Solid Foundation:
A look at the factors that promise to keep commercial vehicle markets healthy for several years to come

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May 2013
Axioms

• There is no substitute transportation mode for heavy trucks and tractor-trailers.

• Economic activity provides a proxy for the freight that trucks haul.

• Truckers do not buy trucks if they are not making money.

• It is difficult to buy trucks if funds are not available.
Underlying Macro Assumptions

Slow growth in early 2013, strengthening into 2014

- GDP at ~2% in 2013, rising towards 3% in 2014

• Growth is more broadly based
  - Consumer balance sheets
  - Domestic energy production
  - Manufacturing
  - Residential & commercial investment
  - Low inflation

• Caveat(s):
  - Politics: Domestic & International
  - European voters
Rising Wealth, Falling Debt

Household Financial Obligations as % of Disposable Income
Q1’80 - Q4’12

Nearing record levels (nominal)

Each ppt = ~$100b in annual discretionary income

Balance Sheet of Households & Non-Profit Organizations
Q1’2000 - Q4’12

Source: FRB Board of Governors, ACT Research: Copyright 2013
Pent-Up New Housing Demand

U.S. Housing Bubble
Assuming Replacement + New Demand @ 1.45mm/Year
1997 - March 2013

To return to 2.2 adults/household: 970,000 add’l homes

Existing Home Inventories & IN/RS
January 2006 - March 2013
Thousands of Units-SAAR
IN/RS Ratio (Right Axis)

U.S. Current Population Survey:
Adults per Family Household (18+)
1951 - 2012

Source: National Association of Realtors, ACT Research: Copyright 2013
Source: U.S. Census Bureau CPS, ACT Research Co., LLC, Copyright 2013
Domestic Energy Production

Spot Natural Gas Prices: Henry Hub
January 2006 - 2013 (Week 19)

Baker Hughes Rotary Rig Count (U.S. Oil and Gas)

May 13: Down ~10%/200 rigs y/y
. Down 500+ NG rigs
Firming Outlook

• Freight supply – truck demand in balance
  • Should tip towards truckers through 2013

• Trucker profits are at replacement levels
  • Need another 100bps-150bps for capacity additions

• Used equipment valuations at high levels*
  – Good forward visibility for profits & used equipment values

• Also,
  – Significantly better fuel economy
  – A really old fleet from deferred capex (maintenance, opportunity)
  – Maturing super-productivity trends
  – Regulatory impacts on productivity, liability, & drivers
    • HoS in July
Still Little Traction

ATA Truck Loads Index
January '03 - March '13 (2000=100)

Transcore Loadboard:
Dry Van Revenue per Mile (exFSC)
Year over Year % Change
January '10 - April Spot '13 (2000=100)

Source, American Trucking Associations, ACT Research Co., LLC: Copyright 2013

Source, Transcore Commercial Technology Group, ACT Research Co., LLC: Copyright 2013
ACT For-Hire Index

ACT For-Hire Truckload Index
Freight Volumes
June ‘09 - April ‘13

ACT Research Co., LLC: Copyright 2013

ACT For-Hire Truckload Index
Freight Rates
June ‘09 - April ‘13

ACT Research Co., LLC: Copyright 2013
A Tale of Two Quarters

Q4’11 and Q4’12 = 4.9%

• Q4’11: Hot
  - GDP: +4.1%
  - ACT FC: +8.7%
  - ATA: +9.5%

• Q4’12: Not
  - GDP: +0.4%
  - ACT FC: +2.4%
  - ATA: -1.8%
Steady Pricing Outlook

Used Class 8: Average Retail Selling Price
January ’08- April ’13

Selling price: -3% y/y
Mileage: +2% y/y

Used Class 8: Average Miles
January ’08 - April ’13 (Not Seasonally Adjusted)
Significantly Better MPG

Onhighway Tractor Fuel Economy & Estimated Degradation

The difference between 6mpg & 8mpg over 100k miles?

4,200 gal./yr.
U.S. Population Model

U.S. Class 8 Active Population: Trucks & Tractors
1990 - 2018

U.S. Class 8 Demographics: 2012
U-15 Population by RS Year

U.S. Tractor population today comparable to 2003 population
- GDP up 15%
- But so is productivity!
Maturing Productivity Trends

Starting around 2005, rising energy, equipment, & driver costs, caused companies to redouble efforts to reign in transportation spending:

- Packaging
- Product
- Loading
- Routing
- Intermodal
- Etc.

10% - 12% productivity gain since ~2006

The shift from 28% to 22% private fleet empty backhauls effectively created 1.5ppts, or 25,000 units of additional tractor capacity
Additional Evidence

Widening spread between tonnage & loads implies improved freight density: 10ppt swing above typical implies ~140k population impact

ATA Truck Tonnage Index & ATA Truck Loads Index
January '03 - March'13 (2000=100)

Domestic Intermodal Loadings
2003-2013F

ACT’s IM Truck Conversion math:
~2mm loads = 16k fewer tractors needed in population
Underlying Replacement

REPLACEMENT:
NA Class 8 Active Stock
1990 - 2018

Units (000s)

- Exports
- Mexico
- Canada
- US

ACT Research Co., LLC: Copyright 2013
Regulatory Onslaught

• CSA (‘11):
  • Productivity, Liability, Drivers

• Hours of Service (07‘13):
  • Keep 11 and 14 hours (for now)
  • 34 hour reset must include 2 overnights
  • Trucking industry challenge to new rule

• EOBR mandate: (Stuck)
  • Will force for-hire to catch-up with private
  • Should curtail cheating

• CAFE Standards (‘14, ‘18)
Driver Shortage

• There is no substitute transportation mode for heavy tractor-trailer combinations
  • None.

• The freight will get delivered
  • Freight determines driver demand, not the reverse

• The Law of Supply & Demand has not been repealed
  • Periods of rising freight activity exacerbate the shortage situation, causing driver wages to rise
100% annualized turnover?  
**Retaining drivers, rather than finding them is the problem**

Lower turnover = increased safety:  
42% fewer DOT recordable accidents for Survey participants than industry average
New Equipment Demand

• Short-term: Risks outweighing potential rewards
  – Ongoing economic uncertainty
  – Inconsistent freight
  – Lack of traction on freight rates & profitability
  – Large gap between new and used truck prices*

• Short-term industry outlook
  – Backlogs remain thin
    • From order to delivery in 4 to 6 weeks
      – Short-term orders increasingly important
  – Cancellation trend is falling

• Broader economic support will improve demand
  • Look for September-October pop in Class 8 orders
Good but not Great

TOTAL CLASS 8: N.A. NET ORDERS
January '06 - April '13 (Not SA)

Non-NAFTA exports ~halved since mid 2012
Cancellation Pull-Back

TOTAL CLASS 8: N.A. CANCELLATIONS
January '06 - April '13 (Not Seasonally Adjusted)

TOTAL CLASS 8: N.A. CANCELLATION RATE
Expressed as a percentage of Backlog
January '06 - April '13 (Not Seasonally Adjusted)
Limited Visibility

TOTAL CLASS 8: N.A. BACKLOG & BL/BU RATIO
January '06 - April '13 (Not Seasonally Adjusted)

NA Class 8 Orders:
Booked Into Current Quarter
2010 - March 2013

% quarterly build booked in-quarter
13% 29% 24% 24% 25% 18% 13% 15% 25% 28% 30% 35% 31%

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Positive Turn

TOTAL CLASS 8: N.A. INVENTORY/RETAIL SALES RATIO
January ’06 - April ’13 (Not Seasonally Adjusted)

U.S. IN/RS RATIO
January ’06 - April ’13 (Not Seasonally Adjusted)
## Backlog Analysis

### Build Timing of Units in Backlog as of April 2013

<table>
<thead>
<tr>
<th>CLASS 8</th>
<th>Actual BU</th>
<th>Q2'13</th>
<th>Q3'13</th>
<th>Q4'13</th>
<th>Beyond</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YTD 04'13</td>
<td>May-Jun</td>
<td>Jul-Sep</td>
<td>Oct-Dec</td>
<td>Beyond</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACKLOG DISTRIBUTION</td>
<td>34,426</td>
<td>27,990</td>
<td>16,073</td>
<td>3,956</td>
<td>82,445</td>
<td></td>
</tr>
<tr>
<td>. Distribution by Quarter</td>
<td>40.2%</td>
<td>32.7%</td>
<td>18.8%</td>
<td>4.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 8 Actual/Forecast Build</td>
<td>77,681</td>
<td>43,600</td>
<td>69,000</td>
<td>72,000</td>
<td>262,281</td>
<td></td>
</tr>
<tr>
<td>. Open build slots:</td>
<td>9,174</td>
<td>41,010</td>
<td>55,927</td>
<td></td>
<td>179,836</td>
<td></td>
</tr>
<tr>
<td>. % Open</td>
<td>21.0%</td>
<td>59.4%</td>
<td>77.7%</td>
<td>--</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DAYS</th>
<th>YTD'13</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUILD UPD (A/F)</td>
<td>60</td>
<td>64</td>
<td>62</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>1,295</td>
<td>681</td>
<td>1,113</td>
<td>1,220</td>
</tr>
</tbody>
</table>
Medium Duty

- Cancellations and key ratios (BL/BU and IN/RS) suggest fundamentals basically in line. Could use more orders.
- Job concerns loosening hold on MD vehicle buyers
- Housing accretive to economy and MD truck/RV demand
- State and local government contribute to 2013 growth
- Bus market to benefit from improved property values
- Forecast below replacement until 2H’14/1H’15
  - Cl.6-7 at ~160k/yr, Cl.4-5 at ~70k/yr
- Velocity of growth for medium duty market is determined by the pace of economic growth, in particular, consumer spending
## N.A. Classes 5-7 Order Distribution
(Data through April 2013, annualized)

<table>
<thead>
<tr>
<th>Orders</th>
<th>Truck (000s)</th>
<th>Bus (000s)</th>
<th>RV (000s)</th>
<th>Total* (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 12 Mo.</td>
<td>128.7</td>
<td>32.4</td>
<td>13.7</td>
<td>180.9</td>
</tr>
<tr>
<td>Past 6 (AR)</td>
<td>134.2</td>
<td>28.1</td>
<td>10.1</td>
<td>180.0</td>
</tr>
<tr>
<td>Past 3 (AR)</td>
<td>133.1</td>
<td>34.7</td>
<td>12.0</td>
<td>192.5</td>
</tr>
<tr>
<td>April</td>
<td>154.0</td>
<td>34.0</td>
<td>11.9</td>
<td>201.0</td>
</tr>
<tr>
<td>April (SAAR)</td>
<td></td>
<td></td>
<td></td>
<td>205.6</td>
</tr>
</tbody>
</table>

* Total includes Step Vans
TOTAL CL. 5-7: N.A. BACKLOG & BL/BU RATIO
January '06 - April '13 (Not Seasonally Adjusted)
IN/RS on Target

TOTAL CLASSES 5-7: N.A. INVENTORY/RETAIL SALES RATIO

January '06 - April '13 (Not Seasonally Adjusted)

Units (000s)  IN/RS Ratio (Months)

INVENTORY

RETAIL SALES

IN/RS RATIO (Right Axis)

ACT Research Co., LLC: Copyright 2013
Housing Starts vs. Cl 5-7 Truck Sales

Source: ACT Research Co., LLC, US DOC Census Bureau
Concluding

• Profit environment should improve into 2014
  • Growth in key freight sectors
  • Slowing rate of productivity growth
    » HoS productivity restriction should prove positive
  • New equipment, while pricy, offers real MPG benefit
    » Will help to pay-off that big loan
  • Improving margins will improve credit access

• Challenges remain
  • Rising demand for drivers
  • Keeping up with best practices
    » Safety, regulation, technology
## Forecasts

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NA Class 8 BU (000s)</strong></td>
<td>154.2</td>
<td>255.3</td>
<td>278.7</td>
<td>262.3</td>
<td>300.9</td>
</tr>
<tr>
<td><strong>Memo: U.S. &amp; CA Retail Sales</strong></td>
<td>128.9</td>
<td>199.2</td>
<td>228.9</td>
<td>226.6</td>
<td>260.0</td>
</tr>
<tr>
<td><strong>NA Classes 5-7 BU (000s)</strong></td>
<td>117.9</td>
<td>166.8</td>
<td>188.4</td>
<td>197.6</td>
<td>213.7</td>
</tr>
<tr>
<td><strong>U.S. Trailers FS (000s)</strong></td>
<td>125.6</td>
<td>212.6</td>
<td>240.0</td>
<td>247.7</td>
<td>258.4</td>
</tr>
</tbody>
</table>
Natural Gas as CV Fuel

- Game changing
  - Plentiful
  - Inexpensive with low sensitivity to commodity cost changes
  - Environmentally friendlier
  - Chickens & Eggs: No “Easy Button”
    - Few commercially available filling stations
    - First OTR engines just now available
    - The NG-diesel engine price gap remains large
DGE Math

• 7.2 Diesel Gallon Equivalents (DGE) per 1mm BTUs of Natural Gas
  – Cost of Natural Gas ($4.00) ÷ 7.2: ~$0.56
  – + Transmission costs ~$1.50
  – + Taxes* ~ $0.54
  – Total ~$2.60/DGE

• Doubling the price of natural gas ($8/mmbtu) increases the cost of a DGE by 56 cents

• *Taxes are all over the board
  – Measurement by gallon or BTU equivalence?
  – Assume that NG taxes ultimately need to mirror diesel taxes
Key to Conversion: Payback

Simple Payback for NG Vehicle—Cumulative Miles (000)—By Upcharge
at $2.50 per DGE, 90% Engine Efficiency, DEF at $2.40 & 2.5% added,
$275 Particulate Filter Per Year, Equal Maintenance

- 390k/mi.
- 156K miles at $4.00 diesel and $30K upcharge
- $75 K Upcharge
- $50 K Upcharge
- $30 K Upcharge

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