

Reshoring: A Manufacturing Strategic Perspective



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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

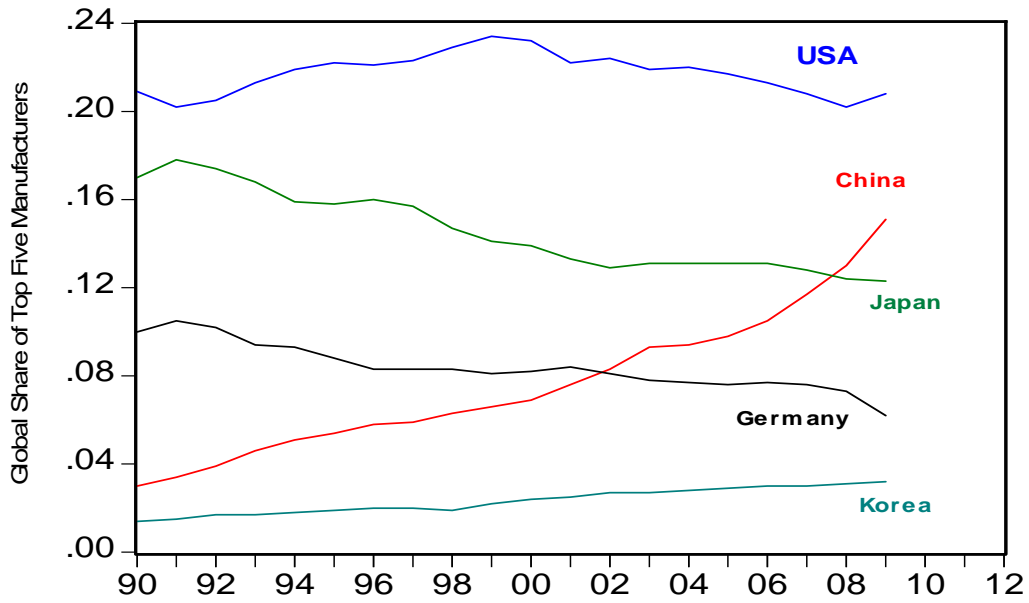
*I Never See any American Products in the Stores.
How Can America be the World's Largest Manufacturer?"*

**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

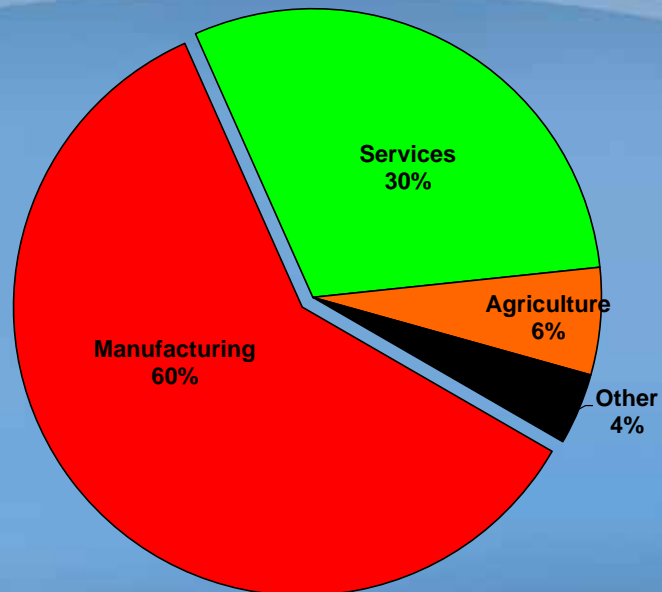


Source: UN Statistical Division, Real Manufacturing Value-Added

NATIONAL ASSOCIATION OF MANUFACTURERS

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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

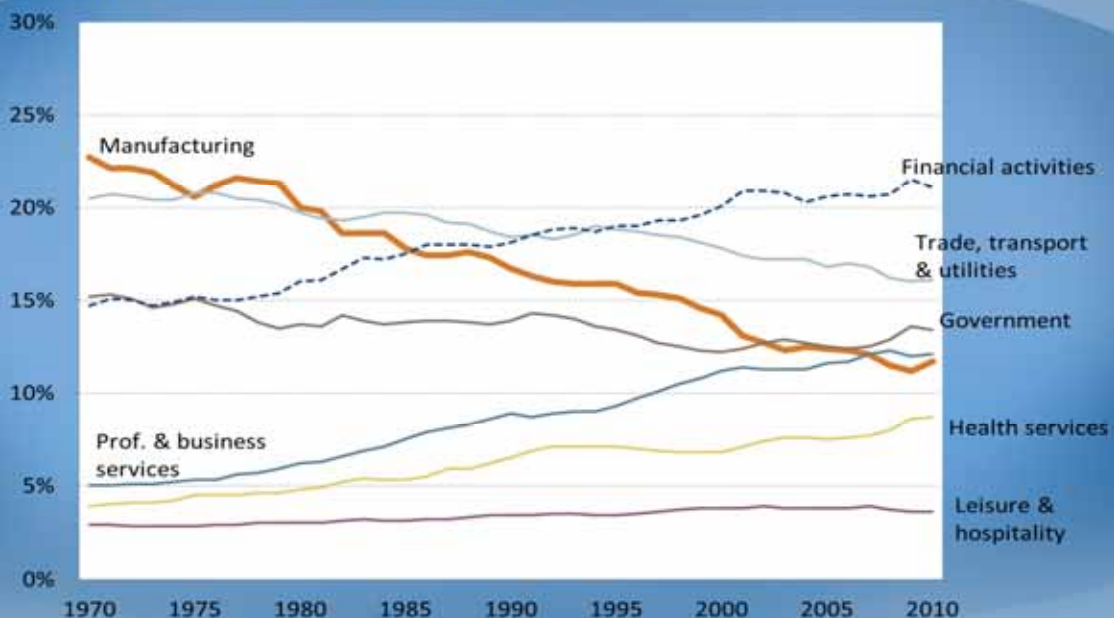
- Strategic Flexibility
- Just In Time
- Value Network
- Co Creation
- Unbundled Production

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

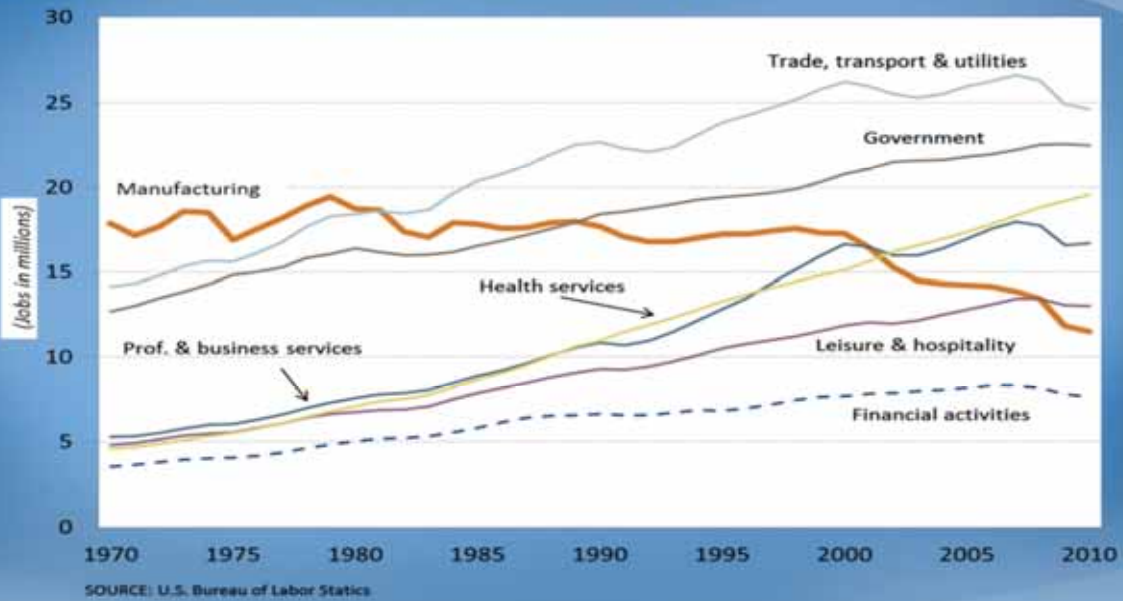
INDUSTRY SHARE OF TOTAL US GDP, 1970-2010



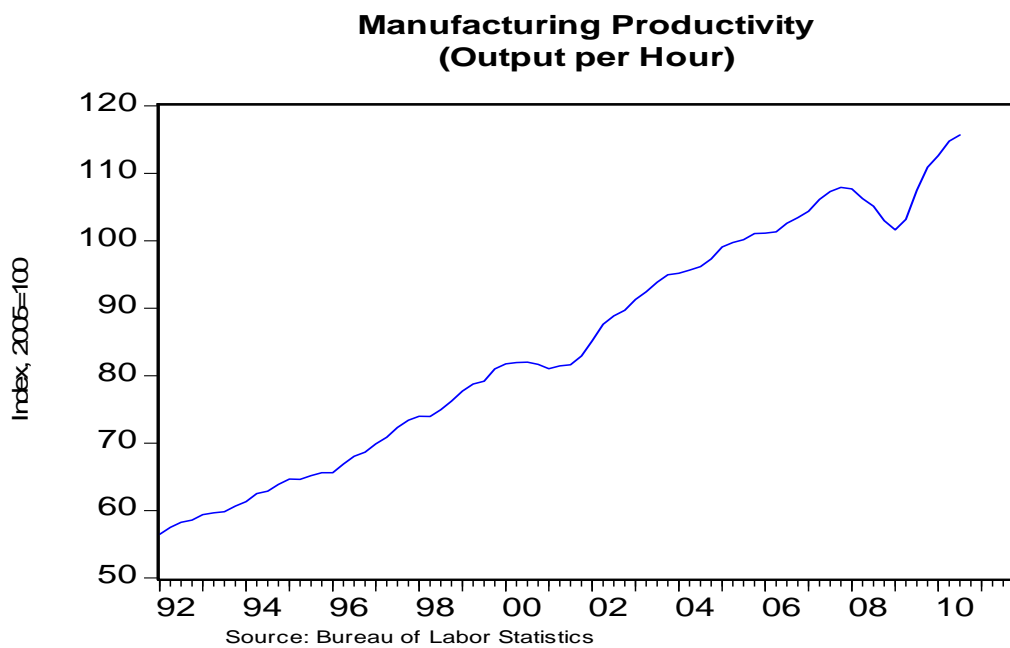
SOURCE: U.S. Bureau of Economic Analysis

U.S. Employment by Industry Sector

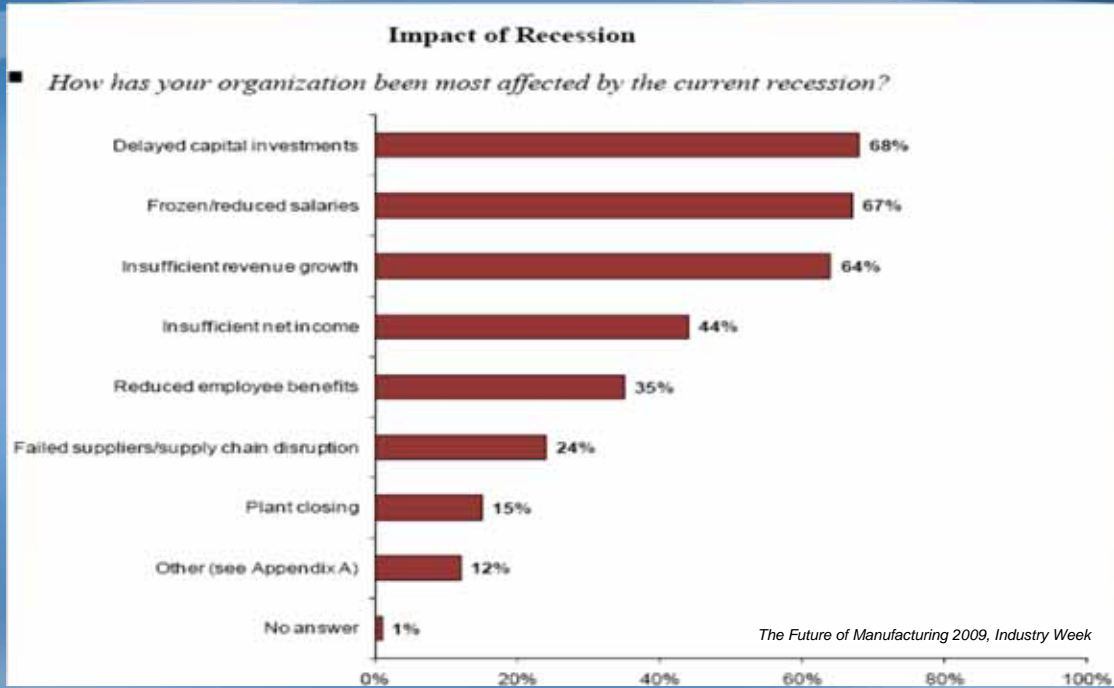
U.S. EMPLOYMENT BY INDUSTRY SECTOR, 1970-2010



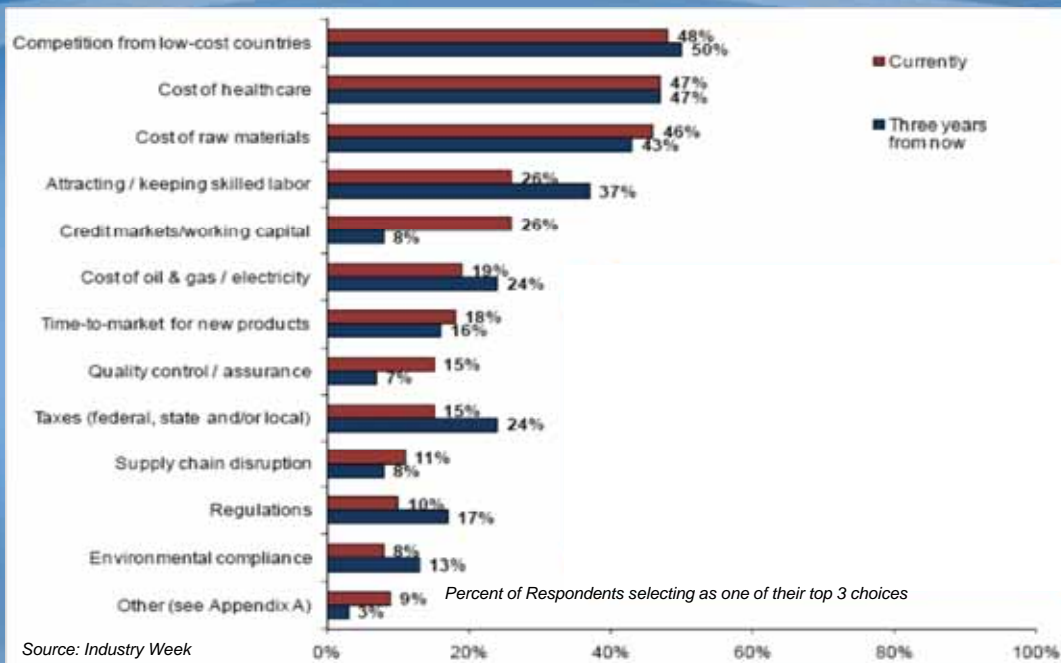
One of the Most Important Reasons for Job Loss is that Manufacturing Production hasn't Grown as Fast as Productivity



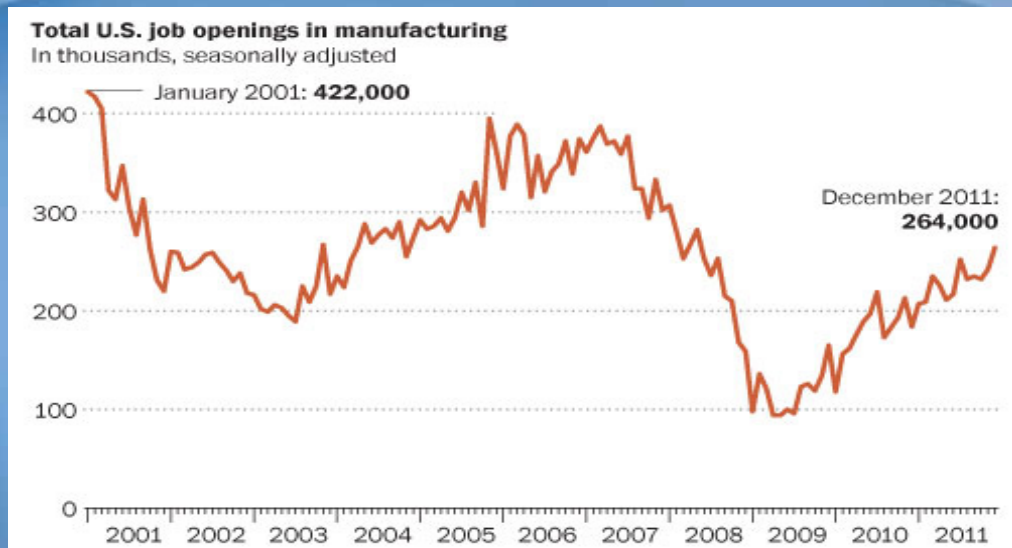
Impact of Recession on Manufacturing



Manufacturers Expect Continued Pressures

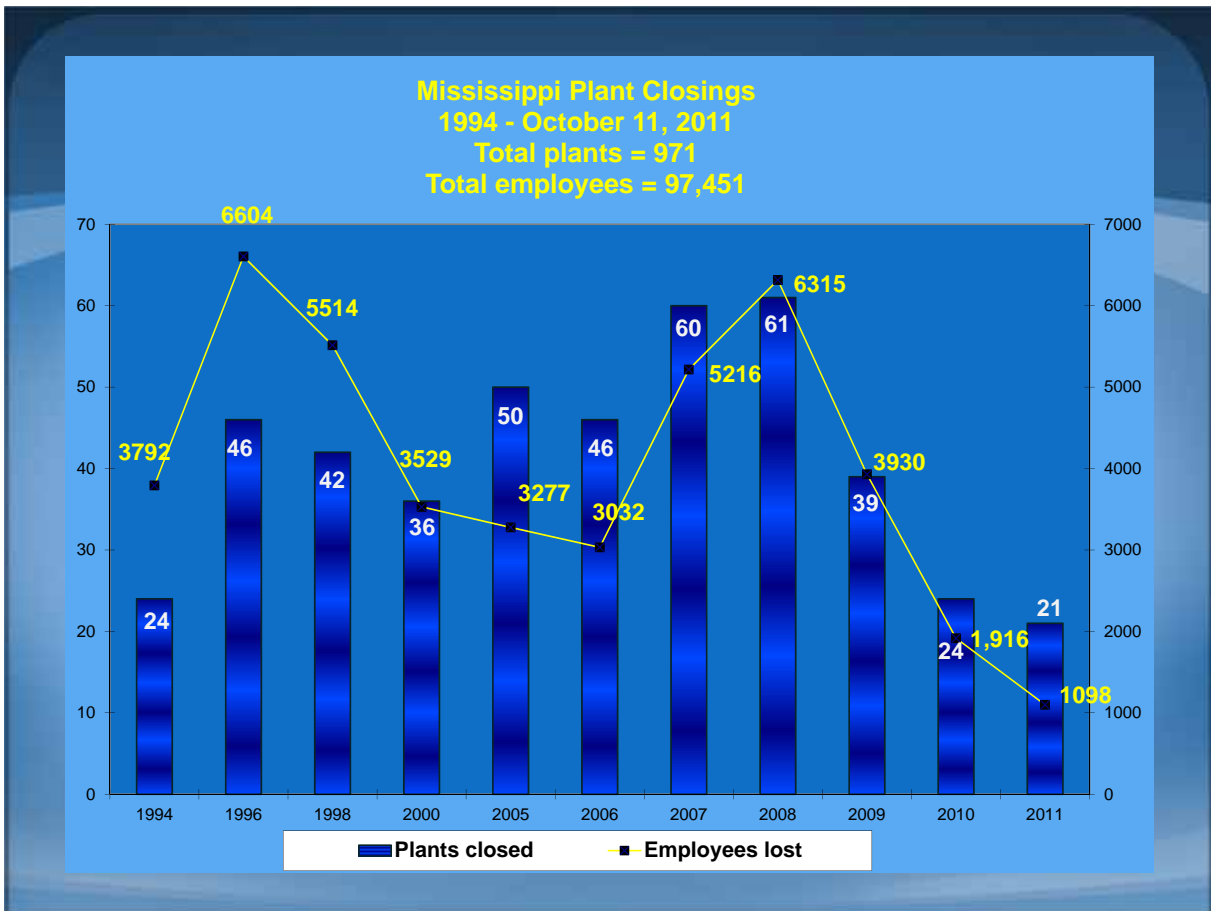


Manufacturing Jobs



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



Who's Talking About Onshoring?

Boston Consulting Group

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

-- Press Release, May 5, 2011

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

EXHIBIT 3 | Economics Will Drive Reinvestment in the U.S.

Imagine a company...	...with the following choices of location		2000	2015E
<ul style="list-style-type: none"> • U.S.-based auto parts supplier • Most customers are U.S. OEMs that manufacture in the U.S. 	U.S., selected southern states <ul style="list-style-type: none"> • Flexible unions/workforce • Minimal wage growth • High worker productivity 	Wage rate (\$/hour)	15.81	24.81
		Productivity (%)	100	100
		Labor cost/part (\$)	2.11	3.31
<ul style="list-style-type: none"> • Parts require eight minutes of labor, on average, in the U.S. • Labor represents one-quarter of the total cost of the part 	China, Yangtze River Delta <ul style="list-style-type: none"> • Scarce labor • Rapidly rising wages • Low productivity relative to the U.S. 	Wage rate (\$/hour)	0.72	6.31
		Productivity (%) ¹	13	42
		Labor cost/part (\$)	0.74	2.00
		Labor cost savings (%)	65	39
		Total cost savings before transportation, duties, and other costs (%)	16	10

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

¹Average 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 2009 baseline, slightly slower than overall Chinese manufacturing productivity (~8.5%) 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%

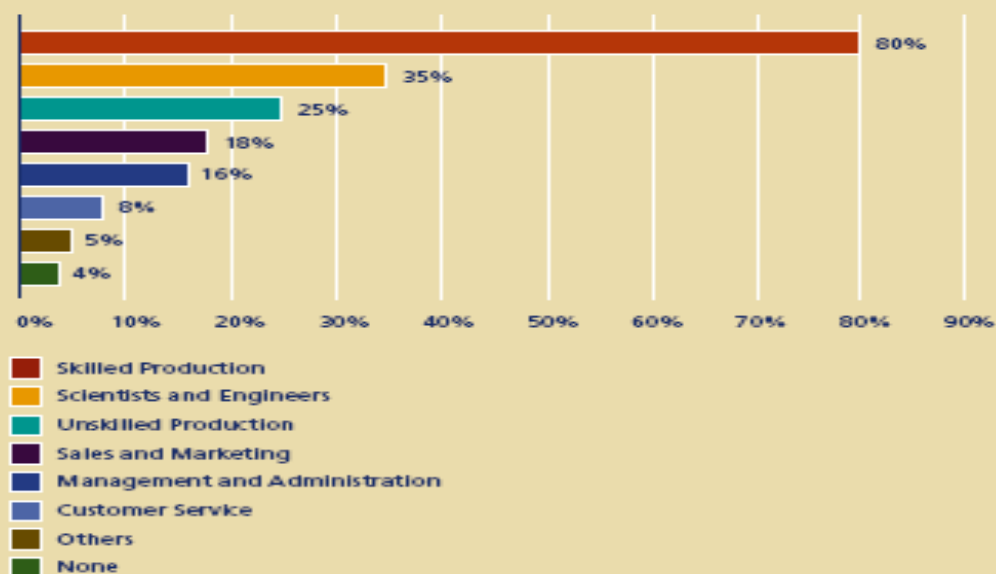
International Competition

- 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

Figure 3. What Types of Employees are Expected to Be in Short Supply Over the Next Three Years? (Select All that Apply)



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



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

