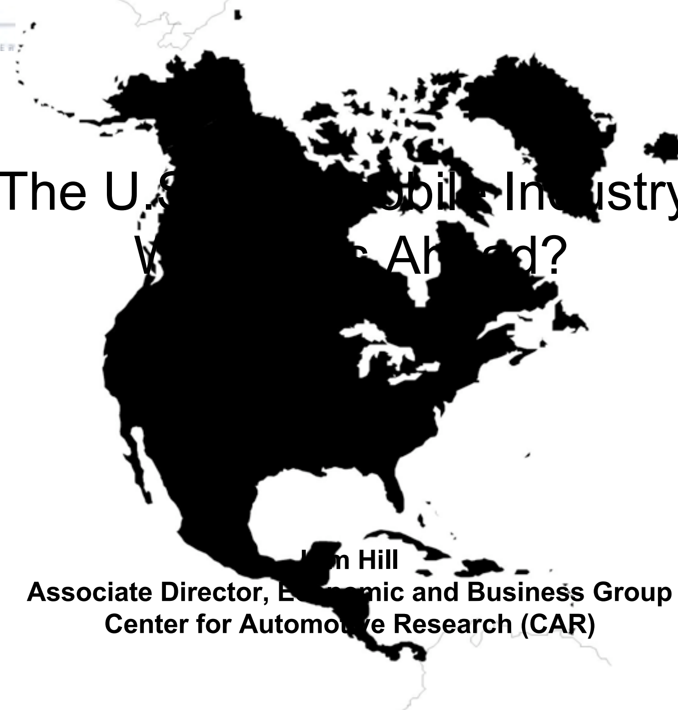


The U.[illegible]obile In[illegible]stry: W[illegible]s Ah[illegible]d?

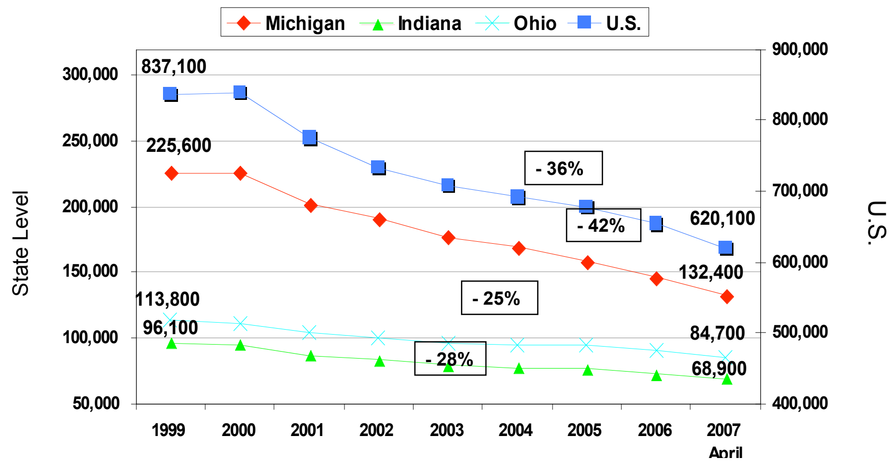
[illegible]n Hill
Associate Director, E[illegible]mic and Business Group
Center for Automo[illegible]e Research (CAR)

The Center for Automotive Research

- An independent non-profit research organization
  - Don't pick winners or losers
- A corporate, public sector, and academic interface
- Funded by:
  - Private companies and organizations (contract research)
  - Public entities (federal, state & local governments), and
  - Foundations
- Focused on future trends

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Motor Vehicle Parts Manufacturing
1999-2007 April

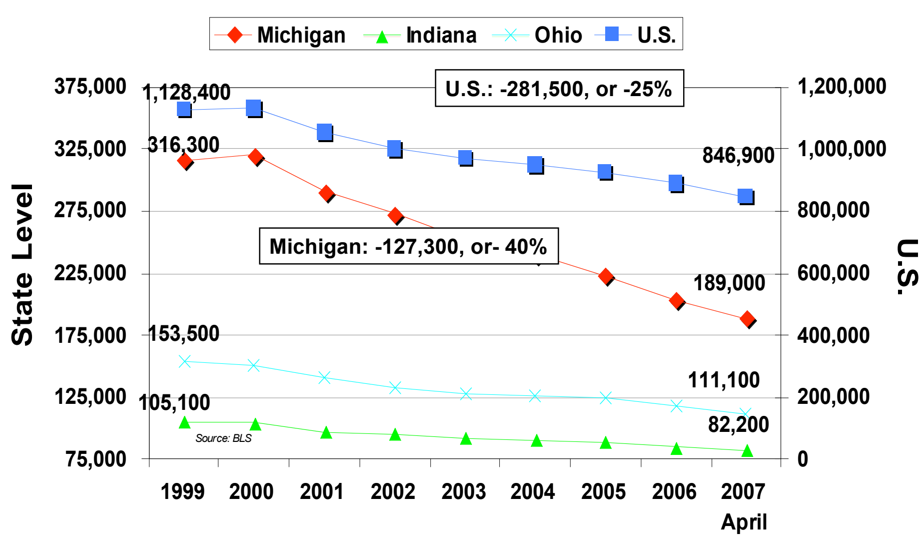


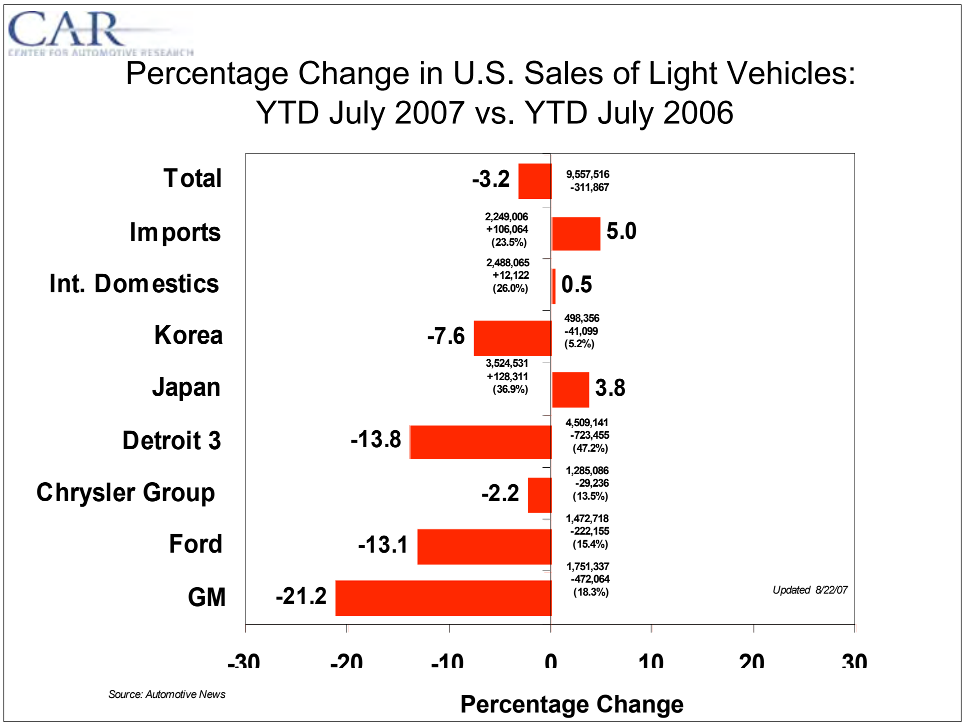
Source: BLS

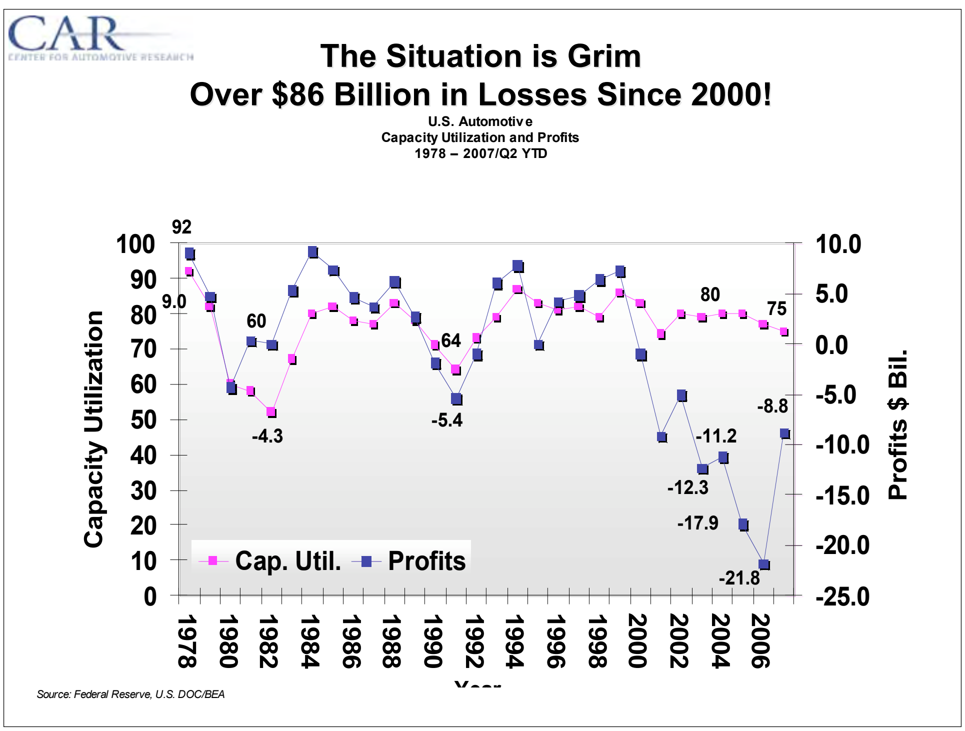
CAR
CENTER FOR AUTOMOTIVE RESEARCH

The Darkest Part of the Tunnel…
Motor Vehicle & Parts Manufacturing Employment

1999 – 2007 April




CAR
CENTER FOR AUTOMOTIVE RESEARCH
Percentage Change in U.S. Sales of Light Vehicles:
YTD July 2007 vs. YTD July 2006
Total
Imports
Int. Domestics
Korea
Japan
Detroit 3
Chrysler Group
Ford
GM
-3.2
9,557,516
-311,867
2,249,006
+106,064
(23.5%)
5.0
2,488,065
+12,122
(26.0%)
0.5
-7.6
498,356
-41,099
(5.2%)
3,524,531
+128,311
(36.9%)
3.8
-13.8
4,509,141
-723,455
(47.2%)
-2.2
1,285,086
-29,236
(13.5%)
-13.1
1,472,718
-222,155
(15.4%)
-21.2
1,751,337
-472,064
(18.3%)
Updated 8/22/07
-30
-20
-10
0
10
20
30
Source: Automotive News
Percentage Change


CAR
CENTER FOR AUTOMOTIVE RESEARCH
The Situation is Grim
Over $86 Billion in Losses Since 2000!
U.S. Automotive
Capacity Utilization and Profits
1978 – 2007/Q2 YTD
Capacity Utilization
Profits $ Bil.
Cap. Util.
Profits
92
9.0
60
-4.3
64
-5.4
80
75
-8.8
-11.2
-12.3
-17.9
-21.8
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Source: Federal Reserve, U.S. DOC/BEA

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Too Much Competition?

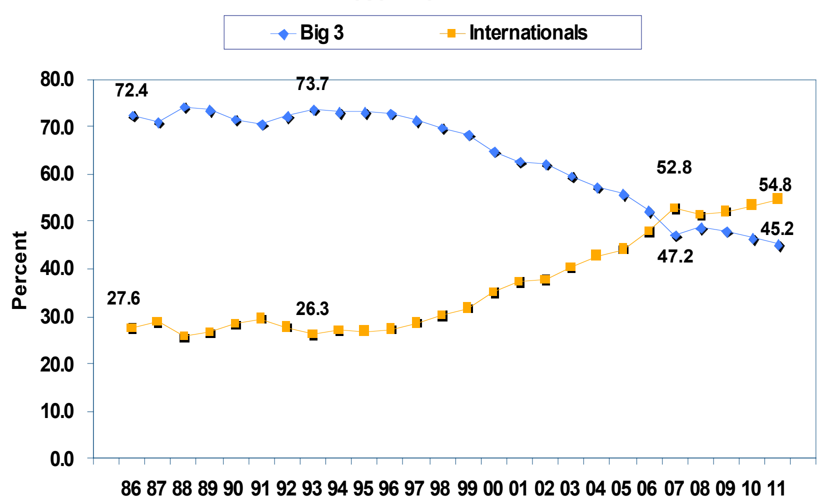
New Market Structure?

U.S. Market Share of Light Vehicle Sales: 1st Half-2007

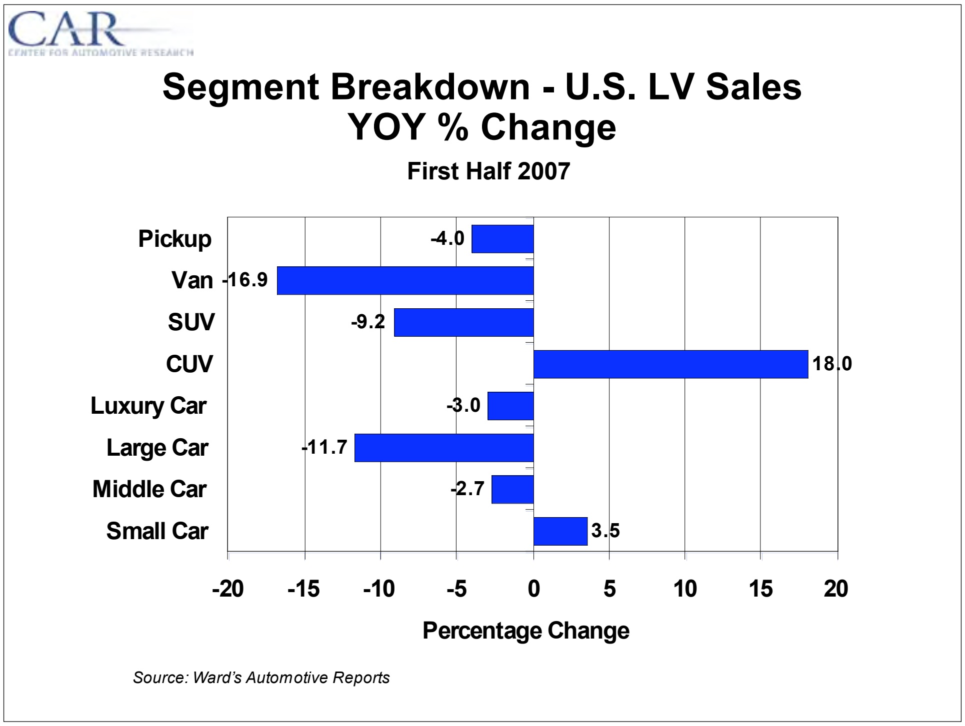
CAR
CENTER FOR AUTOMOTIVE RESEARCH

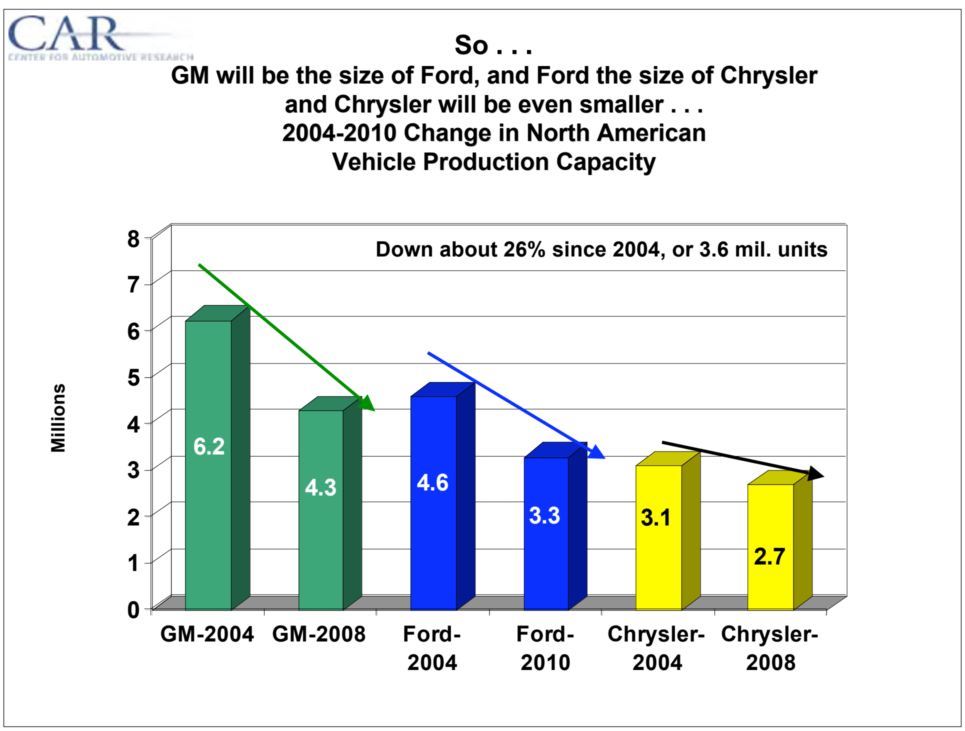
Down Below 50%
Detroit 3 U.S. Market Share*

1986 – 2011

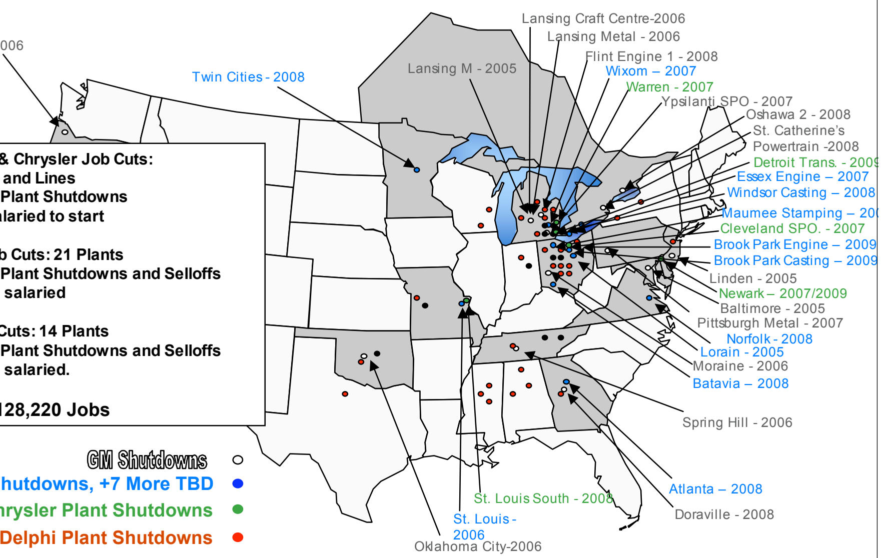


* Detroit 3 North American “owned” production.


CAR
CENTER FOR AUTOMOTIVE RESEARCH
Segment Breakdown - U.S. LV Sales
YOY % Change
First Half 2007
Pickup
Van
SUV
CUV
Luxury Car
Large Car
Middle Car
Small Car
-4.0
-16.9
-9.2
18.0
-3.0
-11.7
-2.7
3.5
-20
-15
-10
-5
0
5
10
15
20
Percentage Change
Source: Ward's Automotive Reports


CAR
CENTER FOR AUTOMOTIVE RESEARCH
So . . .
GM will be the size of Ford, and Ford the size of Chrysler
and Chrysler will be even smaller . . .
2004-2010 Change in North American
Vehicle Production Capacity
Down about 26% since 2004, or 3.6 mil. units
Millions
0
1
2
3
4
5
6
7
8
6.2
4.3
4.6
3.3
3.1
2.7
GM-2004
GM-2008
Ford-2004
Ford-2010
Chrysler-2004
Chrysler-2008

GM, Ford, Chrysler, Delphi & ACH
U.S. and Canadian Plant Shutdowns and Line Trimmings
Announced and Executed, 2005-2009



GM, Ford & Chrysler Job Cuts:
30 Plants and Lines
55,790 in Plant Shutdowns
19,000 Salaried to start

Delphi Job Cuts: 21 Plants
23,000 in Plant Shutdowns and Selloffs
600 other salaried

ACH Job Cuts: 14 Plants
27,600 in Plant Shutdowns and Selloffs
500 other salaried.

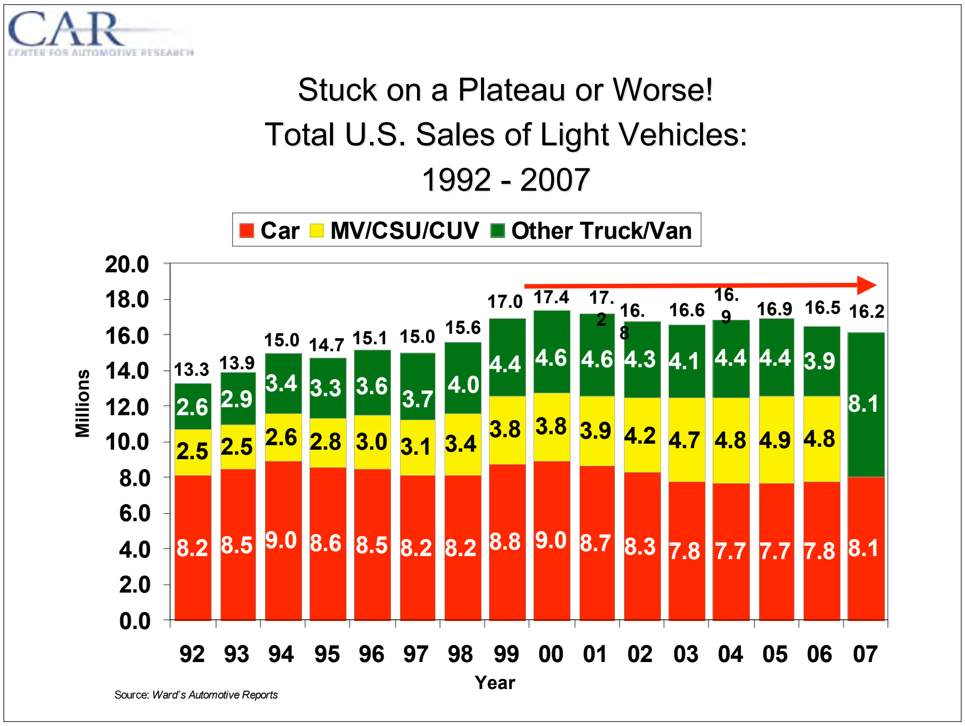
Total = 128,220 Jobs

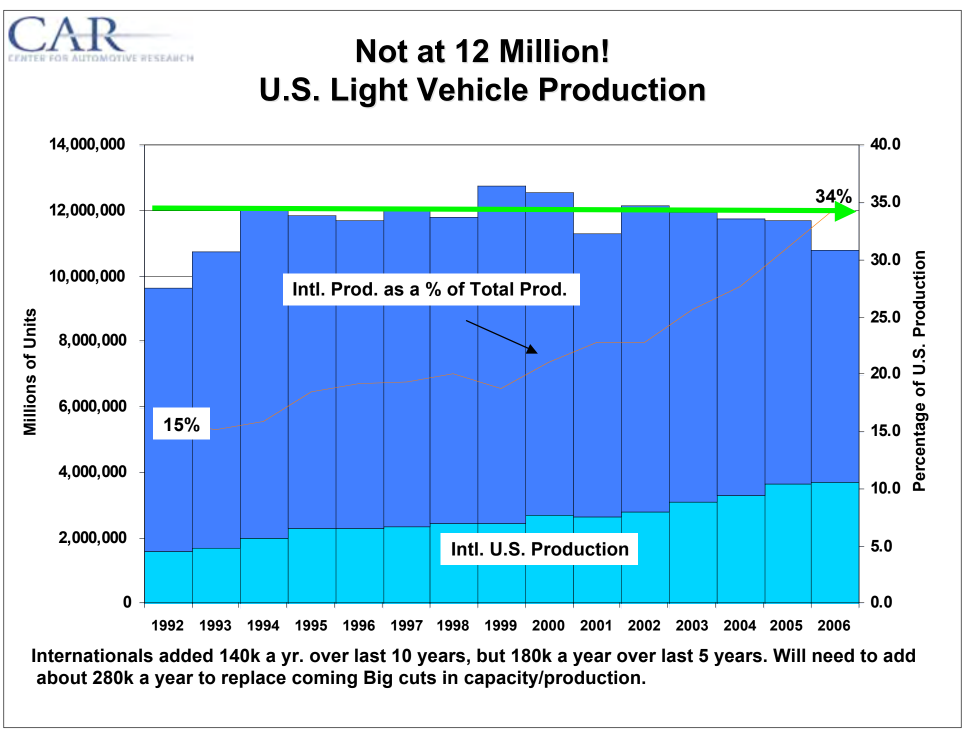
GM Shutdowns ○
Ford Shutdowns, +7 More TBD ●
Chrysler Plant Shutdowns ●
Delphi Plant Shutdowns ●
ACH Plant Shutdowns ●

Updated: February 22, 2007

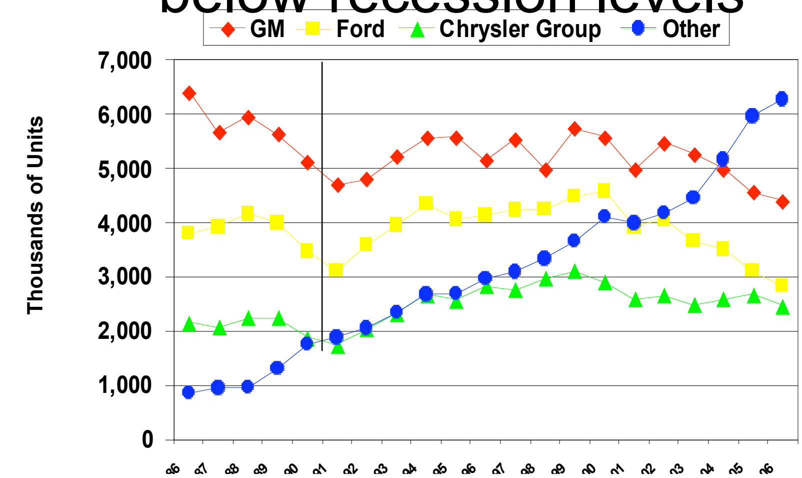
Why are the Detroit 3 Losing Share in their "Home" Market?

- **Too many sales and too much capacity in light truck segments:**
  - **GM = 57%, Ford = 63%, Chrysler = 69%, Market = 51.0%**
- **Over-reliance on car "fleet" sales (over 35%) and employee sales (5-10%). Reduces residuals and resale.**
- **Product models are older and product development is slower.**
- **Quality and productivity has "almost" caught up to best of Japanese but has not caught them yet. The Koreans have . . .**
- **Technology to design & build modern vehicles has diffused. No technical barriers. Koreans have caught up, and now . . . China?**
- **Companies are restructuring to their <u>real</u> share of the market where price can deliver profits – but they must re-negotiate fixed costs....**
- **If 07' GDP growth below 2.5% - then sales will fall fast. Scrappage rates are very low. Falling housing prices and tighter credit are having a negative wealth effect. Fuel and other operating costs at record highs. Interest rates higher.**


CAR
CENTER FOR AUTOMOTIVE RESEARCH
Stuck on a Plateau or Worse!
Total U.S. Sales of Light Vehicles:
1992 - 2007
Car
MV/CSU/CUV
Other Truck/Van
Millions
Year
Source: Ward's Automotive Reports


CAR
CENTER FOR AUTOMOTIVE RESEARCH
Not at 12 Million!
U.S. Light Vehicle Production
Millions of Units
Percentage of U.S. Production
Intl. Prod. as a % of Total Prod.
15%
34%
Intl. U.S. Production
Internationals added 140k a yr. over last 10 years, but 180k a year over last 5 years. Will need to add about 280k a year to replace coming Big cuts in capacity/production.

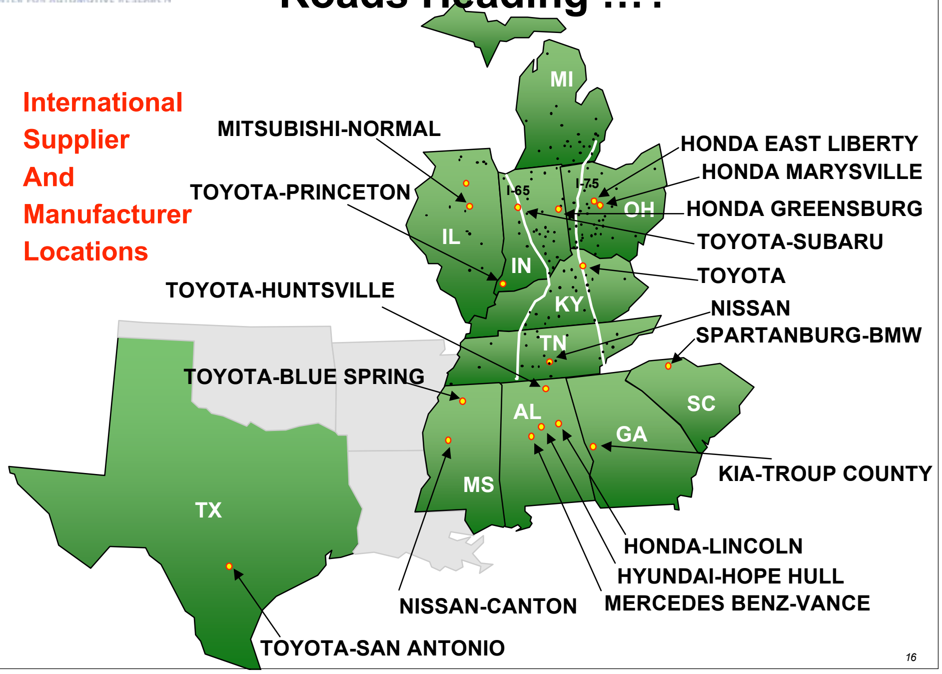
North American LV Production Ford and GM NA production below recession levels



Source: Automotive News

Roads Heading …?

International Supplier And Manufacturer Locations



16

International Assembly Facilities in U.S. & Canada

EXISTING	Employment	Investment (Thru June 2006, Millions $)	Capacity
South	32,634	15,580	2,410,000
North	31,626	15,420	2,742,000
TOTAL	64,260	31,000	5,152,000

FUTURE	Employment	Investment (2006 - 2009, Millions $)	Capacity
South	6,500	3,350	650,000
North	3,500	1,800	450,000
TOTAL	10,000	5,150	1,100,000

Source: Automotive News, Harbour Report, CAR Research

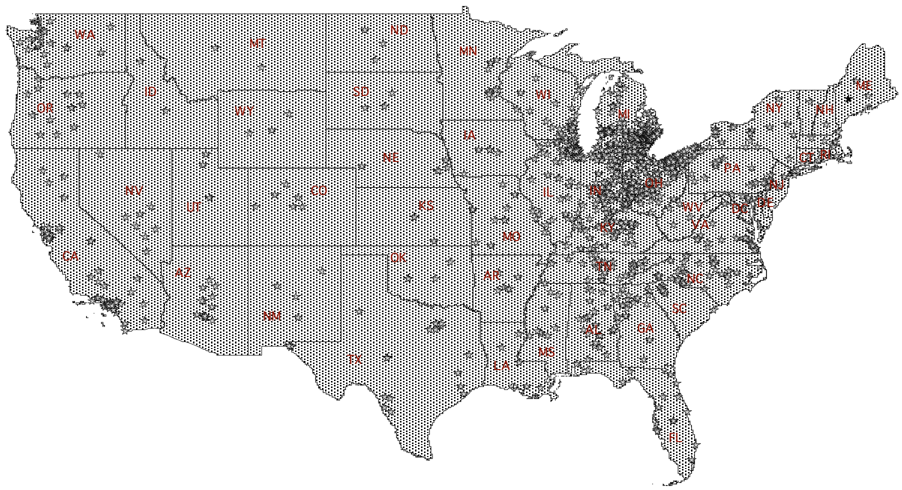
They Bring Their Friends…

AISIN
Continental
Koyo
BOSCH
SKF
YAZAKI
KUKA
TOYOTA BOSHOKU
akebono
DENSO
trans-matic
SIEMENS VDO Automotive
Eberspächer
BENTELER AUTOMOTIVE
MICHELIN
ZF
faurecia
PCC Olofsson
ASAHI TEC
Calsonic Kansei
Freudenberg-NOK
The Budd Company
Ogihara
TS Tech
TOYODA GOSEI
HITACHI
Panasonic
HYUNDAI MOBIS
PLASTIC OMNIUM
Valeo
Edscha

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Parts suppliers are located in all 50 states:

(over 783,000 direct employment)

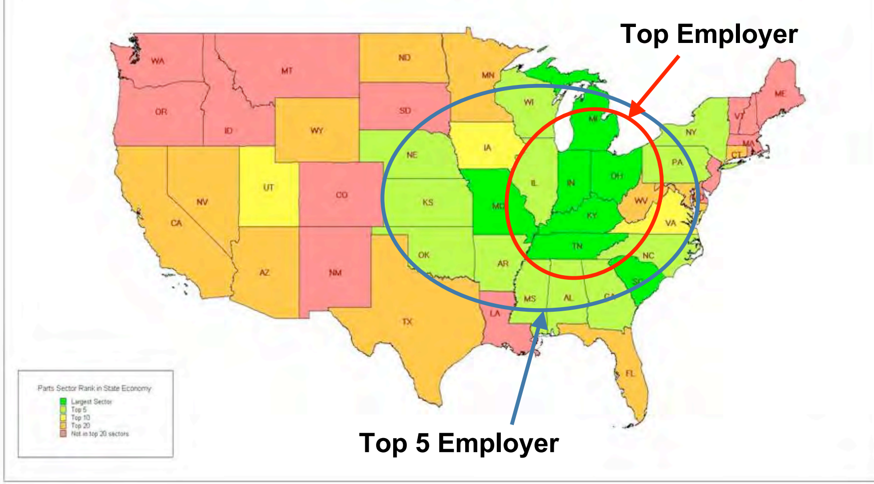


CAR

Parts suppliers are top employer in 7 states, top 5 employer in 12 other states

(over 3 percent of workforce in the 17 states)

(Ranked by Size Compared to Other Industries in State)



CAR
CENTER FOR AUTOMOTIVE RESEARCH

Motor Vehicle Manufacturing Multiplier of

7.5

6.5 additional jobs for each job at a U.S. Motor Vehicle Firm

Motor Vehicle Parts Supplier Multiplier of

5.7

4.7 additional jobs for every one job at a parts making company

Source: Contribution of the U.S. Motor Vehicle to the Economies of the United States, California, New York, and New Jersey, Center for Automotive Research, 2003,
Contribution of Toyota to the Economies of Fourteen States and the United States in 2003, Center for Automotive Research 2005,
Contribution of the Motor Vehicle Supplier Sector to the Economies of the United States and Its 50 States, Center for Automotive Research 2007

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Total Impact From Supplier Direct Employment

- 4.5 million total jobs impact
- Ten states have 150,000 or more employees impacted by the supplier sector
- Fifteen states have 100,000 or more impacted
- Thirty states have 35,000 or more impacted
- For the nation as a whole this industry impacts 3% of the labor force, and for 17 states, this industry represents 3 percent or more of the workforce
- However, threats to U.S. manufacturing and jobs are and will alter landscape

However, more parts are imported.......

US Original Equipment and Aftermarket Parts Market

Year	Size of the U.S. Parts Market $US Billions	Imports of Parts from Mexico and Canada	Imports of Parts from all Countries Ex. Mexico & Canada	Parts Sourced From U.S. Owned and US Located Suppliers	Parts Sourced From Overseas Owned but US Located Suppliers	
1997	$193.6	11.2%	9.1%	67.7%	12.0%	79%
1998	$211.0	10.9%	8.8%	65.8%	14.5%	
1999	$242.2	11.1%	8.6%	61.0%	19.3%	
2000	$225.6	12.6%	10.3%	57.0%	20.0%	
2001	$214.2	12.3%	10.3%	56.5%	20.9%	
2002	$218.8	13.5%	10.9%	52.9%	22.7%	
2003	$236.0	13.3%	11.1%	50.6%	24.9%	
2004	$244.0	14.2%	12.3%	46.3%	27.2%	
2005	$238.7	15.5%	14.0%	40.9%	29.6%	70%

Global "Localization" has seriously hurt traditional US owned and based suppliers

desrosiers

Pending Legislation in the U.S. Congress

BILL	TARGET (MPG)	EFFECTIVE TARGET CARS	EFFECTIVE TARGET LDTS	TIMING	SUBSEQUENT YEARS
SENATE (H.R. 6)	35	42.1	28.7	2020	"Redefines" Maximum Feasible
MARKEY (H.R. 1506)	35	43.3	27.6	2019	-----
HILL-TERRY (H.R. 2927)	32-35	UP TO 42.1	29.8	2022	Maximum Feasible

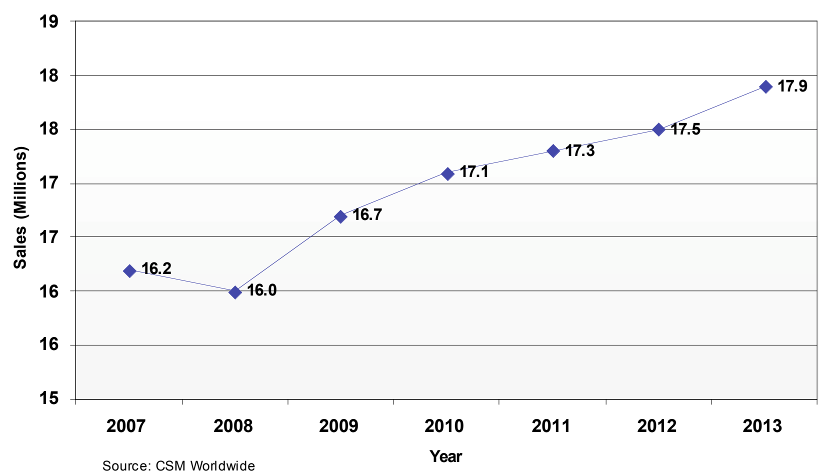
Source: Alliance of Automobile Manufacturers, Presentation on 8/8/07

They Will Be Small . . .
(but where are they built?)

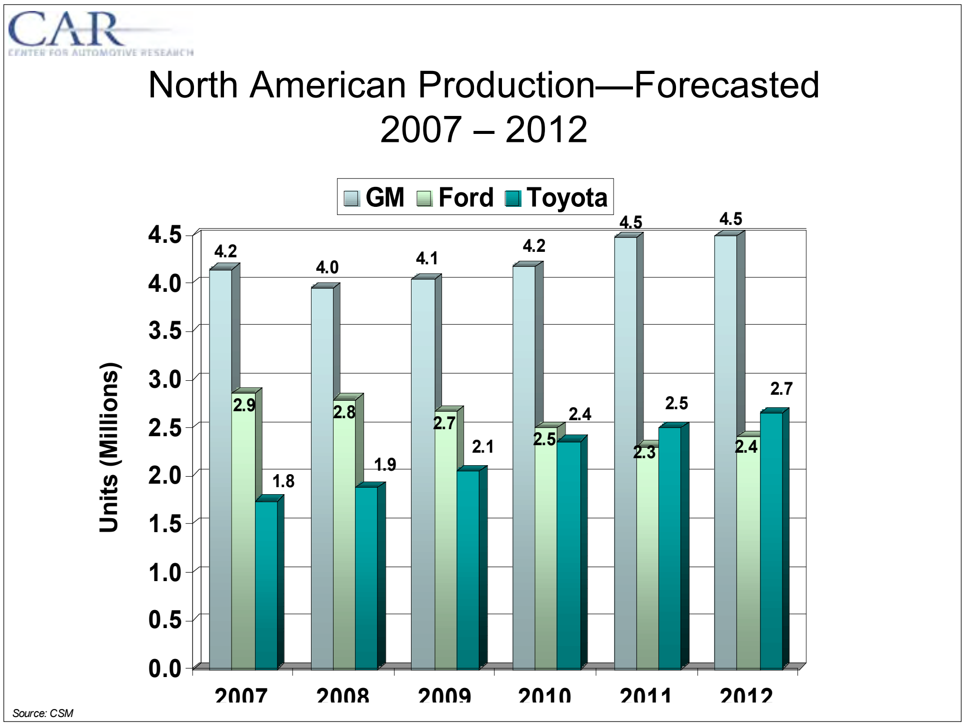
Gas Prices Triple, and Truck Sales Begin to Slide
Nominal Price Per Gallon and Quarterly Light Truck Sales (SAAR)
Through May 2007

Source: EIA, Ward's Automotive, BEA

The U.S. Market: Mature but Growing



Source: CSM Worldwide



In Conclusion....

- U.S. sales market will recover by 2009 and then grow . . .
- International producers will take 50% of the market in 07', 50% of production in '11.
- Detroit 3 will fall below 50% market share, "retreat to the core" and move some production off-shore.
  - Fuel economy requirements could hasten off-shoring
- Less total workers in motor vehicle and parts manufacturing segments as productivity improvements and size rationalizing among Detroit 3 continues
- States in some regions of the country will fare better than others
- Sales of vehicles will go up, but where will they come from?????
  - As housing sales go up, houses will be built here, cars may not be built here.