24th Annual “State of Logistics Report®”

Is This The New Normal?

Talking Freight
Federal Highway Administration
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The U.S. Business Logistics System Comprises Three Main Components

CARRYING COSTS

• Interest
• Taxes, Obsolescence, Depreciation, Insurance
• Warehousing

TRANSPORTATION COSTS

• Motor Carriers
  – Truck – Intercity
  – Truck – Local
• Other Carriers
  – Railroads
  – Water
  – Oil Pipelines
  – Air
  – Forwarders

OTHER COSTS

• Shipper Related Costs
• Logistics Administration
U.S. Business Logistics Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>Costs (Trillions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>0.95</td>
</tr>
<tr>
<td>2004</td>
<td>1.03</td>
</tr>
<tr>
<td>2005</td>
<td>1.17</td>
</tr>
<tr>
<td>2006</td>
<td>1.31</td>
</tr>
<tr>
<td>2007</td>
<td>1.39</td>
</tr>
<tr>
<td>2008</td>
<td>1.34</td>
</tr>
<tr>
<td>2009</td>
<td>1.10</td>
</tr>
<tr>
<td>2010</td>
<td>1.20</td>
</tr>
<tr>
<td>2011</td>
<td>1.29</td>
</tr>
<tr>
<td>2012</td>
<td>1.33</td>
</tr>
</tbody>
</table>
Personal Savings and Household Debt

Percent of Household Disposable Income

Source: Federal Reserve
Exports and Imports

Source: U.S. Department of Commerce
Logistics Cost As A Percent of GDP

- 2003: 8.5%
- 2004: 8.7%
- 2005: 9.3%
- 2006: 9.8%
- 2007: 9.9%
- 2008: 9.4%
- 2009: 7.9%
- 2010: 8.3%
- 2011: 8.5%
- 2012: 8.5%
Logistics Cost As A Percent of GDP

Source: Boston Logistics Group
The U.S. Business Logistics System Cost is the Equivalent of 8.5 Percent of Current GDP in 2012

<table>
<thead>
<tr>
<th>Description</th>
<th>$ Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carrying Costs - $2.269 Trillion All Business Inventory</strong></td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>3</td>
</tr>
<tr>
<td>Taxes, Obsolescence, Depreciation, Insurance</td>
<td>302</td>
</tr>
<tr>
<td>Warehousing</td>
<td>130</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>434</strong></td>
</tr>
<tr>
<td><strong>Transportation Costs</strong></td>
<td></td>
</tr>
<tr>
<td>Motor Carriers</td>
<td></td>
</tr>
<tr>
<td>Truck – Intercity</td>
<td>445</td>
</tr>
<tr>
<td>Truck – Local</td>
<td>202</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>647</strong></td>
</tr>
<tr>
<td>Other Carriers</td>
<td></td>
</tr>
<tr>
<td>Railroads</td>
<td>72</td>
</tr>
<tr>
<td>Water (International 27, Domestic 7)</td>
<td>35</td>
</tr>
<tr>
<td>Oil Pipelines</td>
<td>13</td>
</tr>
<tr>
<td>Air (International 13, Domestic 20)</td>
<td>33</td>
</tr>
<tr>
<td>Forwarders</td>
<td>37</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>189</strong></td>
</tr>
<tr>
<td><strong>Shipper Related Costs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td><strong>Logistics Administration</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51</td>
</tr>
<tr>
<td><strong>TOTAL LOGISTICS COST</strong></td>
<td><strong>1,331</strong></td>
</tr>
</tbody>
</table>

May not sum to total due to rounding
Total U.S. Business Inventories

Source: U.S. Department of Commerce, Census Bureau
Inventories Remain High

Source: U.S. Department of Commerce, Census Bureau
The Inventory to Sales Ratio has Been Rising Since the Second Half of 2012

Source: U.S. Department of Commerce, Census Bureau
Interest Rates Have Been a Big (or Actually Small) Factor

Source: Board of Governors of the Federal Reserve System
Truck Tonnage Index

Source: American Trucking Associations
Truck Industry Recap

- Rates were flat for much of 2012; tonnage up 2.3 percent
- Truck capacity is tight and utilization rates are at 95 to 97 percent; driver shortage persists with greater problems looming
- Costs continue to climb, but rates have only inched up
- Truck sales gained strength, but have not reached replacement levels; used truck prices soared and the supply has dwindled
- Regulatory issues will affect productivity
  - CSA enforces stricter qualifications, new health requirements, and hair follicle drug testing has reduced the pool of eligible drivers
  - Prospect of EOBRs
  - New Hours of Service rule went into effect July 1st
2012 Recap for Trucking

Change in Employment and Number of Class 8 Trucks in Operation

Sources: Bureau of Labor Statistics and R.L. Polk
2012 Recap for Railroads

- Freight revenue increased 4.3 percent
- Revenue per ton-mile rose 5.3 percent
- Carloadings were down 3.1 percent
- Intermodal volume was the second highest on record
- Ton-miles decreased 1 percent
- $13 billion capital spending on road and equipment was 16.1 percent higher than 2011
2012 Recap for Maritime

- Ocean carriers’ positions are slowly improving
  - Global volumes down, carriers have taken hits financially; rates have not stabilized and announced rate hikes have been hard to maintain
  - Slow steaming is the norm now, which adds an extra week from China

- Barge traffic on the inland waterways has been hampered by water levels, especially in the summer – emergency dredging was needed to deepen channels

- Volume down because of drop off in coal and agricultural products affected by drought in the Midwest

- Great Lakes shipping showed signs of recovery in 2012, after several slow years
- Jones Act in active debate again
- Maritime infrastructure, especially inland waterways, is in dire need of investment and Congress is formulating a comprehensive waterways package to address the issue
### U.S. Ports Performance is Mixed in 2012

<table>
<thead>
<tr>
<th>Port</th>
<th>2012 TEUs</th>
<th>2011 TEUs</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>8,077,714</td>
<td>7,940,511</td>
<td>1.7%</td>
</tr>
<tr>
<td>Long Beach</td>
<td>6,045,662</td>
<td>6,061,085</td>
<td>-0.3%</td>
</tr>
<tr>
<td>New York</td>
<td>5,529,908</td>
<td>5,503,485</td>
<td>0.5%</td>
</tr>
<tr>
<td>Savannah</td>
<td>2,982,471</td>
<td>2,927,247</td>
<td>1.9%</td>
</tr>
<tr>
<td>Oakland</td>
<td>2,344,424</td>
<td>2,342,504</td>
<td>0.1%</td>
</tr>
<tr>
<td>Seattle</td>
<td>1,885,680</td>
<td>2,049,733</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Norfolk</td>
<td>2,105,887</td>
<td>1,918,029</td>
<td>9.8%</td>
</tr>
<tr>
<td>Houston</td>
<td>1,922,479</td>
<td>1,866,450</td>
<td>3.0%</td>
</tr>
<tr>
<td>Tacoma</td>
<td>1,711,134</td>
<td>1,476,153</td>
<td>15.9%</td>
</tr>
<tr>
<td>Charleston</td>
<td>1,424,673</td>
<td>1,377,513</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

*Source: Individual port reports*
Monthly Tonnage Indicator for Internal Waterways

Source: U.S. Army Corps of Engineers, Navigation Data Center
Modal Capacity Comparisons

**Cargo Capacity**

- **One Barge**
  - 1,500 Ton
  - 52,500 Bushels
  - 453,600 Gallons

- **One 15 Barge Tow**
  - 22,500 Ton
  - 787,500 Bushels
  - 6,804,000 Gallons

- **Jumbo Hopper Car**
  - 100 Ton
  - 3,500 Bushels
  - 30,240 Gallons

- **100 Car Train Unit**
  - 10,500 Ton
  - 350,000 Bushels
  - 3,024,000 Gallons

- **Large Semi**
  - 26 Ton
  - 910 Bushels
  - 7,865 Gallons

**Equivalent Units**

- **One Barge**
- **15 Jumbo Hopper Cars**
- **58 Large Semis**

- **One 15 Barge Tow**
- **2.25 100 Car Unit Trains**
- **870 Large Semis**

**Equivalent Lengths**

- **One 15 Barge Tow**
  - 0.25 Miles

- **2.25 100 Car Train Unit**
  - 2.75 Miles

- **870 Large Semis (Bumper to Bumper)**
  - 11.5 Miles
Ton-Miles Travelled per Gallon of Fuel

Compare...

- Rail: 576
- Truck: 413
- Water: 155
Marine Highways
2012 Recap for Air

- Domestic air cargo ton-miles were up 2 percent and international were down 3.9 percent, for a total drop of 3.6 percent
- Total tonnage declined 2.2 percent – 1.4 percent for international and 0.1 percent for domestic
- U.S. airlines moved more than 48,000 tons of cargo per day
- Jet fuel prices were up 2.9 percent
- The growth of cargo space in passenger jet bellies and their relative cost advantage is putting significant pressure on all cargo jets
- The cargo jet fleet was reduced by 30 aircraft, yet yield factors deteriorated again 2012
U.S. Third Party Logistics Market

Source: Armstrong and Associates
U.S. 3PL Market Segments 2012 Net Revenue

Total $63.5 B ↑ 4.1%

- **Domestic Transportation Management**: $6.3 B ↑ 5.4%
- **International Transportation Management**: $17.9 B ↑ 1.0%
- **Dedicated Contract Carriage (DCC)**: $11.4B ↑ 4.7%
- **Value-Added Warehousing and Distribution (VAWD)**: $27.6 B ↑ 3.8%
Recent Developments

- The Institute for Supply Management’s manufacturing activity index expanded in July, along with new orders, production, but backlog of orders still declines – this after several months of contracting.
- China’s PMI rose after months of decline; however, close examination shows only domestic manufacturing is up, new export orders and backlog still contracting.
- Signs of strengthening:
  - New jobs created has been growing slowly.
  - Existing home sales and residential construction rising in first half 2013.
  - Exports are growing despite the shaky state of the global economy.
  - May have a measurable holiday peak shipping season – just a bump.
- Signs to be watchful of:
  - Most of the employment growth is in part-time jobs.
  - Freight volumes have been very volatile with little overall growth.
  - Inventories are high and are staying on the shelf longer.
  - Consumers are hanging on to their money.
Recent Developments

**Freight Sector Employment**

Source: Bureau of Labor Statistics

June 2013
Truck and Rail Volume in 2013 has Been Mixed

Sources: American Trucking Associations and Association of American Railroads

Percent Change

Jan Feb Mar Apr May Jun Jul

Truck Tonnage  Carloads  Intermodal

-6%  -4%  -2%  0%  2%  4%  6%  8%

-6% -4% -2% 0%  2%  4%  6%
Cass Monthly Freight Index

Index of Dollars Spent for Freight

Index of Freight Shipments

Source: Cass Logistics, Cass Freight Index, January 1990 = 1.0
Estimates of Annual Manufacturing Growth

<table>
<thead>
<tr>
<th></th>
<th>Percent Change Year Over Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td>World</td>
<td>2.9</td>
</tr>
<tr>
<td>Industrialized countries</td>
<td>0.4</td>
</tr>
<tr>
<td>North America</td>
<td>0.4</td>
</tr>
<tr>
<td>East Asia</td>
<td>-1.6</td>
</tr>
<tr>
<td>Europe</td>
<td>1.8</td>
</tr>
<tr>
<td>Developing countries</td>
<td>5.4</td>
</tr>
<tr>
<td>China</td>
<td>10.6</td>
</tr>
<tr>
<td>Newly industrialized countries</td>
<td>5.7</td>
</tr>
<tr>
<td>Other developing countries</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Source: United Nations Industrial Development Agency
Summing Up

- **Economy**
  - Expect continued slow growth – GDP around 3 percent
  - Trucking industry capacity problem is a serious issue and could hit the tipping point this year with new Federal regulations
  - High inventories could become a drag on the economy
  - While hiring is growing and the unemployed rate is slowly dropping; jobs are not keeping up with population growth and the biggest growth sector is part-time jobs with no benefits

- **Global picture**
  - Current economic conditions globally do not support a robust outlook: new orders and backlogs are down, manufacturing is falling, GDP outlooks are being downgraded
  - China economy has slowed from double-digit growth to about 7 percent
Copies of the State of Logistics Report are available from CSCMP at CSCMP.org

Questions?
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