The Supplier Sector: The Theory of Everything

May 29, 2015

Dave Andrea
Senior Vice President, Industry Analysis and Economics
OESA – Original Equipment Suppliers Association
The Theory of Everything

- Everything will be on the suppliers’ plate this year: product launches, incremental volumes, recall responses, plant and equipment launches . . . . It will be a massive, simultaneous equation
- **We have to have discipline** . . . . which means going back to our basic, guiding principles
- **At the same time, evolve the species** . . . . which means adjusting to a new clock speed, incorporate learning from outside, and on and on
- **A safe prediction:**
  - It will definitely not be a love story . . . .
  - But the good story line will continue.
OESA Automotive Supplier Sentiment Index
Compared to two months ago, how has your 12 month outlook changed?

Positive

Negative

No. of Responses = 88

OESA Automotive Supplier Barometer - May 2015
Published with the support of Deloitte LLP.
## North America
### 2015-2017 Production Forecast Comparison

(Volumes represent NA Car, Lt Truck class 1-5)

<table>
<thead>
<tr>
<th>(in millions)</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1Q Actual</td>
<td>2Q Forecast</td>
<td>3Q Forecast</td>
</tr>
<tr>
<td><strong>PwC Autofacts</strong></td>
<td>4.28</td>
<td>4.53 ↓0.05</td>
<td>4.21 ↑0.01</td>
</tr>
<tr>
<td><strong>IHS Automotive</strong></td>
<td>4.26</td>
<td>4.49 ↑0.03</td>
<td>4.38 ↑0.03</td>
</tr>
<tr>
<td><strong>LMC</strong></td>
<td>4.27</td>
<td>4.54 ↓0.01</td>
<td>4.40 ↑0.07</td>
</tr>
<tr>
<td><strong>IRN</strong></td>
<td>4.25</td>
<td>4.67 ↓0.04</td>
<td>4.27 ↑0.06</td>
</tr>
<tr>
<td><strong>Wells Fargo</strong></td>
<td>4.20</td>
<td>4.50 ↑0.09</td>
<td>4.40 ↑0.13</td>
</tr>
<tr>
<td><strong>Susquehanna</strong></td>
<td>4.25</td>
<td>4.48 ↓0.04</td>
<td>4.26 ↓0.01</td>
</tr>
<tr>
<td><strong>Forecast Average</strong></td>
<td>4.25</td>
<td>4.55 ↓0.01</td>
<td>4.33 ↑0.14</td>
</tr>
<tr>
<td><strong>Forecast Spread</strong></td>
<td>0.08</td>
<td>0.18 ↓0.01</td>
<td>0.19 ↑0.14</td>
</tr>
<tr>
<td><strong>2014 Average</strong></td>
<td>4.20</td>
<td>4.41 ↓0.01</td>
<td>4.17 ↑0.14</td>
</tr>
</tbody>
</table>

Last Updated: May 2015
Considering North America light duty vehicle production, estimate the required 2015 industry volume needed to achieve breakeven in your North American operations (in millions of units).

Production will increase by 102 percent between 2009 and 2015 (using a 17.4 million projection) while breakeven levels will increase by just 42 percent.

Sources: IHS Automotive (May 2015) and January 2015 OESA Automotive Supplier Barometer

OESA Automotive Supplier Barometer - January 2015
Published with the support of Deloitte, LLP
Supplier Utilization: The Story is the Lower Quartile

The US Federal Reserve and OESA state that the US supply base is running approximately at 80% capacity utilization – looking at all available capacity (the blue line and the middle dot).

The lower quartile companies are operating 66% including all available capacity – a dramatic increase from 55% just three years earlier.

When asked about utilization rates, the upper quartile of companies are running at 86% utilization – and this is at a 17.3 million unit level. What happens when we hit 18.2 million units in 2017?

Dots = Capacity Utilization data from the OESA Automotive Supplier Barometer May 2012, May 2013, May 2014, January 2015

Source: U. S. Federal Reserve Board of Governors
Question: There has been a great amount of discussion about sourcing constraints down through the supply chain. What system area(s) is/are your most significant supply chain constraint(s)?

Note: Year-over-year overall constraints are shown in the appendix

No. of Responses = 79
Suppliers are Being Added to Watch Lists . . . .

We have no suppliers on the "watch list"

Question: What percent of your North American direct material suppliers are currently on your "watch list?"

More than 8% of our suppliers are on the "watch list"

Comments
- Quality, price and consolidation is driving this watch list.
- In comparison to five years ago, the numbers have come down significantly.
- Only a couple of suppliers on this list.
- We do not have a watch list.

No. of Responses = 76

OESA Automotive Supplier Barometer- March 2015
Published with the support of Deloitte LLP.
And For the Usual Reasons . . . . And in the Last Few Months Since This Survey, Management-Related Issues are a Concern

**Comments**

- There is generally not one reason. It starts with a quality or delivery issue and gets worse from there, unless we are alerted and assist the supplier with countermeasures.
- Quality but financial is a close second.
- Suppliers becoming more leveraged to support increased capacities is the main concern.
- 1) quality, 2) delivery, 3) financial viability

No. of Responses = 67
Top Line Production Schedules Remain Strong – Getting the Production Done Is Getting Stressful (Tier 1 View)

Rating scale for both probability and severity is 1-7, with 7 being highly likely of occurrence and very severe

**Question:** Within your supply chain, over the next 12 months, rate the likelihood of occurrence and the severity that each of the following possible scenarios would have on your business.

- Sub-tier financial distress
- Raw materials shortages
- Short shipments from suppliers
- Quality related concerns
- Long-lead product/system delivery constraints
- Logistics constraints
- Sub-tier capacity constraints from suppliers shared across other customers
- Receiving late customer engineering change orders
- Having late or delayed critical part validation

No. of Responses = 56

OESA Automotive Supplier Barometer- March 2015
Published with the support of Deloitte LLP.
Question: Within your supply chain, over the next 12 months, rate the likelihood of occurrence and the severity that each of the following possible scenarios would have on your business.

- Receiving late customer engineering change orders
- Logistics constraints
- Long-lead product/system delivery constraints
- Having late or delayed critical part validation
- Quality related concerns
- Short shipments from suppliers
- Raw materials shortages
- Sub-tier capacity constraints from suppliers shared across other customers
- Sub-tier financial distress

*Rating scale for both probability and severity is 1-7, with 7 being highly likely of occurrence and very severe.*

No. of Responses = 24
Margins are Being Squeezed Given the Wide Range of Countermeasures Taking Place

Question: What actions and strategies are being taken within your company to mitigate supply chain risk?

No. of Responses = 76

OESA Automotive Supplier Barometer- March 2015
Published with the support of Deloitte LLP.
Material costs for North American production that is purchased outside of the United States.

Estimate the percent of your current material costs for North American production that is purchased outside of the United States (percent of dollar value).

Regional purchase value outside of the United States

<table>
<thead>
<tr>
<th>Region</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
<th>Number of respondent companies purchasing from each region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>10%</td>
<td>18%</td>
<td>31%</td>
<td>24</td>
</tr>
<tr>
<td>Mexico</td>
<td>13%</td>
<td>27%</td>
<td>55%</td>
<td>26</td>
</tr>
<tr>
<td>Europe</td>
<td>11%</td>
<td>22%</td>
<td>60%</td>
<td>43</td>
</tr>
<tr>
<td>Japan/Korea</td>
<td>11%</td>
<td>29%</td>
<td>67%</td>
<td>35</td>
</tr>
<tr>
<td>China</td>
<td>16%</td>
<td>30%</td>
<td>55%</td>
<td>51</td>
</tr>
<tr>
<td>S. America</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
<td>9</td>
</tr>
<tr>
<td>Mid-East/Africa</td>
<td>8%</td>
<td>10%</td>
<td>10%</td>
<td>5</td>
</tr>
<tr>
<td>S. Asia</td>
<td>10%</td>
<td>25%</td>
<td>43%</td>
<td>20</td>
</tr>
</tbody>
</table>

No. of Responses = 82
North American production that is exported outside of the United States

Estimate the percent of your current North American production that is exported outside of the United States (percent of dollar value).

Regional export value from the United States

<table>
<thead>
<tr>
<th>Region</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
<th>Number of respondent companies exporting to each region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>15%</td>
<td>25%</td>
<td>39%</td>
<td>43</td>
</tr>
<tr>
<td>Mexico</td>
<td>20%</td>
<td>40%</td>
<td>67%</td>
<td>55</td>
</tr>
<tr>
<td>Europe</td>
<td>10%</td>
<td>20%</td>
<td>34%</td>
<td>54</td>
</tr>
<tr>
<td>Japan/Korea</td>
<td>6%</td>
<td>11%</td>
<td>24%</td>
<td>28</td>
</tr>
<tr>
<td>China</td>
<td>7%</td>
<td>10%</td>
<td>25%</td>
<td>43</td>
</tr>
<tr>
<td>S. America</td>
<td>5%</td>
<td>10%</td>
<td>21%</td>
<td>28</td>
</tr>
<tr>
<td>Mid-East/Africa</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
<td>4</td>
</tr>
<tr>
<td>S. Asia</td>
<td>5%</td>
<td>6%</td>
<td>17%</td>
<td>15</td>
</tr>
</tbody>
</table>

No. of Responses = 82
Topics Suppliers Are Watching: Is the Great Customer-Supplier WRI Convergence Over?
Topics Suppliers are Watching: How Will Safety Regulation Enable Technology Commercialization?

**TIMELINE VEHICLE SAFETY**

5 Years – Highlighting Various Anticipated Rulemakings, Guidelines and Agency Decisions

**2015**
- FMVSS 114, Keyless Ignition System Final Rule ~ Feb 2015
- Rear Seat Belt Reminder System NPRM ~ Oct 2015
- Upgrade of LATCH Usability Requirements ~ Oct 2015
- Min. Sound Req’s for HEVs, EVs Final Rule ~ Nov 2015*
- Driver Distraction Ph. 2 PADs, Final Guides ~ Q4 2015/Q1 2016
- PCAM for LVs Agency Decision ~ 2015
- Collision Warning & Avoidance Research (ongoing)*
- Autonomous Vehicles Research (ongoing)*

**2016**
- Driver Distraction Ph. 3 Auditory-Vocal HMI, Final Guides ~ 2017
- Various crash avoidance and crashworthiness rules may be proposed/implemented*

**2017**
- Truck Tractor (4-axle, severe SVC, etc.) ESC Compliance ~ 2018

**2018**
- New FMVSS V2V Communication NPRM ~ 2016
- Rear Seat Belt Reminder System Final Rule ~ 2016
- Driver Distraction Ph. 3 Auditory-Vocal HMI, Proposed Guides ~ 2016
- Various crash avoidance and crashworthiness rules may be proposed/implemented*

**Q.3/4 of 2014**
- New FMVSS V2V Communication ANPRM (Aug 2014)
- V2V Heavy Vehicles Agency Decision ~ Q4 2014/Q1 2015
- RFS Volume Standards for 2014 ~ Sept 2014
- Rear Seat Belt Reminder System NPRM ~ Oct 2014
- FMVSS 116, Brake Fluids, EPDM Rubber Final Rule ~ Nov 2014
- Upgrade of LATCH Usability Requirements ~ Dec 2014
- FCAM for LVs Agency Decision ~ Q4 2014/Q1 2015
- NCAP Enhancements Agency Decision ~ Q4 2014/Q1 2015
- Oblique/Small Overlap, Agency Decision ~ Q4 2014/Q1 2015
- Driver Distraction Ph. 2 PADs, Prop. Guides ~ Q4 2014/Q1 2015
- FCC 5.9GHz Final Rule ~ Q4 2014/Q1 2015*
- Collision Warning & Avoidance Research (ongoing)*
- Autonomous Vehicles Research (ongoing)*

**Near-Term Factors Influencing Future Work:**
- New NHTSA Administrator & New Associate Administrator for Rulemaking in place, but still some key leadership vacancies
- Still Waiting (!!!) NHTSA Rulemaking & Research Priorities Plan
- Some Final Rules are in limbo
  - Potential for outside, top-down factors could shuffle current agency priorities
- Crashworthiness Research and Possible Agency Decisions on Crashworthiness rules are to be expected to be issued in the near future (e.g. Small Overlap Crashes)
Topics Suppliers are Watching: Alternative Vehicle Ownership Models: Good for Sales, Bad for Vehicles in Operation?

ANNUAL SALES VOLUME IN THE US [M UNITS]

<table>
<thead>
<tr>
<th>Year</th>
<th>Premium</th>
<th>Volume</th>
<th>Mobility-on-Demand pods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto 3.0</td>
<td>16.8</td>
<td>2.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Auto 4.0</td>
<td>17.6</td>
<td>2.8</td>
<td>9.8</td>
</tr>
</tbody>
</table>

> Increase in premium segment vehicles and sharp decline in volume segment
> New segment of Mobility-on-Demand pods would cater to shared mobility

VEHICLE PARC IN THE US [M UNITS]

<table>
<thead>
<tr>
<th>Year</th>
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<th>Volume</th>
<th>Mobility-on-Demand pods</th>
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<tbody>
<tr>
<td>Auto 3.0</td>
<td>254.4</td>
<td>30.1</td>
<td>224.3</td>
</tr>
<tr>
<td>Auto 4.0</td>
<td>205.8</td>
<td>42.5</td>
<td>154.8</td>
</tr>
</tbody>
</table>

> 49 m fewer vehicles in the parc
> Sharp decline in volume segment
> Each shared vehicle would replace up to 8 individually owned vehicles

Source: Press articles, annual reports, US Census, NHTSA, FHWA, IHS, Automotive Fleet, Roland Berger
Topics Suppliers are Watching: How Will NHTSA Respond to Recall Incidents?

• GM/Takata brought these Issues to Forefront
• New Administrator Must Address These Issues
• Probably addressed during NHTSA Reauthorization in 2015

• Legislative “Suggestions”
  • Whistleblower incentive – has reappeared in 2015
  • Judicial review of NHTSA’s discretionary decisions
  • Require suppliers to pre-certify compliance with regulations/standards
  • Require OEMs to provide more information on fatalities to NHTSA
  • Public notice of NHTSA data and investigations
  • Individual appeals when defect petition is denied by NHTSA
  • Vehicle Safety User fee ($9 per vehicle sold in 3 years)
  • Civil penalty increase to $ 200 million
  • 2 year ban on NHTSA officials working for OEM’s
  • Dealer prohibition of used car sale under recall
  • End regional recalls
  • Replacement vehicle requirement during recall
Topics Suppliers are Watching: Will Industry Consolidation Help ROIC?

... resulting in structurally low and volatile returns

[Graph showing ROIC comparison]

Consensus WACC: ~9%

1 ROIC calculated as [(Industrial reported EBIT x (1-tax rate)) + income from equity accounted investments] / Industrial Net Invested capital. Assumed a normalized tax rate equal to 30%. EBIT excludes goodwill impairment. Industrial Net Invested capital is defined as Industrial Total Working Capital + Industrial PP&E + Industrial Intangibles (excl. Goodwill) + Book Value of equity accounted investments + Operating cash for OEMs (assumed at 12.5% of Industrial sales). EBIT as per accounting principles adopted by each company.

2 Mainstream OEMs include: FCA, Ford, General Motors, Honda, Hyundai, Kia, Nissan, PSA, Renault, Toyota, Volkswagen

Confessions of a Capital Junkie
Topics Suppliers are Watching: How Fast Will Europe Recover?

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th></th>
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<th></th>
<th></th>
<th></th>
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<td>1Q Actual</td>
<td>2Q Forecast</td>
<td>3Q Forecast</td>
<td>4Q Forecast</td>
<td>2015 Forecast</td>
<td>2016 Forecast</td>
<td>2017 Forecast</td>
<td></td>
</tr>
<tr>
<td>pwc Autofacts</td>
<td>5.31</td>
<td>5.37 ↓0.02</td>
<td>4.38 ↓0.02</td>
<td>5.38 ↓0.10</td>
<td>20.44 ↓0.14</td>
<td>20.54 ↓0.47</td>
<td>22.04 ↓0.38</td>
<td></td>
</tr>
<tr>
<td>IHS AUTOMOTIVE</td>
<td>5.26</td>
<td>5.16 ↑0.10</td>
<td>4.55 ↓0.08</td>
<td>4.79 ↓0.08</td>
<td>19.76 ↑0.06</td>
<td>20.21 ↑0.03</td>
<td>20.83 ↓0.14</td>
<td></td>
</tr>
<tr>
<td>LMC</td>
<td>5.27</td>
<td>5.10 ↑0.05</td>
<td>4.57 ↓0.01</td>
<td>4.96 ↓0.12</td>
<td>19.90 ↑0.23</td>
<td>20.24 ↓0.07</td>
<td>21.69 ↑0.15</td>
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<tr>
<td>WELLS FARGO</td>
<td>5.20</td>
<td>5.30 ↑0.11</td>
<td>4.80 ↓0.05</td>
<td>5.00 ↓0.08</td>
<td>20.40 ↑0.11</td>
<td>20.70 Δ0</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>SIG</td>
<td>5.16</td>
<td>5.32 ↓0.03</td>
<td>4.56 ↓0.02</td>
<td>5.02 ↓0.08</td>
<td>20.06 ↓0.19</td>
<td>20.73 ↓0.04</td>
<td>21.25 ↓0.04</td>
<td></td>
</tr>
<tr>
<td><strong>Forecast Average</strong></td>
<td>5.26</td>
<td>5.23</td>
<td>4.58</td>
<td>5.03</td>
<td>20.13</td>
<td>20.42</td>
<td>21.44</td>
<td></td>
</tr>
<tr>
<td><strong>Forecast Spread</strong></td>
<td>0.11</td>
<td>0.27</td>
<td>0.42</td>
<td>0.59</td>
<td>0.68</td>
<td>0.49</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td><strong>2014 Average</strong></td>
<td>5.12</td>
<td>5.22</td>
<td>4.46</td>
<td>4.95</td>
<td>19.74</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Countries included in the EU forecast: Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom.

Last Updated: May 2015
Thank You

Dave Andrea
Senior Vice President, Industry Analysis and Economics
OESA – Original Equipment Suppliers Association
1301 West Long Lake Road
Suite 225
Troy, Michigan 48098

248-430-5954
dandrea@oesa.org