To Reshore or Offshore: How to Objectively Decide

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President
Reshoring Initiative

Posted January 2015
Reshoring/Backshoring/Onshoring/Insourcing: Bringing back manufacture of products that will be sold or assembled here.

Transplants/FDI: Similar logic

Producing near the consumer!

Localization
The Concept also Works in other Countries
Other Countries Pursuing Reshoring

- Canada
- France
- EU
- Italy
- Switzerland: Prof. de Treville
- Korea
- Netherlands
- UK
A ‘herd’ mentality to participate in the ‘Chinese miracle’ developed among global giant corporations --{Peter Nolan; University of Cambridge; - 9/03

“There is a herd mentality with OEMs in China —sometimes it makes sense, sometimes it doesn’t—not always rational decision… People tell their bosses what they want to hear—(going to China) gives a boost to the stock valuation, but you really have to do the analysis on a case by case basis.” {Technology Forecasters 10/03

Source: Stone & Associates
60% of manufacturers:

- Apply “rudimentary” total cost models
  - Wage Arbitrage
  - PPV (Purchase Price Variance)
  - Landed Cost
- Ignore 20% or more of the total cost of offshored products

Source: Archstone Consulting survey, American Machinist Mag., 7/16/09
Indexed Unit Labor Costs in the Manufacturing Sector of Selected Countries

US: Unit labor costs in manufacturing in US$

Source: Oxford Economics/Haver Analytics
“We expect net labor costs for manufacturing in China and the U.S. to converge by around 2015”

“take a hard look at the total costs”

Source: Boston Consulting Group press release 5/11 & 4/12

Chinese no longer “just thankful not to go hungry.”

Source: Michelle D. Loyalka, 2/17/12 NYT
The Industry-Led Reshoring Initiative Provides

- Free Total Cost of Ownership (TCO) software for:
  - Companies for sourcing
  - Suppliers of parts and equipment for selling
- Online Library of 1,800+ reshoring articles
- Statistics from TCO and Library databases
- Case Study template for posting cases.
- Solutions to major supply chain problems
- Motivation for skilled manufacturing careers
TCO Estimator benefits

- Provides a single TCO for each source
- Flexible: values are 100% user selected.
- Broad:
  - 29 cost factors.
  - Via pull down menus you automatically insert:
    - Freight rates for 17 countries
    - Duty rates for parts or tools, e.g. molds
  - Current value and 5 year forecast of TCO.
- Explanations and references to help select values.
- Instructions
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chinese unit price</strong></td>
<td><strong>$70</strong></td>
<td></td>
</tr>
<tr>
<td><strong>U.S. unit price</strong></td>
<td><strong>$100</strong></td>
<td></td>
</tr>
<tr>
<td><strong># units/year</strong></td>
<td><strong>12,000</strong></td>
<td></td>
</tr>
<tr>
<td><strong>unit weight, lbs</strong></td>
<td><strong>2</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Shipments/year</strong></td>
<td><strong>6</strong></td>
<td></td>
</tr>
<tr>
<td><strong>product life, yrs</strong></td>
<td><strong>5</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Packaging</strong>*</td>
<td><strong>1%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Payment on shipment</strong></td>
<td><strong>Yes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Quality</strong>*</td>
<td><strong>2%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Product liability risk</strong>*</td>
<td><strong>0.5%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IP risk</strong>*</td>
<td><strong>1.9%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Innovation</strong>*</td>
<td><strong>0.5%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Trips/yr</strong></td>
<td><strong>2</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Carrying cost, rate</strong></td>
<td><strong>22%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Emergency air freight %</strong>*</td>
<td><strong>5%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Wage inflation, annual</strong>*</td>
<td><strong>8%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Currency appreciation, annual</strong>*</td>
<td><strong>5%</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Chinese differential vs. U.S.
TCO Comparison Example

Present and Forecast US and China Price and TCO (US$)

Year 1 | Year 2 | Year 3 | Year 4 | Year 5
US TCO | China TCO | US Price | China Price
$-  | $-  | $-  | $-  | $-
Cumulative Cost by Category

Cumulative Cost by Category, Year 0: Parts

CUMULATIVE COST BY CATEGORY, YEAR 0: PARTS

CUMULATIVE COST, U.S. $

COST CATEGORY

Price  CoGS  Other Hard  Risk  Strategic  Green

U.S.  China

Price  CoGS  Other Hard  Risk  Strategic  Green
PPV and Landed Cost Miss a lot of TCO

TCO

LANDED COST

PURCHASE PRICE

100%

87%

77%

13%

23%
19 “real” 2012 TCO cases, China vs. U.S.

<table>
<thead>
<tr>
<th>Comparison Basis</th>
<th>% of cases where U.S. has the advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>5%</td>
</tr>
<tr>
<td>TCO</td>
<td>53%</td>
</tr>
<tr>
<td>Difference</td>
<td>48%*</td>
</tr>
</tbody>
</table>

*Conservatively 25% might return if companies shifted to TCO

Source: TCO user database
“End the practice of awarding business on the basis of price tag. Instead, minimize total cost.”

## Offshoring Multiplies Waste

<table>
<thead>
<tr>
<th><strong>Toyota Wastes</strong></th>
<th><strong>Offshoring Contributes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overproduction</td>
<td>Large batch shipments, filling containers</td>
</tr>
<tr>
<td>Waiting</td>
<td>Uncertain delivery/Inconsistent quality, port, customs, shared “awake time” window for discussions</td>
</tr>
<tr>
<td>Transport</td>
<td>12,000 mi. inbound, 6,000 return (boat ½ full)</td>
</tr>
<tr>
<td>Overprocessing</td>
<td>More packing and unpacking, customs paperwork</td>
</tr>
<tr>
<td>Inventory</td>
<td>In transit, cycle, safety stock, uncertain delivery and quality, less ability to check and count</td>
</tr>
<tr>
<td>Motion</td>
<td>Increased cost over time – repetitive motion injuries or additional labor to compensate</td>
</tr>
<tr>
<td>Defects</td>
<td>Much higher than local sources, extra inspection of materials and tolerances, customers unhappy longer</td>
</tr>
</tbody>
</table>
“exporting manufacturing has a negative impact on the country's industrial commons, which represents the collective capability to sustain innovation.”

Professors Gary Pisano and Willy Shih
Harvard Business School
US Chemical Industry Capital Investment: Incremental Due to Shale Gas

Source: American Chemistry Council
A Counter-Argument

- Skilled labor shortage
- Experienced management shortage
- Currency manipulation
- Insufficient ecosystem
- Cost of transition
- Lack of scale
- Lack of political commitment

Source: *Is re-shoring electronics manufacturing all hype?*  
Steven Linahan, Venture Outsource
Some Reshorners

- Apple
- GE
- Ford
- NCR
- CATERPILLAR
- Whirlpool
- Scovill
- Master Lock
- Terryberry
- Electrolux
- FAROUK SYSTEMS
- GOOGLE
- Wright Engineered Plastics
- LIGHTSAVER TECHNOLOGIES, INC.
- di
- Regal Ware Worldwide
- NEUTEX Advanced Energy Group
- Unilife
- Karen Kane
- Freeman Schwabe Machinery
- WHAM-O
- SLEEK Audio
- Seesmart
- Stanley Furniture
- cali bowl
- Pigtronix
- Peerless-AV
- SCI
- PRODIGY
Bringing Production back from China:
- Water-heaters, fridges, and washing machines
- Unionized facility in Louisville, KY
- 1300 jobs, renovated facility, $800 million invested

Reasons:
- Tax incentives
- High-tech new model
- Ease of design collaboration with workers: retail price -20%
- 2 tier contract
- U.S. cost: Higher ex-works but lower considering inventory and delivery issues

Will move a “significant piece” of appliance production back
• Brought manufacturing of truck parts back to Reading, PA, from China

• Reasons:
  • Disorganized shipments impacted local assembly
  • Lead time/time to market
  • Customer responsiveness
  • Travel cost
  • “more control of our destiny”

China to Hatfield, PA, during recession (2008 and on)

“Repatriated” $100 million in foreign investment

Increased local workforce 25%, about 40 jobs

Sales increased 10% over 2010-2011, 22% over 2011-2012

Reasons:

- Re-design
- Delivery and lead time
- Quality and materials control
- Rising labor and transportation costs
- Communications
- IP risk
- Synergies

Plastic Toy Clean-Up Tool

- Reshored production from Mexico to Pendell, PA
- Reasons:
  - Quality
  - Automation
  - Total cost

Gear Boxes for Agricultural Machinery

- Reshored production from China to Earl Township, PA
- Additionally, brought contract work to PA foundry and IL machine shop
- Reasons:
  - Quality
  - Equivalent price
  - Total cost

Medical devices, injection molding
12,000 sq. ft. expansion, Tucson, AZ
- One project expanded from China: Advanced injection molding, automation
- Second project relocated from Mexico: automation

Customers reshoring to Zentech, Baltimore, MD, from suppliers in Asia:

- NovaSom
- Offsite Networks

Reasons:

- Automation/Technology
- Rework, Warranty, Quality
- Travel Cost/Time or Local Onsite Audit
- Wages up overseas
- Total cost = cheaper in the U.S.
- Lead time

● Convinces customers to reshore or stay onshore: Dazor Manufacturing Corp.
● Dazor reshored 90% of parts
● Reasons:
  ● “First-batch syndrome”
  ● Travel cost; Communication; Freight cost; Lead time; IP risks; Automation

Medical Supplies (FDI)

- Asia to Allentown, PA
- Reasons:
  - Communications
  - Delivery
  - Freight cost
  - Lead time
  - Total cost
  - Automation/technology
  - Government incentives
  - Skilled workforce
  - Buy American Act

Walmart’s U.S. Manufacturing program

- Walmart’s increase in U.S. manufactured purchases:
  - $250 Billion over 10 years
  - $50 Billion in the 10th year
  - In the 10th year:
    - Approx. 300,000 manufacturing jobs*
    - Approx. 1 million total jobs**

- Walmart Actions:
  - “Increase what we already buy of U.S. manufactured goods
  - Source “new to Walmart” U.S. manufactured goods
  - Reshore the manufacturing of goods we currently buy by facilitating and accelerating efforts of our suppliers”

*Reshoring Initiative  **Boston Consulting Group
1888 Mills in Griffin, Georgia – Long term deal to make better quality towels. Capital investment required due to volume. “We made a commitment that was longer term than we would normally do.” Walmart

Some Contact Points

- U.S. Manufacturing Program
- Online Product Submission
- U.S. Mfg. Supplier Initial Questionnaire
- Jobs in U.S. Manufacturing Program (JUMP)
- $10M U.S. Manufacturing Innovation Fund w/ U.S. Conf. of Mayors
Woodridge, IL
Supplies heavy equipment companies
Had quality issue with a Chinese component
Found local IL source

Result:
- Quality problem fixed
- Inventory cut by 94%
Hydraulic Cylinders

- Had 100,000 ft² in Chennai, India
- Reshored to Westknoxville, TN
- 60,000 sq. ft.

**Reasons:**

- Fast delivery vs. 5 wks on the water
- Fewer supply chain problems
- If a quality problem, no more bad units en-route

Source: Knoxvillebiz.com Ed Marcum 8/7/10
Reshoring is happening!

- 21% of large companies are actively engaged in reshoring, 2X the rate in 2012 (BCG survey. Press release 9/24/13)

- 40% of contract manufacturers have done reshoring work this year (MFG.com 4/12)


- More likely to buy U.S. product 76%
  Less likely to buy Chinese product 57%
  (Perception Research Services Intl. survey 7/12, 1400 consumers)
## The Bleeding has Stopped!

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing Jobs/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
</tr>
<tr>
<td>New Offshoring</td>
<td>~150,000*</td>
</tr>
<tr>
<td>New Reshoring</td>
<td>2,000*</td>
</tr>
<tr>
<td>New FDI (Foreign Direct</td>
<td>10,000*</td>
</tr>
<tr>
<td>Investment)</td>
<td></td>
</tr>
<tr>
<td>Net Jobs Gained from Offshore</td>
<td>~-140,000</td>
</tr>
</tbody>
</table>

* Estimated  ** Calculated
BCG’s Tipping Point Industries

- Computers and electronics
- Appliances/electrical equipment
- Machinery
- Furniture
- Plastics and rubber
- Fabricated metals
- Transportation goods

*U.S. Manufacturing Nears the Tipping Point*, Boston Consulting Group
1) The U.S. cost advantage represents the labor and logistics costs compared with those of Chinese manufacturers, for products consumed by people in China.

1) The U.S. cost advantage represents the labor and logistics costs compared with those of Chinese manufacturers, for products consumed by people in the United States.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Jobs</th>
<th>Companies</th>
<th>% of Companies Reporting Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Equipment</td>
<td>19046</td>
<td>30</td>
<td>43%</td>
</tr>
<tr>
<td>Electrical Equipment, Appliances, Components</td>
<td>12120</td>
<td>47</td>
<td>62%</td>
</tr>
<tr>
<td>Computer/Electronic Products</td>
<td>6783</td>
<td>24</td>
<td>42%</td>
</tr>
<tr>
<td>Food</td>
<td>2938</td>
<td>9</td>
<td>56%</td>
</tr>
<tr>
<td>Machinery</td>
<td>2795</td>
<td>16</td>
<td>56%</td>
</tr>
<tr>
<td>Apparel/Textiles</td>
<td>1954</td>
<td>37</td>
<td>41%</td>
</tr>
<tr>
<td>Fabricated Metal Products</td>
<td>1749</td>
<td>25</td>
<td>40%</td>
</tr>
<tr>
<td>Wood Products</td>
<td>1028</td>
<td>17</td>
<td>35%</td>
</tr>
<tr>
<td>Office</td>
<td>810</td>
<td>3</td>
<td>67%</td>
</tr>
<tr>
<td>Medical Equipment</td>
<td>628</td>
<td>13</td>
<td>38%</td>
</tr>
<tr>
<td>Hobbies</td>
<td>581</td>
<td>22</td>
<td>32%</td>
</tr>
<tr>
<td>Construction</td>
<td>577</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>300</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Plastic/Rubber Products</td>
<td>298</td>
<td>11</td>
<td>36%</td>
</tr>
<tr>
<td>Home and Kitchen</td>
<td>204</td>
<td>14</td>
<td>29%</td>
</tr>
<tr>
<td>Castings</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Primary Metal Products</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Research and Services</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Energy</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Environmental</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Tools</td>
<td>0</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>
### Negative Issues Offshore

<table>
<thead>
<tr>
<th>Negative Issues</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead time</td>
<td>111</td>
</tr>
<tr>
<td>Quality/rework/warranty</td>
<td>109</td>
</tr>
<tr>
<td>Rising wages and Currency Variation</td>
<td>88</td>
</tr>
<tr>
<td>Freight cost</td>
<td>82</td>
</tr>
<tr>
<td>Total cost</td>
<td>49</td>
</tr>
<tr>
<td>Inventory</td>
<td>37</td>
</tr>
<tr>
<td>IP risk/ Supply chain interruption risk</td>
<td>29 each</td>
</tr>
<tr>
<td>Delivery</td>
<td>28</td>
</tr>
<tr>
<td>Communications</td>
<td>18</td>
</tr>
<tr>
<td>Green considerations/Loss of control</td>
<td>15 each</td>
</tr>
<tr>
<td>Travel cost/time</td>
<td>14</td>
</tr>
<tr>
<td>Price</td>
<td>5</td>
</tr>
<tr>
<td>Difficulty of innovation/product differentiation/Regulatory compliance</td>
<td>4 each</td>
</tr>
<tr>
<td>Burden on Staff, Emergency air freight, Political instability</td>
<td>2 each</td>
</tr>
<tr>
<td>Employee turnover, Strained offshore relationships, Natural disaster risk</td>
<td>1 each</td>
</tr>
</tbody>
</table>

### Positive Reasons to Reshore

<table>
<thead>
<tr>
<th>Positive Reasons to Reshore</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled workforce</td>
<td>87</td>
</tr>
<tr>
<td>Image/brand</td>
<td>80</td>
</tr>
<tr>
<td>Government incentives</td>
<td>79</td>
</tr>
<tr>
<td>Automation/Technology/3D printing</td>
<td>57</td>
</tr>
<tr>
<td>U.S. energy prices</td>
<td>49</td>
</tr>
<tr>
<td>Re-design</td>
<td>41</td>
</tr>
<tr>
<td>Higher productivity</td>
<td>36</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>35</td>
</tr>
<tr>
<td>Lean</td>
<td>27</td>
</tr>
<tr>
<td>Eco-system synergies</td>
<td>22</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>20</td>
</tr>
<tr>
<td>Customer responsiveness</td>
<td>14</td>
</tr>
<tr>
<td>Lower real-estate/construction</td>
<td>8</td>
</tr>
<tr>
<td>Labor concessions</td>
<td>7</td>
</tr>
</tbody>
</table>

## Countries From Which Reshored

<table>
<thead>
<tr>
<th>Country</th>
<th>Reshored Cases</th>
<th>Global Regions</th>
<th>Reshored Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>135</td>
<td>Asia</td>
<td>165</td>
</tr>
<tr>
<td>Mexico</td>
<td>20</td>
<td>North America</td>
<td>26</td>
</tr>
<tr>
<td>India</td>
<td>11</td>
<td>Western Europe</td>
<td>6</td>
</tr>
<tr>
<td>Canada</td>
<td>6</td>
<td>Eastern Europe</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>South America</td>
<td>1</td>
</tr>
<tr>
<td>Taiwan</td>
<td>5</td>
<td>Africa</td>
<td>1</td>
</tr>
<tr>
<td>Korea</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany, France, Brazil,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain, Netherlands,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy, Egypt, Indonesia,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK, Singapore, Malaysia,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sri Lanka, Australia</td>
<td></td>
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</tr>
</tbody>
</table>

## Jobs Reshored by State

<table>
<thead>
<tr>
<th>State</th>
<th>Jobs</th>
<th>Companies</th>
<th>Avg. Jobs/Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>7780</td>
<td>7</td>
<td>1111</td>
</tr>
<tr>
<td>MI</td>
<td>6721</td>
<td>13</td>
<td>517</td>
</tr>
<tr>
<td>CA</td>
<td>6014</td>
<td>28</td>
<td>215</td>
</tr>
<tr>
<td>KY</td>
<td>4612</td>
<td>5</td>
<td>922</td>
</tr>
<tr>
<td>TX</td>
<td>3712</td>
<td>12</td>
<td>309</td>
</tr>
<tr>
<td>OH</td>
<td>3611</td>
<td>18</td>
<td>201</td>
</tr>
<tr>
<td>GA</td>
<td>3005</td>
<td>7</td>
<td>429</td>
</tr>
<tr>
<td>TN</td>
<td>2490</td>
<td>11</td>
<td>226</td>
</tr>
<tr>
<td>NY</td>
<td>1089</td>
<td>17</td>
<td>64</td>
</tr>
<tr>
<td>NC</td>
<td>1020</td>
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</tr>
<tr>
<td>CO</td>
<td>738</td>
<td>6</td>
<td>123</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>State</th>
<th>Jobs</th>
<th>Companies</th>
<th>Avg. Jobs/Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ</td>
<td>700</td>
<td>2</td>
<td>350</td>
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<table>
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<th>State</th>
<th>Jobs</th>
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<th>Avg. Jobs/Facility</th>
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</table>

Sources: Reshoring Initiative Library, August 31, 2014.

Cases 2007 through 8/31/14.
The fastest and most efficient way to strengthen the U.S. economy

- Reshoring breaks out of:
  - The economic zero-sum-game of tax/borrow and spend.
  - The increases in consumer prices of relying solely on currency changes.
  - The waiting-for-policy-decisions problem.
- Assures that the pie grows, to the advantage of all Americans.
- Grows the pie by taking back what we earlier lost.
- Focuses on the manufacturing sector which has suffered so many job losses for decades.
- More efficient than exporting, stimulus programs or tax reductions.
Reshoring More Effective than Exporting: U.S. is Much More Competitive at Home!

<table>
<thead>
<tr>
<th>Where Made</th>
<th>Where Sold</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>U.S.</td>
<td>$100</td>
<td>$115</td>
</tr>
<tr>
<td>China</td>
<td>China</td>
<td>$100</td>
<td>$85</td>
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<tr>
<td>Difference</td>
<td>0</td>
<td>30%</td>
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</tr>
</tbody>
</table>

Based on TCO being 15% higher for exports
Gaining support in Washington, DC

- Commerce Dept:
  - 2012 budget specifies TCO.
  - Links:
    - http://nist.gov/mep/reshoring.cfm
    - http://business.usa.gov/program/reshoring-initiative
    - **Major new site:** http://acetool.commerce.gov/
  - 6 rounds of free MEP webinars
  - Testified at Congressional hearing on 3/28/12
  - Working actively with SelectUSA

- Calls from:
  - United States-China Economic and Security Review Commission
  - White House National Economic Council
But how do apprenticeships and credentials pay?

Education pays...
Education pays in higher earnings and lower unemployment rates

Unemployment rate in 2011 (in %)
- Doctoral degree: 2.5
- Professional degree: 2.4
- Master's degree: 3.6
- Bachelor's degree: 6.8
- Associate degree: 9.4
- Some college, no degree: 14.1

Average: 7.6%

Median weekly earnings in 2011 (in $)
- Bachelor's degree: $1,665
- Master's degree: $1,423
- Associate degree: $1,053
- Some college, no degree: $708
- High school diploma: $638
- Less than high school diploma: $451

Average: $757

<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
</tr>
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<tbody>
<tr>
<td>“Trades” and “vocations” image</td>
<td>Call them “Professions”</td>
</tr>
<tr>
<td>Manufacturing career image due to offshoring</td>
<td>Industry collect and media report the local reshoring case of the month. Use our Case Studies feature.</td>
</tr>
<tr>
<td>Action</td>
<td>Source/Responsibility</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Identify local imports by U.S. or foreign</td>
<td>Datamyne</td>
</tr>
<tr>
<td>companies</td>
<td></td>
</tr>
<tr>
<td>Suggest to companies they source locally</td>
<td>EDO/MEP/ etc.</td>
</tr>
<tr>
<td>Train companies on TCO to overcome issue of</td>
<td>Reshoring Initiative</td>
</tr>
<tr>
<td>higher local price</td>
<td></td>
</tr>
<tr>
<td>Needed further cost reductions</td>
<td>MEP/ Comm. College/ Technology Suppliers/EDO</td>
</tr>
</tbody>
</table>
Selling using TCO

- Focus on profit impact, risk management, strategic benefits
- Overcome mandates
- Many Supply Chain Managers believe
- Work with natural allies:
  - Lean, Green, compliance, quality, line management
- Maximize the advantages of proximity
- Match “Chinese” price or ......?
Capital Investment using TCO

- By understanding:
  - the advantage of producing near the consumer, and
  - the small TCO gap instead of the large price gap
- U.S. companies can:
  - justify domestic investment, process improvement, automation, training, etc.
- And do not have to sacrifice quality, delivery, time-to-market, or employees to be competitive and profitable.
How you can help reshoring

1. Use the tools for sourcing and selling. Free at www.reshorenow.org
2. Use our archived webinars to inform staff and customers
3. Post a link.
4. Call on us to speak at: open houses, webinars, customer industry conferences
5. Submit cases of reshoring.
6. Sponsor
How the Initiative can help companies

- Data on reshoring by others
- Consumer preference data
- Training on TCO
- Help with the analysis
- Ideas for managing the transition
- Promotion of your success
Useful Tools

- ACETool
  - Cost Differential Frontier
- TCO Estimator
- Using the TCO Estimator: A How-To Guide
- Library
- Submit a Case Study
- Economic Development Program
CDF (Cost Differential Frontier)

- Based on lead time and variability in order rates
- Quantifies the cost of excess inventory, obsolescence and lost orders
- Developed by Prof. Suzanne de Treville, Univ. of Lausanne
- Can add 15% to 20% to the offshoring costs identified by the TCO Estimator
A non-profit with 38 sponsors, including:

**Platinum**
- AMT
- Bank of America Merrill Lynch
- SME

**Gold**
- +GF+
- Morris Group, Inc.
- NMA

**Silver**
- United Grinding
- NTMA
- PMA
- Wessel Group
- AME
- Mazak
A non-profit with 38 sponsors

Bronze
- FESTO
- tci PRECISION METALS
- ROYAL PRODUCTS
- AFS AND THE INSTITUTE
- DOOSAN
- US bank
- FMA
- SPI (The Plastics Industry Trade Association)

Steel
- Swiss Machine Tool Society
- BIG KAISER PRECISION TOOLING INC.
- manex The Corporation for Manufacturing Excellence
- PARLEC
- ERA
- 30 years NAHAD
- IPC

Iron
- USCTI United States Cutting Tool Institute
- CANADIAN TOOLING & MACHINING ASSOCIATION
- EROWA system solutions
- starrag
- MSSC
- Nutec GROUP
- IDEAL FASTENER CORPORATION
Help reverse the offshoring flood now!

Contact:
Harry Moser
Founder and President
847-726-2975
harry.moser@reshorenow.org
www.reshorenow.org

Recruiting trainees for the skilled manufacturing workforce:
http://tinyurl.com/33vpz9k