DSC Logistics

Dynamic Supply Chain Leadership
1. Introduction

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Introduction
Basil Weaver

DIRECTOR, SUPPLY CHAIN SOLUTIONS & ANALYTICS

I joined DSC in May 2004. I studied Applied Statistics and Computer Science at the University of Iowa, graduating in 1993. Since then I have worked in the Transportation & Logistics field for 26 years and I currently help lead a team that strives to:

Grow
Enable the growth of DSC Logistics and our customers

Learn
Create an environment that encourages continuous learning and curiosity

Share
Share information with each other and support each other’s success

Succeed
Win as a team, learn from “losses”, and celebrate together
DSC Logistics Overview

LOGISTICS CENTER MANAGEMENT:
55+ facilities and 25+ million square feet

TRANSPORTATION MANAGEMENT:
4+ billion lbs. of freight and 700K+ shipments annually; centralized transportation management services

SUPPLY CHAIN PACKAGING SERVICES:
1 million square feet of Value-Added Services (VAS) production space across 30 facilities

SUPPLY CHAIN CONSULTING:
60+ customer network modeling engagements performed per year

OUR MISSION
To achieve customer business goals through the management of change and information in the supply chain.

OUR PROMISE
To uphold high standards of integrity, responsibility and accountability based on open communication, collaboration and trust.
- A great source for ideas......your customers!
- Data is meant to be shared
- Push vs Pull
  - Speed
  - Frequency
  - Accuracy
- Evolution from “order taker” to “Supply Chain Partner”
- Not meant to be predictive
Industry Insights

August 2019
Supply chains are experiencing higher costs due to a strong economy that is impacting the areas of transportation, labor and real estate with a common denominator: tight capacity.
U.S. Economy

- U.S. manufacturing to increase faster than economy due to increased capital growth and higher exports
- Production will grow by 3.9% in 2019 (estimated to slow to 2.4% in 2020)

-1.4%  -5.8%
MoM  YoY

$3.01 / gallon as of 8/21/2019
Source: DAT. Fuel Prices (August 21, 2019)

+2.1%
GDP GROWTH, 2019-US (3% in 2018)

+1.5%
INFLATION, 2019-US (1.9% in 2020)

Source: The Balance. US Economic Outlook for 2019 and beyond (July 31, 2019)
The U.S. trucker shortage swelled by more than 10,000 to 60,800 in 2018 from a year earlier and is expected to more than double to 160,000 over the next decade (ATA update).
The unemployment rate will average 3.6% in 2019. It will increase slightly to 3.7% in 2020 and 3.8% in 2021, which is lower than the Fed's 6.7% target.

- E-commerce disrupting industry norms: Amazon's minimum wage is $15 an hour
- As the labor force tightens, companies are turning to automation and new technology solutions to meet customer expectations

WERC’s Top Metrics to Watch are related to labor (5 in 2018)

Unemployed person for every available job

Sources: Bureau of Labor Statistics (May 2019)
Sources: Mercer, Towers and Salary.com (2018)
- Only 4.9% of the nation’s industrial space is vacant — one of the lowest rates on record despite the 125 million square feet of new construction completed.

- Tightening markets and new, higher-quality Class A space drove up average asking rents to a record $6.01 per square foot per year for warehouse / distribution space.

### Real Estate

**Vacancy**

- **Q2 2019**
- **Q2 2020**

**Net Absorption**

- **Q2 2019**
- **Q2 2020**

**Construction**

- **Q2 2019**
- **Q2 2020**

**Rental Rate**

- **Q2 2019**
- **Q2 2020**

Source: Colliers. Market Indicators relative to prior quarter.
* Projected. ** Warehouse

<table>
<thead>
<tr>
<th>Q3 2018</th>
<th>NORTH EAST</th>
<th>SOUTH</th>
<th>MID WEST</th>
<th>WEST</th>
<th>US TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory (SF)</td>
<td>2,199 M</td>
<td>4,837 M</td>
<td>4,400 M</td>
<td>4,306 M</td>
<td>15,742 M</td>
</tr>
<tr>
<td>New supply and under construction (% of Inventory)</td>
<td>1.76%</td>
<td>3.26%</td>
<td>1.97%</td>
<td>2.08%</td>
<td>2.37%</td>
</tr>
<tr>
<td>Vacancy rate (%) Q2 2019</td>
<td>5.20%</td>
<td>5.60%</td>
<td>5.20%</td>
<td>3.80%</td>
<td>4.90%</td>
</tr>
<tr>
<td>Vacancy rate (%) Q1 2019</td>
<td>5.30%</td>
<td>5.50%</td>
<td>5.30%</td>
<td>3.80%</td>
<td>5.00%</td>
</tr>
<tr>
<td>NNN – Warehouse (USD/SF/YR)</td>
<td>$7.33</td>
<td>$5.43</td>
<td>$4.84</td>
<td>$8.14</td>
<td>$6.01</td>
</tr>
</tbody>
</table>
“Trade war uncertainty could drain $585B from global GDP
The report finds China’s economy would be hit hardest, with growth dropping a full 1% by 2021. The U.S. economy also faces a slowdown of roughly 0.6%.”
August 22, 2019

“XPO still working to make up for loss of largest customer
The customer is widely believed to be Amazon. XPO is “making great, great progress replacing” the lost revenue from the customer, Jacobs said. But the loss of the customer in its postal injection business, which brought in $600 million in revenue for XPO, is still being felt.”
August 6, 2019

“USPS parcel volume drops for 1st time in 9 years
The 3.2% decline comes as Amazon, FedEx, UPS and other carriers lure customers with fast last-mile delivery options and more in-house services.”
August 12, 2019

“Target's same-day fulfillment growing at twice the rate of last year
Target's same-day fulfillment services (in-store pickup, drive-up and Ship same-day delivery), represent 33%+ of the retailer’s total fulfillment. Same-day fulfillment accounted for 1.5% of their sales growth and the average productivity for store-fulfilled sales was $300 per square foot.”
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The suggested changes would provide more flexibility to truck drivers’ 30-minute breaks and would allow them to split up the required 10-hour break from driving.”
August 15, 2019

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The Freight Direct service, which was in the pilot phase earlier this year, delivers bulky items directly into residences, a potential growth area for logistics companies as consumers buy more heavy goods online.”
August 26, 2019

“Amazon applies for waiver with FAA to allow drone delivery
The application stated Amazon Prime Air would use drones to deliver packages of up to five-pounds to customers in 30 minutes or less.”
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About the indices

ISM – Manufacturing PMI Index
Index 1. Source: Institute for Supply Management

“PMI is one of the most reliable economic indicators available. This index is developed by the Institute for Supply Management (ISM) in their manufacturing survey as part of the ISM Manufacturing Report On Business®, which is published monthly since 1931.

The participants are ~300 purchasing and supply executives throughout the United States in 20 industries in the manufacturing area. Within the overall index, there are nine sub-indices: new orders, production, supplier delivery times, backlogs, inventories, prices, employment, export orders, and import orders. The index is believed to reflect future movements in gross domestic product. In particular, if the index is above 50, it indicates that the manufacturing economy is expanding. Values below 50 indicate a contraction. Additionally, a PMI reading above 43.2, over a period of time, indicates that the overall economy, or gross domestic product (GDP), is generally expanding; below 43.2, it is generally declining.”

Industrial Production Index: Manufacturing (NAICS)
Index 2. Source: Federal Reserve

“The production index measures real output and is expressed as a percentage of real output in a base year, currently 2012. It is computed as Fisher indices since 1972; the weights are based on annual estimates of value added. The index of industrial production covers mining (NAICS major groups 211–213), manufacturing (NAICS major groups 311–316; 321–327; 331–337; and 339; and industries 1133 and 5111), and electric and gas utilities (NAICS 2211,2). Production has been defined as the “process of creating economic values or utilities needed to satisfy human wants.”

Production in the mining industry includes the exploration and development of mineral properties and the extraction of minerals in the form of solids (such as coal and ores), liquids (such as crude oil), or gases (such as natural gas). Milling and other preparation customarily done at the mine (well) site is also included. Manufacturing, according to the NAICS, relates to the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Production by utilities refers to electric power generation, transmission, and distribution for sale and to natural gas distribution.”

Cass Truckload Linehaul Index
Index 3. Source: Cass Information Systems

“The Cass Truckload Linehaul Index is an accurate, timely indicator of market fluctuations in per-mile truckload pricing. The index isolates the linehaul component of full truckload costs from other components (e.g. fuel and accessorials), providing an accurate reflection of trends in baseline truckload prices. Data within this unique index is derived from actual freight invoices paid on behalf of Cass’ clients. The index uses January 2005 as its base month.”

Truckload Freight Index
Index 4. Source: Morgan Stanley

“The Truckload Freight Index also known as Loads per Truck index measures the incremental demand for Dry-Van Truckload services compared to the incremental supply. It is therefore an indicator of capacity in the transportation industry. When a given reading is above prior years’ level, it means there is more freight demand relative to available capacity. Average market (2007-2017) is around 2.5 loads per truck. Morgan Stanley publishes this indicator monthly in their TLFI report.”
Sources

DAT
Fuel prices update daily. This month’s Industry Insights was built on data from August 21, 2019.
https://www.dat.com/industry-trends/trendlines

Institute for Supply Chain Management
The Manufacturing PMI Index updates monthly. Most recent data available is for July 2019.
https://www.instituteforsupplymanagement.org/ISMReport/MfgROB.cfm?SSO=1

The Balance
The article “US Economic Outlook for 2019 and beyond” updates whenever there is a change in the projection. Last revision was on July 31, 2019.
https://www.thebalance.com/us-economic-outlook-3305669

Federal Reserve Bank of St. Louis
The Industrial Production Manufacturing Index (IPMAN) is updated monthly. Most recent data available is for July 2019.
https://fred.stlouisfed.org/series/IPMAN

Cass Information Systems
The Cass Truckload Linehaul Index is updated monthly. Most recent data available is for July 2019.
https://www.cassinfo.com/freight-audit-payment/cass-transportation-indexes/truckload-linehaul-index

Morgan Stanley
The Morgan Stanley Truckload Freight Index has weekly updates. This month’s Industry Insights was built on data from August 20, 2019.
http://morganstanley.co1.qualtrics.com/jfe/form/SV_ag8fEgxn9G5GXqD

Bureau of Labor Statistics
The unemployment rate series update monthly with data from two months prior – two months lead time for market data collection. Most recent data available is for June 2019. Series ID: LAUMT48191000000003, LAUMT131206000000003, LAUMT421090000000003, LAUDV171697400000003, LAUCT065670000000003, LAUMT473498000000003, LAUMT473282000000003, LAUMT182690000000003, LAUMT413890000000003.
https://data.bls.gov/cgi-bin/srgate

Colliers
Real Estate Market Indicators – Inventory, Vacancy, Net Absorption, NNN – are updated quarterly in Colliers’ US Industrial Report. Most recent report available is Q2 2019 which was published on August 26, 2019. Next update is expected to be available by the end of November 2019.
Actions & Recommendations

- Get your data
  - Sources
  - Quality
  - Visualization
  - Equip yourself

- Identify and quantify the things YOU do
  - Complexity
  - Inefficiency
  - Waste
  - Delay

- Leverage partnerships

- Consistent talking points within and your organization and with your service providers
How to Register

- Go to www.dsclogistics.com
- Search “DSC Insights”
- Enter your contact information and download
Transportation Market Outlook
2017-2018

A robust economy drove high truck demand resulting in capacity constraints. Rates then peaked at all time highs.
2019-2020

Number of loads originated are flattening out relaxing capacity constraints. Rates have now been trending down.
## Market Outlook

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturing</strong></td>
<td>ISM index is below 50 and at the lowest point since January 2016. The Federal Reserve index is weakening, but durable goods orders are fairly steady.</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Total construction spending is down with non-residential fading and residential even weaker.</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Residential construction remains weak, but home sales are solid. Mortgage rates are the lowest since November 2016. One area for upside potential</td>
</tr>
<tr>
<td><strong>Consumer</strong></td>
<td>Retail sales were at an all-time high in July. Y/Y growth is solid, though not as high as last summer. However, that was a period when gas prices were rising.</td>
</tr>
<tr>
<td><strong>Inventories</strong></td>
<td>The inventory-to-sales ratio is stuck at near the highest level since before the 2017 hurricanes. A higher ratio generally means less velocity in replenishment.</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>Payroll job growth is slowing a bit, but job openings are still high and the unemployment rate is near a 50-year low.</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>Crude prices are in the mid-$50/barrel range. Diesel prices are stable and about 27 cents lower than a year ago. Current</td>
</tr>
</tbody>
</table>

Source: FTR (Transportation Conference 2019). Current, as of September 6, 2019.
Issues to watch

1. TRADE
2. E-COMMERCE
3. REGULATION
4. EMPLOYMENT

Trade concerns include:
- U.S. business response to uncertainty
- Impact on exports, imports and port usage
- Shifts in freight flows due to shifting supply chains
Issues to watch

1. TRADE
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In 2019 on-line sales surpassed in store sales for the first time. E-commerce now represents 20%+ of ‘core’ retail sales.

Source: FTR (Transportation Conference 2019).
Issues to watch

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PENDING REGULATIONS

- Automatic on-board recording devices (AOBRDs) → ELDs transition (December 16, 2019)
- Drug and alcohol clearinghouse for CDL drivers (January 6, 2020)
- Entry-level CDL driver training standards (February 7, 2020)

PROPOSED REGULATIONS

Hours-Of-Service Proposal

- Published August 22. Public meeting September 17.
- Major proposed changes:
  - Allowing drivers to pause their 14-hour driver window for up to 3 hours by taking off-duty time
  - Making the sleeper berth split rest option more flexible and allowing the shorter period to “stop the clock”
  - Loosening the 30-minute rest break requirement – arguably to the point where it is mostly irrelevant
  - Adding 2 hours to allowed work day under the short-haul exception from ELDs
  - Adding 50 miles (to 150 air miles) to allowed radius under the short-haul exception from ELDs
  - Adding 2 hours to driving window during adverse driving conditions
- Provides more flexibility for drivers held up at shipping and receiving docks or due to other hurdles, like highway congestion.
- Political uncertainty would suggest fast track on a final rule is needed. Not likely to take effect before Q2 or Q3 of 2021 – if then.
Currently, there are more available jobs than available people. Labor scarcity restricts capacity in the trucking industry (U.S. trucker shortage).
Conclusions

Industry and market indicators help us understand (and explain) the causes to what we are experiencing in our business.

With regards to transportation:

- Freight demand has slowed but the outlook is reasonably stable
- Spot market dynamics imply a truck freight market in close balance
- The capacity crunch has mostly passed, and carriers are pulling back on drivers and trucks
- Truckload rates are forecast to be down 7.0% YOY in 2019 and another 1.3% in 2020
- The trade war with China is the biggest economic risk in the near term
- Upcoming regulations probably won’t have too much effect on trucking, but the final ELD phase and drug and alcohol clearinghouse could surprise
- Labor market remains very tight

Source: FTR (Transportation Conference 2019).
Questions?
Thank you.