

North American Trade and the Auto Industry – A Primer

Thomas Klier, Federal Reserve Bank of Chicago

Trade protectionism, regional integration and labor disparities in the North American Automotive industry

International workshop

November 8, 2019

Mexico City, Mexico

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

Outline

- Looking back - How did North America's auto industry become integrated?
- Industry characteristics today

Auto industry history

- There is a long history of vehicle production in each of the North American countries
 - Example: Ford Motor Company. It started producing vehicles in all of North America early on:
 - U.S.: 1903
 - Canada: 1904
 - Mexico: 1925
- Yet, U.S., Canada, and Mexico were treated as separate markets
 - This was mostly due to trade restrictions

US-Canada integration

- U.S.-Canada Auto Pact, 1965
 - Eliminated all tariffs on vehicles and parts
 - Canada was guaranteed a minimum level of production
 - Allowed increase in specialization
 - *“The Auto Pact allowed the Big Three to rationalize vehicle and in-house component production in Canada and fully integrate it with their production units in the United States to form one production and marketing system.”* (Kumar and Holmes, in: Weintraub and Sands, 1998)
- U.S.-Canada Free Trade Agreement, 1989

Mexico joins in

- Mexico starts liberalizing its trade policies during the 1980s
- Process culminated with the implementation of NAFTA in 1994
- NAFTA rules were phased in over the agreement's first ten years

Integration led to re-allocation

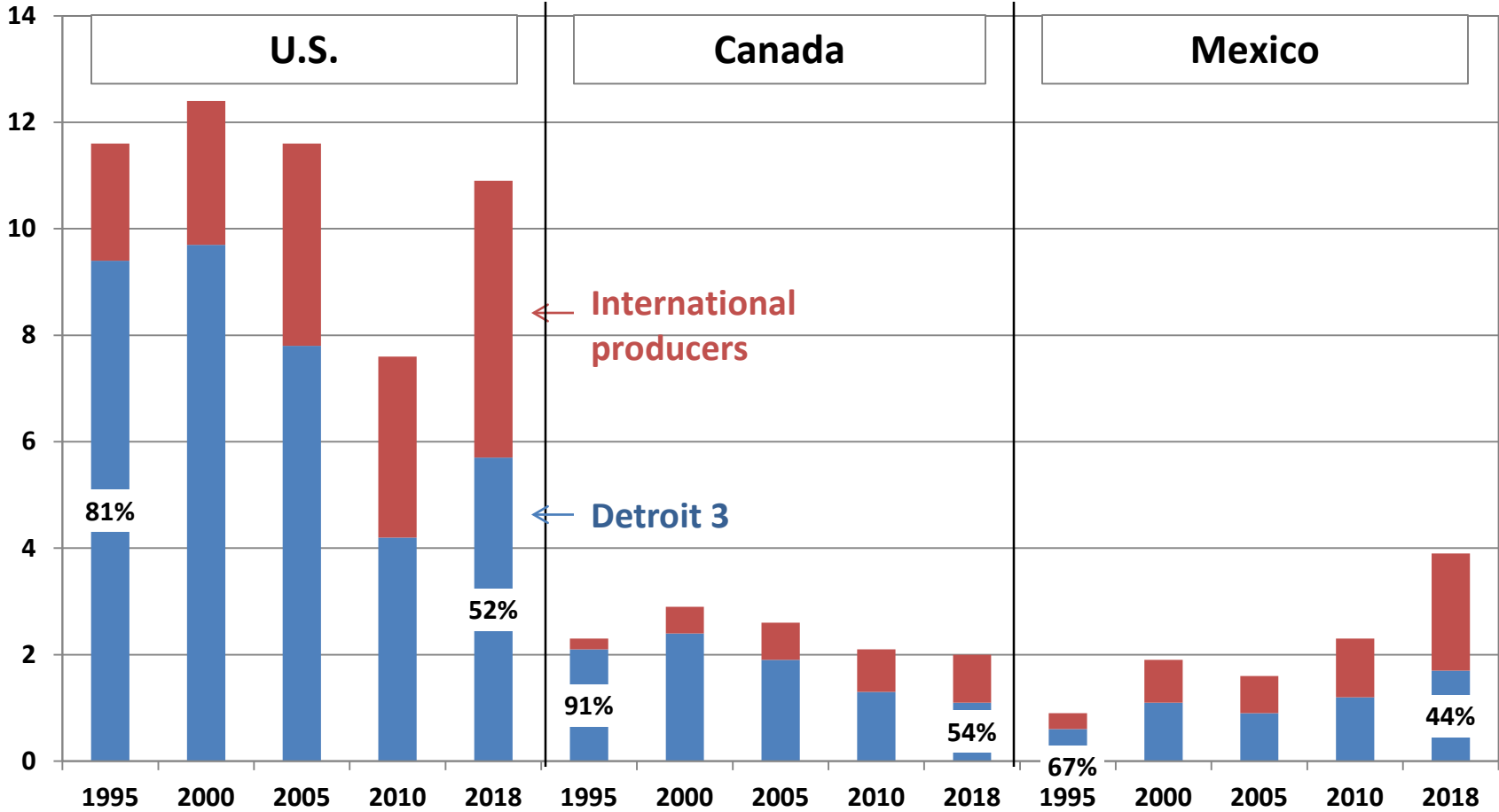
Share of North America's light vehicle production (%)

Country	1995	2000	2010	2018
Canada	16	17	17	12
Mexico	6	11	19	23
U.S.	78	72	64	65
Total	100	100	100	100
<i>Vehicles (millions)</i>	<i>14.9</i>	<i>17.2</i>	<i>11.9</i>	<i>16.9</i>

Source: Author's calculations based on WardsAuto Infobank

Overseas producers growing across the region

Light vehicle production by OEM group and country, in million units

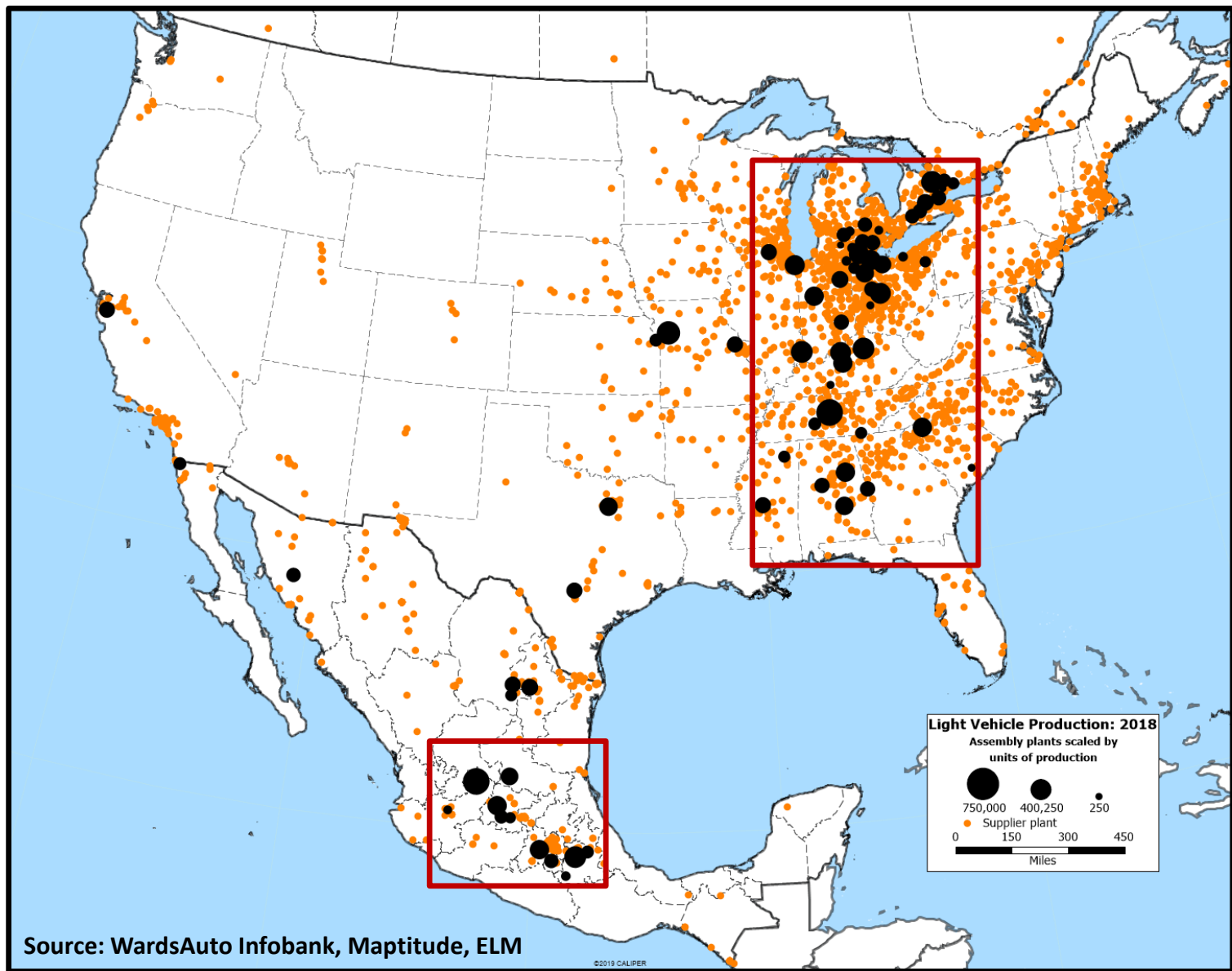


Source: Author's calculations based on WardsAuto Infobank

Today: integrated industry

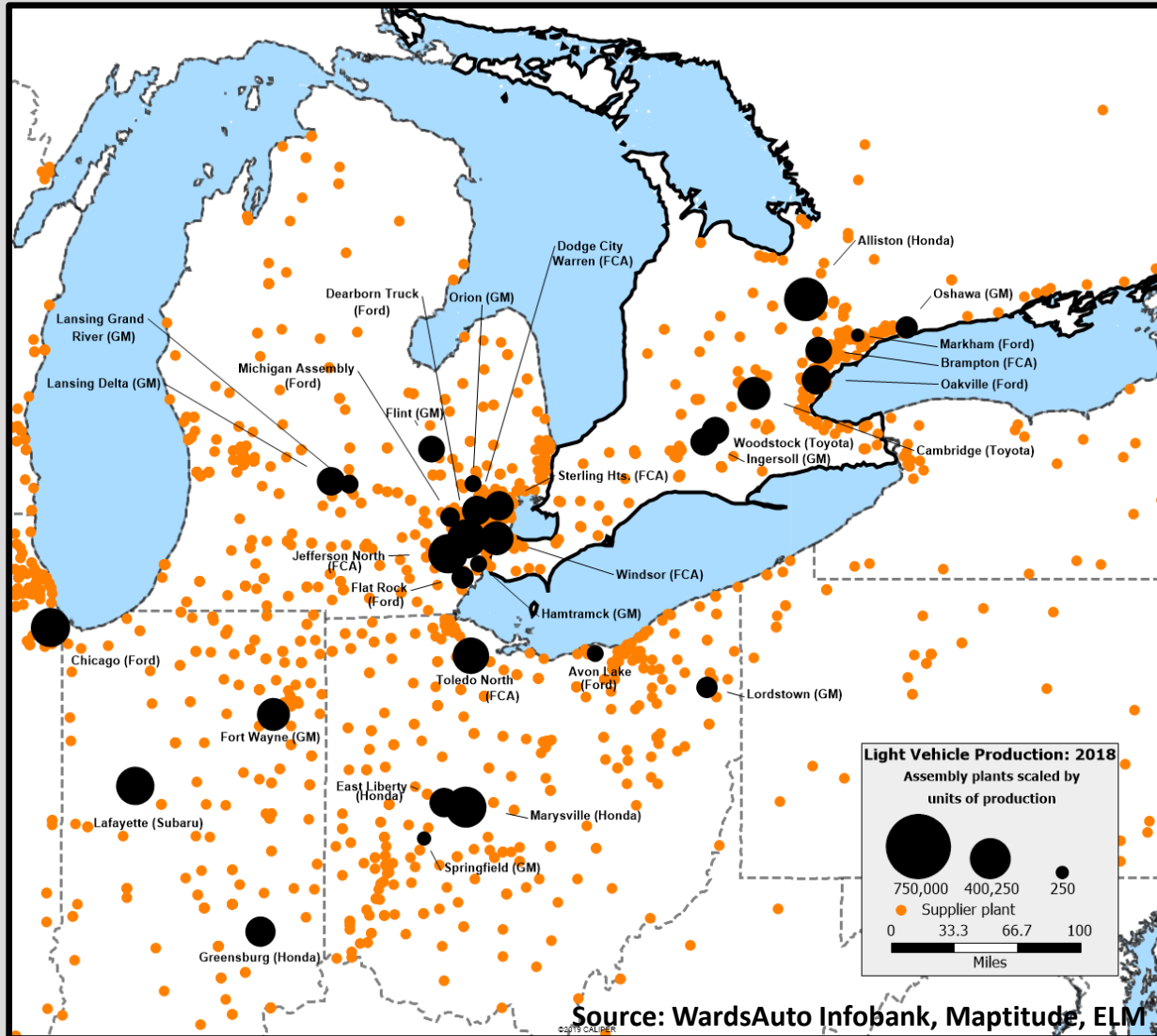
- Production of vehicles & parts
 - Geography
 - Supply chain integration
- Role of trade
 - Who makes what where, and where does it go?

Industry production footprint



Source: WardsAuto Infobank, Maptitude, ELM

Can you find the border?



Supply chains extend across borders

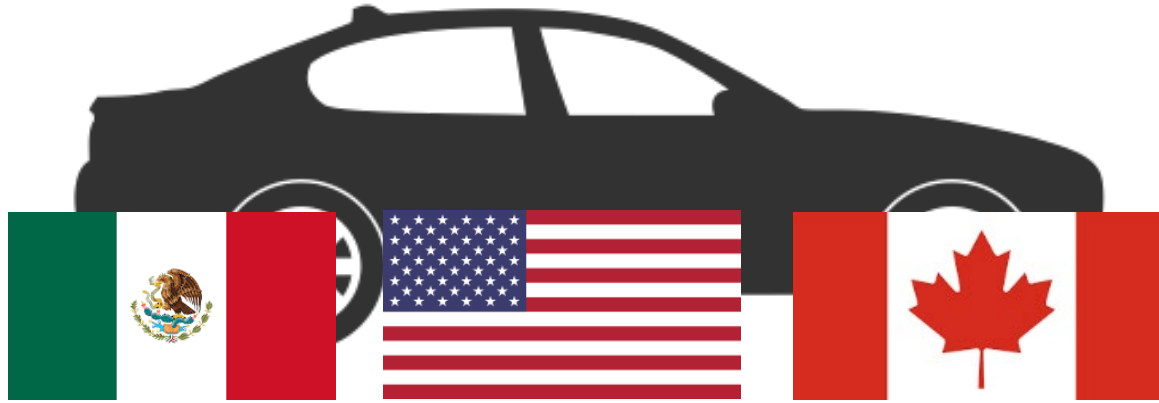


Example: journey of a seatbelt

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

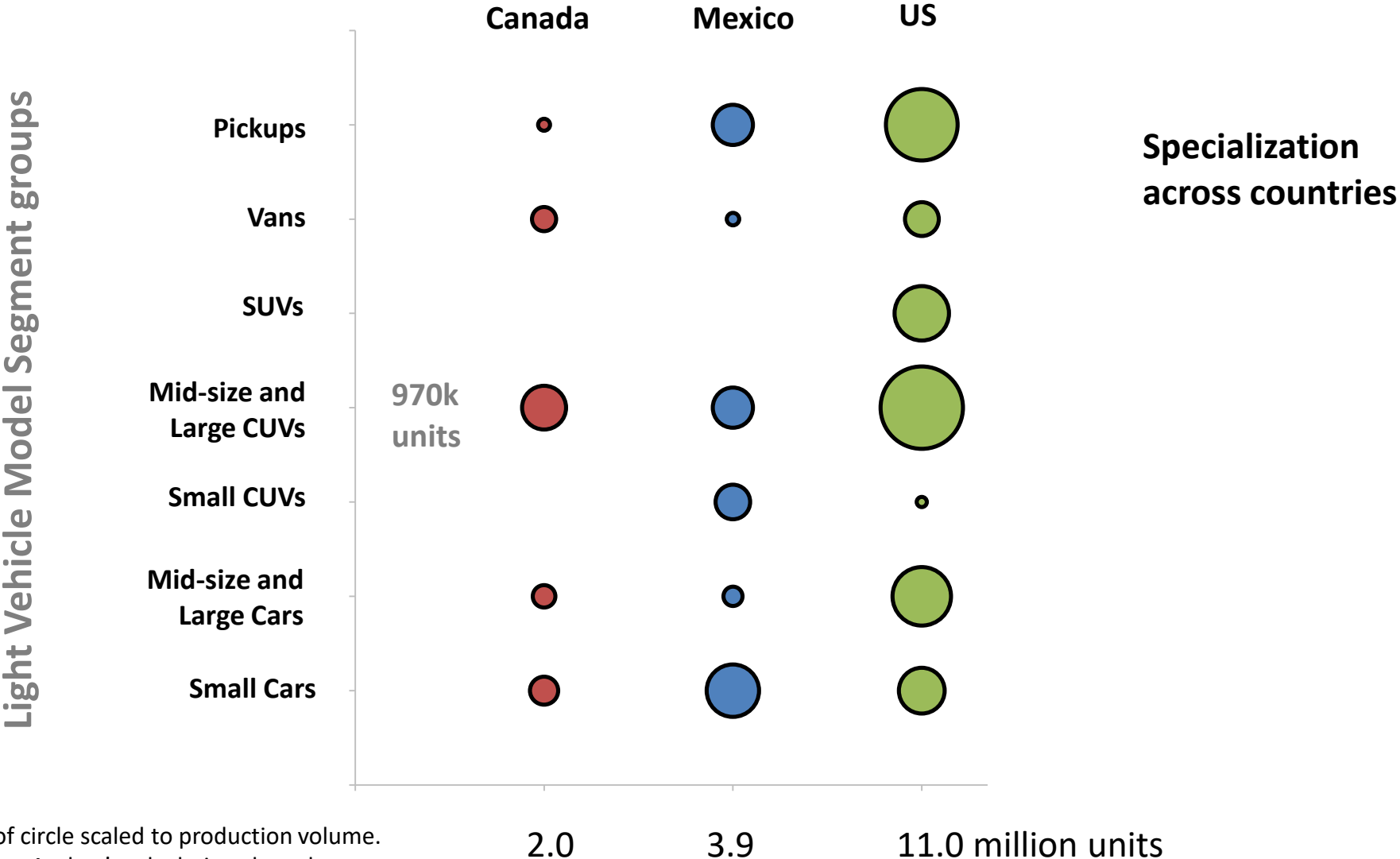


The average Mexican content in U.S.-produced vehicles is 14%.

The average U.S./CDN content in Mexico-produced vehicles sold in the U.S. is 27%.

What is produced where?

2018 LV Production by Segment



Size of circle scaled to production volume.
Source: Author's calculations based on WardsAuto Infobank.

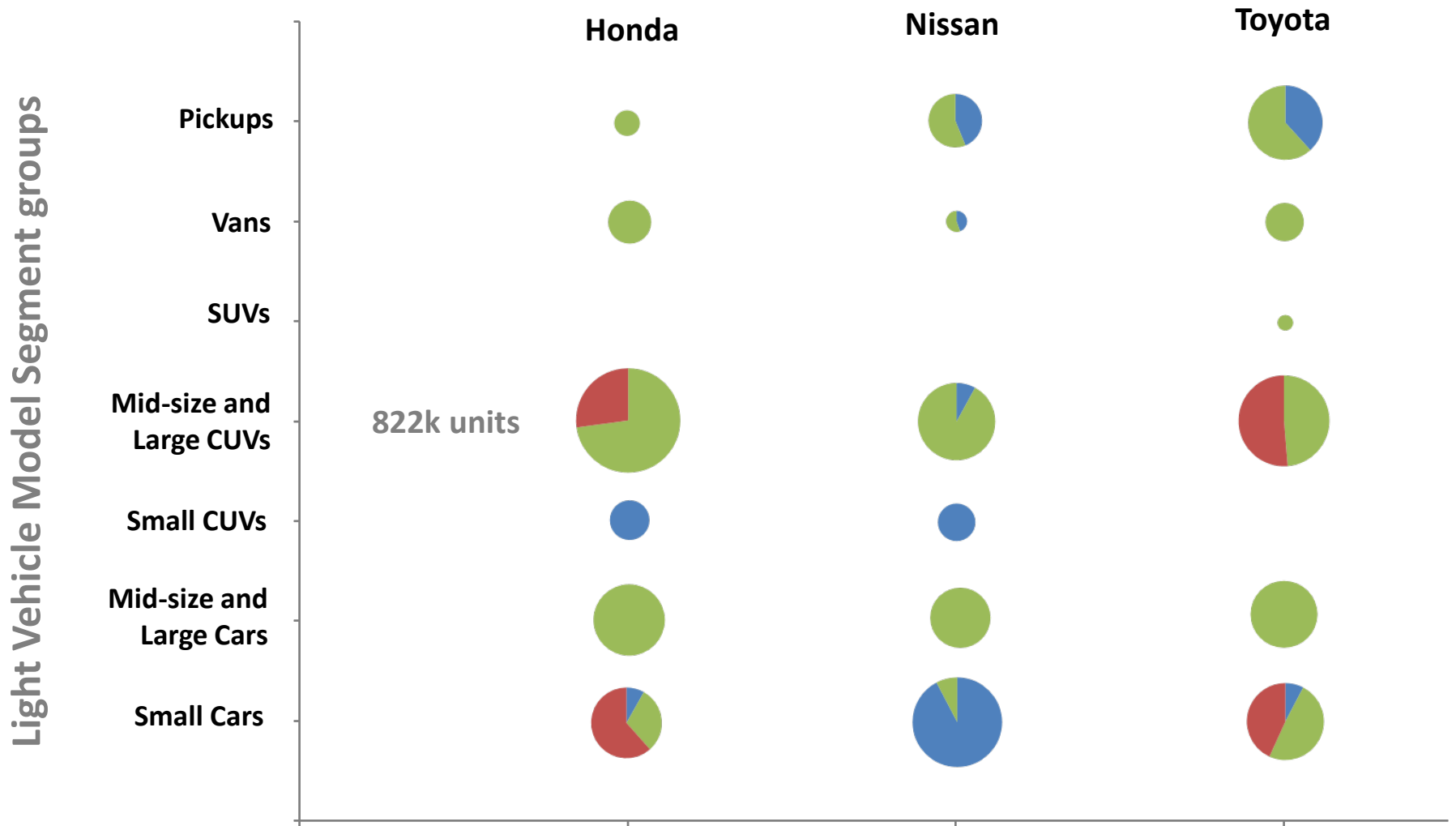
What is produced where by who?

2018 LV Production by Segment, Company, and Country



What is produced where by who?

2018 LV Production by Segment, Company, and Country



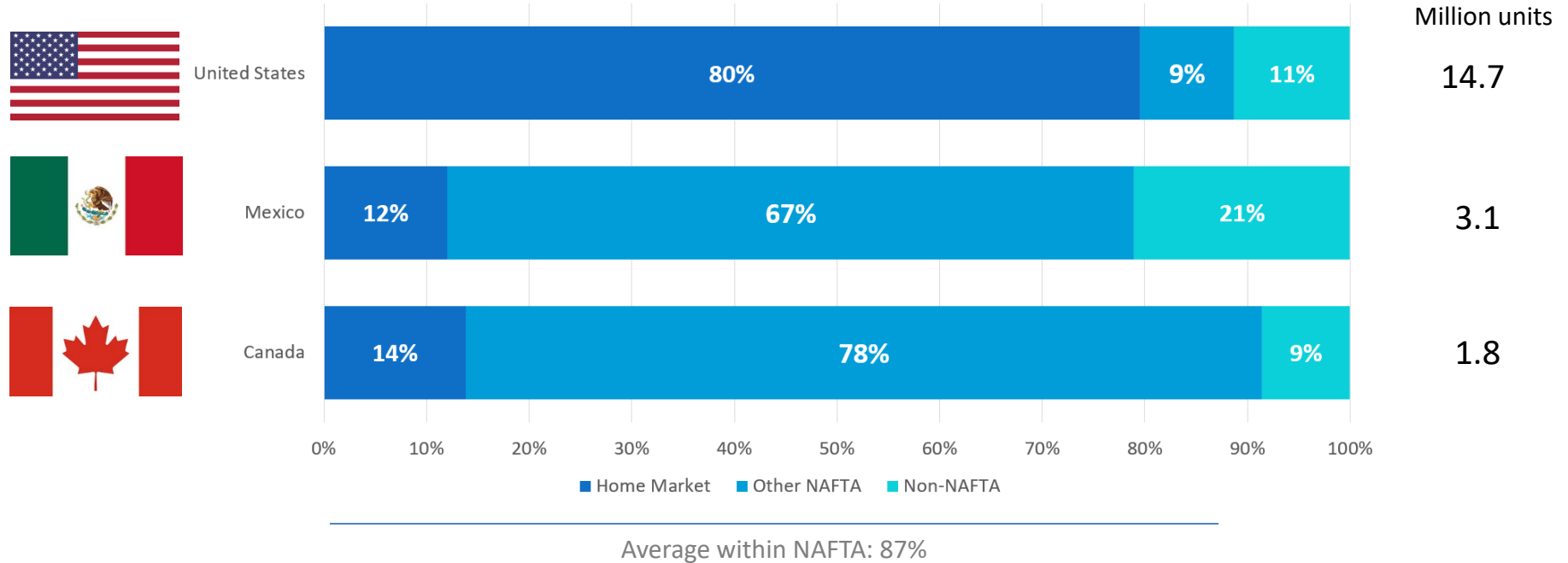
Size of circle scaled to production volume.

Source: Author's calculations based on

WardsAuto Infobank.

Where do vehicles go?

Light vehicle production by country and by destination, 2018



Source: CAR and IHS Markit

Summary

- North America's auto industry features over a dozen vehicle producers
- Vehicle production is integrated across North America
- Integration extends to supply chains
- Trade in vehicles (and parts) is mostly regional

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