

The U.S. Automobile Industry: An Outlook

ATA Environmental Conference 9-15-08

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Center for Automotive Research

It's always about product.....



Auto manufacturing operations in 25 states

State	Plants	Employment
MI	49	78,159
OH	25	40,976
KY	5	23,606
IN	11	22,337
TN	6	18,904
AL	5	14,119
CA	3	12,019
MO	6	11,688
IL	4	9,048
SC	1	4,500
TX	2	4,307
MS	1	3,662
WI	2	3,289
NY	3	2,911
DE	2	2,540
KS	1	1,969
LA	1	1,877
GA	2	1,476
WV	1	1,150
MN	1	1,060
OK	1	788
AR	1	600
MD	1	423
PA	1	319
VA	1	102
Total	136	261,829

Automobile parts manufacturing operations in 50 states

State	Establishments	Employment	State	Establishments	Employment
Michigan	787	135,707	Oregon	77	3,350
Ohio	490	90,442	Minnesota	75	3,200
Indiana	371	78,140	Kansas	45	2,995
Tennessee	195	38,012	Arizona	79	2,697
Kentucky	153	31,465	Washington	80	2,658
Illinois	267	28,543	West Virginia	15	2,101
California	629	24,201	Massachusetts	44	1,780
New York	165	22,763	Maryland	31	1,694
North Carolina	153	18,519	Louisiana	32	1,600
Alabama	101	17,827	New Hampshire	18	1,600
Wisconsin	141	16,270	Colorado	58	1,288
South Carolina	93	14,642	New Jersey	57	1,004
Missouri	139	13,616	North Dakota	13	940
Pennsylvania	145	12,472	South Dakota	15	794
Texas	259	11,821	Nevada	26	600
Georgia	119	10,345	Vermont	4	370
Iowa	62	7,565	Delaware	4	313
Virginia	73	6,956	Maine	11	290
Mississippi	56	6,713	Rhode Island	5	287
Arkansas	46	5,840	Wyoming	10	160
Florida	175	4,890	Montana	14	100
Connecticut	60	4,109	New Mexico	15	100
Utah	42	4,000	Idaho	11	68
Oklahoma	60	3,931	Hawaii	6	25
Nebraska	30	3,907	Alaska	2	9
Total	4,811	612,696		747	30,023

Employment contribution of the automobile industry

- Of all the jobs created by the direct employment of the automobile industry:
 - 18% are in manufacturing
 - 82% are in non-manufacturing

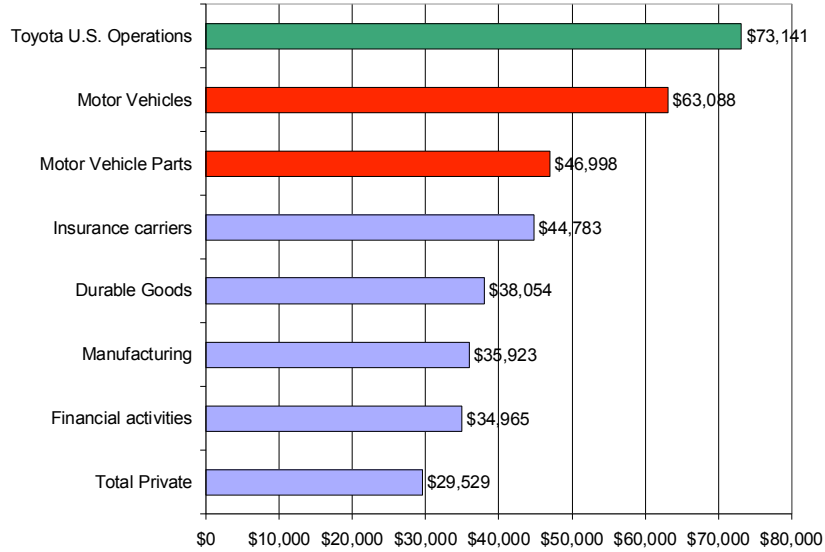


Jobs in and created by the automotive sector

- **Engineering**
- **R&D, Scientific**
- **Administrative and support positions (Waste, IT, etc.)**
- **Management**
- **Logistics: Transportation & Warehousing**
- **Manufacturing**
- **Finance**
- **Legal**
- **Sales**
- **Accounting**
- **Public Relations and Marketing**
- **Human Resources**

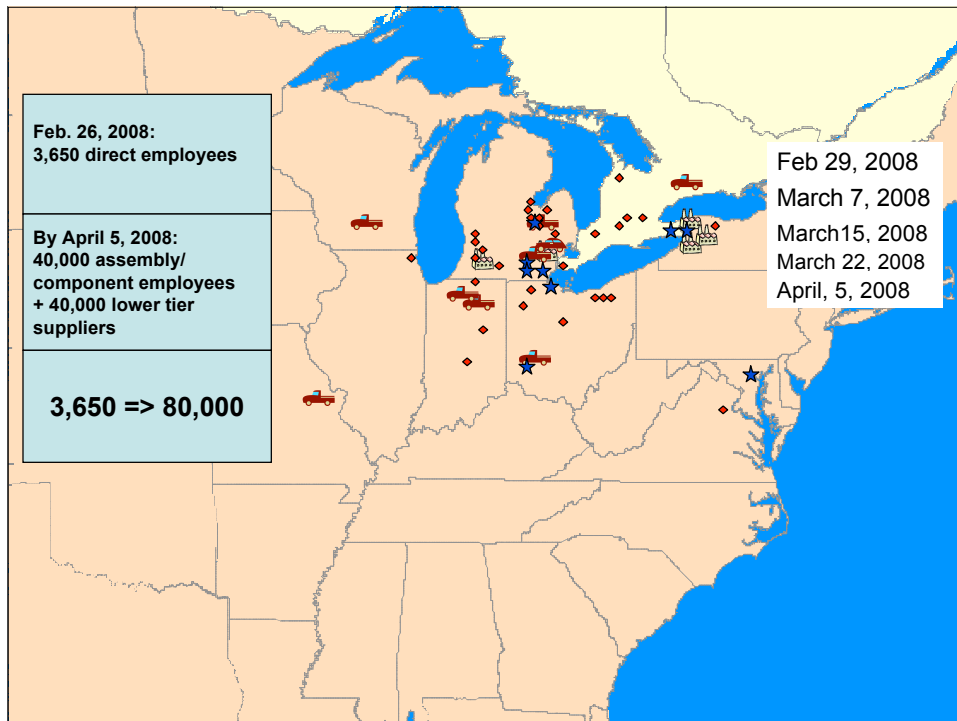


Auto jobs are good jobs: 2006 average annual salaries



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Sources: Toyota, Center for Automotive Research, and the Bureau of Labor Statistics, Employment Series CEU

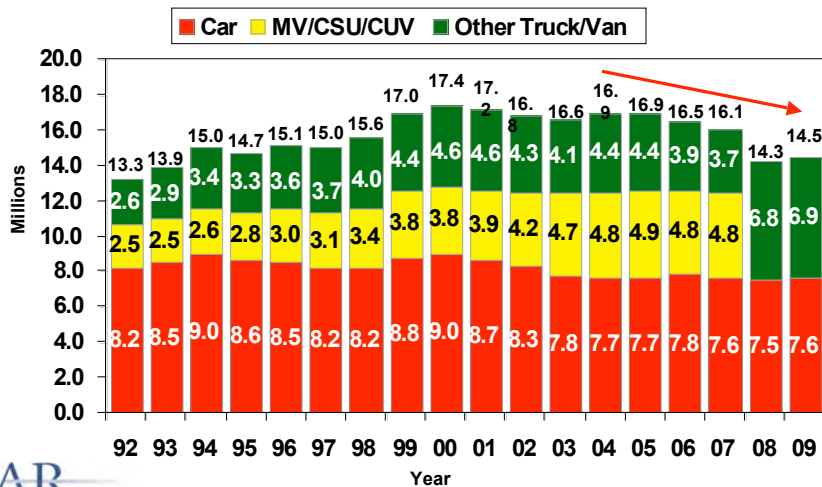


Major Industry Challenges

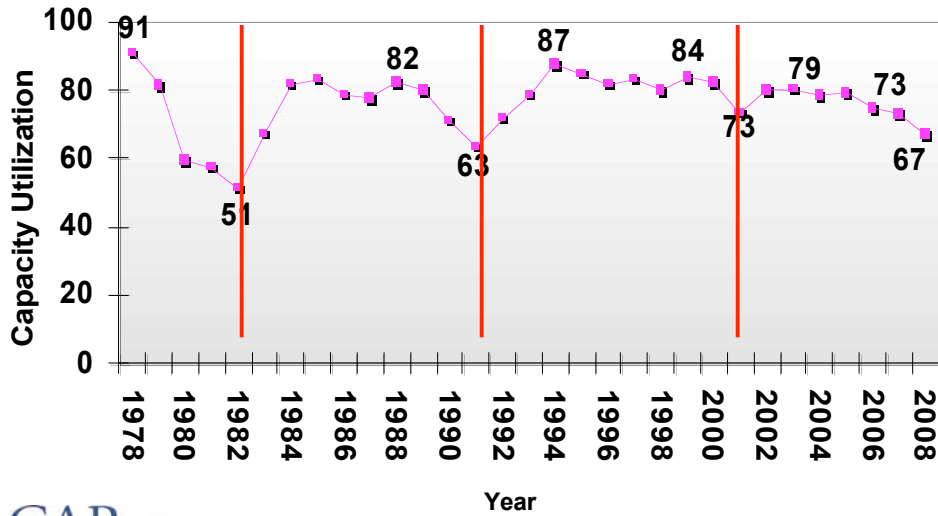
- Economic cycle ✓✓✓✓✓
- Credit crisis ✓✓✓✓✓
- Price of energy ✓✓✓✓✓
- Materials inflation ✓✓✓✓✓
- Segment shifts ✓✓✓
- Government mandates ✓✓✓✓✓
- New competition ✓✓✓
- Emerging markets ✓✓✓✓✓
- New technologies ✓✓✓✓✓



Down the Slippery Slope! Total U.S. Sales of Light Vehicles: 1992 - 2009

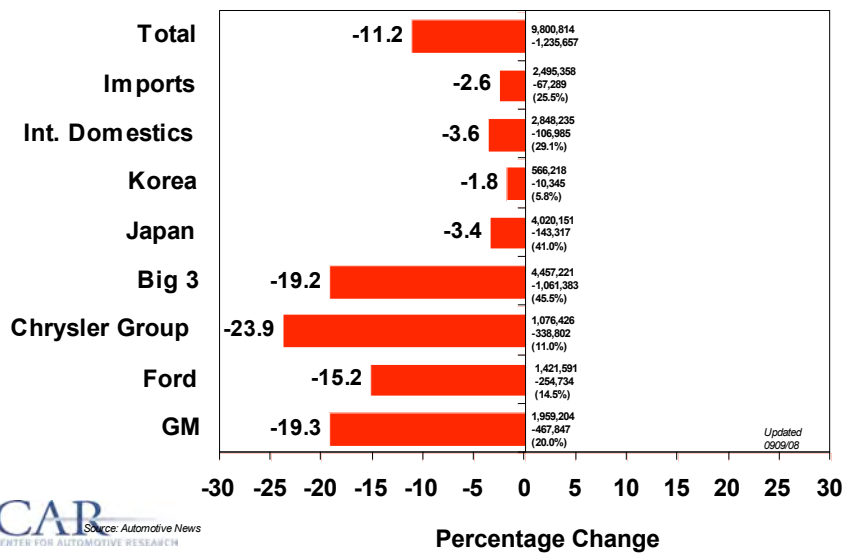


U.S. Automotive Manufacturing Sector Capacity Utilization 1978-2008 YTD



Source: Federal Reserve, data through June 2008
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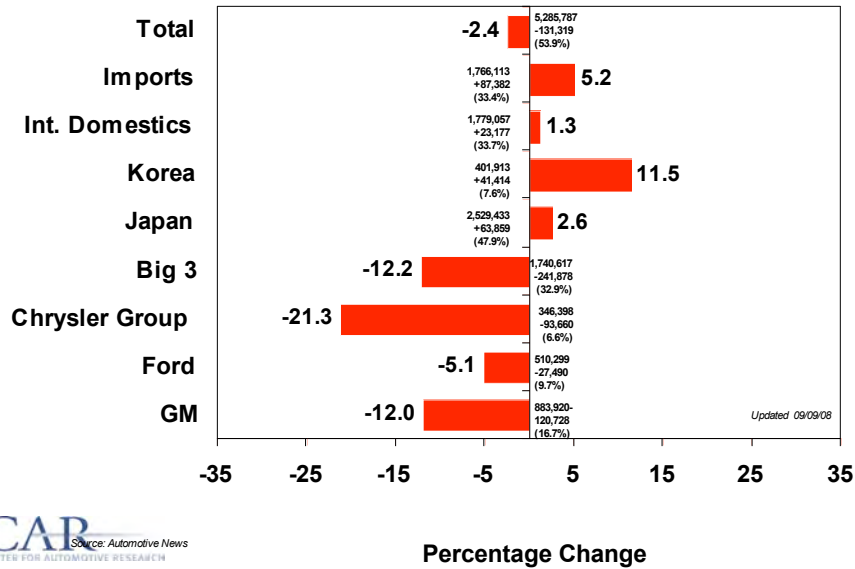
Percentage Change in U.S. Sales of Light Vehicles: YTD Through August: 2008 vs. 2007



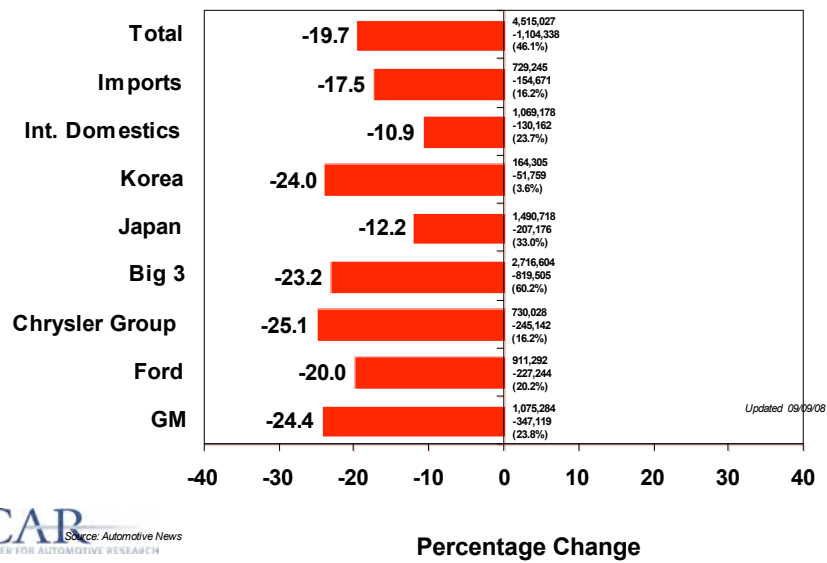
Source: Automotive News
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Updated
08/09/08

Percentage Change in U.S. Sales of Passenger Cars: YTD Through August: 2008 vs. 2007

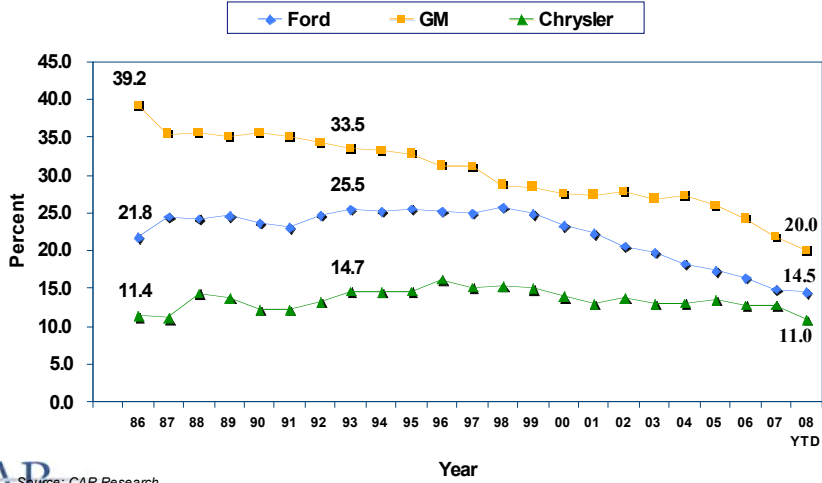


Percentage Change in U.S. Sales of Light Trucks: YTD Through August: 2008 vs. 2007



Down Below 50% “Detroit 3” U.S. Market Share 1986 – August 2008

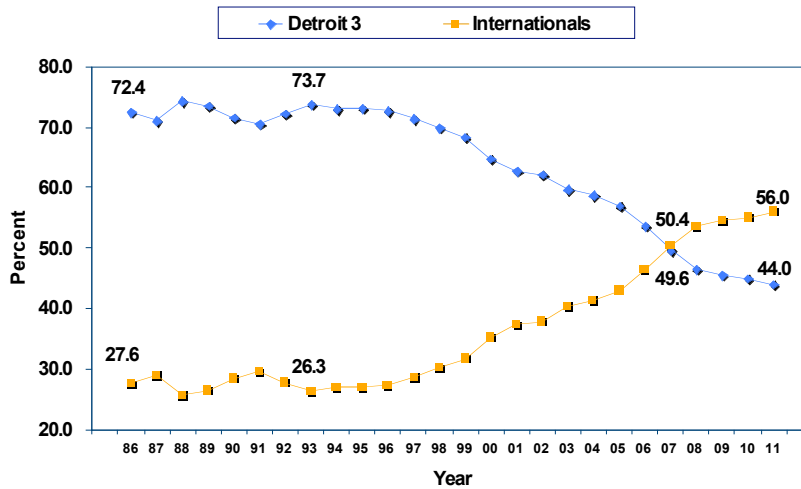
(Sales of Detroit 3 N. American “owned” production)



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Source: CAR Research
CENTER FOR AUTOMOTIVE RESEARCH

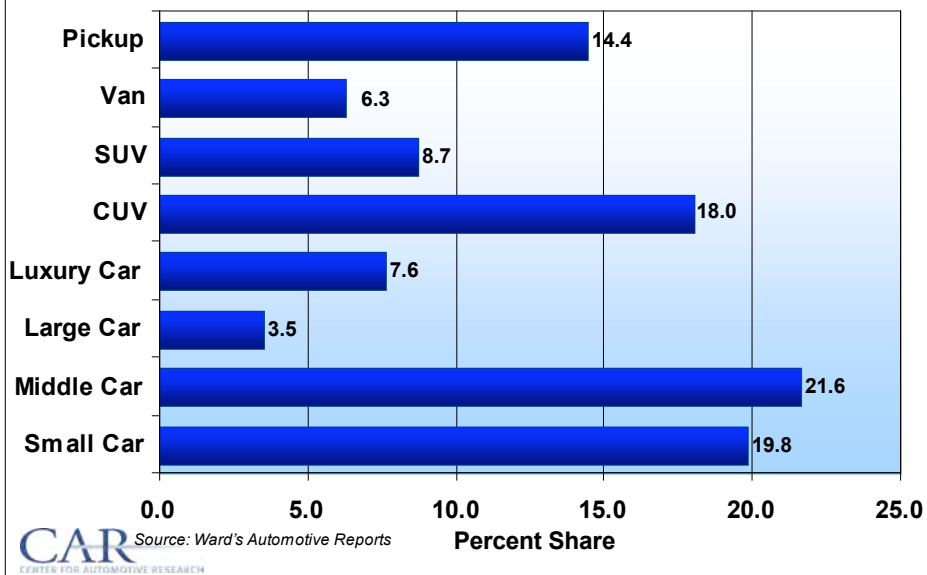
U.S. Market Share Forecast Through 2011

(Sales of Detroit 3 N. American “owned” production)

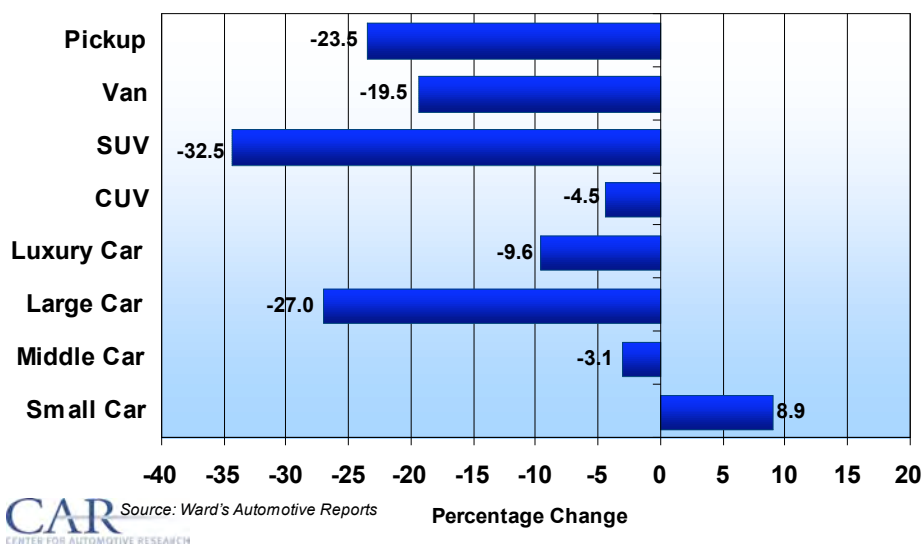


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Source: CAR Research
CENTER FOR AUTOMOTIVE RESEARCH


Market Share: Segment Breakdown - U.S. LV Sales Through August: 2008





Segment Breakdown - U.S. LV Sales YOY % Change Through August: 2008




Ford Sales Performance by Segment YOY Difference thru August: 2008 vs. 2007

Pickups - 23.4% (28% of total Ford Sales)
 Contractors are buying fewer pickups due to housing market slump, pickups no longer viable for commuting


SUVs - 38.9% (8% of total Ford Sales)
 Explorer is selling poorly despite recent redesign, replacing this segment for most buyers


Cars - 7.0% (38% of total Ford Sales)
 Reduced fleet sales and incentives


CUVs - 0.9% (18% of total Ford Sales)
 The Edge and Escape continue to sell well, Flex arriving in showrooms




GM Sales Performance by Segment YOY Difference thru August: 2008 vs. 2007

Pickups - 23.4% (24% of total GM Sales)
 Contractors are buying fewer pickups due to housing market slump, pickups no longer viable for commuting

SUVs - 35.6% (13% of total GM Sales)
 GMT900's and GMT360's struggle

Cars - 9.7% (46% of total GM Sales)
 Too much old product; Aura and Malibu to the rescue

CUVs - 5.9% (11% of total GM Sales)
 Lambdas transform GM's CUV lineup



Chrysler Sales Performance by Segment YOY Difference thru August: 2008 vs. 2007



Pickups - 30.9% (18% of total Chrysler Sales)

Contractors are buying fewer pickups due to housing market slump, pickups no longer viable for commuting



Minivan - 15.7% (17% of total Chrysler Sales)

Transition to new platform, strong competition



SUVs - 35.5% (23% of total Chrysler Sales)

New Wrangler, Nitro not offsetting struggling Aspen, Durango and Commander



Cars - 19.6% (32% of total Chrysler Sales)

New Sebring not living up to expectations



CUVs + 12.1% (9% of total Chrysler Sales)

Addition of Compass, Patriot, and Journey boosting sales



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Source: Automotive News Data Center

Toyota Sales Performance by Segment YOY Difference thru August: 2008 vs. 2007



Pickups - 12.6% (13% of total Toyota Sales)

Contractors are buying fewer pickups due to housing market slump, pickups no longer viable for commuting



Minivans - 11.3% (5% of total Toyota Sales)

Strong competition, slumping segment



SUVs - 30.8% (5% of total Toyota Sales)

Sequoia sales are up but the 4Runner is struggling



Cars - 2.5% (62% of total Toyota Sales)

Overall market weakness



CUVs -14.0% (10% of total Toyota Sales)

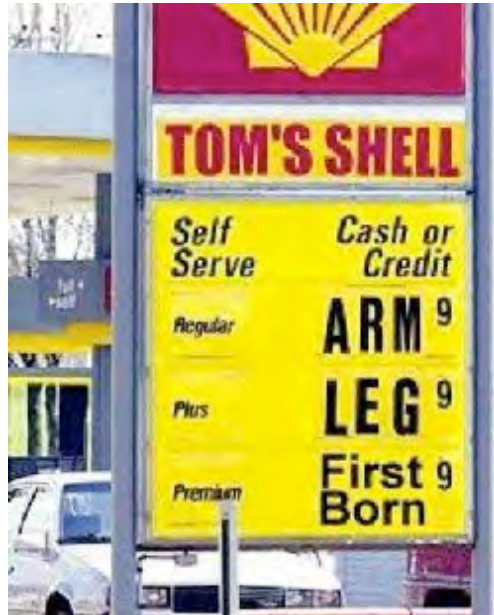
Highlander slumping slightly, RAV4 down nearly 20 percent



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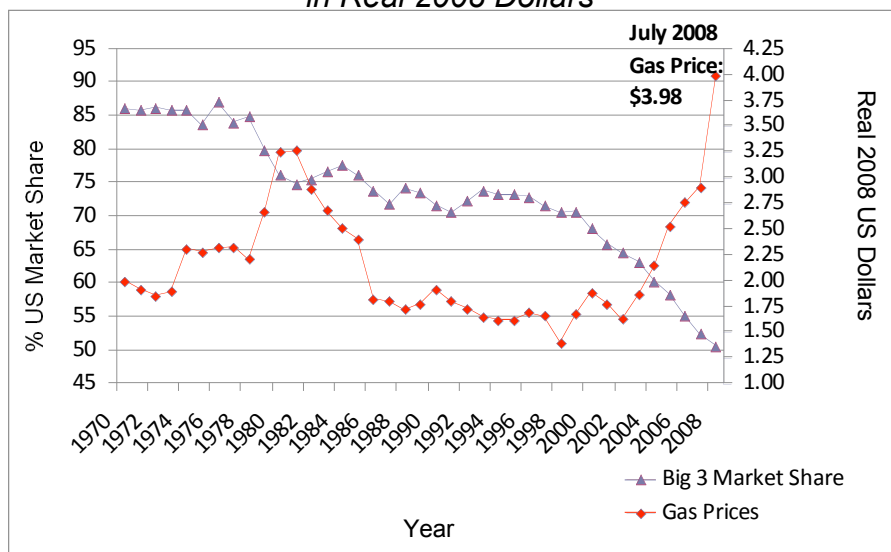
Source: Automotive News Data Center

It's a Short-term Thing...Right??



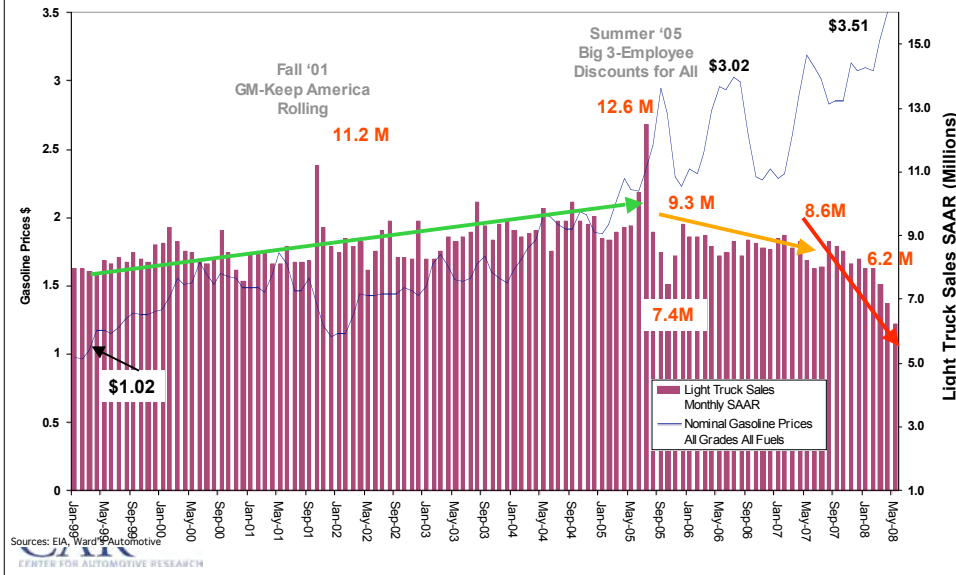
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Big 3 Market Share and Historical Cost of Gas in Real 2008 Dollars



Sources: Energy Information Administration (EIA) April 2008 Monthly Energy Review; Bureau of Labor Statistics CPI Data; EIA Annual Energy Review 2006, Automotive News Market Data Books '96, '98, '03, '06-'08

Light Truck Sales No Longer Immune to Gas Price Fluctuations



Recent New Vehicle Rollouts, Unfortunately



The Future . . . They will be Smaller



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Subtract \$3,000 – 5,000 for Fixed Costs!

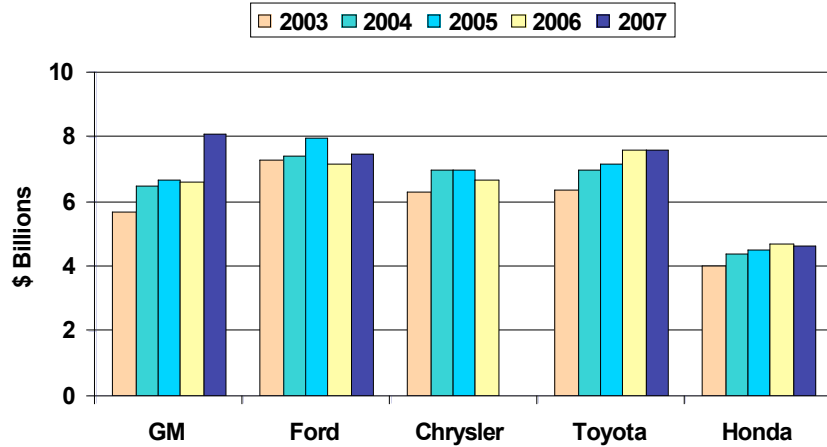
Variable Profit by Segment			
Small Car	\$ 2,400	Mid SUV	\$ 4,700
Small CUV	\$ 2,900	Large Pickup	\$ 5,200
Small Pickup	\$ 2,900	Large SUV	\$ 6,800
Large Van	\$ 3,700	Luxury CUV	\$ 7,300
Mid Car	\$ 3,900	Luxury Car	\$ 8,400
Mid CUV	\$ 4,400	Large Luxury SUV	\$11,100
Minivan	\$ 4,600	Mid Luxury SUV	\$12,600

Source: UMTRI, WARD'S AutoInfoBank and CIR Ests

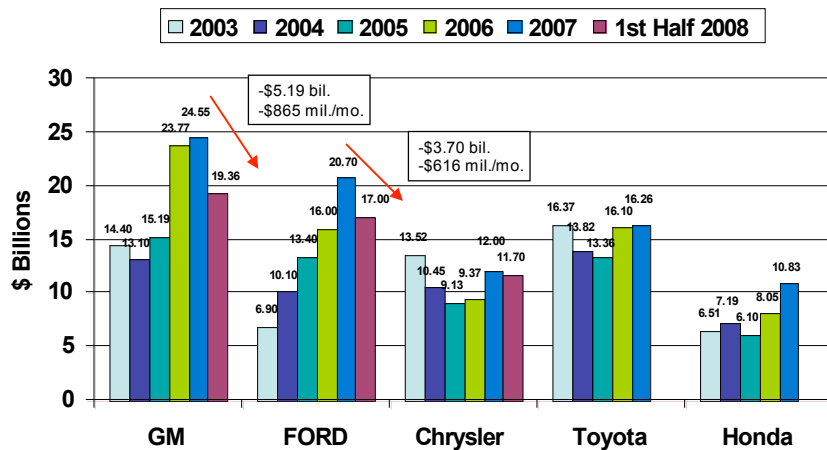
(CitiGroup Investment Research)

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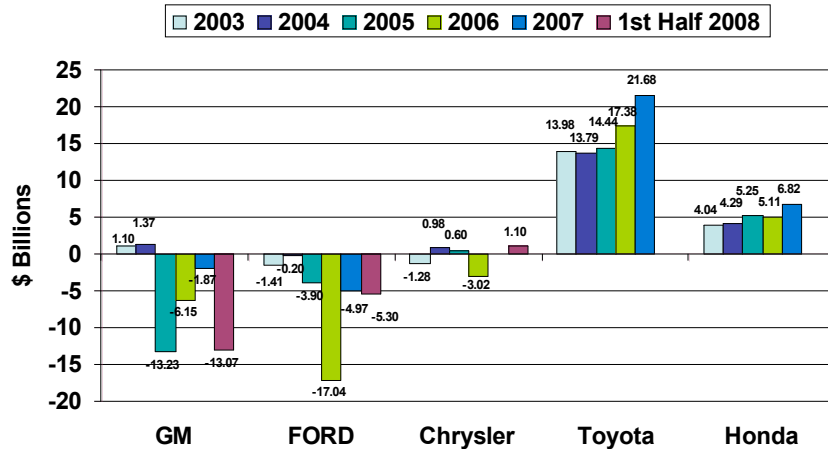
How Can This Be Maintained? Big 5 Research & Development Expenditures



Big 5 Cash and Cash Equivalent



Big 5 Operations Income (Automotive Sector)



Source: Company 10-Ks, 2Q 2008 10-Qs, and company's press releases

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Not Much Time or Money Left . . .

- GM will be at \$11 Bil. to \$14 Bil. operating cash limit within 12 months. Sooner if Delphi folds and GM must fund Delphi's under-funded pension obligations and operational needs.
- Ford will be at its limit in 18 months.
- Chrysler LLC ???
- "Institutional Debt Markets are closed to OEMs and Suppliers." Effective rates are at 15.5+% a year. Use Visa.
- Detroit 3 can borrow from no one . . .
- Lehman Bro. estimates GM will burn \$11.3 Bil. more in cash thru end of 09' and must raise \$7.3 Bil. in Capital. D-Bank estimates an \$11.0 cash burn.
- GM may need to borrow \$12.2 Bil. if overseas markets collapse

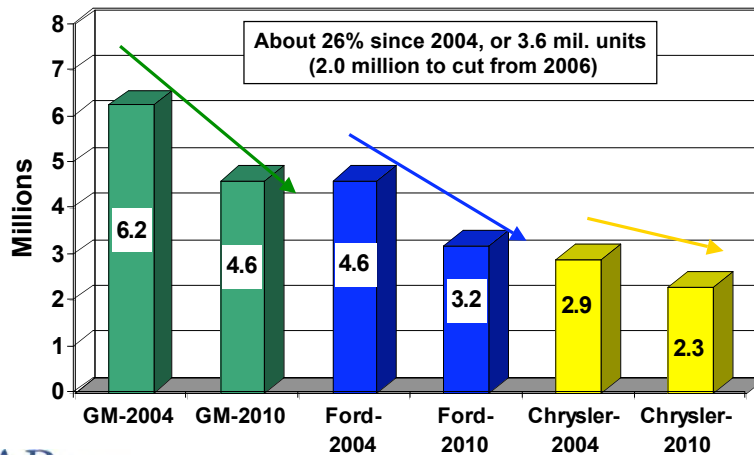


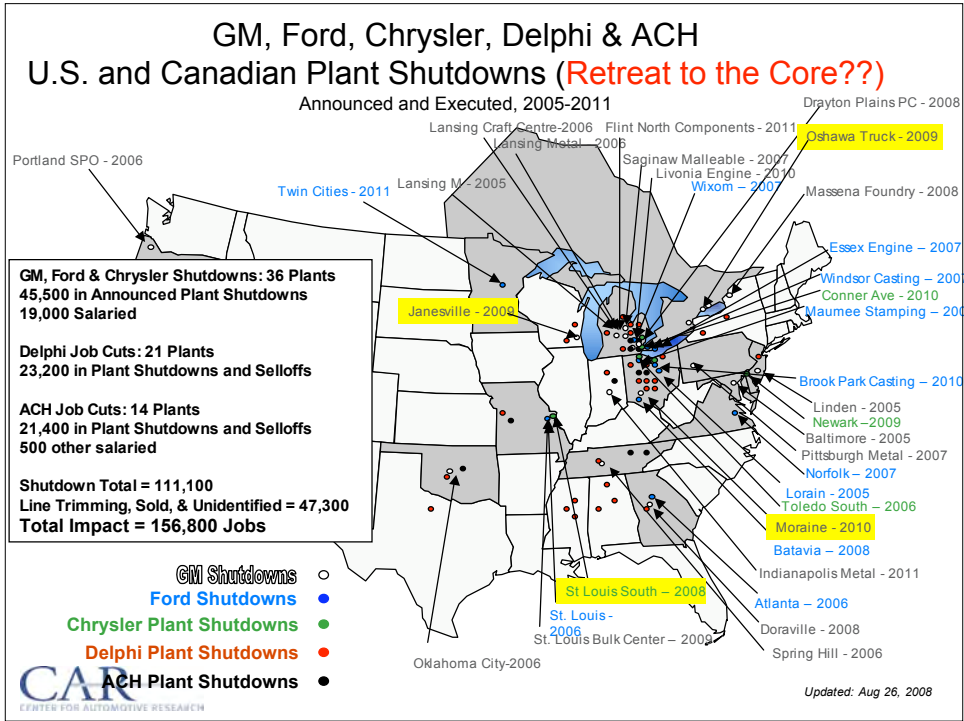
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What Can Be Done?

- **Sell Assets:** But GM's Hummer, Mid-sized Truck, rest of GMAC, and OnStar have no bidders. Ford has pledged all assets against loans. Can sell Volvo/Saab – for what?
- **Issue Equity** to retire and acquire debt – spin-off international divisions and issue new shares for these subsidiaries. \$10 Bil. at GM?
- **Cut Costs.** This is being done, but the bone is being cut . . . And the companies are shrinking.
- **Ask the Feds** for a \$50 Bil. bailout Loan at T-Bill rate.
- **Re-negotiate** again with the UAW . . . **Or Ch. 11.**

So . . . GM Will be the Size of Ford, and Ford the Size of Chrysler and Chrysler the Size of . . . 2004-2010 Change in North American Vehicle Production Capacity



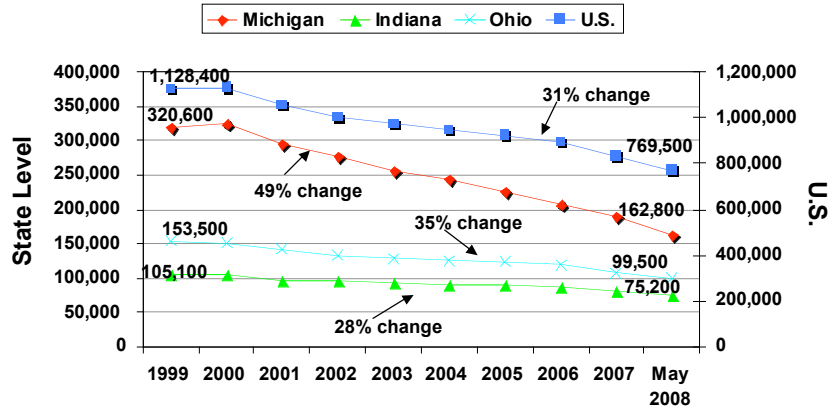


Economic Impact of the Automotive Industry in Michigan, Ohio & Indiana

	Indiana	Michigan	Ohio	Tri-State Total	Rest of U.S.	TOTAL U.S. Losses
Direct Employment	10,906	18,912	14,000	43,818	0	43,818
Intermediate Employment	15,075	36,200	25,265	76,540	40,860	117,400
Spin-off Employment	25,392	39,219	34,608	99,219	104,763	203,982
Total Employment	51,373	94,331	73,873	219,577	145,623	365,200
% of Labor Force	1.8%	2.2%	1.4%	\$ 1.8%	0.1%	\$ 0.3%
Total Wages (\$ Millions)	\$ 3,714	\$ 6,701	\$ 4,817	15,232	\$ 8,486	23,718
Tax Revenues (\$ Millions)	\$ 438	\$ 776	\$ 646	\$ 1,861	\$ 1,133	\$ 2,994
Average Annual Wages Lost Per Worker	\$ 72,295	\$ 71,035	\$ 65,211	\$ 69,370	\$ 58,272	\$ 64,945

CAR Source: CAR Research, Regional Economic Models Inc.
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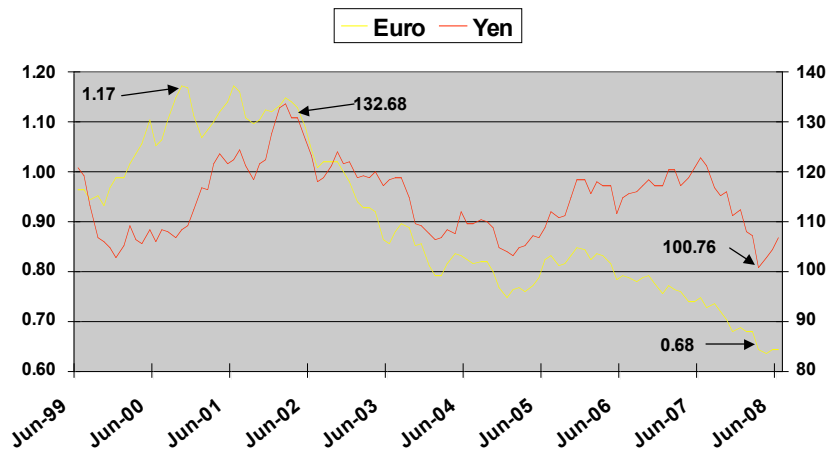
The Darkest Part of the Tunnel... Motor Vehicle & Parts Manufacturing Employment 1999 – May 2008



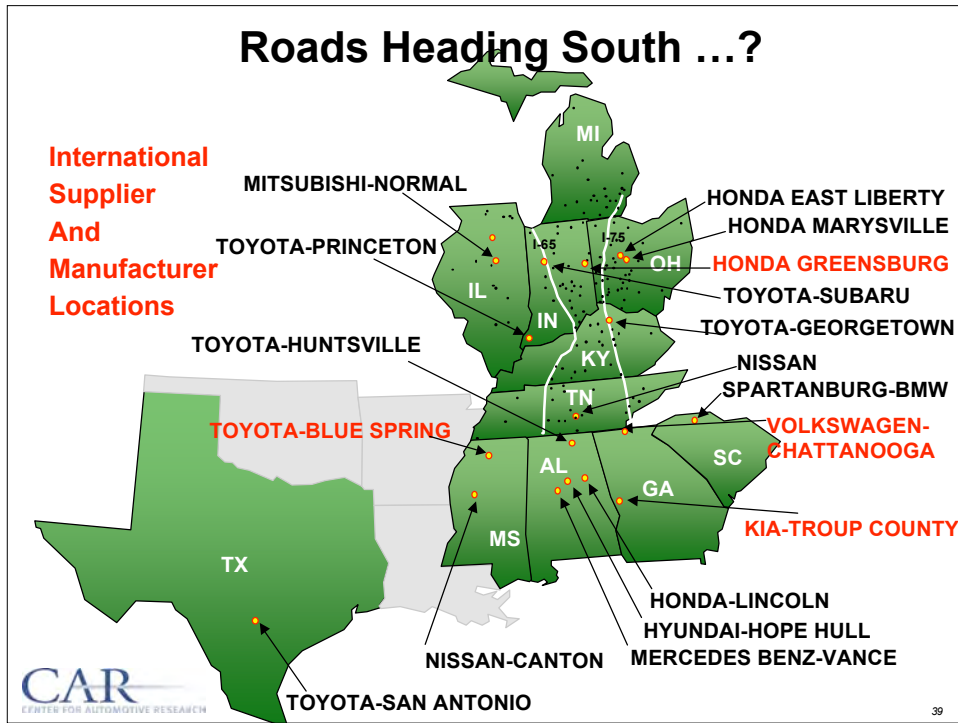
Source: BLS July 2008



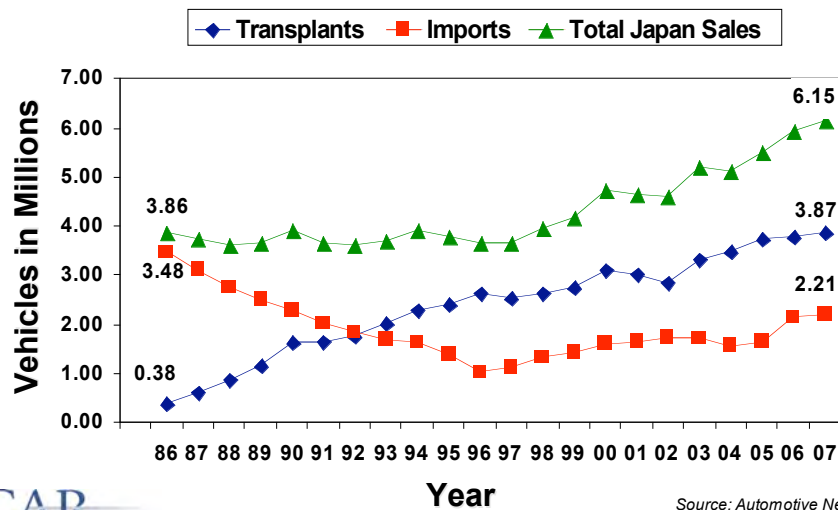
Currency Moves in Favor of U.S. Production



Roads Heading South ...?



Japanese U.S. Light Vehicle Sales: 1986 – 2007



News in Europe

Automobilwoche
DIE BRANCHEN- UND WIRTSCHAFTSZEITUNG
Ausgabe 7 25. März 2008
Blickpunkt: AAA-Sonderpreis für die Peugeot-Bank
Spezial „AMI“: Alles Wichtige zur Leinziger Automaten
Die USA werden zum Low-Cost-Standort
Autohersteller und Zulieferer nutzen die Dollarschwäche für Einkauf, Fertigung und Entwicklung
Daimler sucht Wachstumsfelder
„Business Innovation“-Team arbeitet mit Hochdruck an der Erschließung neuer Ertragsquellen
Technik: Bachelor-Studium verdrängt Ingenieurmangel

The US becomes a low-cost

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News in Europe

Automobilwoche
DIE BRANCHEN- UND WIRTSCHAFTSZEITUNG
Ausgabe 5 25. Februar 2008
Blickpunkt: Russland – ein riesiger Markt erwacht
Spezial „Autosalon Genf“: Highlights, Hallenplan und Messerfolge
Zulieferer sollen im Dollar-Raum fertigen
Autohersteller wollen Schwäche der US-Währung nutzen, um Kosten neuer Projekte zu senken
Technik: Der Siegeszug der Doppelkupplung
Google greift die Autobörsen an
Internet-Gigant sieht Kfz-Betriebe als neue Zielgruppe – Konkurrenz zu Mobile.de und AutoScout24
Peter Zetsche spielt

Suppliers asked to produce in dol

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News in North America

AUTOMOTIVE NEWS WORLD CONGRESS
Volkswagen plans transmission, engine plants in North America
RICK KRAJZ
 AUTOMOTIVE NEWS EUROPE
 FEBRUARY 4, 2008 06:01 CET

DETROIT — Volkswagen will have engine and transmission assembly plants in North America to support a new vehicle assembly plant the automaker is expected to build in North Carolina. The plant could be operational in 2010.

"We'll make an announcement within six months" about the location of the plant, Stefan Jacoby, CEO of Volkswagen Group of America, told the Automotive News World Congress last month. He also announced the first vehicles could appear in "a matter of three years," he said.

Jacoby said the engine and transmission plants do not have to be near the assembly plant, saying Mexico and Canada are also options. "If we don't locate the plants in North America, they will be competitive," he said.

Generally speaking, an engine and transmission plant costs one-third of a vehicle's cost.

Jacoby refused to confirm a report that VW had an option to purchase land in North Carolina.

Said Jacoby: "There has been a lot of speculation the silly rumor that VW is buying land in the Carolinas with a bunch of German money."

"We need to build the right vehicle within the right supplier context. Production will come in the next few years."

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Mutually prepared to cut further.
 FEB 4
 Both to industry. We need team.
 FEB 4
 Ross predicts supplier consol.
 FEB 4
 Conti exec says VDO purchase l.
 FEB 4
 Chrysler forms team for medium.
 FEB 4

Automotive News
ZF expects surge in new orders
April Wortham
 Automotive News | January 21, 2008 - 12:01 am EST

ZF Friedrichshafen AG is gearing up for a surge in North American orders. The German supplier expects a significant increase in demand for its suspension components and axle assemblies as automakers gear up for a new model year. ZF's North American sales are expected to rise significantly in 2008, particularly in the light truck and SUV segments. The company's new suspension systems, which were introduced last year, are expected to gain market share as automakers seek to improve fuel economy and handling performance.

Automotive News
FINAL ASSEMBLY
GM considers U.S.-made Astra
Automotive News | January 21, 2008 - 12:01 am EST

The sinking dollar is making the built-in-where-you-sell-it philosophy look particularly good for European vehicles sold in the United States. The latest example: General Motors may build the new Saturn Astra in the United States.

Today's Astra — a rebadged version of the Opel Astra — is built in Belgium. But Eric Henderson, GM's CFO, says that could change.

"We generally like to build where we sell," Henderson said last week at the Detroit auto show. "With the euro being at \$1.40, it reminds me of why built in a really good idea."

When might it happen? Well, we reported in October that GM would phase out the current version of the Astra by 2010.

The Saturn Astra: Built in Belgium, and expensive to sell in the U.S.

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Headline News: Detroit to Export Cars!

APR 08 2008

THE WALL STREET JOURNAL
 THURSDAY, APRIL 8, 2008 \$10.00

What's News—

Detroit Sets Bold Goal: Exporting U.S. Cars

His Legacy Tarnished, Greenspan Goes on Defensive

Nowartis Shops On Eye-Care Aisle

The Olympic Torch Draws Political Fire

Online Mess Like a Guess

What's News—

His Legacy Tarnished, Greenspan Goes on Defensive

Future of U.S. Financial Reform Left Slab: 'I Am Right'

DETROIT—General Motors Corp. has set a bold goal of exporting 1 million cars from the United States to other countries by 2015, according to a report by the Detroit Free Press. The goal is part of GM's strategy to diversify its sales and reduce its dependence on the U.S. market. The report also says that GM is planning to build a new car plant in Mexico to support its export efforts.

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VW Will Build Plant(s) for U.S. Production



New Plants:

- Car Assembly of most likely VW Passat/Audi models
- Will likely need engine and transmission plants as well
- VW has confirmed that Chattanooga TN will home to new \$800 million assembly plant
- VW must protect itself from the rising Euro; has announced very ambitious goals for N. American sales

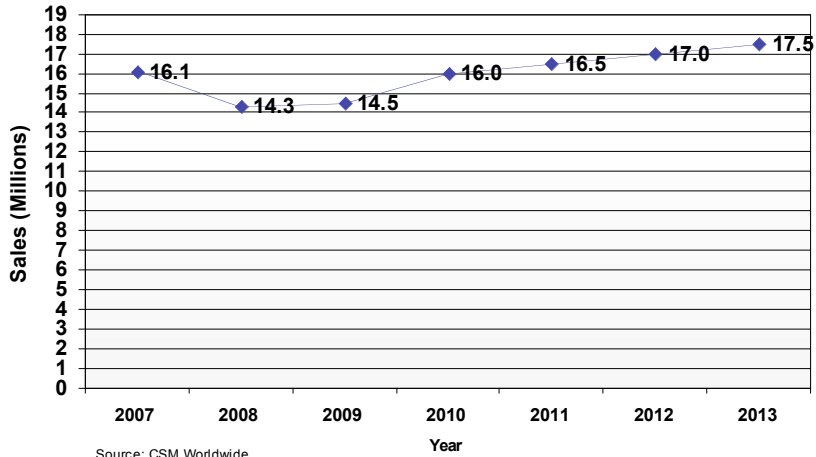


Emerging Global Vehicle Development Centers of Expertise – a lot of vehicles we don't build... Yet



Vehicle Segment	Location	Prominent Example
Small Cars	Korea, Germany	GM/Daewoo, Astra, Cruze
Mid-size FWD Cars	Germany, Japan	Next GM Saturn Aura
Mid-size/Large RWD Cars	Australia, U.S.	09 Camaro, Future Mustang
Luxury RWD/FWD	U.S.	Cadillac, Buick
Small CUVs	Korea, Europe	Hyundai Santa Fe, Opel Antara
Mid/Large CUVs	U.S.	GM Lambda Platform
Small SUVs/Pickups	Brazil	GM/Isuzu, Ford
Full-size SUVs/pickups	U.S.	Big Three, Toyota, Nissan

The U.S. Market: Mature but Will Grow Again...



So, Does the Industry Need a \$50 Billion Loan Guarantee? (not a bailout)



- Economically significant industry
- Unfunded mandates...

