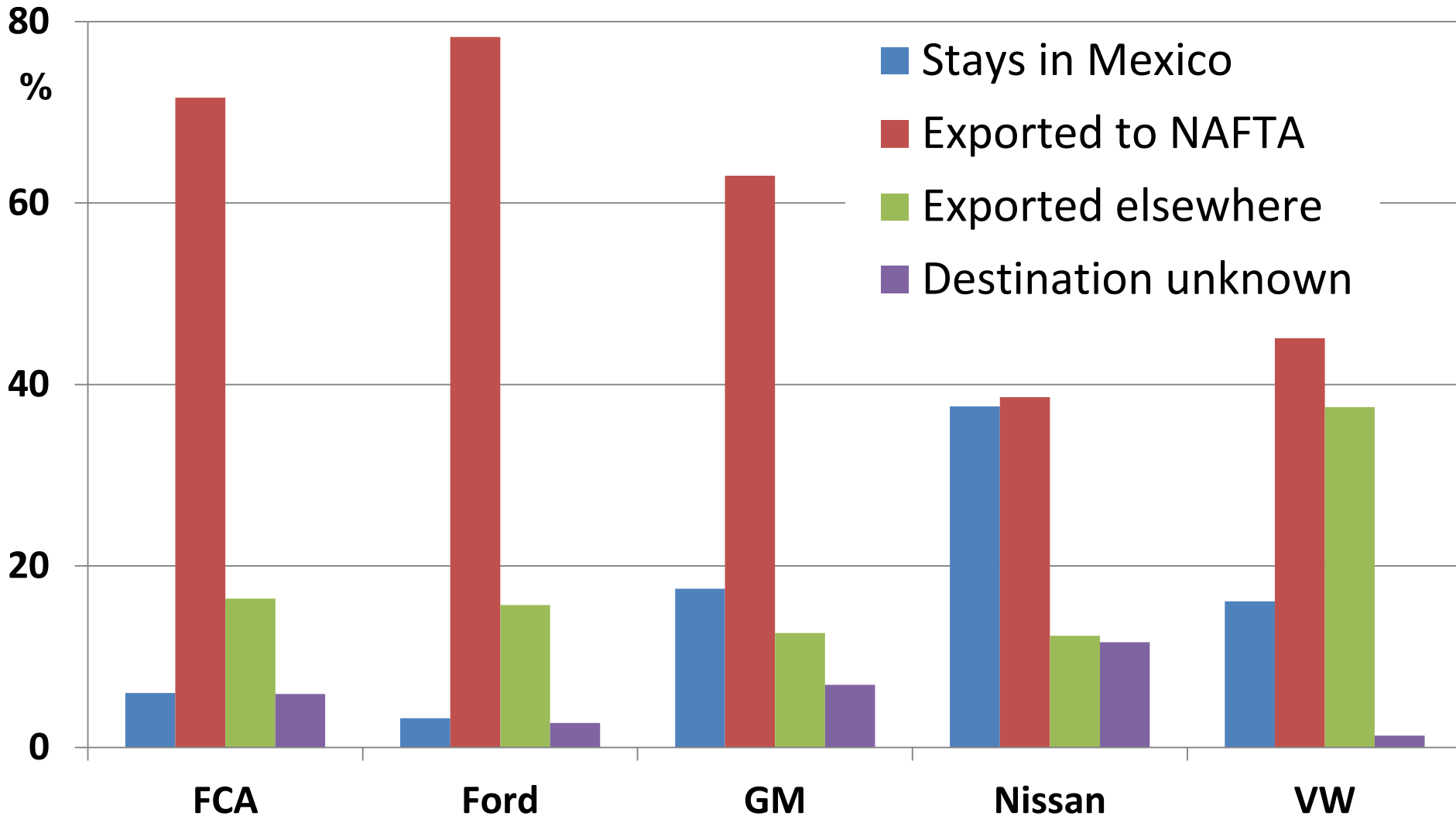
Exposure to Mexico varies by OEM

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>

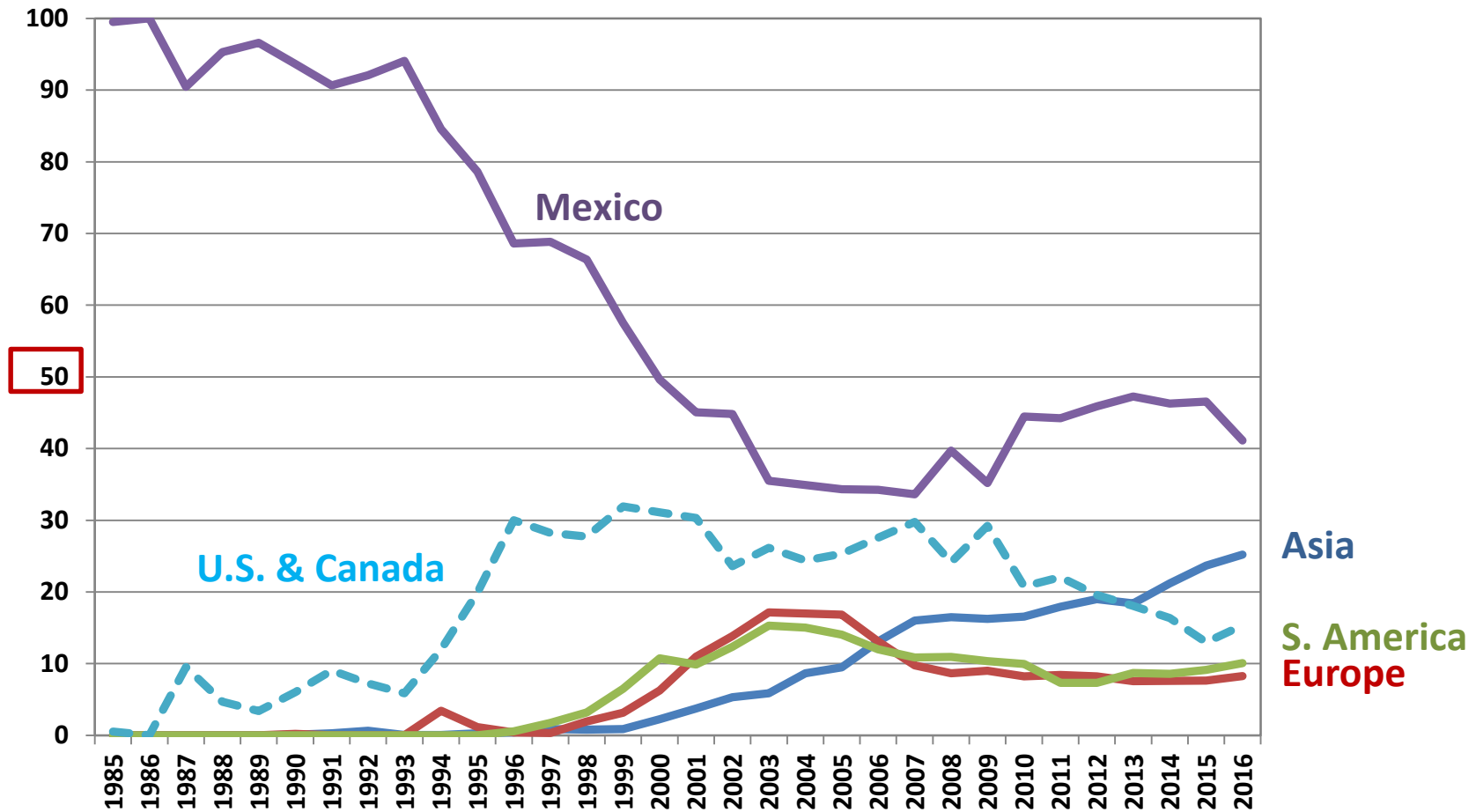
So do destinations of Mexican production

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



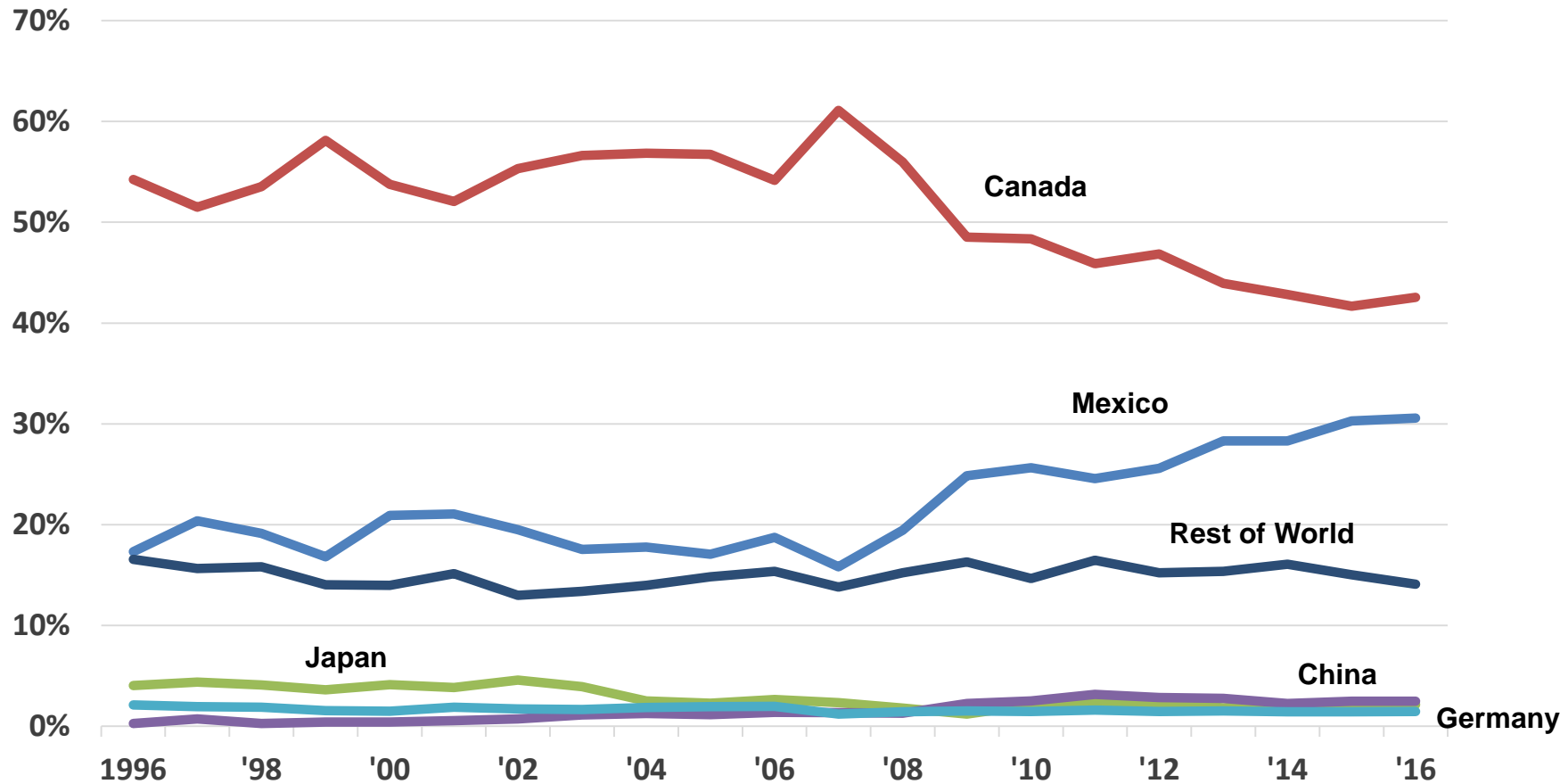
The average Mexican content in U.S.-produced vehicles is about 13.5%.

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

Source: author's calculations based on AALA data

U.S. Parts exports: Mexico growing

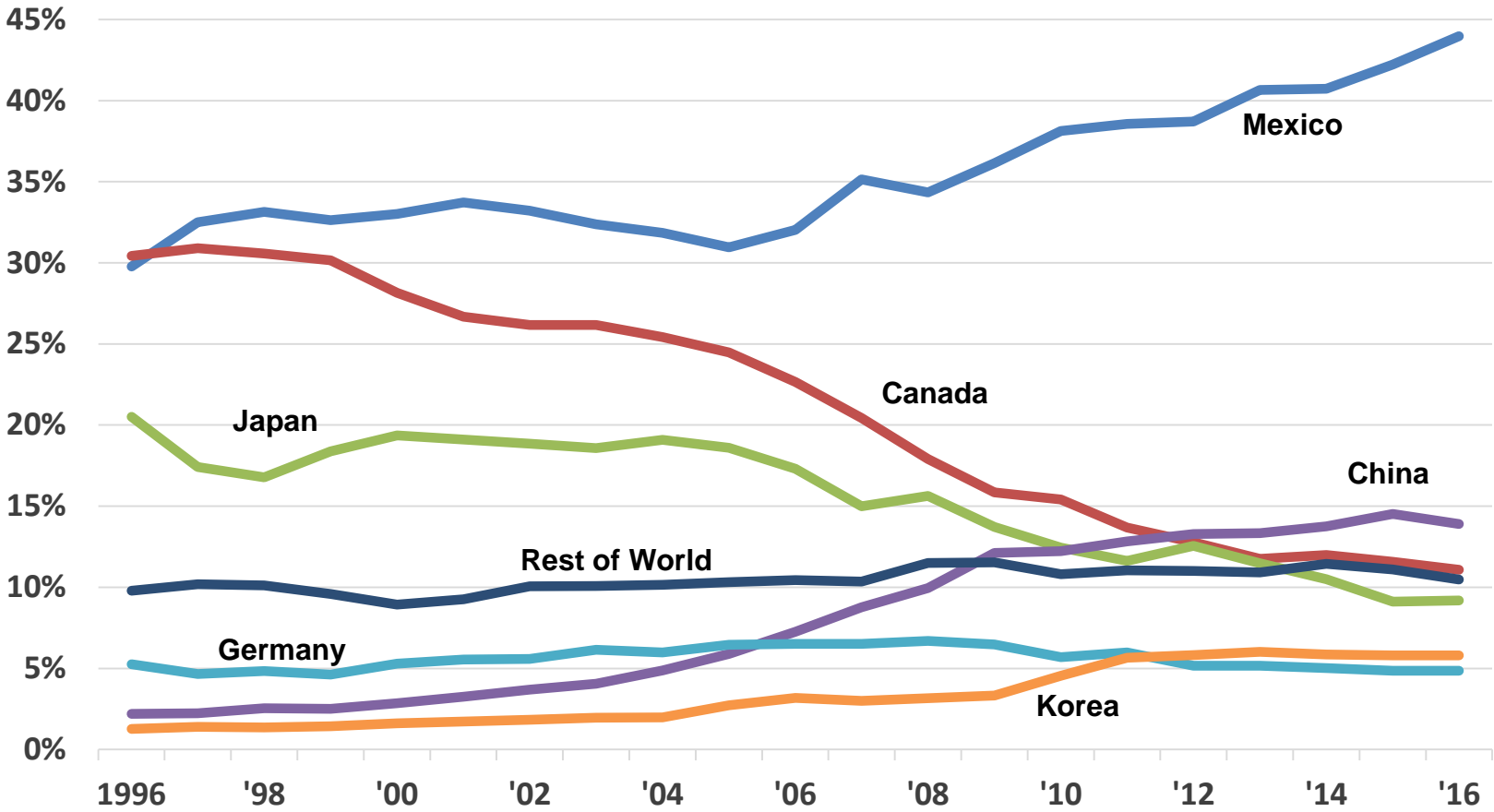
U.S. Motor Vehicle Parts Exports



Source: ITC dataweb

U.S. Parts imports: Mexico extends lead

U.S. Motor Vehicle Parts Imports



Source: ITC dataweb

Summary: Mexico's auto industry

- NAFTA ended Mexico's many decades of barriers & quotas and opened the door to an integrated auto industry among Mexico, Canada, and U.S.
- Mexico's growth in vehicle production is driven by exports.
- Within NAFTA, Mexico specializes in 2 segments: large pickups (19%) and small cars (48% in 2016).
- Increase in Mexico's light vehicle production capacity since 2012 driven by foreign headquartered producers (import substitution of small cars and tariff savings on luxury product destined for export).

Summary: integration

- The auto industry in North America today is strongly integrated across both the US-CDN and the US-MEX border.
- Such linkages are strongest in the supply chain. In the process of adding content (all the way to the assembly of the finished vehicle), parts typically cross NAFTA borders multiple times.
- Specific policy proposals need to be assessed against that background.

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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FINANCIAL TIMES

May 1, 2017

Mexico urges Trump to create Nafta powerhouse to rival China

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

JONATHAN HEALEY — LONDON
JULIE WELSH — MEXICO CITY
Mexico is urging Donald Trump to come to an agreement to create a manufacturing powerhouse between the US, Mexico and Canada to compete with low-cost producers in China.

Hedberg Guajardo, Mexico's economy minister, said in an interview with the Financial Times that demands of the TPP could be used to renegotiate the North American Free Trade Agreement between the three nations. His comments come as the US and Mexico

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 over China.
"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."
If they agreed to talks, it would be a

Mr 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 robotisation. The Mexican minister said talks could focus on manufacturing

reformed Mexican sectors such as energy and telecoms.
Mr Guajardo said he had rejected 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.



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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