



Reshoring Initiative

Bringing Manufacturing Back Home

To offshore or reshore? How to objectively decide.

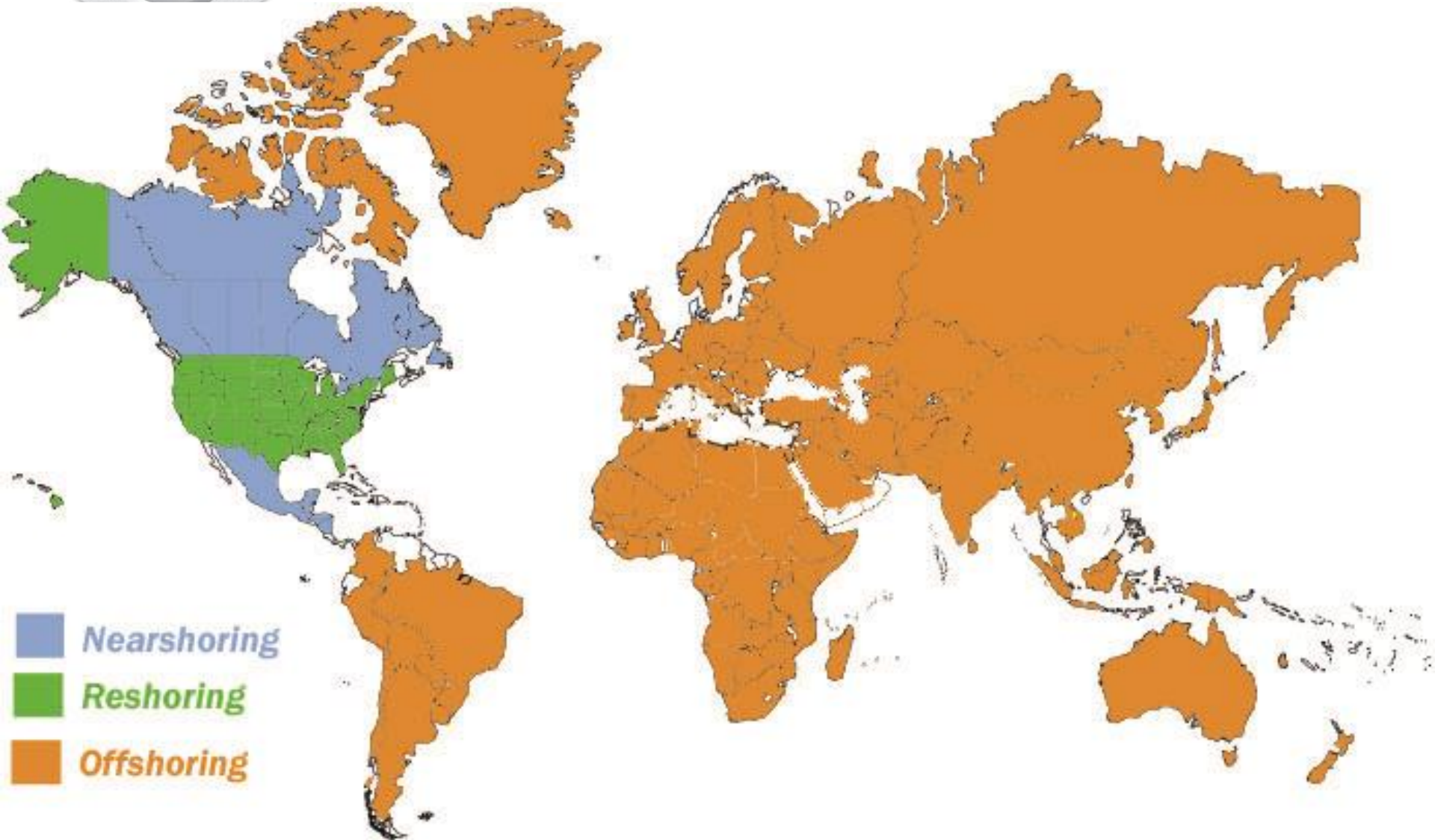
WHMA

Harry Moser
President
Reshoring Initiative

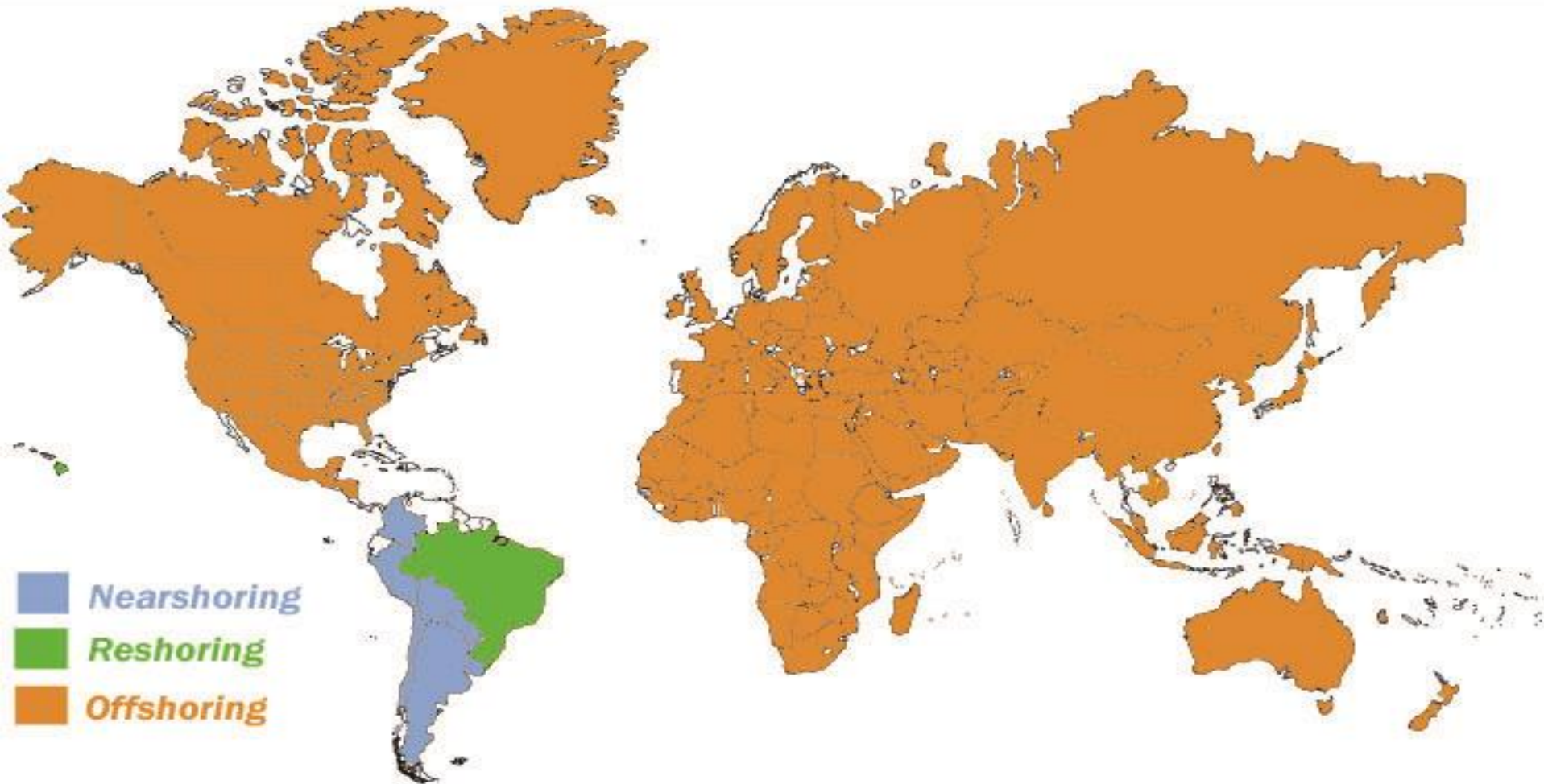
- PPT 55 minutes
- Q&A anytime 15
- Break 10
- Tutorial: TCO, website 20
- SOP Suggestions 10
- Q&A anytime 10
- Total 2 hours

- Reshoring/Backshoring/Onshoring/Insourcing: Bringing back manufacture of products that will be sold or assembled here.
- Transplants: Similar logic
- Producing near the consumer!
- Localization
- Opposite of: Offshoring, not of “Outsourcing”

Geographic Sourcing Alternatives



Reshoring: a Brazilian perspective



- 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

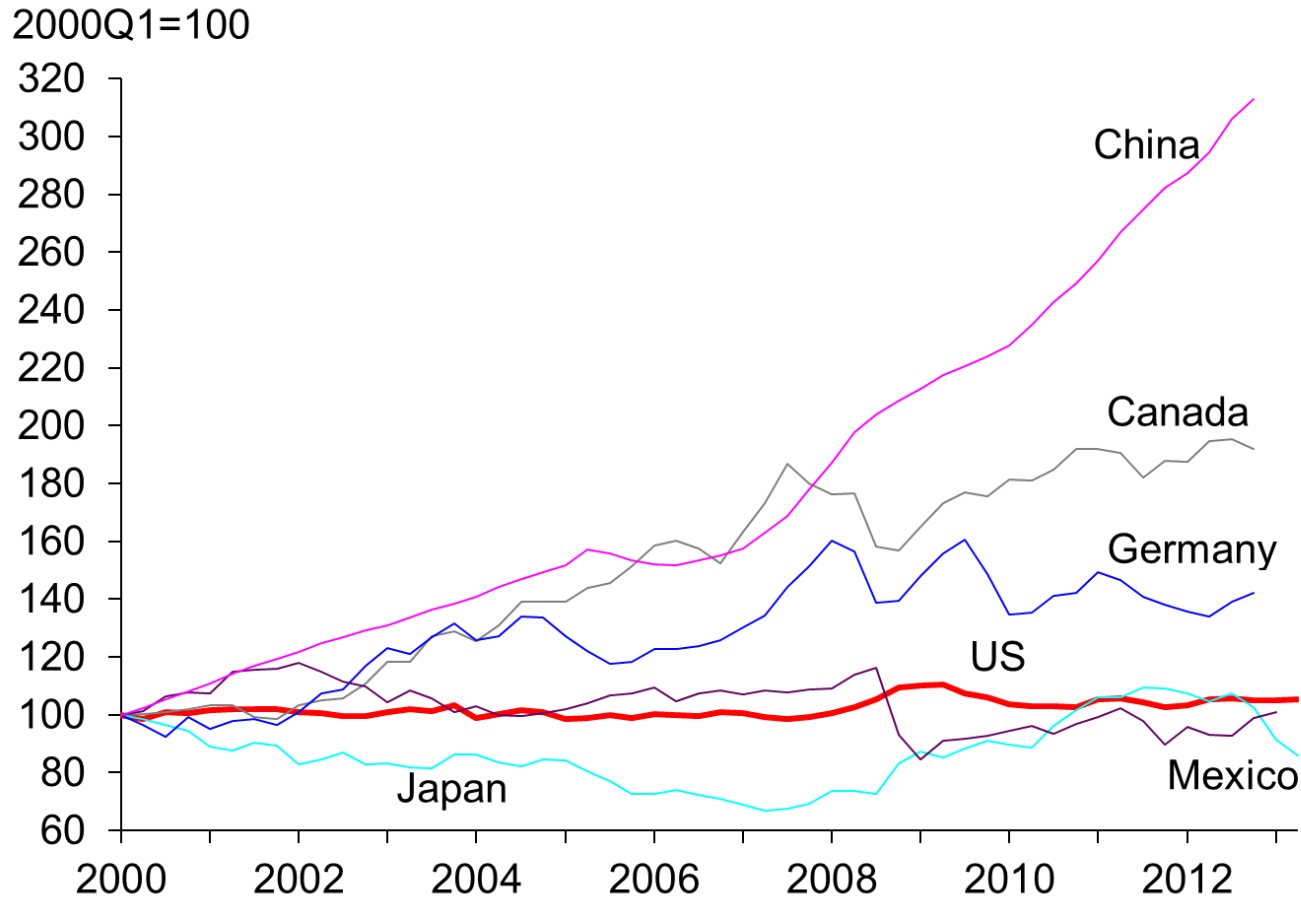
60% of manufacturers:

- 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

Unit labour 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 and suppliers
- Online Library of 867 reshoring articles
- Case Study template for posting cases.
- Solutions to major supply chain problems
- Motivation for skilled manufacturing careers

- 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.
- Easy to use:
 - Explanations and references to help select values.
 - Instructions
- Free

TCO Example: a Part

Chinese unit price	\$70
U.S. unit price	\$100
# units/year	12,000
unit weight, lbs	2
Shipments/year	6
product life, yrs	5
Packaging*	1%
Payment on shipment	Yes
Quality*	2%

Product liability risk*	0.5%
IP risk*	1.9%
Innovation*	0.5%
Trips/yr	2
Carrying cost, rate	22%
Emergency air freight %*	5%
Wage inflation, annual*	8%
Currency appreciation, annual*	5%

* Chinese differential vs. U.S.

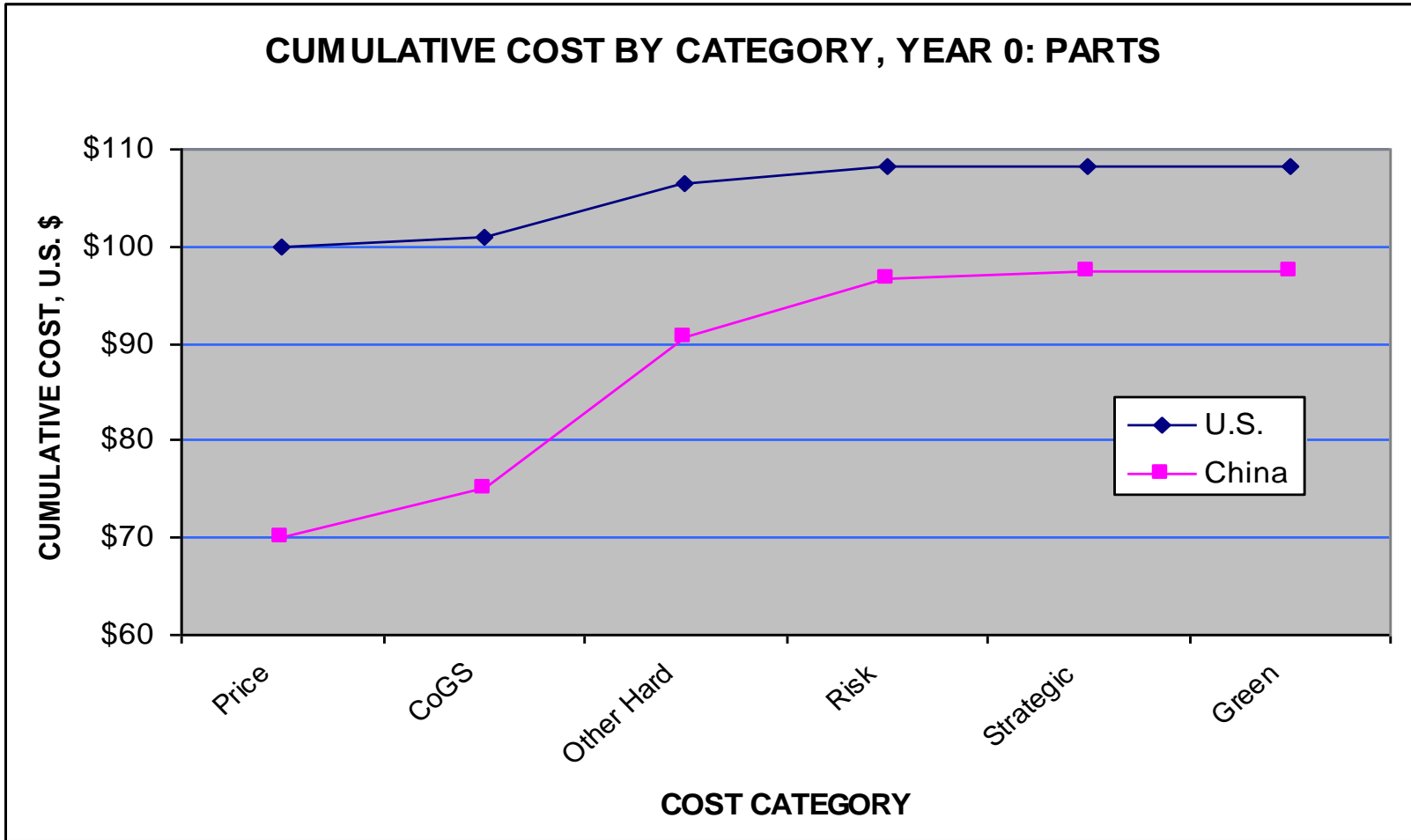


TCO Comparison Example

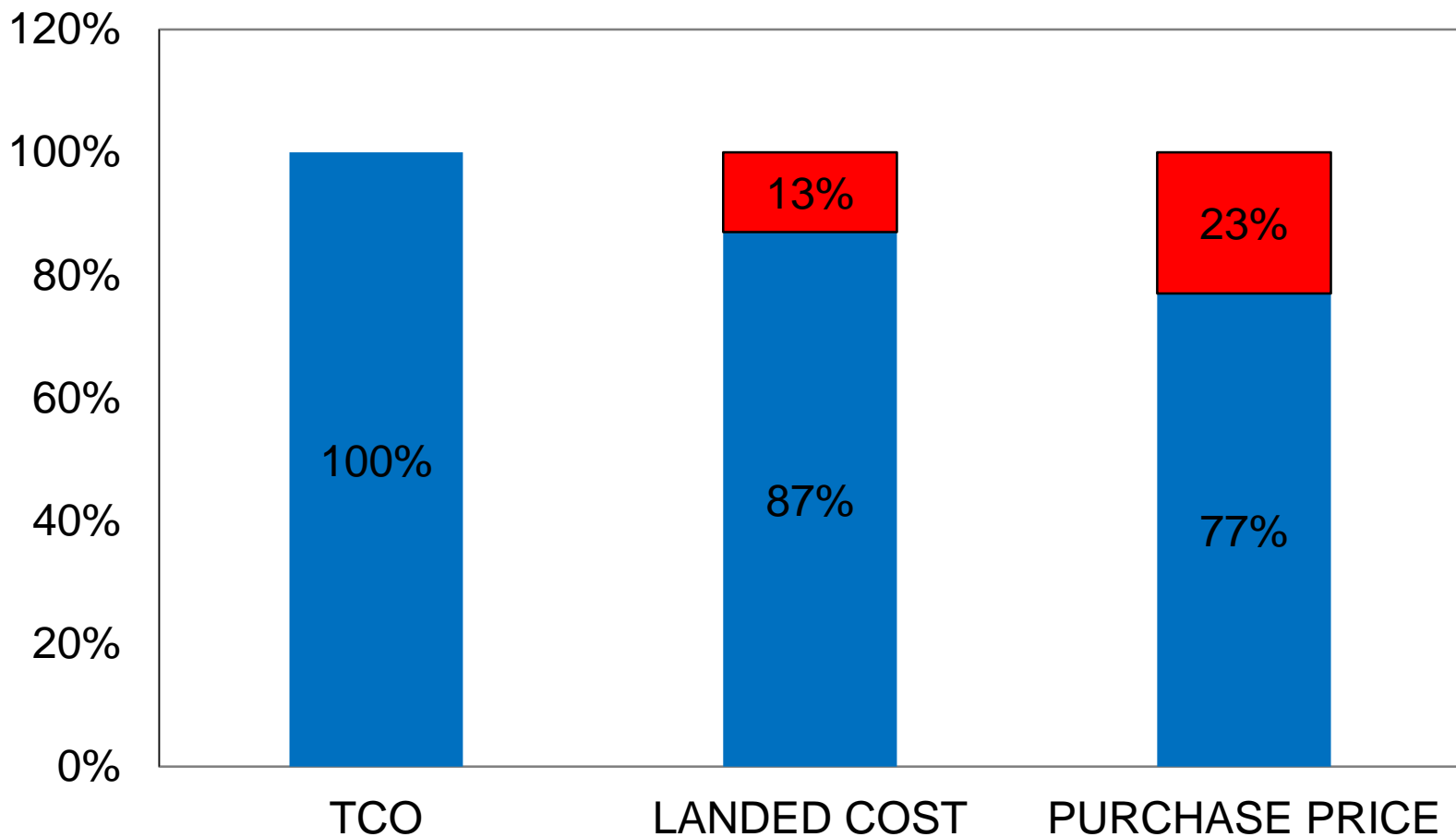
Present and Forecast US and China Price and TCO (US\$)



Cumulative Cost by Category



Even Landed Cost Misses a lot of TCO



- “End the practice of awarding business on the basis of price tag. Instead, minimize total cost.”

Source: “4th Key Principle for Management,” *Out of the Crisis*, W. Edwards Deming

Offshoring multiplies Waste

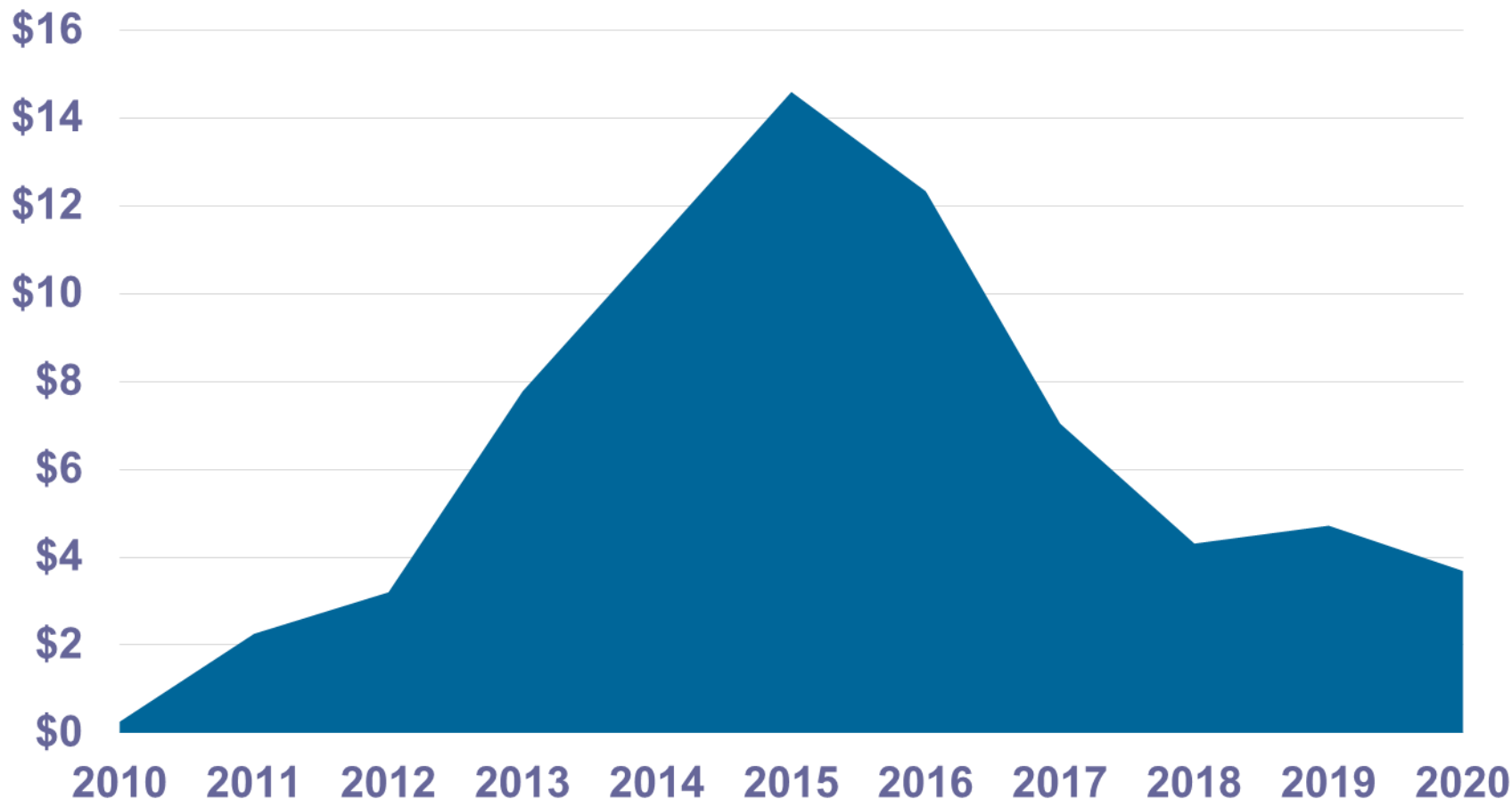
<u>Toyota Wastes</u>	<u>Offshoring Contributes</u>
Overproduction	Large batch shipments, filling containers
Waiting	Uncertain delivery/Inconsistent quality, port, customs, shared “awake time” window for discussions
Transport	12,000 mi. inbound, 6,000 return (boat ½ full)
Overprocessing	More packing and unpacking, customs paperwork
Inventory	In transit, cycle, safety stock, uncertain delivery and quality, less ability to check and count
Motion	Increased cost over time – repetitive motion injuries or additional labor to compensate
Defects	Much higher than local sources, extra inspection of materials and tolerances, customers unhappy longer

“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

Billions of 2012 Dollars



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

Reshoring Initiative
Bringing Manufacturing Back Home



CATERPILLAR



**Master
Lock**

Terryberry
recognized



FAROUK SYSTEMS



LIGHTSAVER
TECHNOLOGIES, INC.



ACE
ACE CLEARWATER ENTERPRISES



Karen Kane



peerless-AV



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
 - Chinese cost: -30% becomes +6% considering inventory and delivery problems
- Will move a “significant piece” of appliance production back

Front-loading Washers (Kept from Offshoring)



- Five year, \$1 billion investment in U.S. facilities
- Reasons to onshore:
 - Freight cost
 - Higher productivity
- 1500 jobs
- \$200 million plant in TN
- 80% of U.S.-sold products are made in the U.S.

Sources: "Made in America? How to know which flag-waving products are true red, white, and blue." *Consumer Reports*. <http://www.consumerreports.org/cro/magazine/2013/02/made-in-america/index.htm>
"US firms 'reshore' manufacturing as costs rise in China, India." Uttara Choudhury, *First Post*. March 29, 2013. <http://www.firstpost.com/world/us-firms-reshore-manufacturing-as-costs-rise-in-china-india-678613.html>



- 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

\$50 Billion... just a starting point



- The company says the \$50 billion is just a starting point. If other retailers joined the party the figure could be much, much higher, perhaps \$500 billion.
- Walmart's U.S. president, Bill Simon, suggested in a speech to fellow retailers that the power of their order books can help reshore U.S. production in textiles, furniture, pet supplies, some outdoor categories, and higher end appliances.

<http://business.time.com/2013/04/12/how-walmart-plans-to-bring-back-made-in-america/#ixzz2VpVYk5dB> Bill Saporito April 12, 2013



- **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



- China to Clarkesville, GA
- Reasons:
 - Salaries up
 - Expectations up
 - Rising Yuan
 - 20-25% of employees did not return from annual holiday

Precision Tools and Components (Transplant)



- Taiwan and China to Harrisburg, PA
- \$30 million capital investment
- Will create 500 skilled labor jobs
- Reasons:
 - Synergies
 - Skilled workforce availability
 - Customer preference for domestically made products
- Committing additional \$10 million to Carnegie Mellon University for robotics R&D

- 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%

Circuit Board Assembly, Wire Harnesses



- China to Glendale Heights, Ill., in 2014
- Increase employment at plant by 25%
- Reasons:
 - Flexibility
 - Price: “Lower volume customers want the flexibility of assembling their products in Asia or locally at the best price.”
 - Lead time
 - Freight Cost
 - Labor Cost
 - Re-design, manufacturing/engineering innovation

- China and Mexico to Portland, OR
- 30 new employees
- Reasons:
 - Delivery
 - Re-design
 - Quality
 - Productivity
 - Lean techniques
 - Total Cost





- 50% of Frisbee production
- China back to CA and MI
- 8 jobs added

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)
- % of U.S. consumers who view products Made in America very favorably: 78% (2012) up from 58% (2010) (AAM June 28-July 2, 2012)
- More likely to buy U.S. product 76%
Less likely to buy Chinese product 57%
(Perception Research Services Intl. survey 7/12, 1400 consumers)

100,000 Manufacturing Jobs since Jan 2010!

- Reshoring yielded:
 - About 100,000 manufacturing jobs*
 - ~ 10-15% of manufacturing job growth since the Jan. 2010 low
 - ~ 160,000 total, including multiplier effect

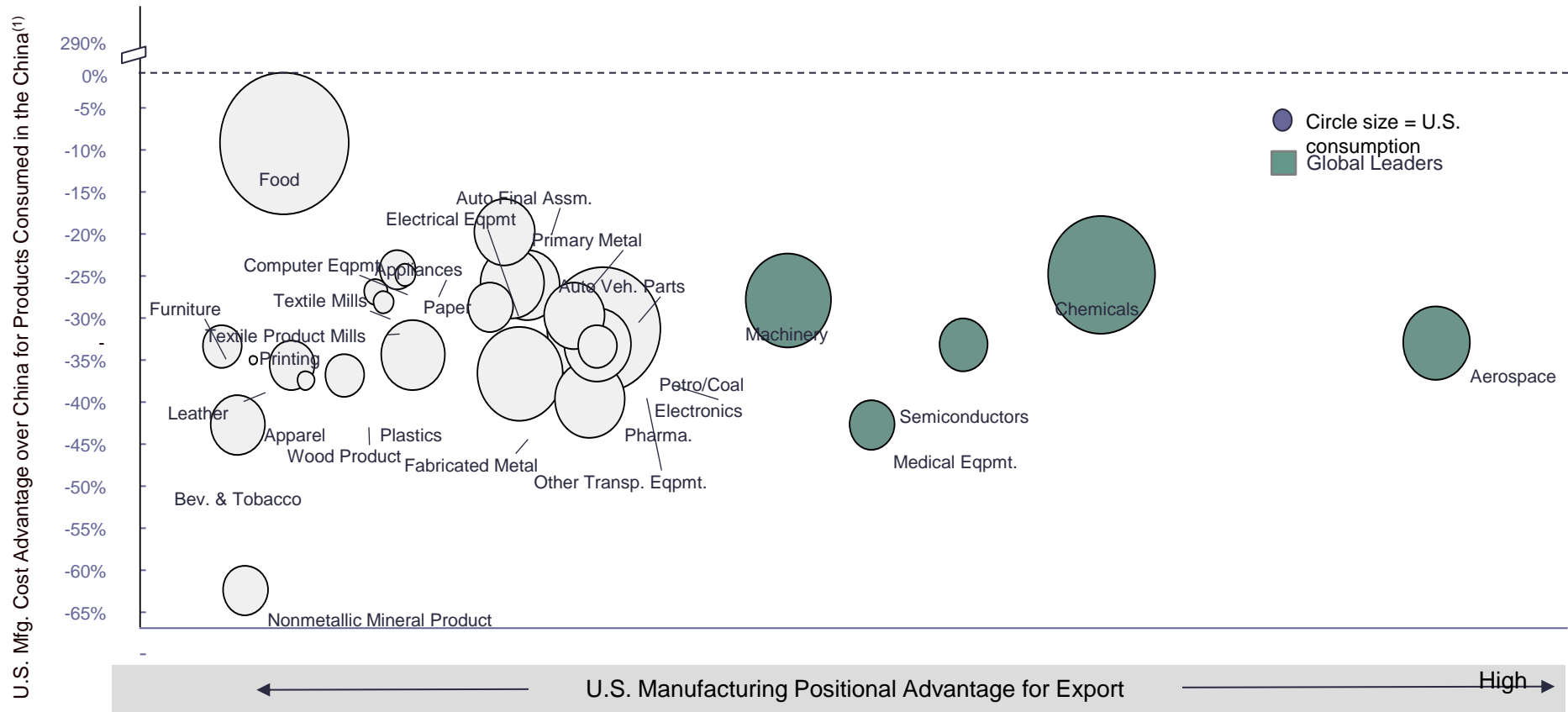
* Source of estimate: Reshoring Initiative tabulation of jobs listed in 425 Reshoring Library articles, 90% published since Jan 2010

Reshoring Trend

	Manufacturing Jobs/Year			
	2003	2013	% Change	2016
New offshoring	~150,000	30-50,000	-70%	20,000
New reshoring	2,000?	30-40,000	+1,500%	70,000
Net reshoring	-148,000	0	-100%	+50,000

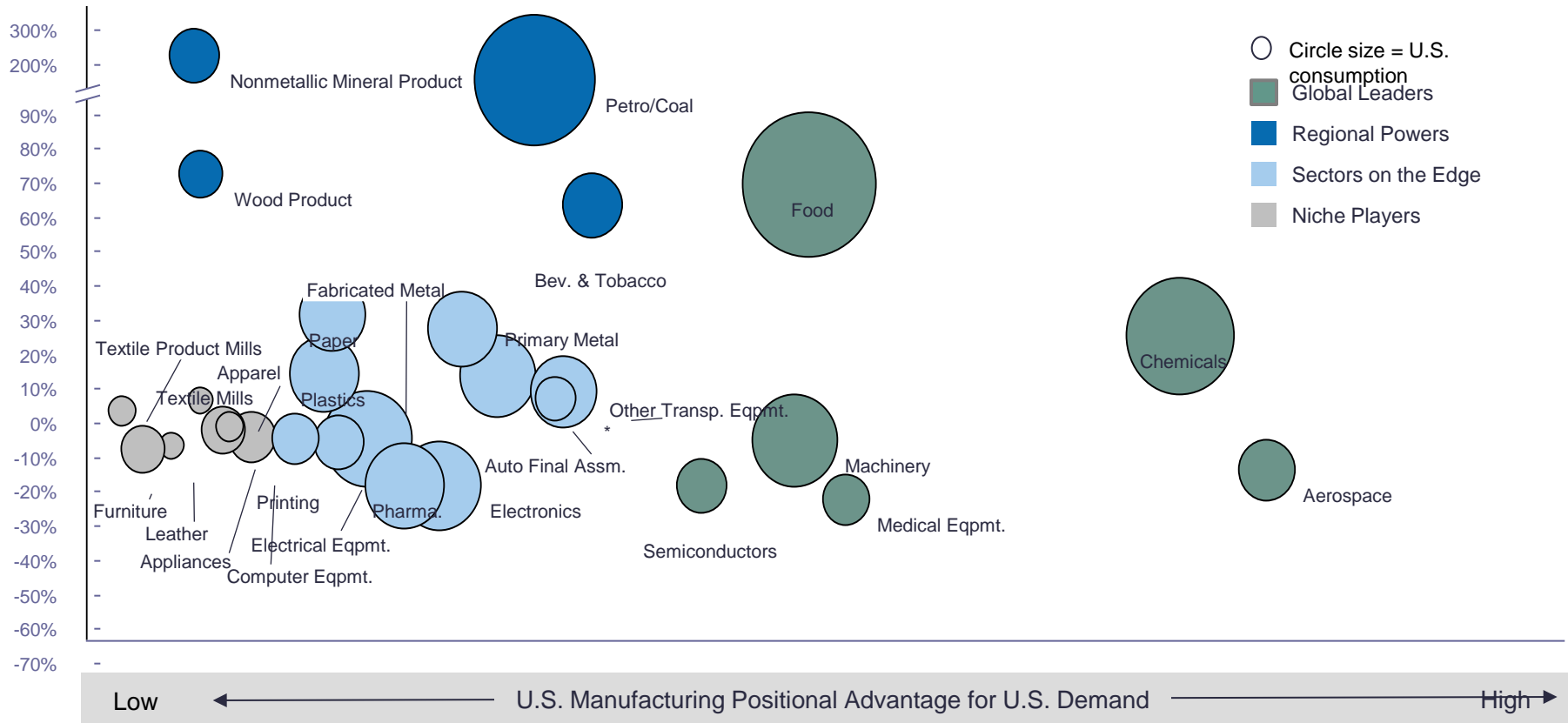
- Computers and electronics
- Appliances/electrical equipment
- Machinery
- Furniture
- Plastics and rubber
- Fabricated metals
- Transportation goods

U.S. Manufacturing Competitiveness for Exports



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.
Source: U.S. Census Bureau, Bureau of Labor Statistics, UBS Research, CapitalIQ, Energy Information Administration, World Bank, Eurostat, World Trade Organization, IRS Statistics, Tauber Institute for Global Operations, Booz & Company

U.S. Manufacturing Competitiveness in Domestic Markets



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.

Source: U.S. Census Bureau, Bureau of Labor Statistics, UBS Research, CapitalIQ, Energy Information Administration, World Bank, Eurostat, World Trade Organization, IRS Statistics, Tauber Institute for Global Operations, Booz & Company

Industries of published cases

Industry	Number
Elec. equip, appliances & components	46
Transportation equipment	34
Computer and electronics	25
Machinery	21
Miscellaneous	19
Plastics and rubber	16
Fabricated metal parts	16
Furniture	12
Clothing and textiles	4
Food and beverage	4
Primary metals, food and beverage	2 each

Source: Reshoring Library, March 2013

Reasons for reported cases

REASON	# of CASES CITED
Wage and Currency Changes	72
Quality, Warranty, Rework	51
Freight Cost	44
Delivery	43
Travel Cost/Time or Local Onsite	38
Inventory	26
Intellectual Property Loss or Risk	25
Total Cost	22
Communications	20
Image/Brand (prefer US)	17
Difficulty of Innovation/Product Differentiation	10
Loss of Customer Responsiveness	9
Price	7
Natural Disaster Risk	6
Green Considerations	4
Government Incentives	4
Burden on Staff, Political Instability, Personnel Risk, Regulatory Compliance	3 each

61% of reshoring cases are from China

Country from which reshored	Number
China	105
Mexico	21
Japan	12
India	8
Taiwan	5
Canada, Spain	3 each
Germany, Malaysia, Philippines	2 each
Brazil, El Salvador, Indonesia, Hungary, Singapore, UK, Venezuela, Guatemala, Singapore, Malaysia	1 each

Source: Reshoring Library 3/16/13

The impact of incremental unemployment and other benefit payments is approx. equal to the consumer price saving.

Source: The China Syndrome:
Local Labor Market Effects of Import Competition in the United States.
March 2011. David Autor, MIT and NBER, et al

- Commerce Dept:
 - 2012 budget specifies TCO.
 - Links:
 - <http://nist.gov/mep/reshoring.cfm>
 - <http://business.usa.gov/program/reshoring-initiative>
 - http://www.manufacturing.gov/other_orgs.html
 - **Major new site:**
<http://acetool.commerce.gov/>
 - 6 rounds of free national MEP webinars
 - 8-10 Local MEP presentations and 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





What can you do?

- Use the tools to help customers decide to reshore or not offshore. Free at www.reshorennow.org
- Use our archived webinars to inform staff and clients
- **Engage actual or potential Walmart suppliers**
- Prepare the local workforce for reshoring
- Post a link like <http://www.pres-flex.com/american-made/>
- Call on the Initiative to speak at: open houses, webinars, industry conferences
- Submit cases of reshoring for publication and posting using our template.
- **Help us find a big U.S. “poster company”**

- 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?

- 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.

Employment Projections

SHARE ON: [f](#) [t](#) [in](#) | EPP | FONT SIZE: [-](#) [+](#) | PRINT: [P](#)

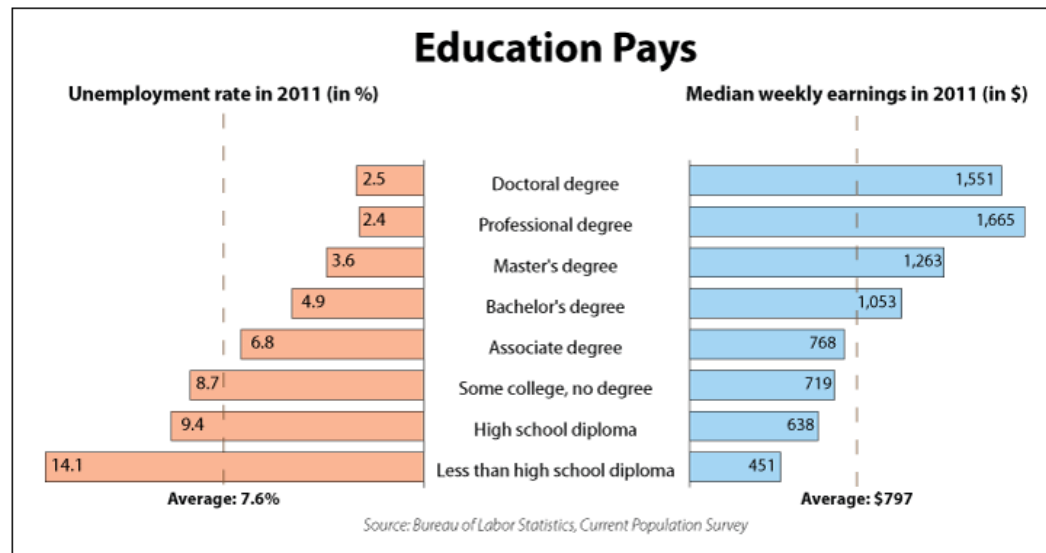
- EP HOME
- EP NEWS RELEASES
- EP TABLES
- EP PUBLICATIONS
- EP FAQs
- CONTACT EP

SEARCH EP
 Go

- EP TOPICS**
- AGGREGATE ECONOMY ▶
 - INDUSTRY OUTPUT AND EMPLOYMENT ▶
 - EMPLOYMENT BY OCCUPATION ▶
 - EDUCATION AND TRAINING ▶
 - LABOR FORCE ▶
 - DETAILED DATA FOR RESEARCHERS ▶
 - CAREER INFORMATION RESOURCES ▶
 - TECHNICAL DOCUMENTATION ▶

Education pays...

Education pays in higher earnings and lower unemployment rates



[Chart data \[TXT\]](#)

Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: Bureau of Labor Statistics, Current Population Survey.

BLS has some data on the [employment status](#) of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic origin online.

The Census Bureau also has some data on [educational attainment](#) online.





Local Skilled Workforce Recruitment

Issue	Solution
“Trades” and “vocations” image	Call them “Professions”
Manufacturing career image due to offshoring	Industry collect and media report the local Reshoring Case of the Month. Use our Case Studies feature.

We can help!

Action	Source/Responsibility
Identify local imports by company	Datamyne
Suggest to companies they source locally	EDO/MEP/ etc.
Train companies on TCO to overcome issue of higher local price	Reshoring Initiative
Needed further cost reductions	MEP/ Comm. College/ EDO/technology suppliers

A non-profit with 38 sponsors

Reshoring Initiative
Bringing Manufacturing Back Home

Platinum



Gold



AgieCharmilles



Silver



A non-profit with 38 sponsors

Bronze



Steel



Iron





Help slow the offshoring flood now!

Contact:

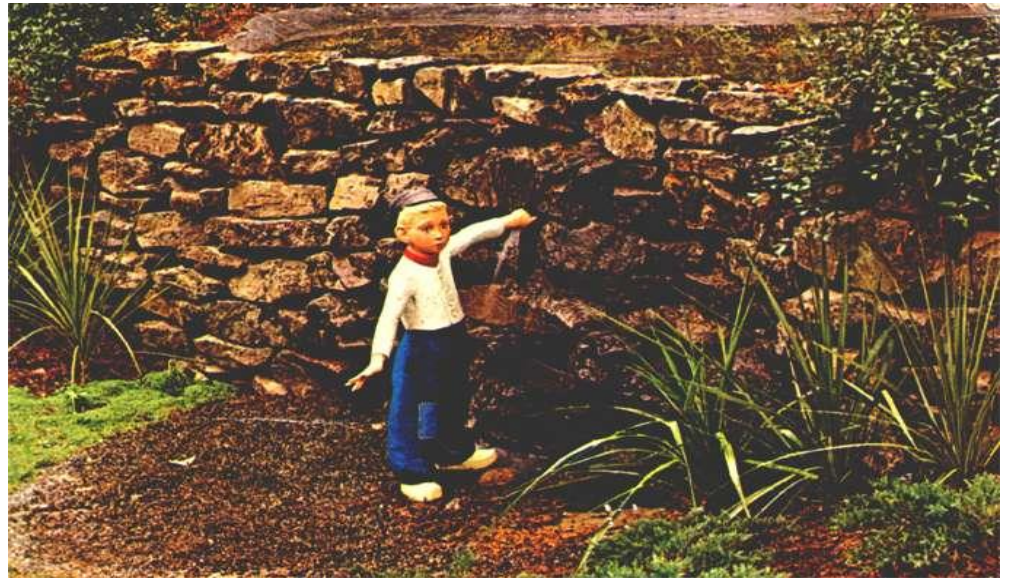
Harry Moser

Founder and President

847-726-2975

harry.moser@reshorennow.org

www.reshorennow.org



Recruiting trainees for the skilled manufacturing workforce:

<http://tinyurl.com/33vpz9k>

10 Minute Break!

- Website, in this order:
 - TCO
 - Case Studies
 - Library
 - Upcoming Events
 - Newsletter: currently in Blog

www.reshorennow.org

TCO Tutorial

Getting a company started tutorial