Reshoring: A Manufacturing Strategic Perspective

Presented by
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Mississippi Manufacturers Association
Manufacturing is critical to the Economy

- The US produces **21%** of all global manufactured products
- US manufacturers produce **11.2%** of US GDP
- Manufacturing represents **18.6m** total jobs and **12m** direct jobs
- US manufacturers are twice as productive as workers in the next 10 leading economies
- Performs **2/3’s** of all R&D
- Taken alone, US manufacturing would be the **9th** largest economy in the world

"I Never See any American Products in the Stores. How Can America be the World’s Largest Manufacturer?"

**In 2011, U.S. Factories Produced $5.02 TRILLION of Products, Including:**

- Chemicals, excl. Pharmaceuticals: $526 Billion
- Computing Equipment: $397 Billion
- Motor Vehicles: $360 Billion
- Metal Products: $327 Billion
- Industrial and Other Machinery: $298 Billion
- Steel and Other Primary Metals: $239 Billion
- Pharmaceuticals: $186 Billion
- Plastics and Rubber Products: $185 Billion
- Aircraft: $147 Billion
- Electrical Equipment: $115 Billion

Source: U.S. Census Bureau
UNITED STATES STILL WORLD’S LARGEST MANUFACTURER

Source: UN Statistical Division, Real Manufacturing Value-Added

NATIONAL ASSOCIATION OF MANUFACTURERS

Distribution of U.S. Exports

Source: U.S. Department of Commerce
Manufacturing Trends

- Globalization
- Technology/Innovation
- New Types of Products
- Near Term Shift in Focus: From Process to Cost
- Infrastructure
- Focus on Environment and Sustainability
- Future Supplier Locations
- Trade
- Long Term Critical Need for Educated/ Skilled Workforce

New Manufacturing Concepts

- Strategic Flexibility
- Just In Time
- Value Network
- Co Creation
- Unbundled Production
Manufacturing Today

- More than 40,000 U.S. manufacturing plants closed between 2001 and 2011
- 36% of factories employing more than 1,000 workers
- From 2002 to 2009, 5.5 m or 32% of all manufacturing jobs were lost
- The last time fewer than 12m people worked in manufacturing was 1941
- At the end of 2010, manufacturing represented 11.7% of the economy

Industry Share of Total U.S. GDP

[Graph showing the share of total U.S. GDP from 1970 to 2010 for different industries, including manufacturing, financial activities, trade, transport & utilities, government, health services, leisure & hospitality.]
One of the Most Important Reasons for Job Loss is that Manufacturing Production hasn’t Grown as Fast as Productivity
Impact of Recession on Manufacturing

How has your organization been most affected by the current recession?

- Delayed capital investments: 68%
- Frozen/reduced salaries: 67%
- Insufficient revenue growth: 64%
- Insufficient net income: 44%
- Reduced employee benefits: 35%
- Failed suppliers/supply chain disruption: 24%
- Plant closing: 15%
- Other (see Appendix A): 12%
- No answer: 1%

Source: Industry Week

Manufacturers Expect Continued Pressures

<table>
<thead>
<tr>
<th>Competition from low-cost countries</th>
<th>50%</th>
<th>46%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of healthcare</td>
<td>47%</td>
<td>47%</td>
</tr>
<tr>
<td>Cost of raw materials</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Attracting/keeping skilled labor</td>
<td>26%</td>
<td>37%</td>
</tr>
<tr>
<td>Credit/financing working capital</td>
<td>8%</td>
<td>26%</td>
</tr>
<tr>
<td>Cost of oil &amp; gas / electricity</td>
<td>19%</td>
<td>24%</td>
</tr>
<tr>
<td>Time-to-market for new products</td>
<td>18%</td>
<td>26%</td>
</tr>
<tr>
<td>Quality control / assurance</td>
<td>16%</td>
<td>15%</td>
</tr>
<tr>
<td>Taxes (federal, state and/or local)</td>
<td>15%</td>
<td>24%</td>
</tr>
<tr>
<td>Supply chain disruption</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>Regulations</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>Environmental compliance</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>Other (see Appendix A)</td>
<td>9%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Percent of Respondents selecting as one of their top 3 choices

Source: Industry Week
New and Expanded Manufacturing Facilities in Mississippi

- Toyota North America
- PACCAR, Inc.
- Schulz Extruded Products
- Twin Creeks Technologies
- Stion
- GE Aviation
- Enerfab
- Calisolar
- HCL Clean Tech
- Mississippi Power Kemper County Plant
- Gulf Ship
- Auto Parts Manufacturing Mississippi, Inc.
- Soladigm
- KiOR
- Chevron Lubricants
- Scotts Miracle Grow
- Nissan North America
- Olin Winchester
- Southern Motion, Inc.
- Lane Furniture
Mississippi Plant Closings
1994 - October 11, 2011
Total plants = 971
Total employees = 97,451

Who’s Talking About Onshoring?

Boston Consulting Group

“Within the next five years, the U.S. is expected to experience a manufacturing renaissance.”

Onshoring Trends

- Costs of labor and commodities are rising
- The dollar is worth 25% less than three years ago
- Rising energy costs increase shipping costs
- Intellectual property concerns
- American made products preferred by some
- US has abundance of skilled but unemployed labor
- US wages are stagnant or even falling

U.S. Reinvestment

<table>
<thead>
<tr>
<th>Imagine a company...</th>
<th>...with the following choices of location</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.-based auto parts supplier</td>
<td>Flexible unions/ workforce</td>
</tr>
<tr>
<td>Most customers are U.S. OEMs that manufacture in the U.S.</td>
<td>Minimal wage growth</td>
</tr>
<tr>
<td>Parts require eight minutes of labor, on average, in the U.S.</td>
<td>High worker productivity</td>
</tr>
<tr>
<td>Labor represents one-quarter of the total cost of the part</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>U.S., selected southern states</th>
<th>China, Yangtze River Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage rate ($/hour)</td>
<td>15.81</td>
</tr>
<tr>
<td>Productivity (%)</td>
<td>100</td>
</tr>
<tr>
<td>Labor cost/part ($)</td>
<td>2.11</td>
</tr>
<tr>
<td>Wage rate ($/hour)</td>
<td>24.81</td>
</tr>
<tr>
<td>Productivity (%)</td>
<td>100</td>
</tr>
<tr>
<td>Labor cost/part ($)</td>
<td>3.31</td>
</tr>
<tr>
<td>Labor cost savings (%)</td>
<td>65</td>
</tr>
<tr>
<td>Total cost savings before transportation, duties, and other costs (%)</td>
<td>16</td>
</tr>
</tbody>
</table>

Sources: Economist Intelligence Unit; U.S. Bureau of Labor Statistics; BCG analysis.

Average productivity difference between the U.S. and China’s Yangtze River Delta. Productivity in the Yangtze River Delta region is assumed to grow at a CAGR of ~7 percent over a 2000 baseline, slightly slower than overall Chinese manufacturing productivity (~8.9%) as other regions adopt more advanced manufacturing practices.
China Unraveling

Experiencing triple effect:
1- Commodity costs increase
2- Wage inflation
3- Sagging import demand

• Net effect = 2,331 shoe factories have closed (50%)

Asia and the Cost of Energy

• Energy costs pose threat to all East Asia including China
• Competitive advantage equals razor thin profits
• China’s use of energy per gross domestic product is 3 times US, 5 times Japan and 8 times Britain
• Low tech products, shipped in bulk have higher tariff and freight costs
Transportation Costs

- Cost of moving goods, not tariffs, largest barrier to global trade
- Every 10% increase in trip distance = 4.5% increase in transportation costs
- In 2000 it cost $3,000 to ship a 40 foot container
- Today it costs $8,000
- At $200 a barrel it will cost $15,000
- This is equivalent to a 15% tariff
- Goods with low value to freight ratios carry significant moving costs
- These type of exports from China have dropped by over 10%

International Competition

- Unfair Trading Practices
- Export Constraints
- Distorted Currency Values
- Counterfeit Goods
Critical Need for Educated Workforce

- Excellence in education is becoming a key site selection factor in our “tech economy”
- Focus must be on academics, “soft” skills, and hands-on experience
- Greater client demands for high-skilled, flexible workforce
- Insufficient funding of local education programs leaves many communities unprepared for advanced technology
- A highly skilled and educated workforce is the most critical element for innovation success
- 80% of U.S. parents discourage their children from science and technology careers
Trucking Costs

- Higher truck freight rates
- Up 8% to 9%
- 3500 firms will shut down
- Capacity will be strained
- Expect hefty surcharges
- Manufacturers are putting on fees for shipping costs on their products

Challenges: Regulatory Costs

Source: Small Business Administration
The Future of Manufactured Goods in the USA

• Low-skilled, lower-value, mass-produced products are or will be gone

• Five product categories will remain:
  1- Complex, value added products and systems
  2- Higher margin, technology intensive
  3- Production serving protected markets
  4- Big, bulky items that are costly to ship
  5- Perishable items (frozen food and bread)

Federal Legislative Package
Building a Strong America Act

• Enforcing Orders and Reducing Customs Evasion Act
• Global Investment in American Jobs Act
• Export Promotion Act
• Small Business Export Growth Act
• Strengthening Employment Clusters to Organize Regional Success Act
• WIN Jobs Act
• America Recruits Act
Mississippi Legislative Efforts

- Inventory Tax Relief
- Workers Compensation Reform
- Workforce Enhancement Training Fund
- Civil Justice Reform
- Unemployment Insurance Reduction
- No Tax Increases
- No Fee Increases

Options

Mississippi could follow two paths:
- One is where it struggles to hold onto low-skill jobs in routine manufacturing, many of which are moving offshore.
- Or to ramp up capital investment, automation, state-of-the-art information technologies, and workers and managers skills to compete in high-value, high-margin products and services in a number of key innovation driven industries.
Key Message

• The key to unleashing the growth potential of Mississippi manufacturing is to provide a conducive business climate that encourages innovation, entrepreneurship and investment. Picking winning industries is risky business.

U.S. Standard of Living is in Jeopardy

“If the U.S. manufacturing base continues to shrink at its present rate and the critical mass is lost, the manufacturing innovation process will shift to other global centers. Once that happens, a decline in U.S. living standards in the future is virtually assured.”

– Dr. Joel Popkin, Economist
Thank You