Top Trends in Trucking:
Demand Driver Convergence

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ACT RESEARCH Co., LLC

Chicago Federal Reserve Bank
Automotive Outlook Symposium
June 1, 2018
Economic Review: Broad-based Strength

GDP
Employment/Wages
Confidence: Consumer/Business
Housing Market
Auto Sales
Oil/Commodity Prices
Industrial Production
Equities
Yield Spread
## Manufacturers’ PMIs

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Source: Markit Economics
New Normal?

Inventory to Sales Ratio: Total Business
Index - SAAR
January 2010 - March 2018

Enjoying tailwinds following two years of headwinds

What is correct ratio in multi-channel retail environment?

AMZN raises

Source: Census Bureau, ACT Research Co., LLC; Copyright 2018
Impact of E-Commerce

E-Commerce as a Percentage of Retail Sales
(Excluding Food Service)
Q1’01 - Q4’17

TL Carrier Database: Average Length of Haul
1996 - 2017

Source: Federal Reserve Board, ACT Research Co., LLC. Copyright 2018

Source: ACT Research Co., LLC. Copyright 2018

Strong e-commerce trend leads to structural changes in warehousing
Fewer miles/load, but increased service intensity, more time-definite TL miles

~115k mi/yr., 160 loads/yr.
~100k mi/yr., 250 loads/yr.
Current Indicator Review

Happy

- Business/consumer confidence
- Rising industrial production
- Job market, RDPI
- Stable oil prices
- Corporate profits growth
- Global expansion
- Tax cuts
- Stocks

Not-so-happy

- Trade tensions – with allies!
  - NAFTA risk
  - *Trade wars are “good and easy to win”* D. Trump
- Low saving rate, rising petrol prices, interest rates
  - Pinching discretionary incomes
  - Making housing less affordable
    - But holding off a rate inversion
- Tougher-to-beat comps in 2019
  - No freight cycle this century has lasted much beyond two years
- Widespread global risk
  - Italy?@#!
Class 8 Quiz

• What is the word that follows:
  – Driver __________
  – Technician __________
  – Parking __________

• Leading to a
  – Capacity __________
CV Markets: From Hot to White-hot

• Demand-side strength
  – Economy poised for period of sustained growth
    • Healthy freight demand
    • Corporate tax windfall drives machinery
  – Carrier Profits accelerate

• Supply-side constraints
  – ELD capacity absorption: No more cheaters!
  – Drivers availability constraining capacity

• Exogenous variables positive
  – Productivity trends slowing
  – Desirable new vehicle features: MPG, AMTs, Safety techs
Soaring Freight Metrics

ATA SA TL Loads Index
January 2000 - March 2018

Cass Shipments Index
January 2000 - April 2018 (01'1990=100)

Source: Cass Information Systems, ACT Research Co., LLC: Copyright 2018
Historic Rate Environment

DAT Trendlines Spot & Contract Rates: Dry Vans (ex FSC)
January 2010 - April 2018

Actual Contract Rate Y/Y Chg. (6mma)

Source: DAT Solutions, ACT Research Co., LLC: Copyright 2018

Dry Van Rate Pressure Analysis:
Contract less SA Spot rate relative to target rate spread
January 2010 - April 2018

Rate Pressure Analysis w/5 month lead (6mma)

Source: DAT Solutions, ACT Research Co., LLC: Copyright 2018
DAT Trendlines:
AGGREGATE Revenue per Mile Rate
January '09 - April '18 (2000=100)

Unprecedented

Hurricanes tip the supply-demand balance:
Rate Gap (SA):
(2010-2017 Mean @ 16c)
August: 18 cents
September: 4 cents
October: -0 cents
January: -26 cents
April: -3 cents

Source: DAT Solutions, Inc.; ACT Research Co., LLC; Copyright 2018
Limited Traction on Drivers

Should have added ~50k drivers in 2017 – not 9k

YTD’18: 13.5k
It is NOT Going to Get Better

U.S. Demographics
Potential Hirees & Impending Retirees
2014-2035

2014-2035

Warm Bodies (000s)

Source: U.S. Census Bureau, ACT Research Co., LLC: Copyright 2018

It is NOT Going to Get Better

U.S. Demographics
Potential Hirees & Impending Retirees
2014-2035

Source: U.S. Census Bureau, ACT Research Co., LLC: Copyright 2018
### Significant MPG Strides since EPA’10

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#### U.S. C8 Tractor Fleet Fuel Economy

- **2017-Ending U-15 Population**
- **Pre GHG1:** 2013-2016
- **Pre GHG2:** 2017
- **EPA10:** 2011-2012

- More than 50% of fleet <7mpg
Gaining Traction, Rising Risk into 2019

Yesterday’s new tractor sales are tomorrow’s used trucks: *There were a lot of new trucks sold yesterday*

Late-model trades are not today’s preferred new truck spec
U.S. Tractor Market Drives Surge

Total Class 8: N.A. Net Orders

January 2000 - April 2018

Source: ACT Research Co., LLC: Copyright 2018

NA C8 NO
April-Ending
(SAARS)
Past 12 375k
Past 6 436k
Past 3 462k
April 421k
BL/BU Hits 8 in April

Total Class 8: N.A. Backlog & BL/BU Ratio

January 2000 - April 2018

Source: ACT Research Co., LLC: Copyright 2018
One OEM on 5-22:

“Another 60 days to work through capacity issues” with proprietary axles and some plastic parts
MD Update

- 2018-19 reaching a plateau at high, stable levels
- Nothing new - key markets solid; big upside surprise unlikely
  - Consumer package goods
  - Consumer services
  - Package delivery, P&D, and on-line retail
  - Construction
  - Relocation
- Backlog and inventory levels in line with demand
- Steady 8.5 year growth track in contrast to more volatile Class 8
Healthy Demand Continues

U.S. Classes 5-7: Net Orders
January 2010 - April 2018

U.S. Classes 5-7: Backlog and Backlog/Build Ratio
January 2010 - April 2018

Source: ACT Research Co., LLC: Copyright 2018
High Level on Electric

• Without incentives, long payback period
  • *Significant* upfront premium
    – Robust first round incentives in California

• Other hurdles
  • Range, Weight, *battery durability (cycles)*, temperature extremes

• EV sweet-spots
  – Short-haul, return-to-base, stop & start, low-speed
    • Public transit; Urban delivery/last mile; Distribution; refuse

• Lower maintenance, cheaper to operate

• Charging infrastructure & power grid considerations

At $200/kWh, a 200 mile range
Class 8 battery pack:

\[ ((2\text{kw mi} \times 200) \times 1.3) = 104k \]
Near-term Class 8 Forecast Review

2018: In the bag

– Strong fundamentals
  • Healthy freight volumes
  • Rising freight rates
  • On-going capacity constraints
  • Changes in spec’ing preferences

– Challenge for suppliers to find employees/ramp production
  • 4% unemployment presents a challenge

2019: Labor still more relevant than equipment*

– Capacity constraints eventually get solved

* Carrier profitability versus used equipment valuations
## NA Outlook

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