The U.S. Automobile Industry: What Lies Ahead?

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Center for Automotive 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
Motor Vehicle Parts Manufacturing
1999-2007 April

The Darkest Part of the Tunnel...
Motor Vehicle & Parts Manufacturing Employment
1999 – 2007 April
Percentage Change in U.S. Sales of Light Vehicles: YTD July 2007 vs. YTD July 2006

-21.2
-2.2
-13.8
3.8
0.5
5.0
-3.2
-13.1
-7.6
-19.2
-12.0
-8.8
-4.8
-1.8
0.0
5.0
10.0
Profits $ Bil.

Source: Automotive News

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.

Source: Federal Reserve, U.S. DOC/BEA
Too Much Competition?
New Market Structure?

<table>
<thead>
<tr>
<th>Year</th>
<th>GM</th>
<th>Ford</th>
<th>Chrysler</th>
<th>Toyota</th>
<th>BMW</th>
<th>Mercedes</th>
<th>Volkswagen</th>
<th>Honda</th>
<th>Subaru</th>
<th>Hyundai</th>
<th>Kia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>22.8%</td>
<td>16.1%</td>
<td>15.6%</td>
<td>13.5%</td>
<td>9.3%</td>
<td>6.5%</td>
<td>2.9%</td>
<td>1.9%</td>
<td>0.2%</td>
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</tr>
</tbody>
</table>

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

* Detroit 3 North American "owned" production.
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

Segment Breakdown - U.S. LV Sales
YOY % Change
First Half 2007

Pickup 6.9
Van -9.2
SUV -3.0
CUV 18.0
Luxury Car -11.7
Large Car -2.7
Middle Car 3.5
Small Car

Percentage Change

Source: Ward’s Automotive Reports

Down about 26% since 2004, or 3.6 mil. units

Source: Ward’s Automotive Reports
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

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 real 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.
Stuck on a Plateau or Worse!
Total U.S. Sales of Light Vehicles:
1992 - 2007

Not at 12 Million!
U.S. Light Vehicle 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
## International Assembly Facilities in U.S. & Canada

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Investment (Thru June 2006, Millions $)</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTH</td>
<td>32,634</td>
<td>15,580</td>
<td>2,410,000</td>
</tr>
<tr>
<td>NORTH</td>
<td>31,626</td>
<td>15,420</td>
<td>2,742,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64,260</td>
<td>31,000</td>
<td>5,152,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTH</td>
<td>6,500</td>
<td>3,350</td>
<td>650,000</td>
</tr>
<tr>
<td>NORTH</td>
<td>3,500</td>
<td>1,800</td>
<td>450,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10,000</td>
<td>5,150</td>
<td>1,100,000</td>
</tr>
</tbody>
</table>

### They Bring Their Friends…

Source: Automotive News, Harbour Report, CAR Research
Parts suppliers are located in all 50 states:
(over 783,000 direct employment)

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)
### 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

### 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Size of the U.S. Parts Market $US Billions</th>
<th>Imports of Parts from Mexico and Canada</th>
<th>Imports of Parts from all Countries Ex. Mexico &amp; Canada</th>
<th>Parts Sourced From U.S. Owned and US Located Suppliers</th>
<th>Parts Sourced From Overseas Owned but US Located Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>$193.6</td>
<td>11.2%</td>
<td>9.1%</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td>1998</td>
<td>$211.0</td>
<td>10.9%</td>
<td>8.8%</td>
<td>66.5%</td>
<td>14.3%</td>
</tr>
<tr>
<td>1999</td>
<td>$232.2</td>
<td>11.1%</td>
<td>8.6%</td>
<td>61.9%</td>
<td>19.3%</td>
</tr>
<tr>
<td>2000</td>
<td>$255.6</td>
<td>12.6%</td>
<td>10.3%</td>
<td>67.9%</td>
<td>20.0%</td>
</tr>
<tr>
<td>2001</td>
<td>$214.2</td>
<td>12.3%</td>
<td>10.3%</td>
<td>56.5%</td>
<td>20.0%</td>
</tr>
<tr>
<td>2002</td>
<td>$218.8</td>
<td>13.5%</td>
<td>10.9%</td>
<td>52.9%</td>
<td>22.7%</td>
</tr>
<tr>
<td>2003</td>
<td>$236.0</td>
<td>13.4%</td>
<td>11.1%</td>
<td>50.9%</td>
<td>24.3%</td>
</tr>
<tr>
<td>2004</td>
<td>$244.0</td>
<td>14.2%</td>
<td>12.3%</td>
<td>48.3%</td>
<td>27.2%</td>
</tr>
<tr>
<td>2005</td>
<td>$238.7</td>
<td>15.6%</td>
<td>14.0%</td>
<td>40.9%</td>
<td>29.6%</td>
</tr>
</tbody>
</table>

Global "Localization" has seriously hurt traditional US owned and based suppliers.
Pending Legislation in the U.S. Congress

<table>
<thead>
<tr>
<th>BILL</th>
<th>Target (MPG)</th>
<th>Timing</th>
<th>Subsequent Years</th>
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</thead>
<tbody>
<tr>
<td><strong>SENATE</strong></td>
<td>35</td>
<td>2020</td>
<td>“Redefines” Maximum Feasible</td>
</tr>
<tr>
<td>(H.R. 6)</td>
<td>42.1</td>
<td>CARS</td>
<td>28.7</td>
</tr>
<tr>
<td></td>
<td>43.3</td>
<td>LOTS</td>
<td>27.6</td>
</tr>
<tr>
<td><strong>MARKEY</strong></td>
<td>35</td>
<td>2019</td>
<td>----</td>
</tr>
<tr>
<td>(H.R. 1506)</td>
<td>43.3</td>
<td>CARS</td>
<td>27.6</td>
</tr>
<tr>
<td></td>
<td>42.1</td>
<td>LOTS</td>
<td>29.8</td>
</tr>
<tr>
<td><strong>HILL-TERRY</strong></td>
<td>32-35</td>
<td>2022</td>
<td>Maximum Feasible</td>
</tr>
<tr>
<td>(H.R. 2927)</td>
<td>42.1</td>
<td>CARS</td>
<td>29.8</td>
</tr>
<tr>
<td></td>
<td>42.1</td>
<td>LOTS</td>
<td>29.8</td>
</tr>
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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

The U.S. Market: Mature but Growing

Source: EIA, Ward's Automotive, BEA
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.