The U.S. Automobile Industry Outlook

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Group Director
Associate Director, Research
Center for Automotive Research
It’s All About Product!
The Automotive Industry Is Changing Rapidly

In the past ten years, we have had:

- Record-high sales
- Record declines in sales and employment
- Structural industry changes
- Government involvement
- Regulatory changes
- Materials uncertainty
- Massive technological advances
- Fuel price volatility
- Continued international competition
- Mergers, acquisitions, and bankruptcies
- New investments and old plant retirements
- Agglomeration of domestic industry in the upper-Midwest
- Location decision of internationals
- Reconfiguring supply chains
  - Risks—tsunami, etc.
  - Transportation costs
- Record number of plant closings
- Natural Disasters
Changing Consumer Trends
Infrastructure Challenges
Fuel Price Volatility

Crude Oil Prices
2010 Dollars

- OPEC 10% Quota Increase
- Asian financial Crisis
- PDVSA Strike
- Iran War
- Iraq War
- Asian Growth
- Weaker Dollar
- Series of OPEC Cuts
- 4.2 Million Barrels
- Iranian Revolution
- Suez Crisis
- Yom Kippur War
- Oil Embargo
- Gulf War
- Recession
- Libyan Uprising
- 9/11
- U.S. Price Controls

1947 - October 2011

WTRG Economics ©1998-2011

- U.S. 1st Purchase Price (Wellhead)
- "World Price"
- Avg U.S. $28.52
- Avg World $30.54
- Median U.S. & World $20.53

GAS
REGULAR
ARM
PREMIUM
LEG

OH SHUT UP!

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Material Uncertainty

HYBRID electric motor and generator
- Neodymium
- Praseodymium
- Dysprosium
- Terbium

HYBRID NiMH battery
- Lanthanum
- Neodymium
- Cerium

Rare Earth Metals

Bio-Based Materials

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Regulatory Uncertainty

**OBAMA ADMINISTRATION Fuel Economy Standards**

In the year 2025

- The fleet-wide average will be **54.5 MPG**
- Consumers will have saved **$1.7 TRILLION** at the pump over the life of the program.
- A family that purchases a new vehicle in 2035 will save **$8,200** in fuel costs when compared with a similar vehicle in 2015.
- Over the life of the program, the standards will:
  - Save **12 billion barrels of oil**
  - Eliminate **6 billion metric tons** of carbon dioxide pollution.

This program, together with standards already put into place by this administration for Model Years 2017-2016, will result in significant cost savings for consumers at the pump, dramatically reduce oil consumption, cut pollution and create jobs.

**NHTSA**

**www.nhtsa.gov**

**CAR CENTER FOR AUTOMOTIVE RESEARCH**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

*“To meet Washington's 35 mpg mandate, we built electric cars. Then, to meet Washington's cap and trade mandate, electric companies stopped building power plants.”*
Structural Industry Changes

"The robots have gone on strike - they want parity with the robots at Ford."
Government Involvement
International Competition

PSA PEUGEOT CITROËN  DAIMLER  HYUNDAI
RENAULT  BMW  FIAT

CHRYSLER  MITSUBISHI MOTORS
GM  NISSAN

Ford  TOYOTA

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North and Central America  Europe  Middle East and Asia
South America  Africa  Oceania
Record High Sales

U.S. Light Vehicle Sales, Auto and Trucks (SAAR)

Recession  Light Vehicle Sales  Current Sales Rate

1997 – 2007
aka the “Big Bubble”
Low Sales and Employment

U.S. Light Vehicle Sales, Auto and Trucks (SAAR)

- Recession
- Light Vehicle Sales
- Current Sales Rate

http://www.calculatedriskblog.com/

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Technological Advances
Economy Growing at Stall Speed
Capacity: Flexible, Profitable and Constrained
Global Financial Crises
Impacts Felt Around the World – Supply Chain Dynamics
Consumer Confidence, Household Wealth and Getting Consumers to the Showroom
Assessment of Tax Revenue Generated by the Automotive Sector
Study Findings

• Auto industry generated over $130 billion in government tax revenue in 2010, including $91.5 billion for state governments and $43 billion for the federal government.

• The sources of these revenues include:
  • Sales taxes ($30 billion)
  • Income taxes ($15 billion)
  • Taxes and fees on use ($89 billion)
  • Business taxes and fees ($750 million)
State Government Revenue Overview

• Auto industry generated at least $91.5 billion in state government tax revenue in 2010, which is 13 percent of state government tax revenues.
  • $30 billion from taxes on vehicle sales and service
  • $860 million from taxes on direct employment
  • $60 billion from taxes and fees on use of vehicles
  • $750 million from taxes on businesses
Federal Government Revenue Overview

- Auto industry generated at least $43 billion in federal government tax revenue in 2010.
  - $14 billion from taxes on direct employment
  - $29 billion from taxes on motor vehicle fuels
Sales Tax from Motor Vehicle Purchases

Share of Total Dealership Sales Dollars, 2010

- New Vehicles: 53%
- Used Vehicles: 33%
- Service and Parts: 14%

Total Sales Taxes Collected by States on Motor Vehicles, Parts, and Service, 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Sales Taxes (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Vehicles</td>
<td>$15,778</td>
</tr>
<tr>
<td>Used Vehicles</td>
<td>$9,891</td>
</tr>
<tr>
<td>Parts and Services</td>
<td>$4,352</td>
</tr>
</tbody>
</table>
Personal Income Tax of Automotive Employees

Estimated Direct Worker Income Taxes Paid in the United States, 2010
Vehicle Use Taxes, Licenses, and Fees

Use Tax Revenues, 2010

- Motor Fuel Taxes (State): $36,563.4
- Motor Fuel Taxes (Federal): $29,000.0
- Motor Vehicle Registration Fees (State): $20,963.0
- Driver License Fees (State): $2,378.7
Corporate Income Tax

Estimated State Corporate Income Tax and License Fees Paid by Automakers, Parts Suppliers, and Automotive Dealerships, 2010

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Corporate Income Taxes and License Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automakers and Suppliers</td>
<td>$295,506,347</td>
</tr>
<tr>
<td>Dealerships</td>
<td>$458,059,000</td>
</tr>
<tr>
<td>Total</td>
<td>$753,565,347</td>
</tr>
</tbody>
</table>

State Tax Revenues from Businesses by Type of Tax, 2010
Total Automotive Tax Revenues By State

- California: $10.9 billion
- Texas: $7.6 billion
- Florida: $6.3 billion
- Michigan: $2.8 billion
- Indiana: $2.2 billion
- Ohio: $3.9 billion

State Revenue Ranges:
- < $0.65 billion
- $0.65 to $1.5 billion
- $1.5 to $3 billion
- $3 to $6 billion
- $6 billion and above
Tax Revenues as a Percentage of Total Taxes Paid to State Governments

- Oklahoma: 23.4%
- Texas: 19.3%
- Florida: 19.9%
- Michigan: 12.6%
- Indiana: 15.9%
- Ohio: 16.7%
- Illinois: 16.2%

Legend:
- < 5%
- 5 to 10%
- 10 to 15%
- 15 to 20%
- > 20%
Total Dealerships by State

Legend
Total Dealerships
- Less than 200
- 200 - 400
- 400 - 800
- 800 - 1,200
- More than 1,200

Sources: OneSource Database
Economic Contribution Study Findings

• An estimated:
  • 8 million private sector jobs,
  • more than $500 billion in annual compensation, and
  • nearly $70 billion in personal tax revenues
  • are generated by the automotive industry’s total U.S. automotive operations, including new vehicle development and production, parts manufacturing, along with the contribution from the sales and service of new vehicles.
Automotive Industry Total Employment

Note: Includes only direct and estimated intermediate jobs; does not include spin-off jobs

Source: CAR, Alliance of Automobile Manufacturers Website
Automotive Industry Payroll Compared to Major Federal Budget Expenditures

- **Education** spending: $260 billion
- **Medicare** spending: $452 billion
- **Automotive** payroll: $500 billion
- **Defense Department** budget: $553 billion

Source: Alliance of Automobile Manufacturers Website
U.S. Light Vehicle Sales
Percent Change YTD Through September:
2012 vs. 2011

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10,900,131</td>
<td>+1,381,099</td>
<td>15.0%</td>
</tr>
<tr>
<td>Light Trucks</td>
<td>5,198,263</td>
<td>+498,147</td>
<td>10.6%</td>
</tr>
<tr>
<td>Passenger Cars</td>
<td>5,701,868</td>
<td>+882,952</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

Source: Automotive News; CAR Research
U.S. Market Share:
YTD September 2012

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Units</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM</td>
<td>1,967,715</td>
<td>18.1%</td>
</tr>
<tr>
<td>Ford</td>
<td>1,685,068</td>
<td>15.5%</td>
</tr>
<tr>
<td>Toyota</td>
<td>1,571,424</td>
<td>14.4%</td>
</tr>
<tr>
<td>Fiat-Chrysler</td>
<td>1,250,670</td>
<td>11.5%</td>
</tr>
<tr>
<td>Honda</td>
<td>1,066,458</td>
<td>9.8%</td>
</tr>
<tr>
<td>Hyundai-Kia</td>
<td>974,728</td>
<td>8.9%</td>
</tr>
<tr>
<td>Nissan</td>
<td>866,484</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

Source: Automotive News; CAR Research
Used Cars Are More Expensive Than Ever!
Vehicles Prices Indexes Changes from Jan 2007

New Vehicle ('97 = 100)  Used Vehicle ('82-'84 = 100)

MBS 2012 - Where have all the Sales Gone?
What Role Pent-up Demand?

MBS 2012 - Where have all the Sales Gone?
They are Getting Old … U.S. Light Vehicle Age and Scrappage Rate

Source: R.L. Polk
And Capacity Was Reduced . . .
2004-2012 Change in North American Vehicle Production Capacity

About -35% for 2004-2012, or 4.8 mil. units

Source: Company Restructuring Plans and CAR Research
U.S. Light Vehicle CAR Sales Forecast: 2012-2014

Source: CAR Research, IHS Global Insight

MBS 2012 - Where have all the Sales Gone?
U.S. Vehicle
CAR Production Forecast: 2007-2014

U.S. Vehicle Production & Automotive Employment Forecasts

<table>
<thead>
<tr>
<th>Year</th>
<th>Vehicle Production</th>
<th>Automotive Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>8,655,003</td>
<td>602,900</td>
</tr>
<tr>
<td>2012</td>
<td>9,721,054</td>
<td>650,000</td>
</tr>
<tr>
<td>2013</td>
<td>10,600,000</td>
<td>710,000</td>
</tr>
<tr>
<td>2014</td>
<td>10,800,000</td>
<td>715,000</td>
</tr>
<tr>
<td>2015</td>
<td>10,900,000</td>
<td>720,000</td>
</tr>
<tr>
<td>2016</td>
<td>11,200,000</td>
<td>740,000</td>
</tr>
</tbody>
</table>

Source: CAR Research; BLS, Oct. 2012
Other Stuff Now Done Right . . .

- Dealer Re-Structuring (It’s Working!)
- Fewer Brands (People buy products not divisions)
- Manufacturing productivity at world-class levels
- Finances about at investment grade (plenty of cash)
- Quality results so close/need new benchmarks
- Pension shortfalls actively being worked on
- European technology now being sold in U.S.
- Global growth in China for GM

Still Needs Work . . .

- Europe . . .
- Supplier relationships/contracting
- Insularity – “We know it all”
- Planning needed innovation
- Effective partnering
- Reducing influence of governments
- Increasing coverage of the auto value chain
- Overall level of profitability
U.S. Auto Sales are Stagnating with the Economy

Good:
• Used Vehicle prices and age of fleet are high
• Credit is more available/interest rates low
• Dollar is low against Yen and against Euro

But . . .

Bad:
• Economy growing at “stall speed”
• Unemployment rate and length is terrible
• House prices . . .
• Stock market is volatile—wealth effect
• States/Cities cutting spending and employment
• Consumer confidence . . .
• Gas prices spiking with food prices
• Higher commodity prices = higher auto prices
• Employers are hesitant to hire or invest . . . Until?
Conclusions

• Slow Growth in New Auto Sales Due to Slow Economic Growth/High Unemployment
• Vehicles on Road Will Get Older: More Repairs
• 14.2 mil. U.S. sales this year ---- Maybe 14.3 mil.
• Intermediate cars selling BIG – with 4 cylinders
• Japanese are catching back up
• D3 much more competitive – but no more share
• FE Technology will be expensive/proprietary
• Big worry about government budget cuts/taxes next year
• Administration change???(see slide number 3!)
Thank You

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