
The changing structure of the U.S. auto industry

The Auto Industry in Crisis
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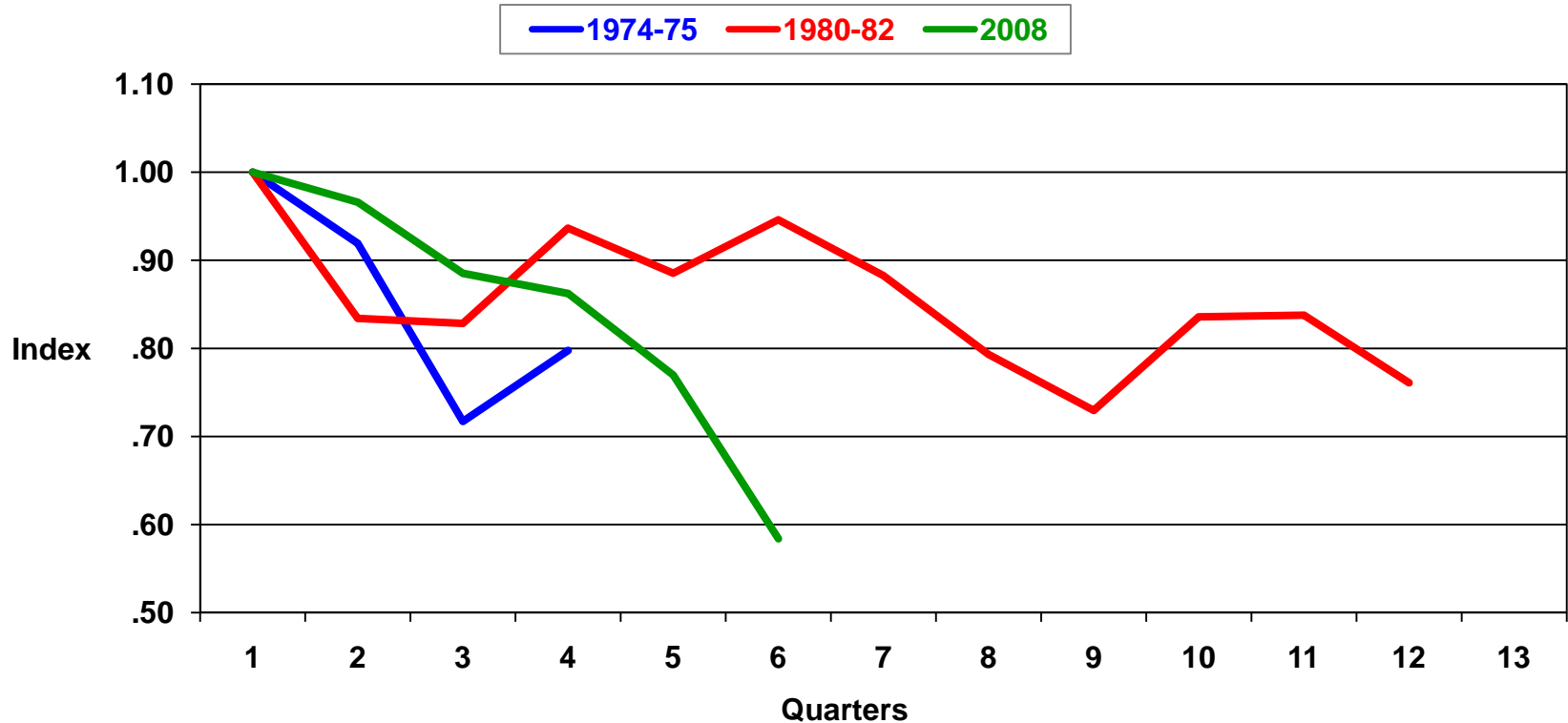
Outline

- **Business cycle**
- **Long-term trends**
- **Looking ahead**

How does this downturn compare ?

U.S. Motor Vehicle Production

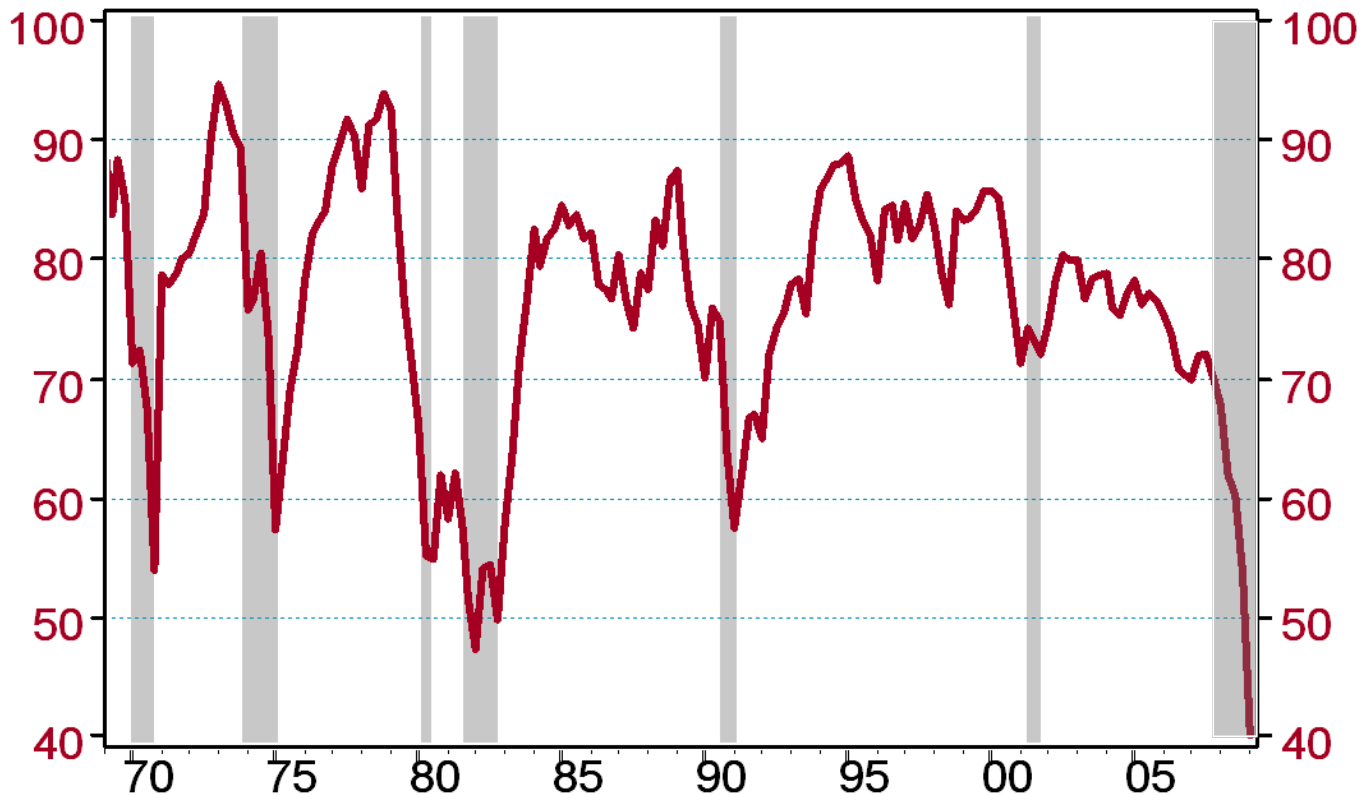
(First quarter corresponds to non-farm employment peak of the recessionary period)



Source: Haver Analytics\Federal Reserve Board

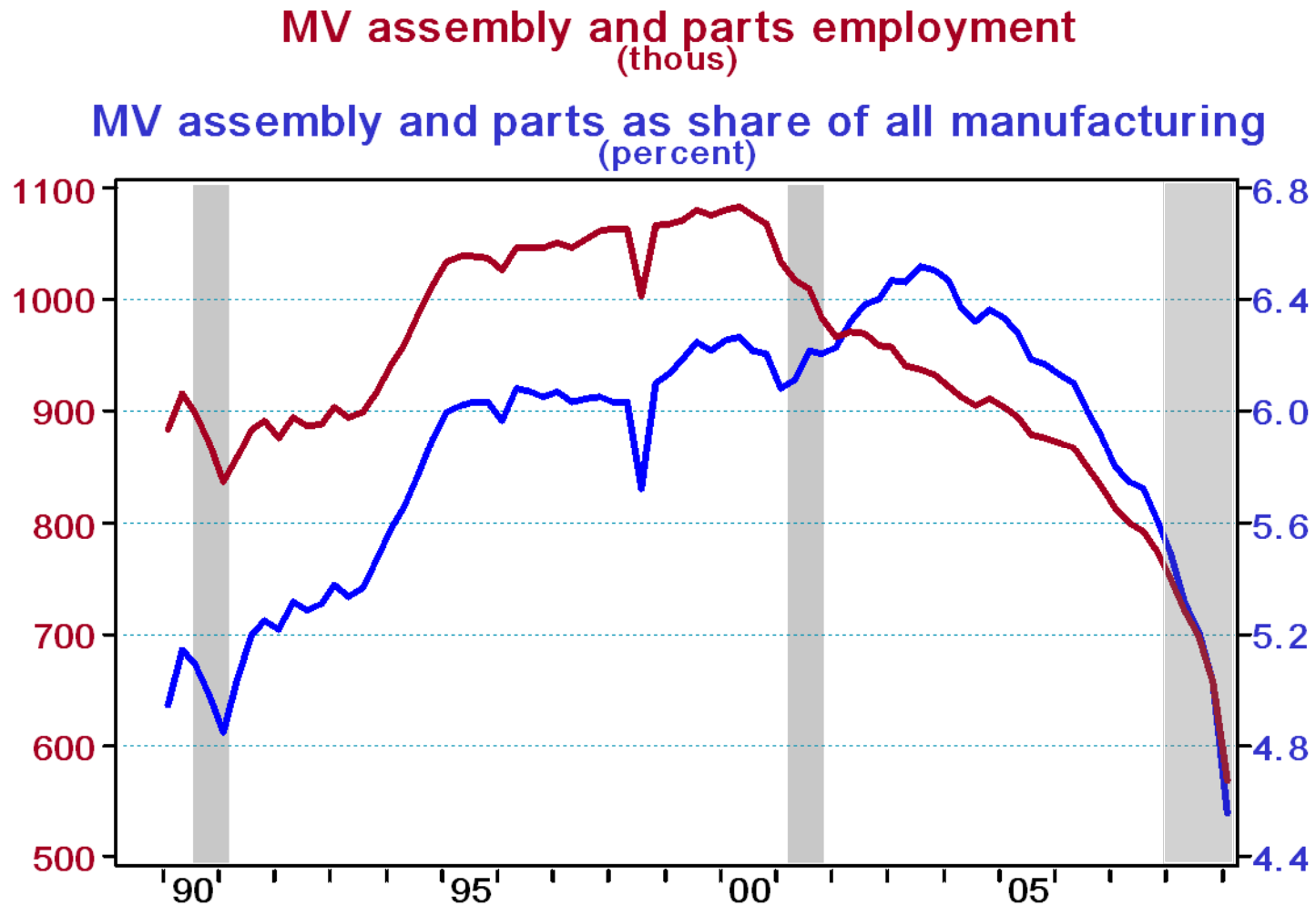
Tough times in the auto sector

Capacity Utilization: Motor Vehicles and Parts
SA, % of Capacity



Source: Federal Reserve Board /Haver Analytics

A large industry is shrinking



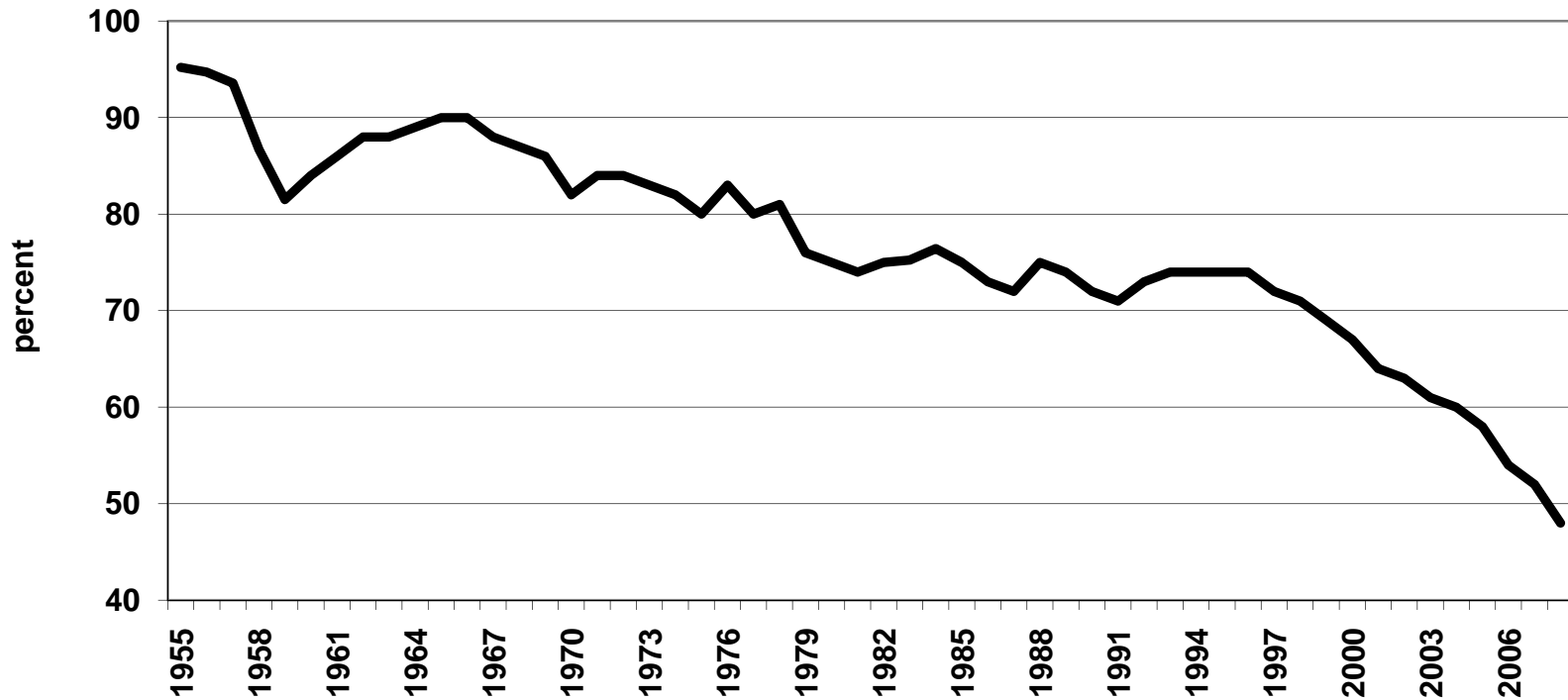
Source: Haver Analytics

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Market share shift accelerates in late-90s

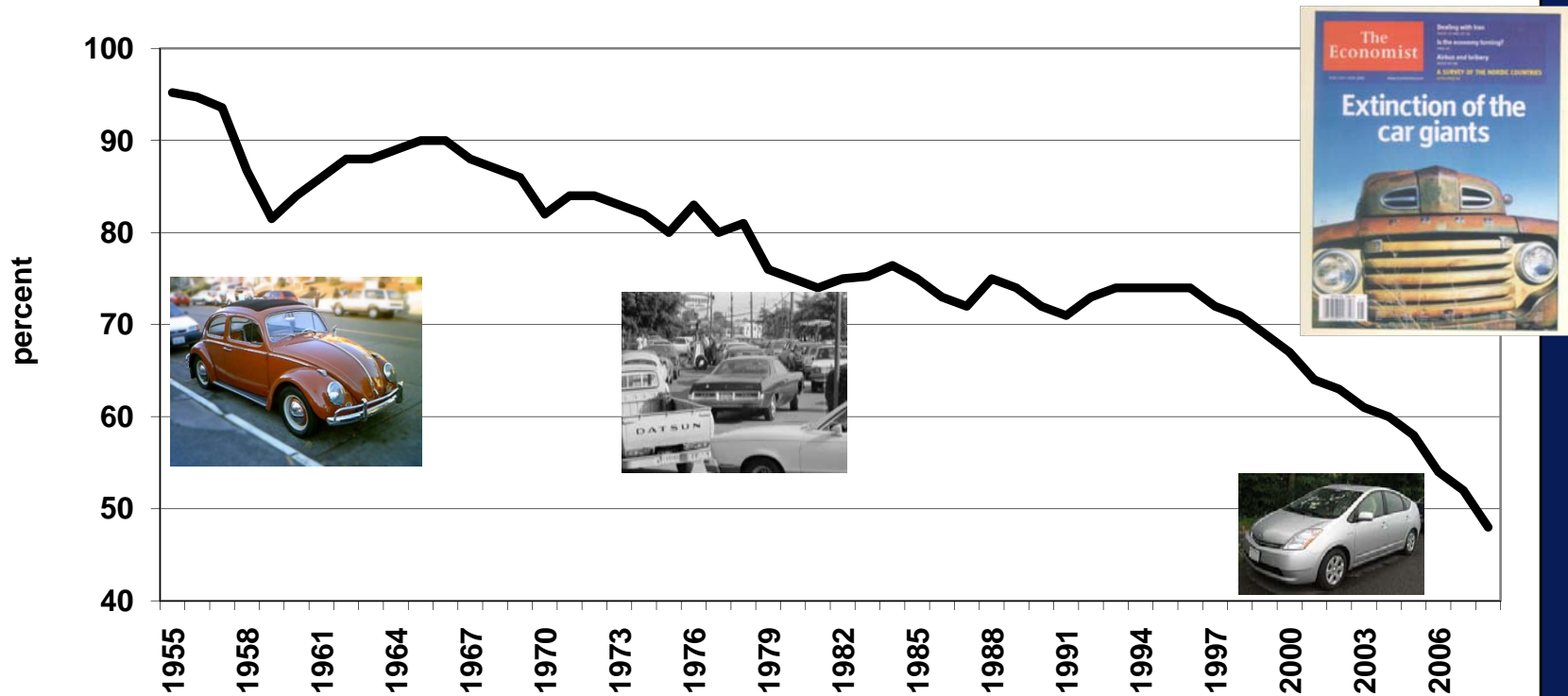
Detroit Three U.S. market share



Note: 1955-1979 share of car sales, 1980-2008 share of light vehicle sales

Market share shift accelerates in late-90s

Detroit Three U.S. market share



Note: 1955-1979 share of car sales, 1980-2008 share of light vehicle sales

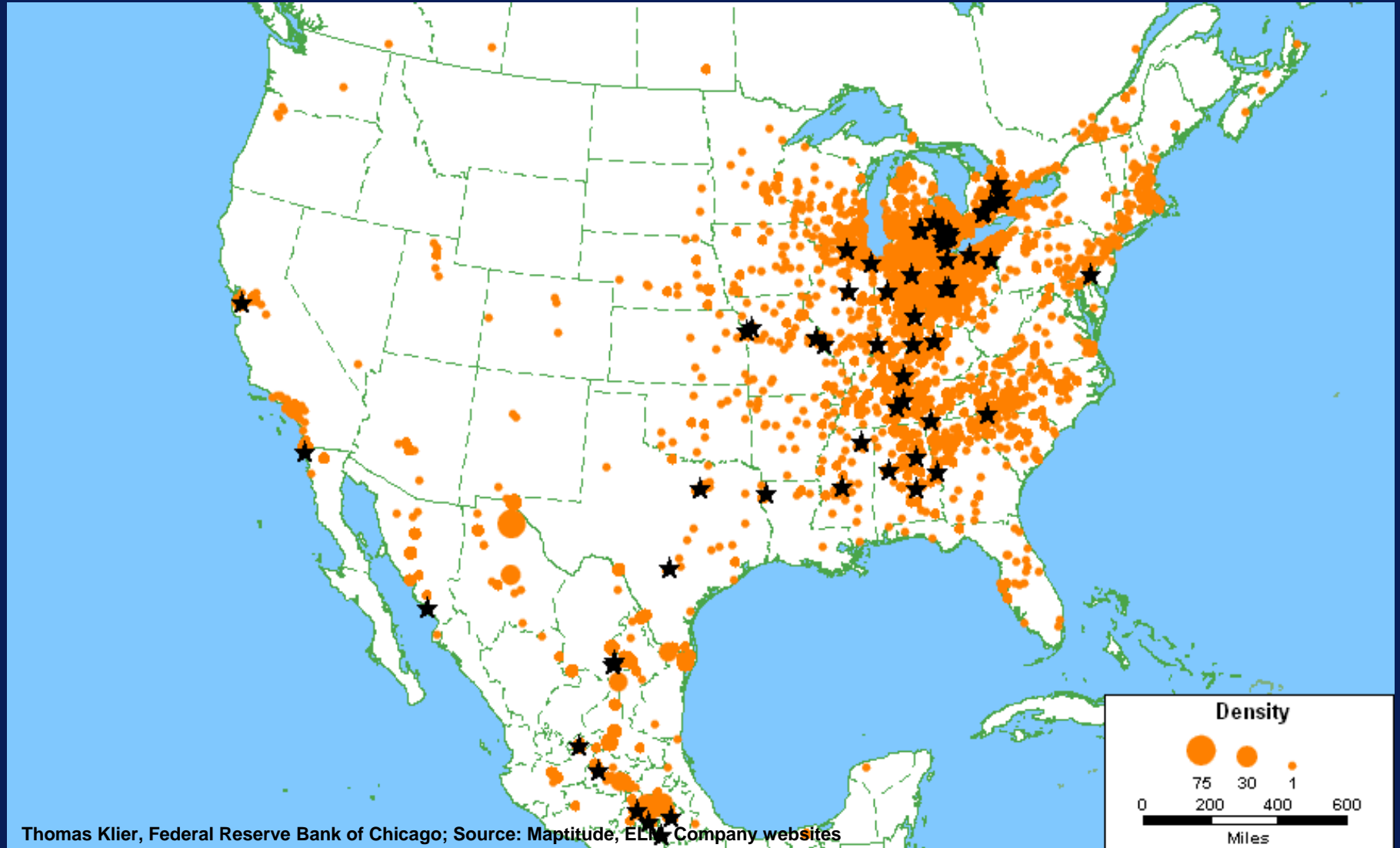
From 4 to 13 carmakers in 30 years

Foreign carmakers, by first year of producing in U.S.

VW (1)	1978
Honda	1982
Nissan	1983
Toyota	1984
Mitsubishi	1987
Subaru	1989
BMW	1994
Mercedes	1997
Hyundai	2005
Kia	2009

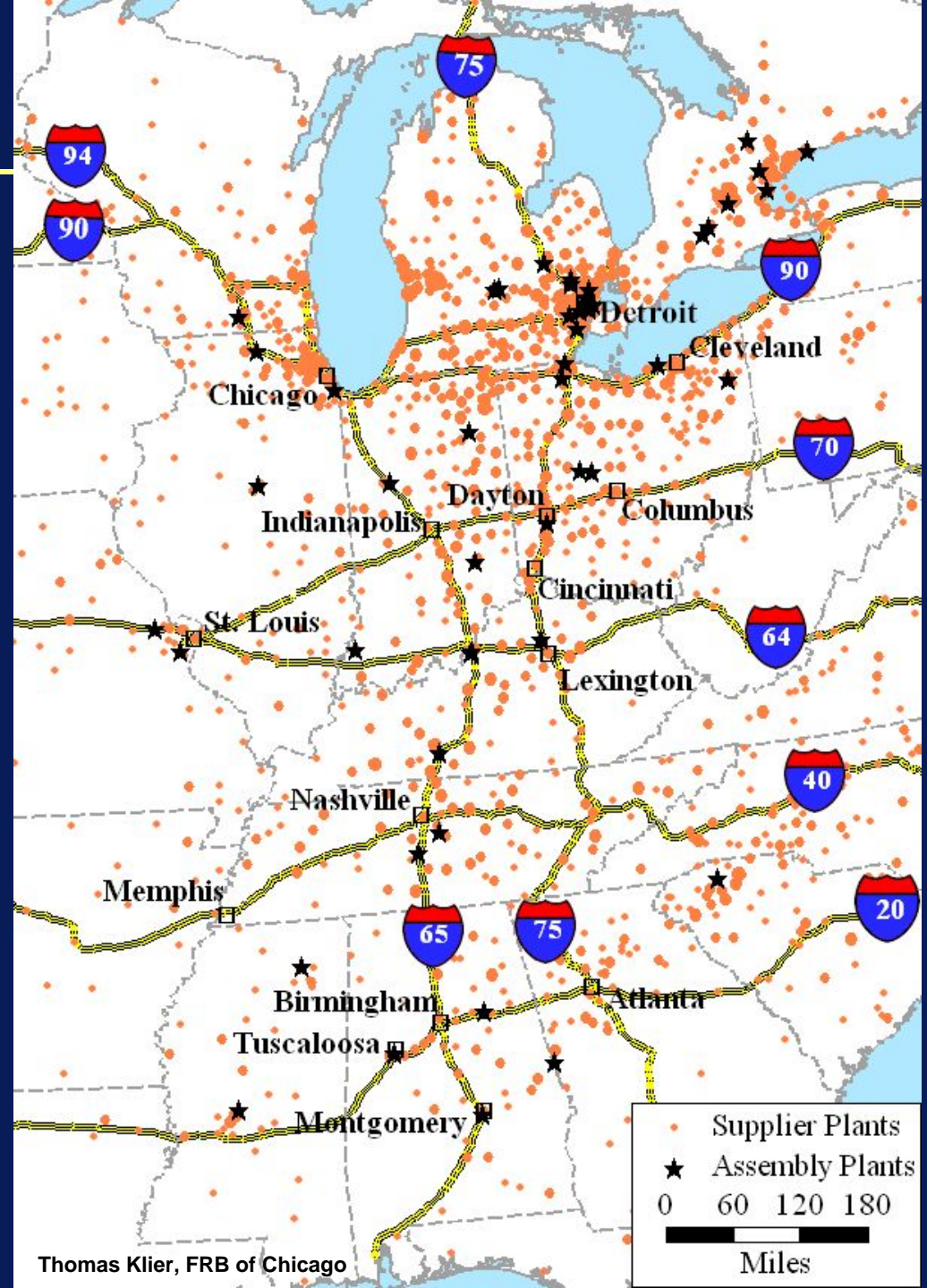
(1) Closed in 1989, new plant to open in 2010

Geography of the auto industry - Today

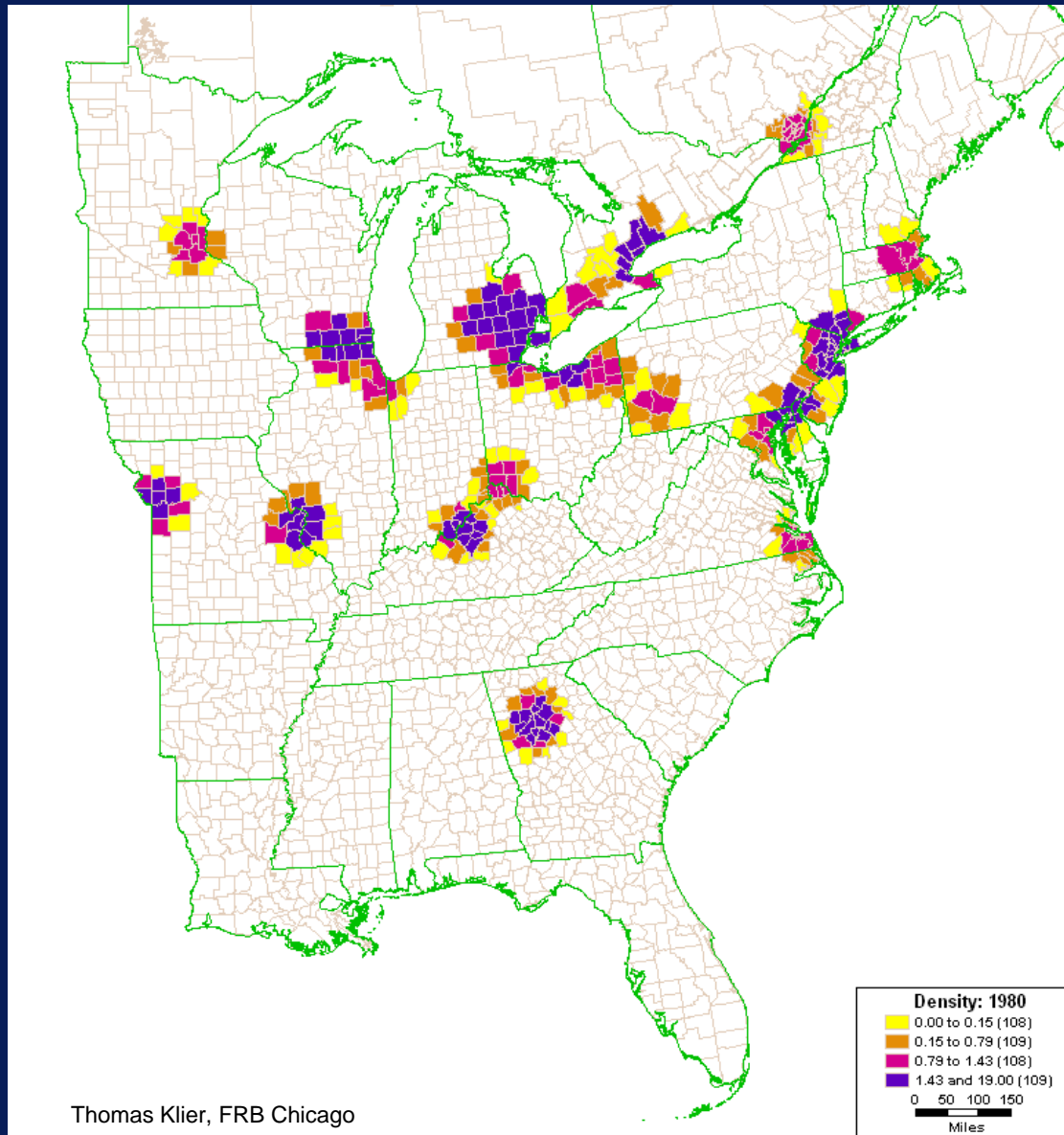


Thomas Klier, Federal Reserve Bank of Chicago; Source: Maptitude, ELM, Company websites

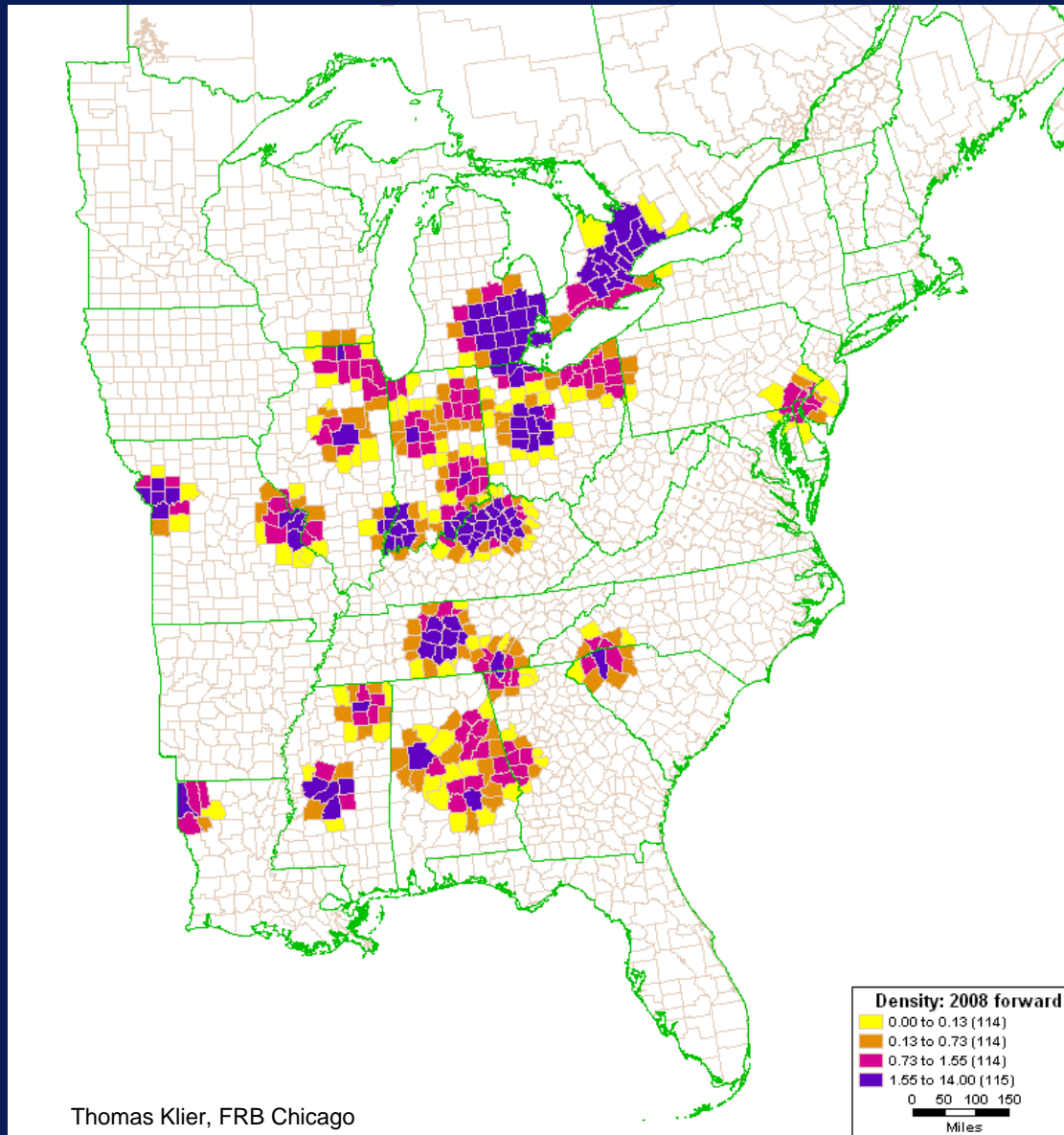
Close-up: The auto corridor



Assembly line density in 1980



Assembly line density in 2008+



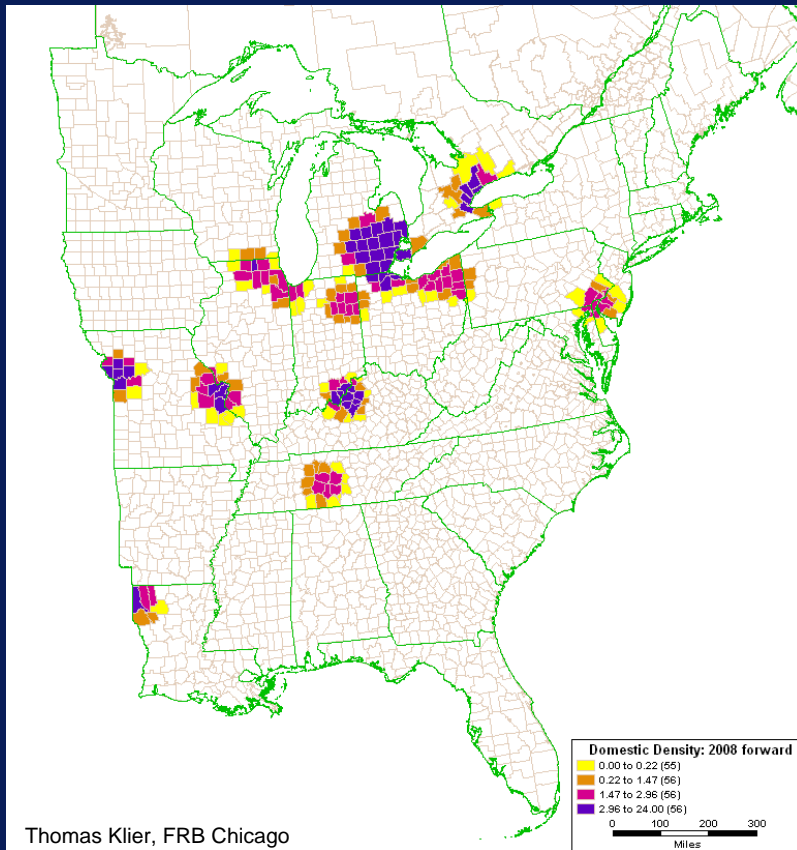
Thomas Klier, FRB Chicago

The tyranny of geography

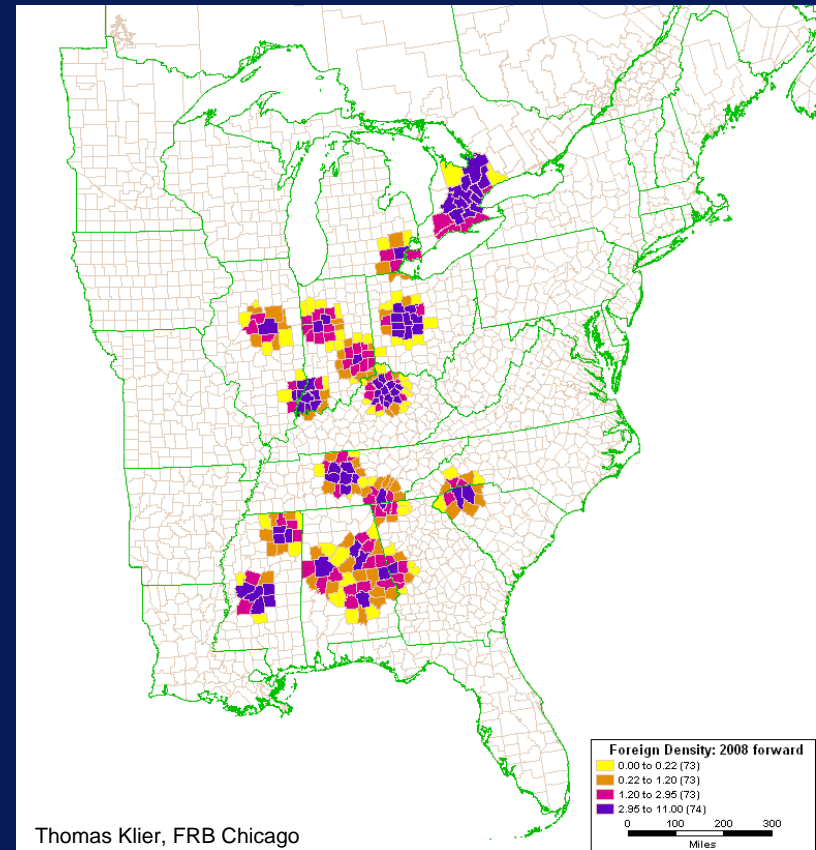
2008+

Detroit Three

Others



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It takes many parts to produce a car



We usually focus on assembly



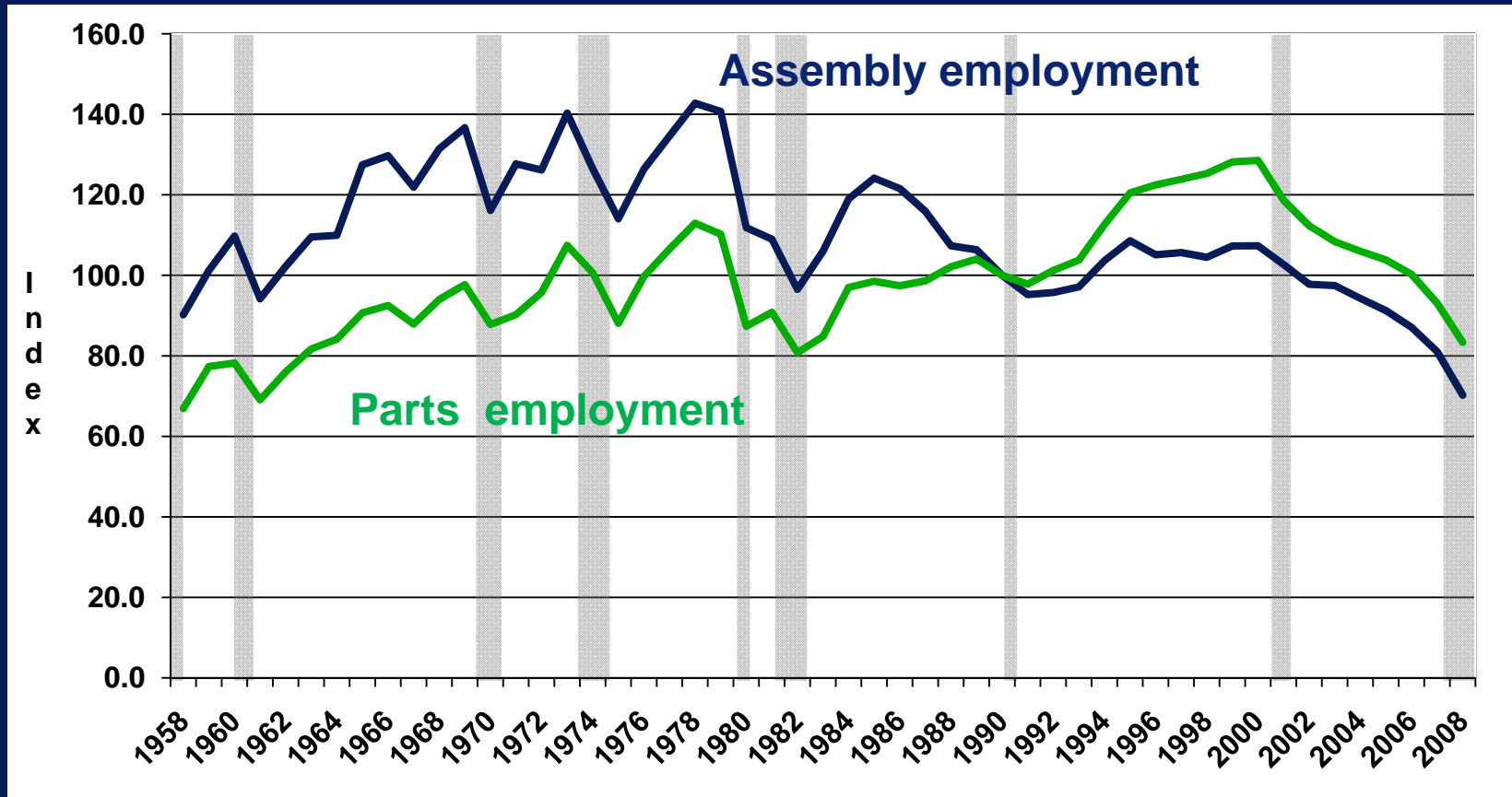
The auto supplier industry is little understood:

There are nearly four jobs in motor vehicle parts production for every job in assembly, in the U.S. alone

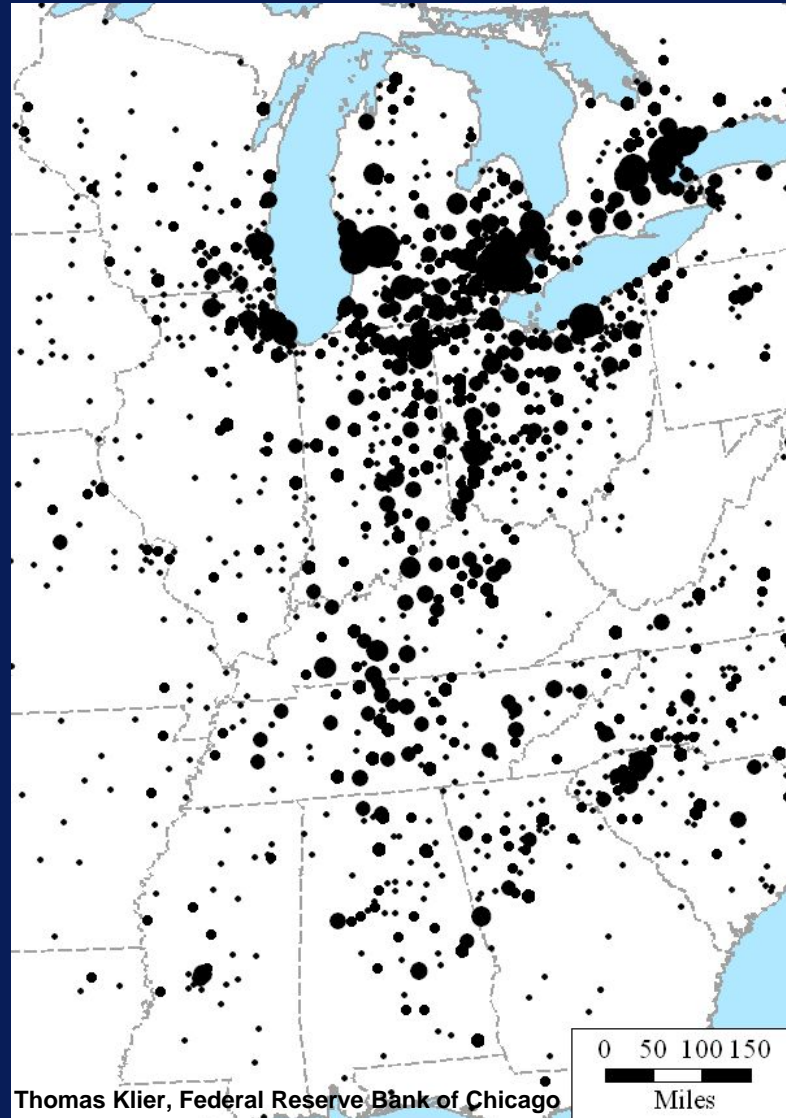
Parts suppliers account for 70% of the value added in a motor vehicle

Supplier role grew during 80s & 90s

Long-term trend in auto industry employment

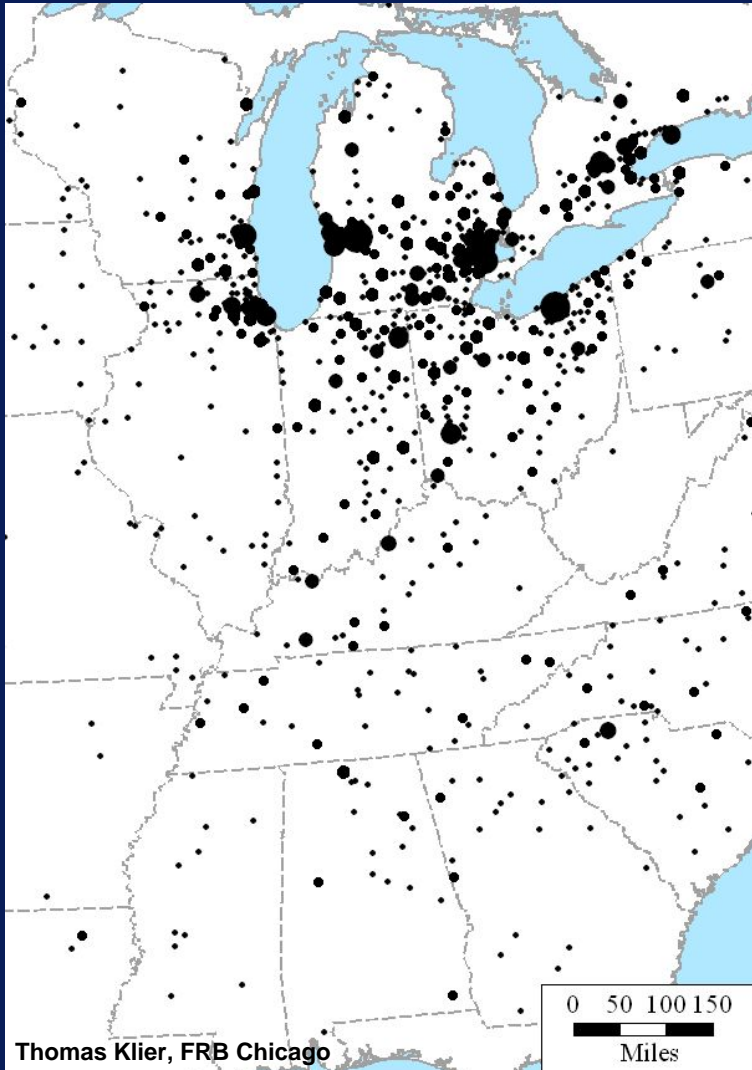


Parts suppliers cluster in auto alley

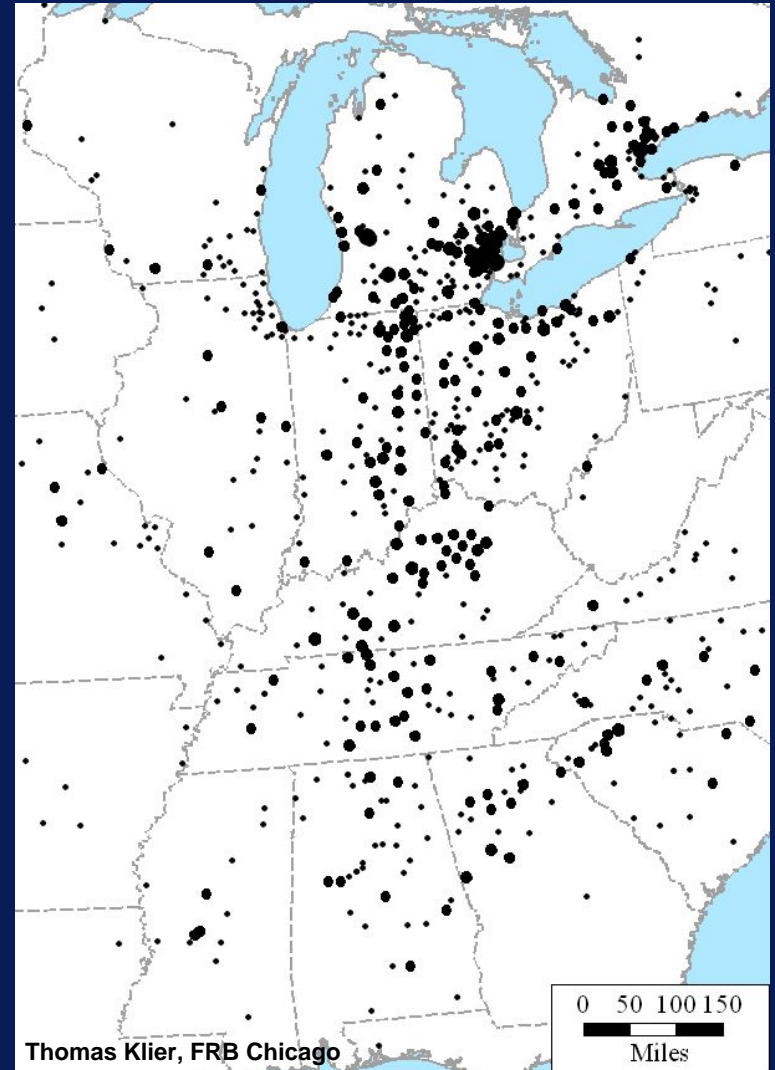


A north-south auto corridor emerges

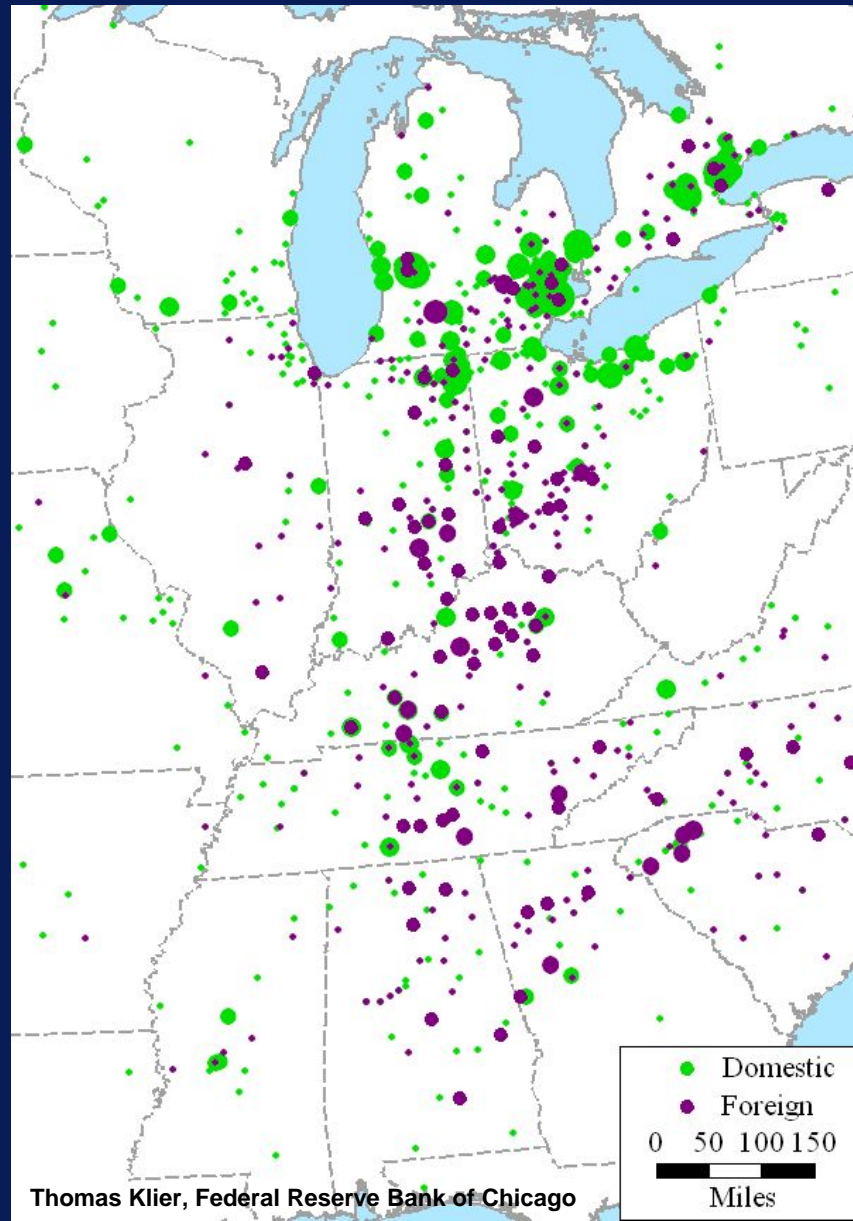
Before 1980



Since 1980



Foreign parts plants gravitate south



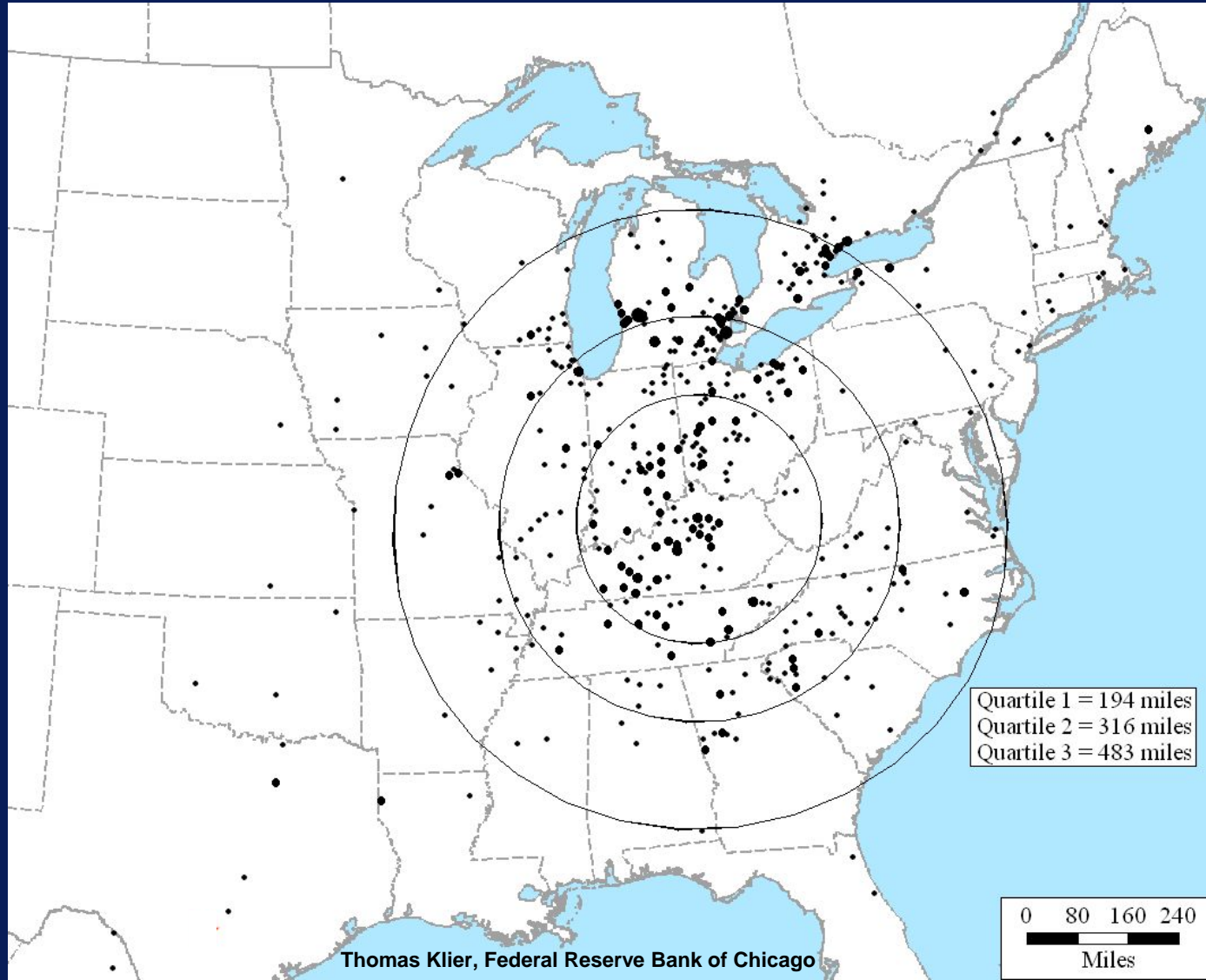
Since 1980

Michigan stands out

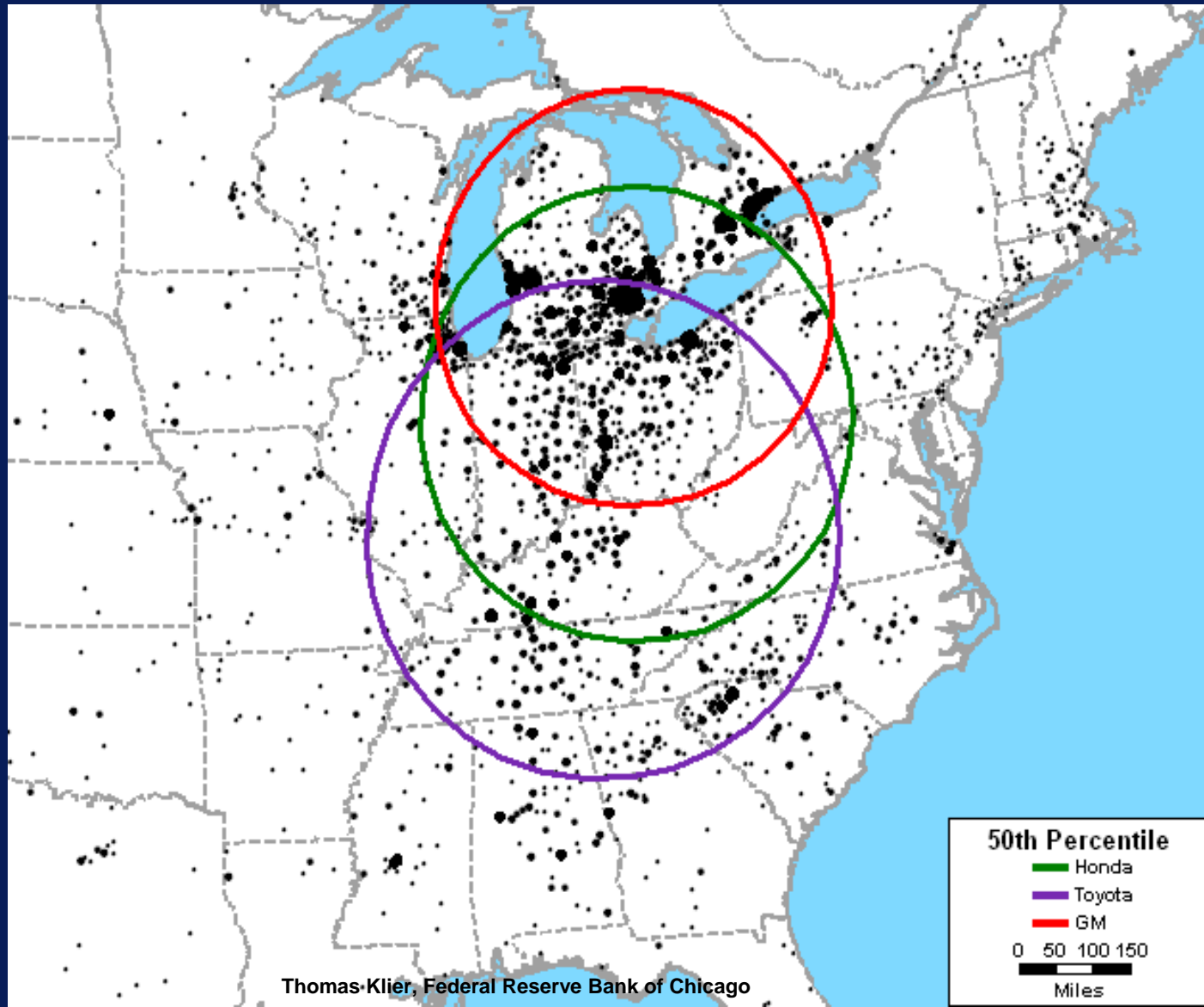
Region	supplier plants	Only non-Detroit 3 business	<i>Auto industry jobs lost between 2000Q1 and 2009Q1, nsa</i>	<i>%change</i>
US	3,178	11	544,000	-48%
Michigan	751	3	205,000	-64%
Indiana	258	11	43,000	-41%
Ohio	402	15	80,000	-52%

Auto supplier networks are regional

Toyota, Kentucky, supplier network



Supply networks overlap



Outline

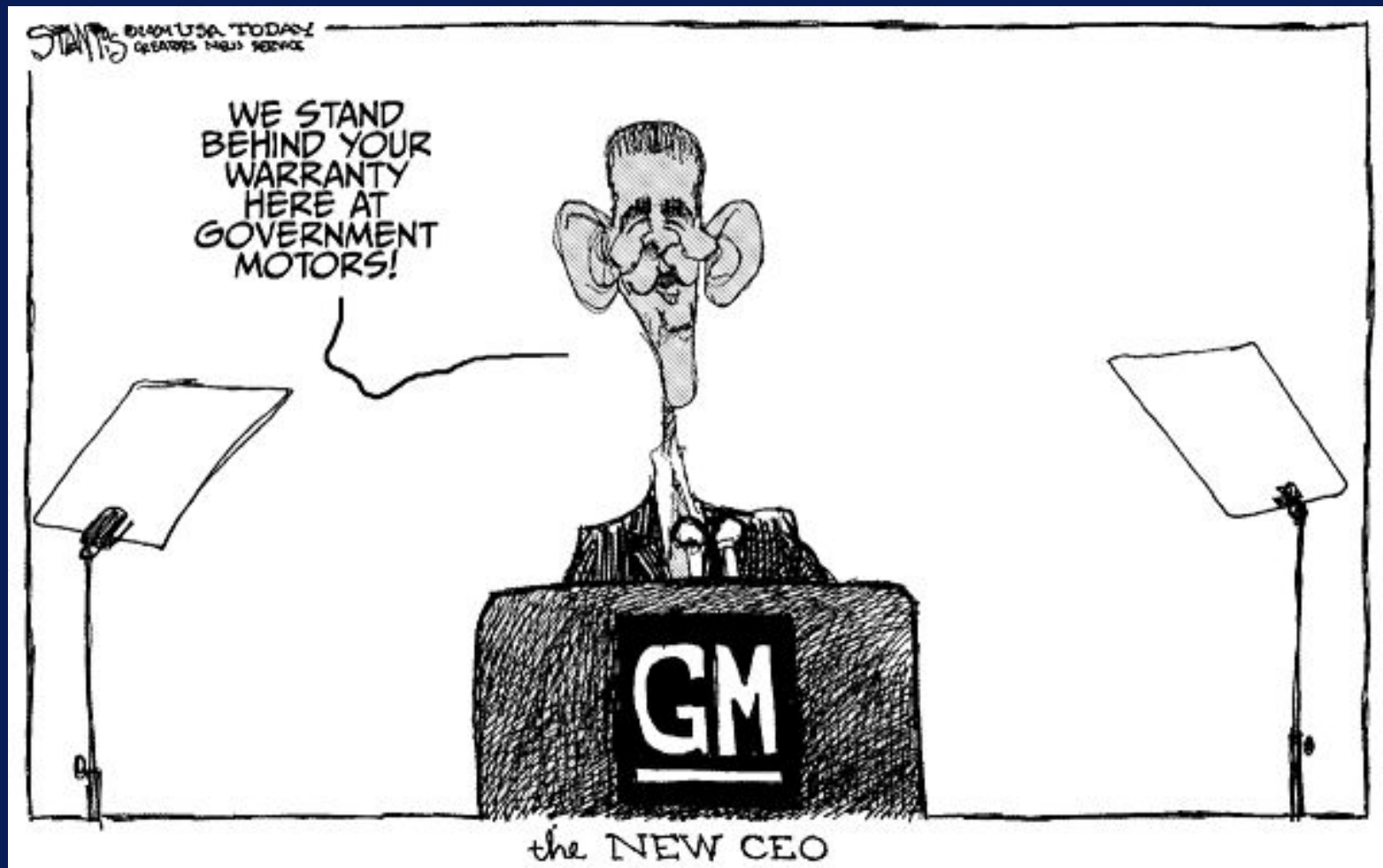
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“Quick rinse” Chapter 11



**From old to new
Chrysler in 40 days**

GM is next



Then what?

Open questions:

- **Company culture, revenue gap, production flexibility**
- **CAFE II, price of gasoline**
- **Role of supply base**

Key points

- **The business cycle highlights structural factors the industry has been experiencing for several decades.**
- **The auto industry's challenges are concentrated in the Midwest, its traditional base.**
- **Will structural adjustments continue?**

WHO REALLY MADE YOUR CAR?

**Restructuring and
Geographic Change
in the Auto Industry**



**Thomas Klier and
James Rubenstein**

www.upjohninst.org