Midwest Auto Industry - Performance and Outlook

Is Midwest Manufacturing at a Crossroads?
Federal Reserve Bank of Chicago
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Outline

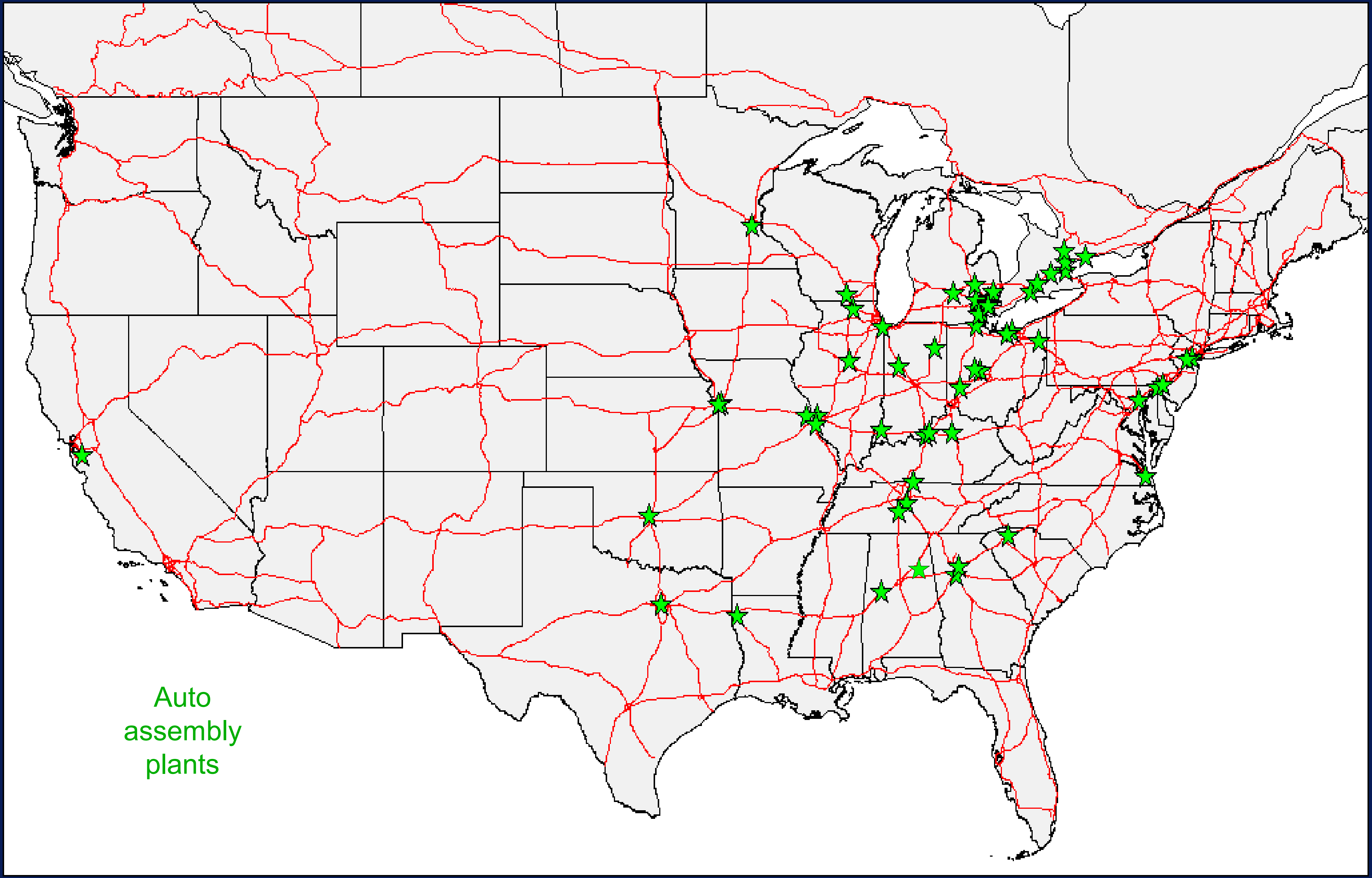
- Industry Concentration
- Trends and Challenges
- Outlook

The Midwest is auto intensive

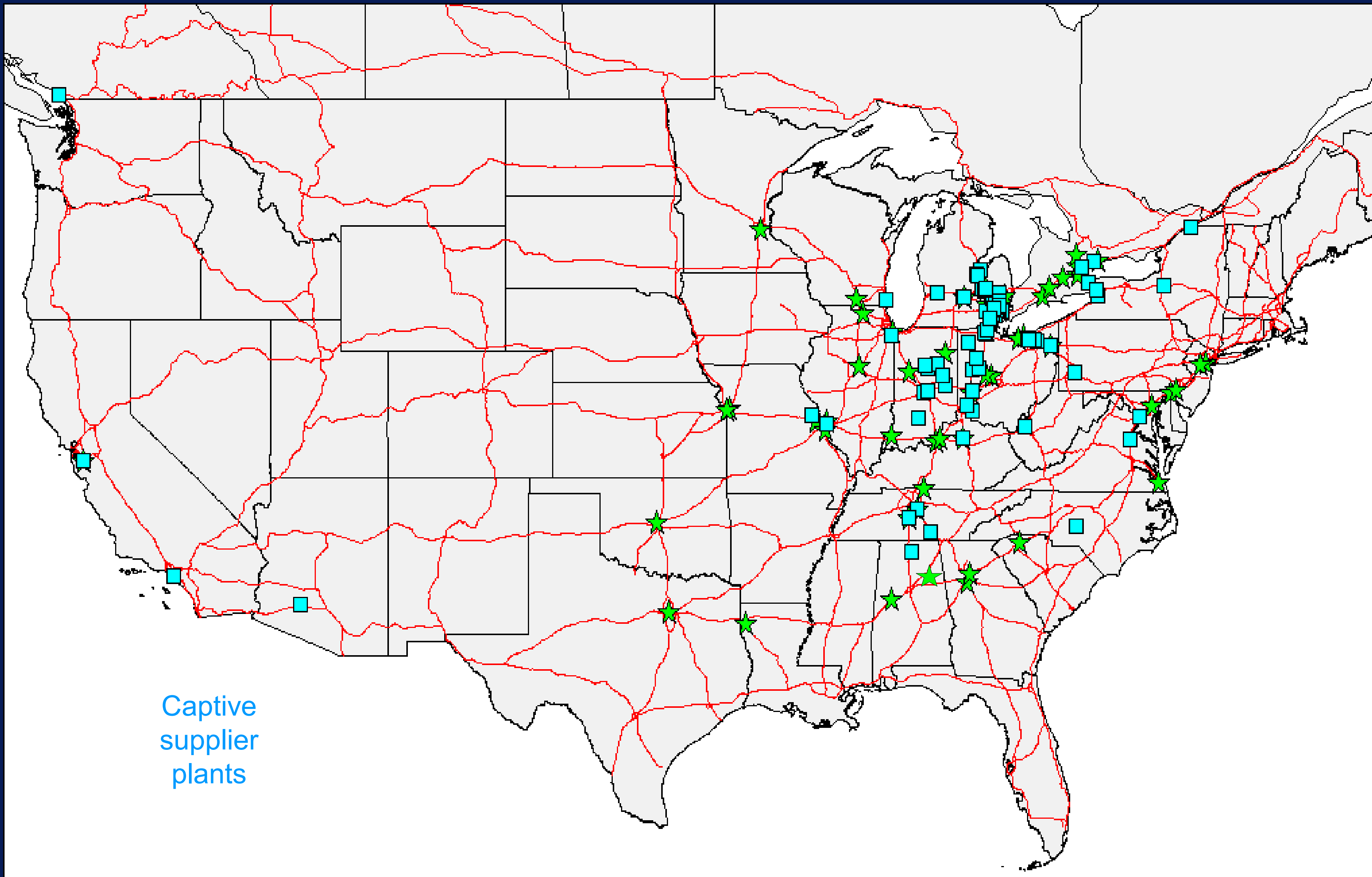
- 7th District share of

Population	13%
Manufacturing Production	18%
Motor Vehicles and Equipment Production	40%
Passenger Car Production	47%
Light Truck Production	28%
Foreign Nameplate Production	18%

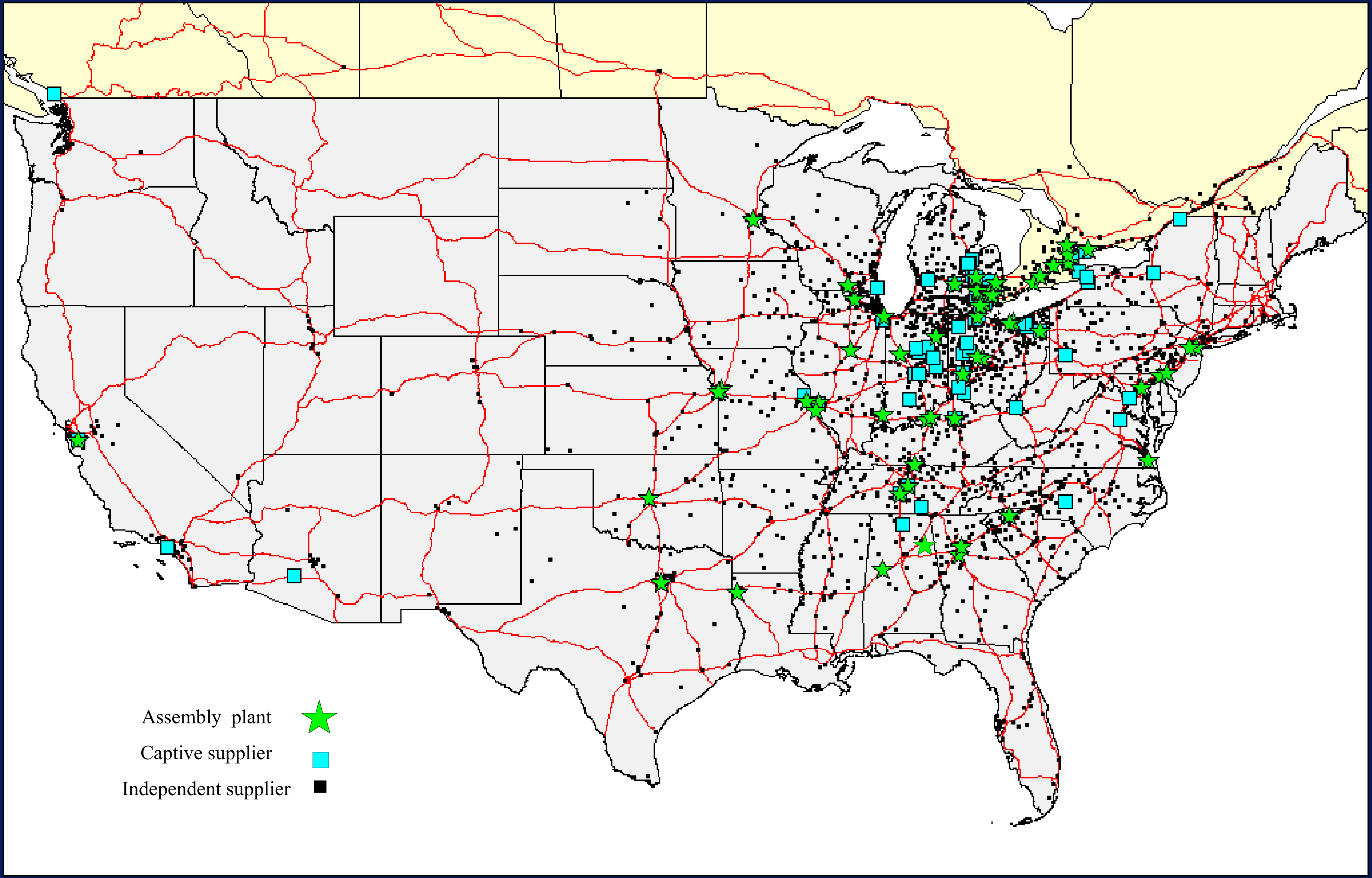
The Bird's Eye View: Assembly Plants



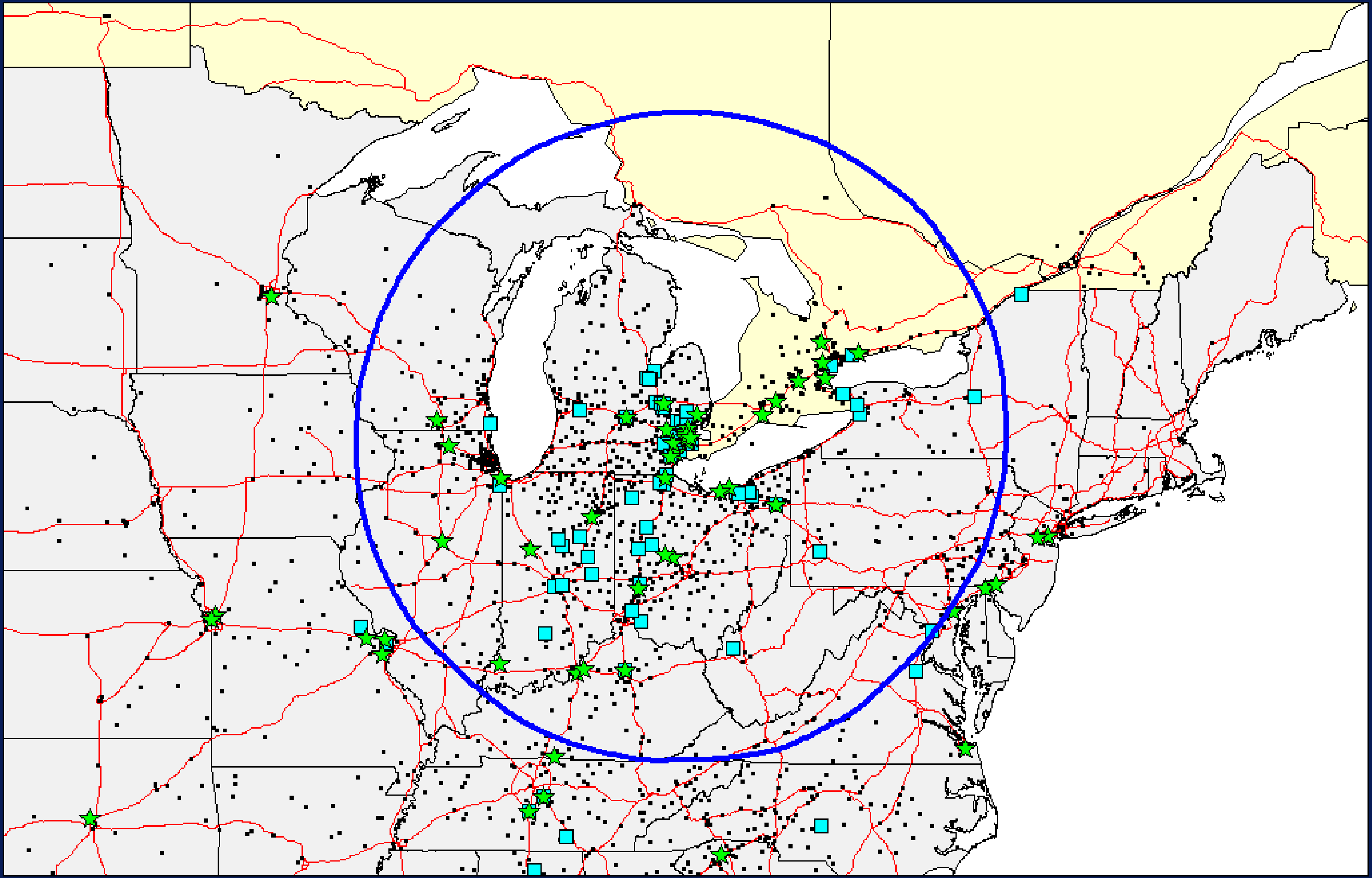
The Bird's Eye View: add Captive Suppliers



The Bird's Eye View: The Entire Industry



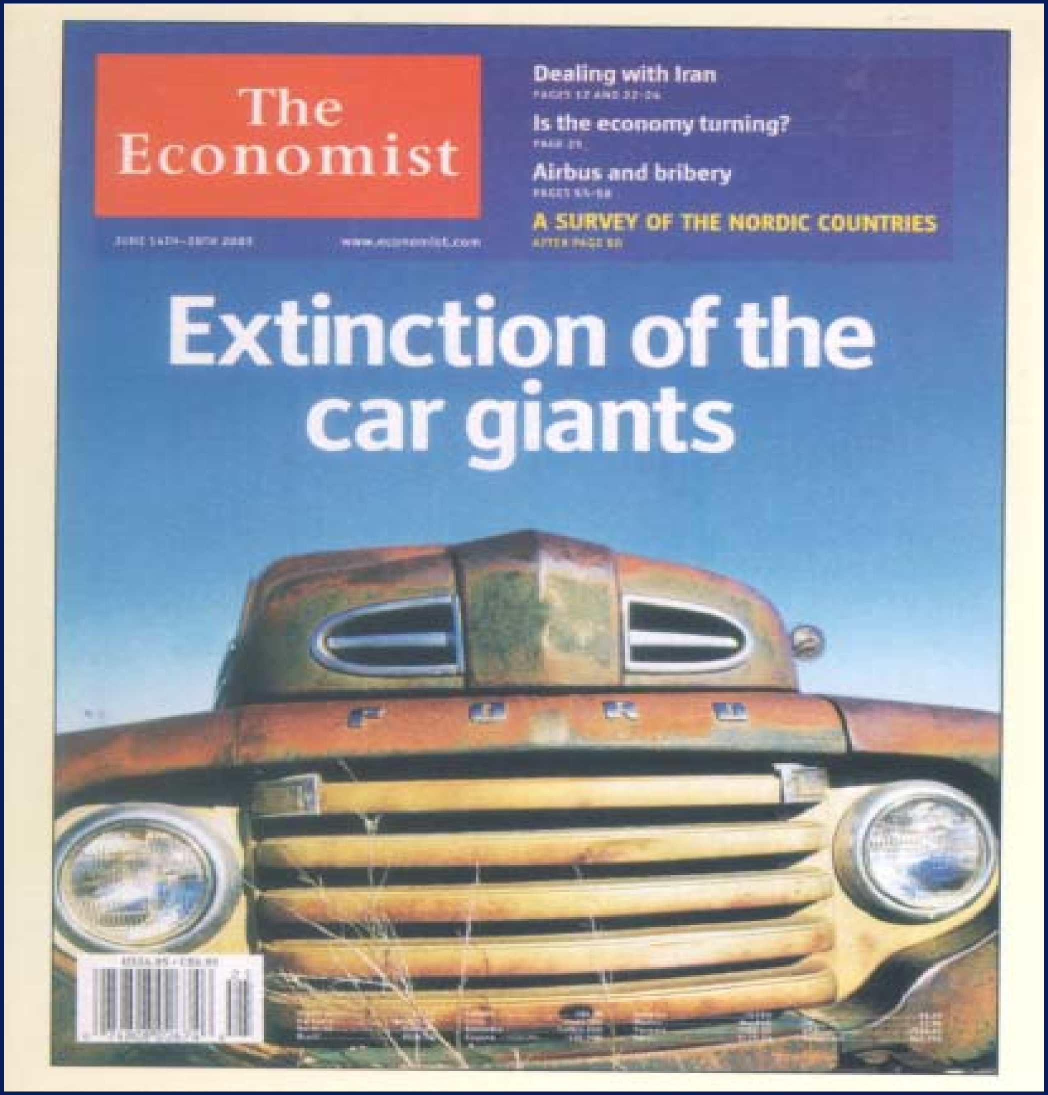
Zoom: Detroit Area as Hub of Auto Industry



In the Midwest, all roads lead to auto...

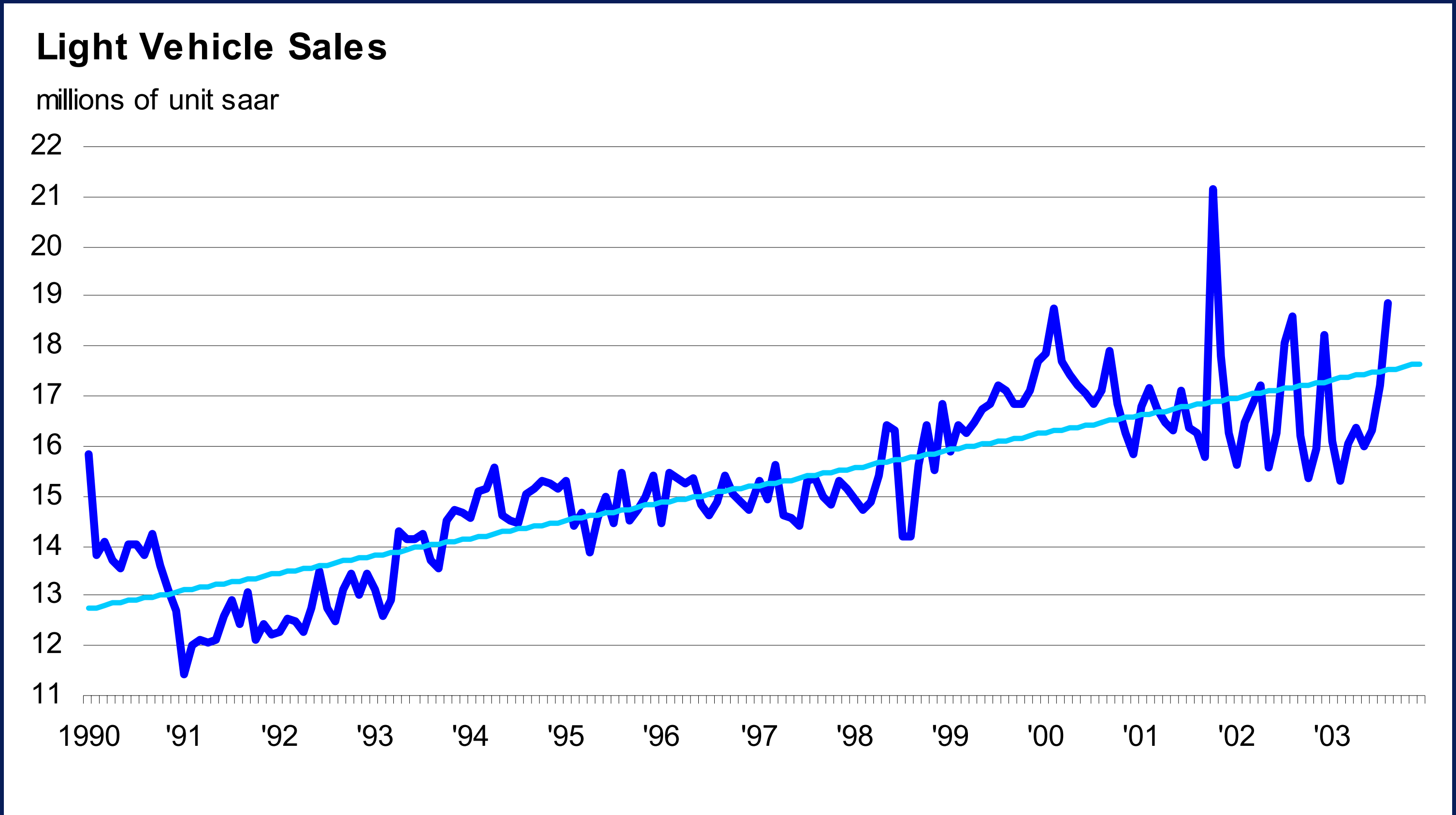
	Share of Plants within 400 miles of Detroit	
	U.S.	**CDN**
Assembly plants	58%	100%
Captive Plants	84%	91%
Tier 1 suppliers	65%	94%

Challenges

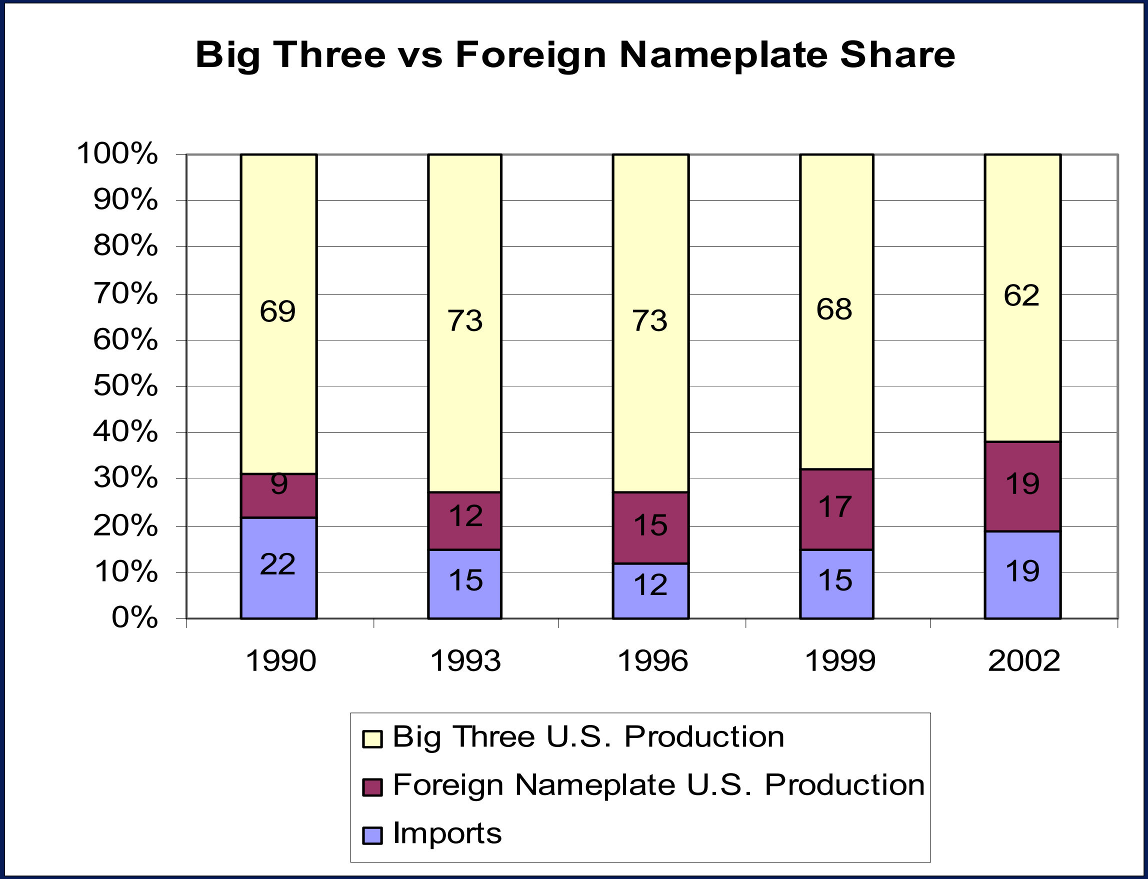


The Economist
Dealing with Iran
Is the economy turning?
Airbus and bribery
A SURVEY OF THE NORDIC COUNTRIES
Extinction of the car giants

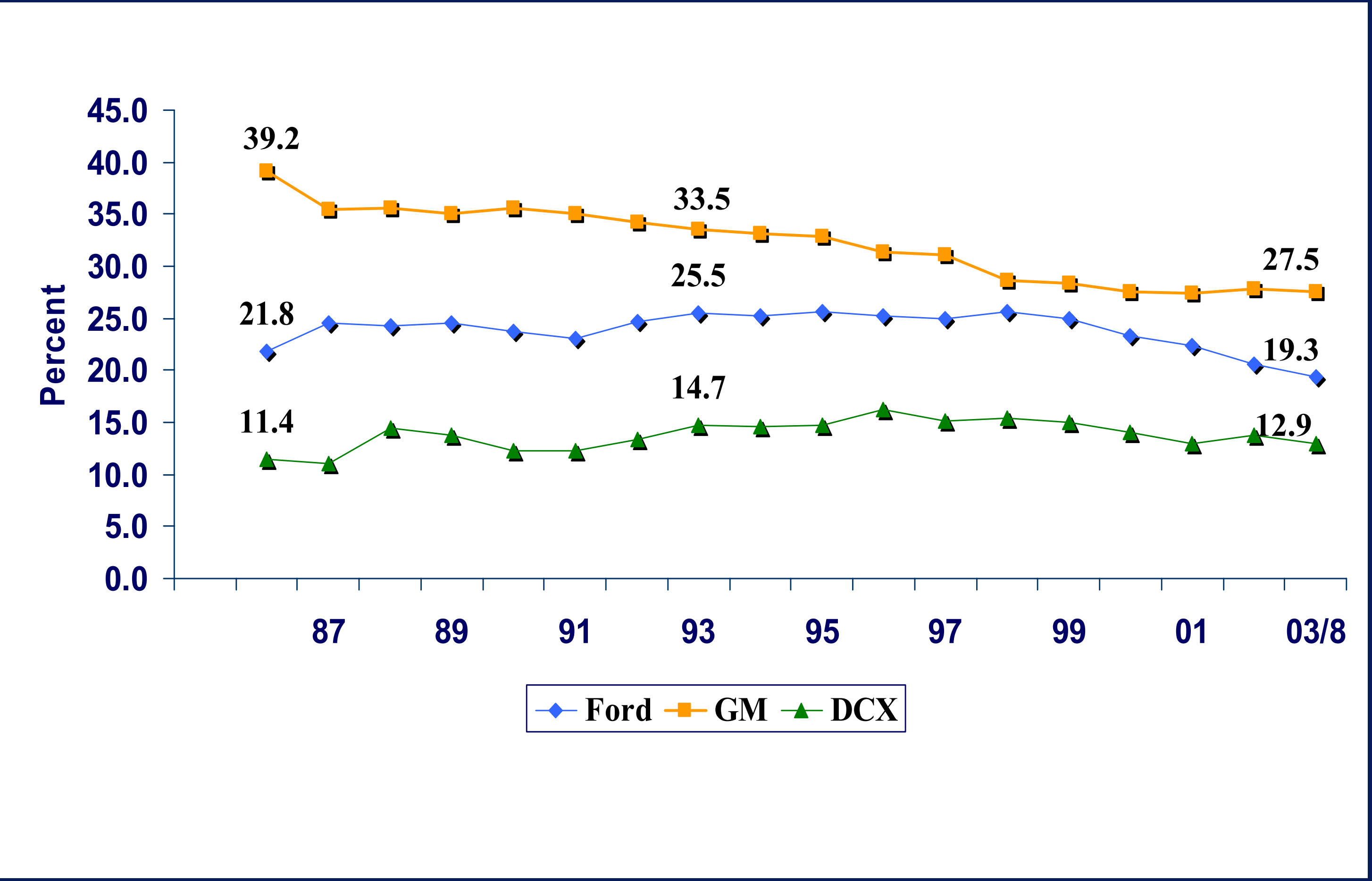
While Sales have been trending up during the 90s...



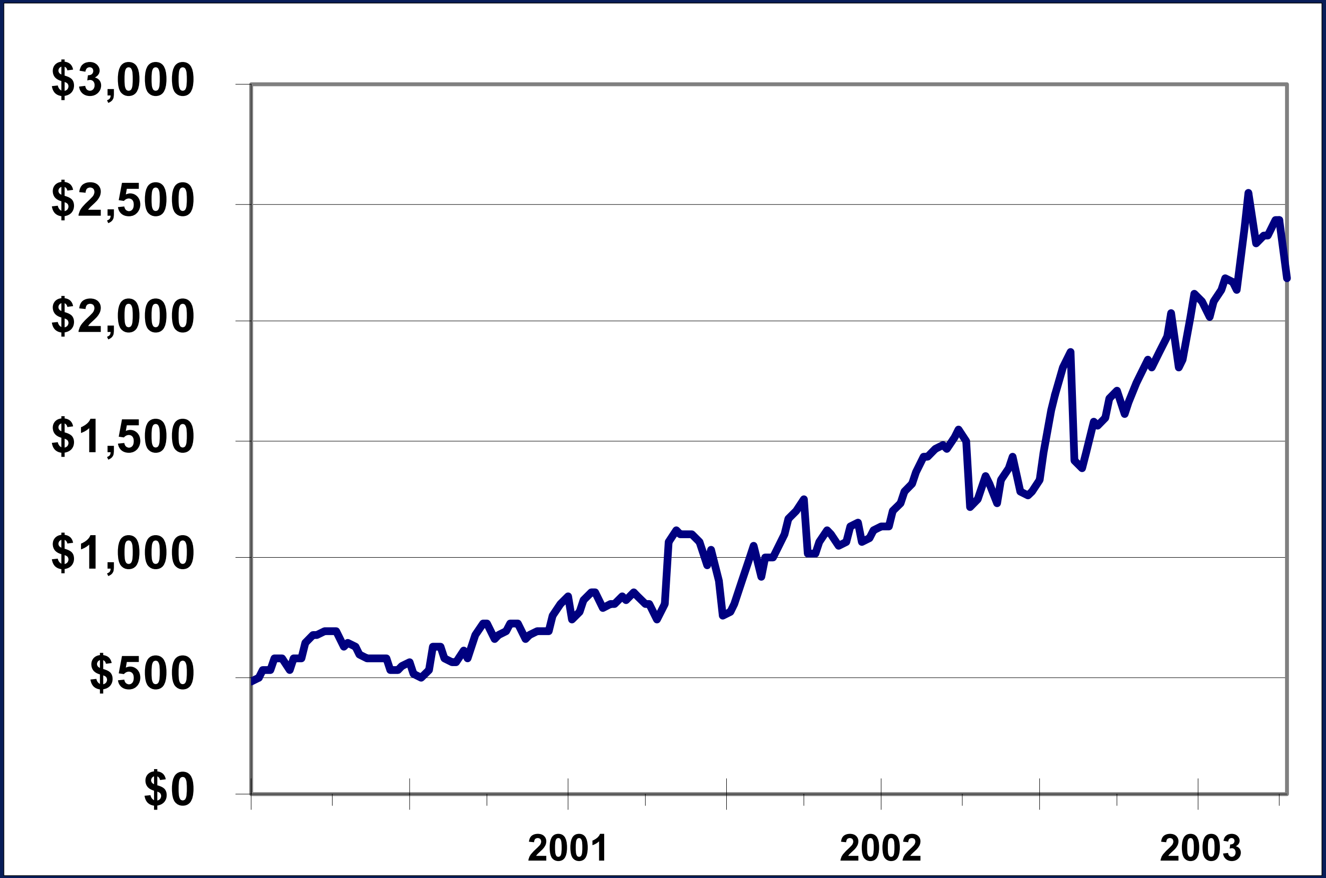
...the Big Three Share has been declining



More detail, same result: Down to 60%...

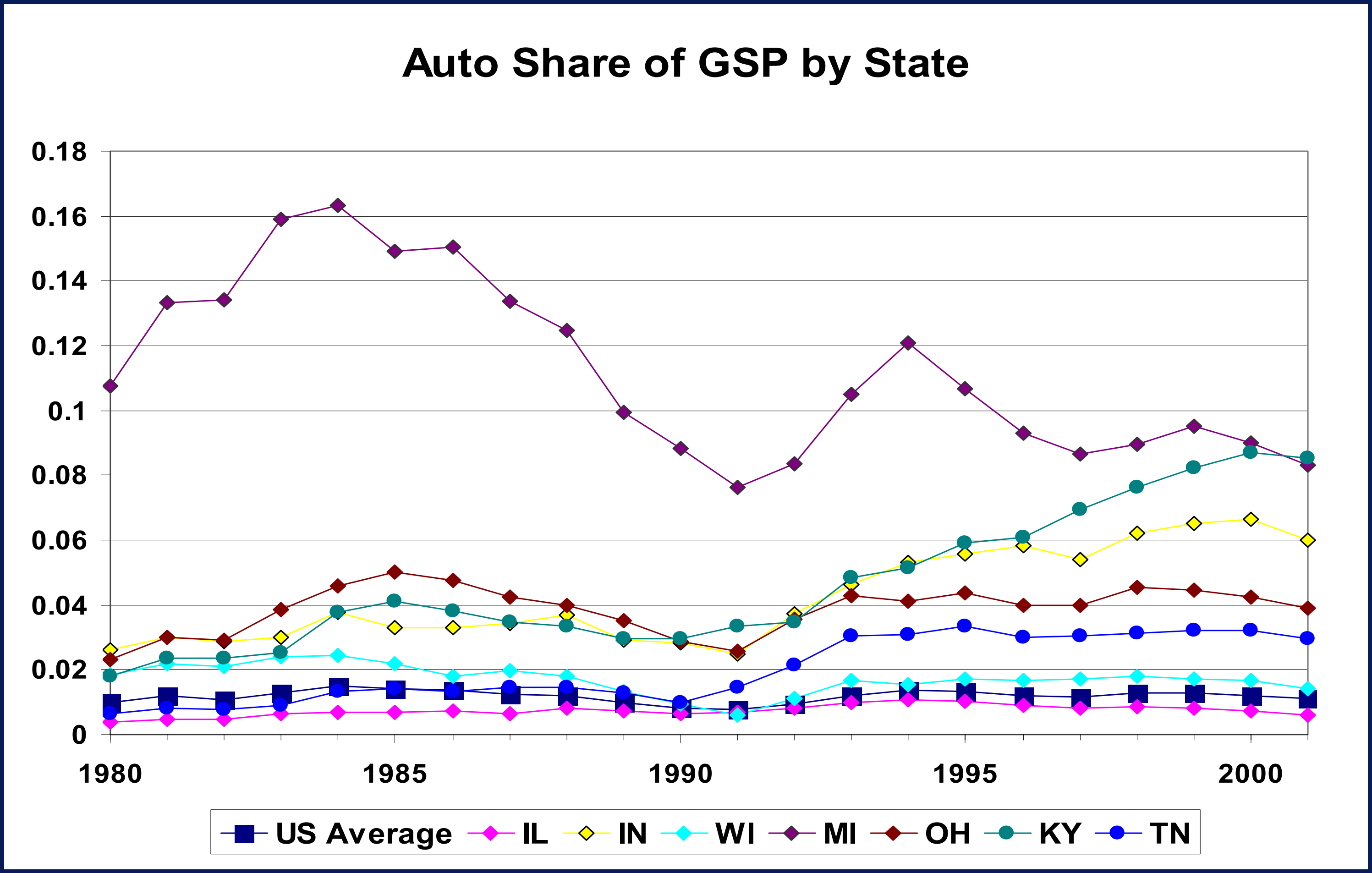


…despite rising marketing incentives



Sales price discount plus reduced financing costs, average per light vehicle. Source: J.D. Power and Associates

Shifting fortunes in market impact location of industry



Proximity to border less advantageous since 9/11

- **Assemblers and suppliers are tightly linked across the U.S.-Canadian border. Yet physical movement of goods relies on few crucial border crossings. Ambassador Bridge alone is gateway for 27% of all US Canada US border traffic.**
- **Security measures implemented in light of 9/11 increased the potential for delay at the border and have raised costs across the supply chain.**
- **Situation continues to be tenuous.**

Evolving location of industry: New Contract

- Recent UAW-BIG Three agreements allow for capacity reductions by Big Three.

- Short term impact: closure of several assembly and captive parts plants, most in Midwest:

  - DCX will close McGraw Glass in Detroit and Indianapolis Foundry
  - GM expected to close Baltimore, MD assembly plant and parts plant in Saginaw, MI
  - Ford expected to close Lorain, OH assembly plant, and parts plants in Michigan and Ohio

- Over life of 4-year contract job reductions are expected to continue for Big Three as well as Delphi and Visteon

Evolving location of industry (ctd.)

- **At the same time, foreign producers are still adding capacity in US at the southern end of the auto corridor . Currently under construction or announced:**
  - **Hyundai, Montgomery AL**
  - **Toyota, San Antonio TX**

Risks for upper Midwest

- Big 3 dominate the northern end of the auto corridor (WI, IL, MI, IN, OH). Today over half of all US light vehicle assembly plants remain in that region - 81% of these are Big Three facilities. Southern end of auto corridor is home to about 20% of assembly plants, half of which are foreign producer facilities.
- Future Big Three capacity reductions will dispro-portionately impact the northern end of the auto corridor
- What about supplier base?

Supplier locations

- Emerging shape of industry matters for suppliers:
  - Who is your customer?
  - Where is your customer located?

Who is your customer?

The auto corridor has two halves

Domestic supplier plants			Japanese supplier plants		
Customer	*All*	*only Big 3*		*All*	*no Big 3*
MI	31.3	40.0	MI	9.2	0.0
IN	10.9	11.4	IN	11.0	12.9
OH	10.4	10.2	OH	20.8	28.6
TN	6.3	4.2	TN	13.3	14.3
KY	4.1	1.8	KY	18.5	21.4
Top 3	52.6	61.6	Top 3	52.6	64.3

Supplier plants that opened between 1980 and 1997

Where is your customer?

- Reliability of delivery crucial for operation of tight supply chains.
- Auto corridor's transportation infrastructure is well developed and allows suppliers to serve multiple assembly plants from one location.
- Over what distance? Can ship from Grand Rapids, Michigan, to Louisville, Kentucky within a day (450 mile delivery radius), but not to San Antonio, Texas.

Supplier networks are regional

Spatial Characteristics of supplier networks

Assembly company	# suppliers	Median Distance	% < 100 miles	% < 400 miles
Honda	507	251	17	77
Toyota	452	285	10	76
A.-Alliance	360	242	29	65
Nissan	460	423	10	45
Saturn	300	477	8	35

Source: ELM, state manufacturing directories

…for more on this subject

- **CHICAGO FED CONFERENCE: Geography of Auto Production - Will Detroit Continue to be the Industry’s Hub?**
- **November 3 2003**
- **Detroit, 160 W. Fort Street**

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