A Global Viewpoint: Tomorrow’s Auto Industry
Competitive Dynamics in a Evolving Markets

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Vice President, Global Vehicle Forecasts

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AUTOMOTIVE FOCUS
Client Base

Over 420 clients

- Suppliers 83%
- OEM 12%
- Other 5%

top 100 global suppliers
- 75%
  - CSM Clients

top 12 OEMs
- 75%
  - CSM Clients

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A Couple Caveats ...

- Extraneous events will occur (weather, lawlessness, earthquakes, questionable people in power, rogue union presidents etc.)
- Forecast what the analysis depicts will occur, not what you want to occur
- Apparently, not every vehicle reaches the OEM’s lofty planning volumes over the entire cycle
- Humans will always converge to a steady state
- Common sense doesn’t always prevail

Don’t Shoot The Messenger
PRESENTATION OUTLINE

• Global Industry Dynamics
• Auto Ownership Basics
• Global Outlook
• Extending to 2015
• What About North America?
• Summary
GLOBAL DYNAMICS
Converging or Expanding?

• Converging
  - Trade tariffs and barriers decline
    - Liberalization has improved by 16% in the last 10 years
    - New bilateral and multilateral agreements (SAFTA, CAFTA)
  - Emission and safety standards
    - Kyoto implementation integrates the outliers
  - Global consumer attitudes converge
    - Internet usage explodes and emerging middle class adopts Western desires
  - OEMs seek greater rationalization
    - Vehicle platform count of top 95% of all OEMs by volume declines by 22% - powertrain platforms follow suit
GLOBAL DYNAMICS
Converging or Expanding?

• Expanding
  • Volume per platform expands by 52% - approaching 500,000 units by 2011 from 2005
  • Volume per nameplate rises 53% as ‘global nameplates’ reach more locations
  • Number of countries reaching 80% of global output rises to 14 by 2015 from 10 in 1998
  • Improved platform flexibility and scalability enables for more efficient integration of new body styles, hybrid powertrain solutions and easier homologation to new markets
  • Currency shifts demand expansion of the production footprint to drive arbitrage opportunities
GLOBAL DYNAMICS
The Pressure Is On

- More flexibility – more considerations
  - Protect for hybrid alternatives, LHD and RHD, FWD/AWD or RWD/AWD
  - Shorter life cycles (cadences) in most sectors drives the necessity for quick, more robust launches

- Not all new markets are created equal
  - China and Russia’s market breadth is more dynamic than Brazil or India, which concentrate on the smallest vehicles
  - Regional trade blocks drive further rationalization – lower volume of ‘kit’ production – EU, ASEAN, Mercosur

- Development considerations
  - Livelier product cycles (more minor revisions through the lifecycle)
  - Fewer ‘all-news’, more majors, more extensive enhancements
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GLOBAL POPULATION ACTIVITY
Regional Population Growth 2004 - 2011

- Japan/Korea: 0.1%
- Europe: 0.1%
- North America: 0.9%
- Total Emerging Markets: 1.1%
- BRICS: 0.9%
- India: 1.3%
- China: 0.6%
- Brazil: 1.0%
- Russia: -0.4%
The change in incomes shows that size does matter. Despite superior percent changes in income, China cannot compare in terms of level change with more developed markets.
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GLOBAL LIGHT VEHICLE PRODUCTION
Emphasis on New Markets

Expansion to New Markets

- Consideration of domestic and regional markets with global platforms
- Core segments first – niche or splinter efforts wait
- New global structure is built to be more interdependent
GLOBAL PRODUCTION
A Shift Towards Lower Cost/Higher Growth Markets

- The industry enters a new stage of utilizing new capacity in Emerging Markets
- Mature markets will grow more slowly as production is displaced
- Demand diversification in non-mass markets (domestic vs. export) allows for more sustainable demand
THE LABOR COST SHIFT

Growth of Sourcing from ULCCs and LCCs

- Global platform rationalization enables for a shift to Ultra-Low Cost Countries (ULCCs)
- Several OEMs looking to ‘escape’ competitive High Cost Countries (HCCs)
- A number of situations where Low Cost Countries (LCCs) will lead the charge into export markets

Source: Boston Consulting Group, EIU, S&P, other sources
GLOBAL PRODUCTION
A Shift Towards Lower Cost/Higher Growth Markets

- HCCs under severe pressure to restructure manufacturing operations to increase productivity and lower overall costs. Big Five Europe, Japan and US/Canada are noteworthy
- Key LCC markets such as South Korea and Czech Republic grow as export sources
- BRICs emphasis on domestic and export markets underscore the new global strategy
GLOBAL PRODUCTION
Focusing Resources on ULCCs and LCCs in 2011

- Using ULCC and LCC sourcing to address growing domestic markets and close-proximity, developed markets
- NA Big 3 and Japan Big 3 improve positions, though the Japan Big 3 more quickly
- European OEMs a mixed bag – difficult to shutter HCC European capacity in France, Germany, Italy and the UK in lieu of C/E Europe, South Africa or Turkey
- Strategic global expansion underway
### THE COUNTRY PRODUCTION RACE

**More Players – Greater Rationalization**

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<td>Italy (80%)</td>
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<td>India</td>
<td>India</td>
<td>Italy</td>
<td>Thailand</td>
<td>Russia</td>
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- Production is stratified over a greater number of countries as OEMs search for new markets.
- Three more countries account for the top 80% of production.
- Suppliers are forced to stretch their net works further.
- *The battle to land new automotive investment is as fierce as ever....*
GLOBAL PRODUCTION
Rise of New Production Destinations

Global CAGR% = 3.0%

CAGR % 2005-11

China: 11.8%
Brazil: 3.4%
India: 10.1%
Mexico: 4.7%
Thailand: 9.9%
Russia: 4.4%
Iran: 8.8%
Italy: 3.8%
Turkey: 7.2%
Belgium: 3.2%
Czech Republic: 6.3%
Slovakia: 29%

2005 © CSM Worldwide
PRODUCTION GROWTH VS. OP MARGIN
Regional Differences Become Apparent

Operating Margin (Y Axis)
Total Volume Growth 2001-11 (X Axis)
Percentage Gain in Volume/Platform 2001-11 (Bubble Size)
A EFFICIENCY CONTEST EMERGES
Volume Per Platform Improves – For Some …

<table>
<thead>
<tr>
<th>Company</th>
<th>Improvement Due to Lower Platform Count</th>
<th>Improvement Due to Volume Gains</th>
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<tr>
<td>Honda</td>
<td>14.3%</td>
<td>85.7%</td>
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<td>Ren/Niss</td>
<td>11.1%</td>
<td>88.9%</td>
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<td>Toyota</td>
<td>7.1%</td>
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<td>Hyundai</td>
<td>38.9%</td>
<td>61.1%</td>
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<td>PSA</td>
<td>38.5%</td>
<td>61.5%</td>
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<td>Suzuki</td>
<td>22.2%</td>
<td>77.8%</td>
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<tr>
<td>VW</td>
<td>21.4%</td>
<td>78.6%</td>
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<tr>
<td>Fiat</td>
<td>23.1%</td>
<td>76.9%</td>
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<tr>
<td>GM</td>
<td>17.2%</td>
<td>82.8%</td>
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<tr>
<td>Ford</td>
<td>0.0%</td>
<td>100.0%</td>
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<tr>
<td>DCX</td>
<td>15.8%</td>
<td>84.2%</td>
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<tr>
<td>BMW</td>
<td>0.0%</td>
<td>100.0%</td>
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<tr>
<td>Fuji Heavy</td>
<td>14.3%</td>
<td>85.7%</td>
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<tr>
<td>Mitsubishi</td>
<td>28.6%</td>
<td>71.4%</td>
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</table>

Volume /Platform  2011 Improvement
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GLOBAL LIGHT VEHICLE PRODUCTION
Emphasis on New Markets

- Global expansion centred on serving requirements in emerging sales markets
- Only after the turn of the decade will appreciable exports start from China, India & Thailand to NA
- New global structure is built to be more interdependent
GLOBAL LIGHT VEHICLE PRODUCTION BY OEM

2000 LV Production
55.7 Million Units

2015 LV Production
84.2 Million Units

Toyota 15%
GM 17%
Ford 15%
Toyota 11%
VW 9%
Renault/Nissan 9%
Daimler Chrysler 8%
PSA 5%
BMW 2%
Suzuki 5%
China/SE Asia 4%
Other Japan 1%
Other Euro 2%
GLOBAL PRODUCTION MARKETSHARE

Growth of the Asian 4
INDUSTRY CAPACITY ISSUES

• Capacity increases from 2011 to 2015 by over 9 million units
• However the growth will be concentrated in Emerging Markets

- China/Taiwan 50%
- South Asia 17%
- Europe 20%
- North America 6%
- Japan/Korea 2%
- ME/Africa 3%

Global Capacity in Millions of Units

- 2001: 66 million
- 2002: 66 million
- 2003: 66 million
- 2004: 66 million
- 2005: 66 million
- 2006: 66 million
- 2007: 66 million
- 2008: 66 million
- 2009: 66 million
- 2010: 66 million
- 2011: 78 million
- 2012: 78 million
- 2013: 78 million
- 2014: 78 million
- 2015: 78 million

Developed with CSM Worldwide

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• As developing vehicle markets grow, the increases are predominantly in smaller, lower content, reduced value-added A, B and C segments
• Mature markets concentrate on larger, D, E and Full-Frame offerings which demand higher value added, increased supplier integration and technology solutions for differentiation
PRIMARY PLATFORM DEVELOPMENT
Increasingly Asian-Focused

Asian primary development will account for all or part of 64% of global output by 2015

77% Growth!!

Millions

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<th>Year</th>
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<td>2015</td>
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</table>
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• **What About North America?**
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North America: A Market In Flux

- Demographics will save the day in terms of volume for the next decade
- Several structural industry issues need to be addressed – long overdue
- Suppliers need to grasp the trends and shift focus towards a future of shifting production share, better diversification to new customers and focus on technologies/global leverage as a differentiator
- Most vehicle platforms will be global in breadth going forward – there is no turning back the clock
- Those that master the changes in vehicle mix, content and OEM expectations can prevail
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SUMMARY
Wading Through The Global Waters

• Suppliers touting product/process technology advantages with global capabilities working on the right mix of programs early in the development process will survive

• Global platforms are a fact of life – giving way to high-volume platforms and increased inter-platform component commonality

• Technology entry points are fewer though harbour greater volume opportunities across a more countries

• Increasingly Asia-focused world (production, development, sourcing decisions etc.) – Adapt to it

• Who Do We Work With?
  - Escaping OEMs look abroad for ‘easier’ markets but have higher risk
  - Expanding OEMs use their success and rationalization strategies to bolster both home and incremental markets
Thank You

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