Global Benchmarking – Automobile Supplier Industry

Comments

Transitions: The State of the Automotive Industry
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Objective of global auto supplier benchmarking study

- **Context:** Increasing globalization of value chain in auto sector

- **Objective:** Compare performance of parts suppliers around the world

- **3 major markets:** Europe, North America, and Asia

- **Focus on 3 parts:** seats, exhaust systems, brakes
Methodology

- Extensive field work. Start with OEM interviews and plant visits. Then interview suppliers for car seats, exhaust systems, and brakes for each plant visited.

- Main questions:
  - Productivity and quality gap for same part across regions
  - Sharing of technology and engineering capability
  - Depth of domestic supply chain in each country
  - Changes in comparative advantage
Auto industry supply chains are becoming more global – in more ways than one. For example, from the U.S. perspective we observe:

- Increasing trade in motor vehicle parts, trade patterns vary by part
- Increasing globalization of domestic motor vehicle parts production
- Changing mix and behavior of car manufacturers
Motor vehicle parts imports are rising

Auto parts trade by major countries

Trade patterns vary by subsystem (and part)
Domestic auto parts production more global

Share of OE and aftermarket parts sourced from U.S.-located auto suppliers

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.-owned</td>
<td>68</td>
<td>41</td>
</tr>
<tr>
<td>Foreign-owned</td>
<td>12</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Dennis DesRosiers presentation, Chicago Fed conference in Detroit, 04/19/2006
U.S. producers’ sourcing patterns are changing

Production-weighted Domestic Content of Light Vehicles

- Big 3
- New Domestics

GM global sourcing approach

- “GM buys the best quality at the lowest landed cost”

- GM sources regionally across its major markets

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>GMNA</td>
<td>NA 97%</td>
</tr>
<tr>
<td>GMAP</td>
<td>AP 94%</td>
</tr>
<tr>
<td>GME</td>
<td>EU 96%</td>
</tr>
<tr>
<td>GMLAAM</td>
<td>LA 93%</td>
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</tbody>
</table>

Source: Bo Andersson. GM Global Purchasing VP, presentation at Chicago Fed Conference April 18/19 2005, Detroit
Field work approach

Choice of parts to be benchmarked

Car seats – consistently produced in very close vicinity of assembly plant. Little trade in seats. Lots of trade in seat components, such as seat frame, upholstery, and padding.

Exhaust systems – hard to ship as bulky and quite fragile. Different for individual parts such as catalytic converter, muffler etc.

Brakes – essentially a commodity part. Of the three parts in study the only truly global part.
Every assembly plant has its seat plant

Thomas Klier, Federal Reserve Bank of Chicago. Source: ELM, company websites, Maptitude
Tenneco’s global footprint

Approximately 18,400 employees serving customers in more than 100 countries from nearly 80 manufacturing facilities and 14 engineering & technical centers

Source: Company website
Expectations

- Expect findings to depend on the extent to which part is a global part, i.e. the extent to which it is exported.
  - The more trade, the more pressure for convergence in measurable outcomes such as productivity and quality.

- What role for car maker’s approach toward its supply base in explaining findings?
  - Toyota: fosters strategic and long-term relationships
  - GM: relationships tend to be adversarial and short term
It is all about the parts