



Reshoring Initiative

Bringing Manufacturing Back Home

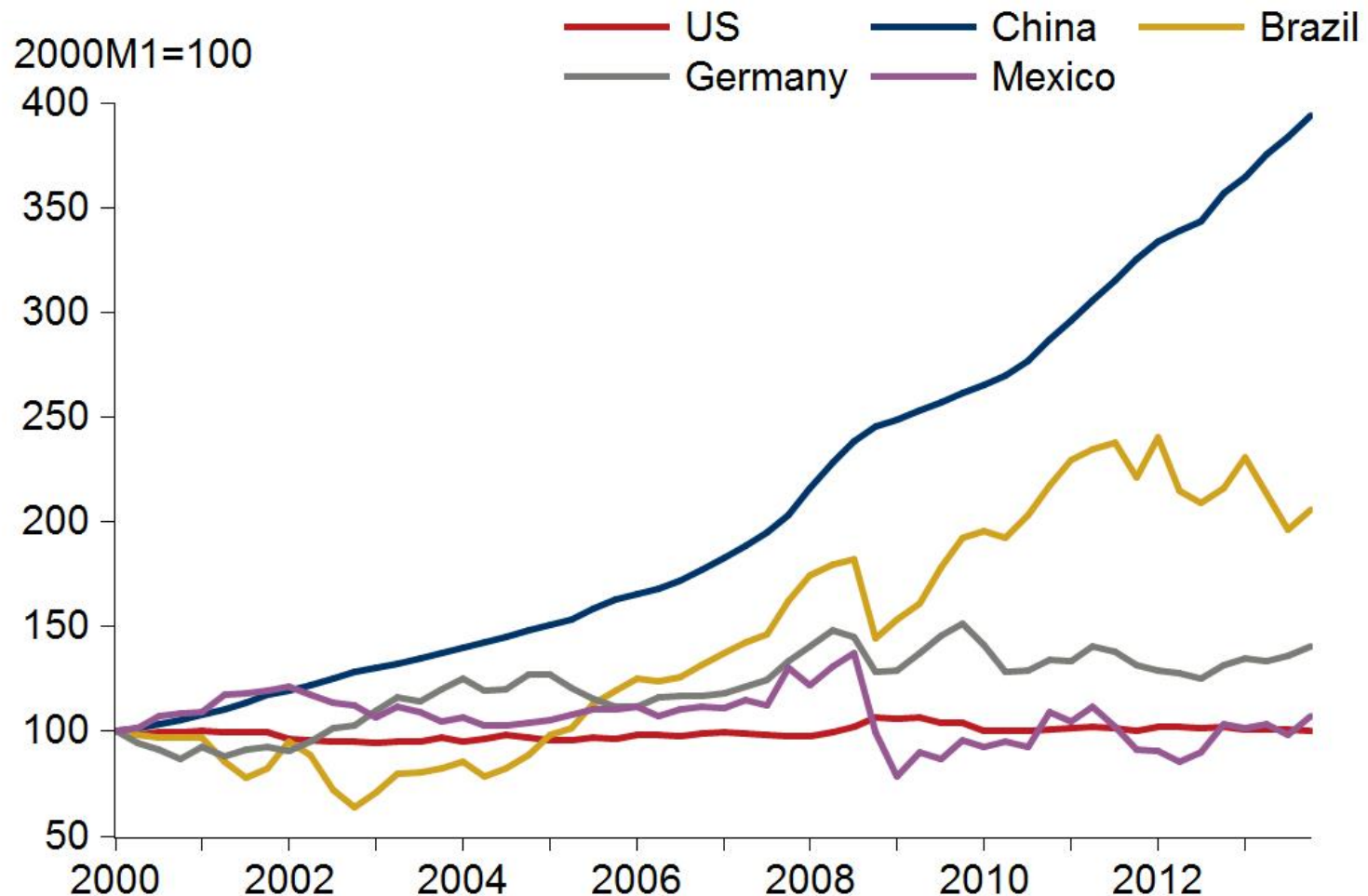
Harry C. Moser

SelectUSA Academy
EDO Track: Trends in Reshoring

- Reshoring/Backshoring/Onshoring/Insourcing: Bringing back manufacture of products that will be sold or assembled here.
- Transplants/FDI: Similar logic
- Localization - producing near the consumer!

Indexed Unit Labor Costs in the Manufacturing Sector of Selected Countries

US: Unit labor costs in manufacturing in US\$



Source: Oxford Economics/Haver Analytics

The Bleeding has Stopped

Manufacturing Jobs/Year			
	2003	2014	% Change
New Offshoring	~150,000*	30,000-50,000*	-70%
New Reshoring & FDI	12,000*	60,000**	+ 400%
Net Jobs Gained	~-140,000	~+10,000	N/A

* Estimated ** Calculated



Offshoring: Reasons and Solutions Summary

Reason	Status/Comment/ Action
Penetrating the foreign market	OK
Cheap labor	Gap rapidly declining
PPV: Focus on price instead of total cost	CDF (Suzanne) TCO (Harry)
Herd mentality in which companies followed each other offshore	You!



UNIL | Université de Lausanne



Professor Suzanne de Treville

Hidden profits in responsive supply chains

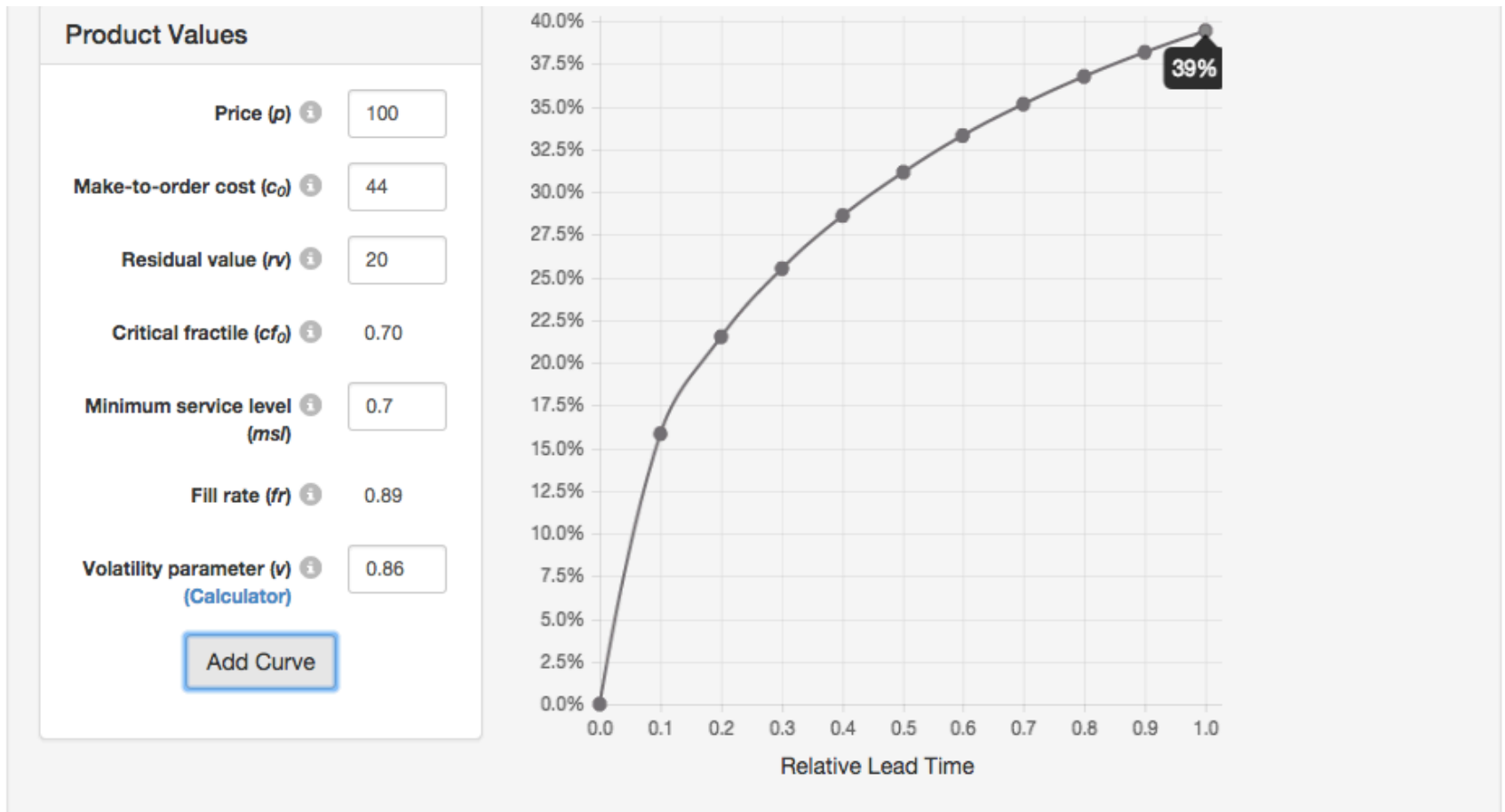
How to compare:

- A local supplier that is positioned to deliver to order and is next to R&D
- An offshore supplier that offers a unit cost that is 30% cheaper
- Intuition: innovation and service matter, but hard to take action based only on intuition
- Quantitative-finance tools allow us to uncover the hidden profit potential in responsiveness

Product A

- Demand peak 3X median demand 1 in 10 demand periods (high volatility)
- Selling price \$100
- Local production cost \$44, offshore production 30% cheaper
- Liquidation value after the demand period \$20

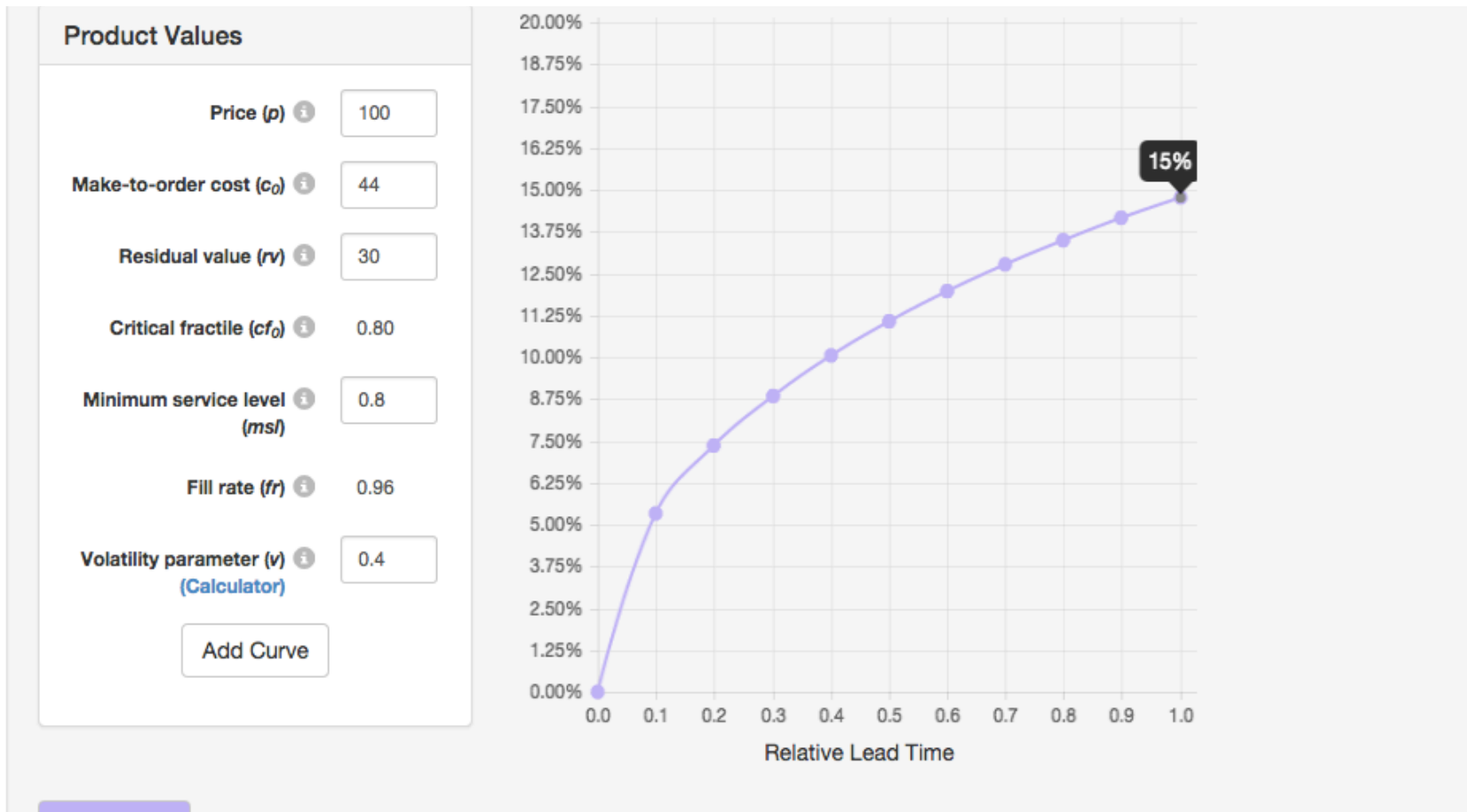
Local production dominates



Product B

- Demand peak 2X median demand 2 weeks a year (moderate volatility)
- Selling price \$100
- Local production cost \$44, offshore 30% less
- Inventory holding cost if held over to the following demand period \$2

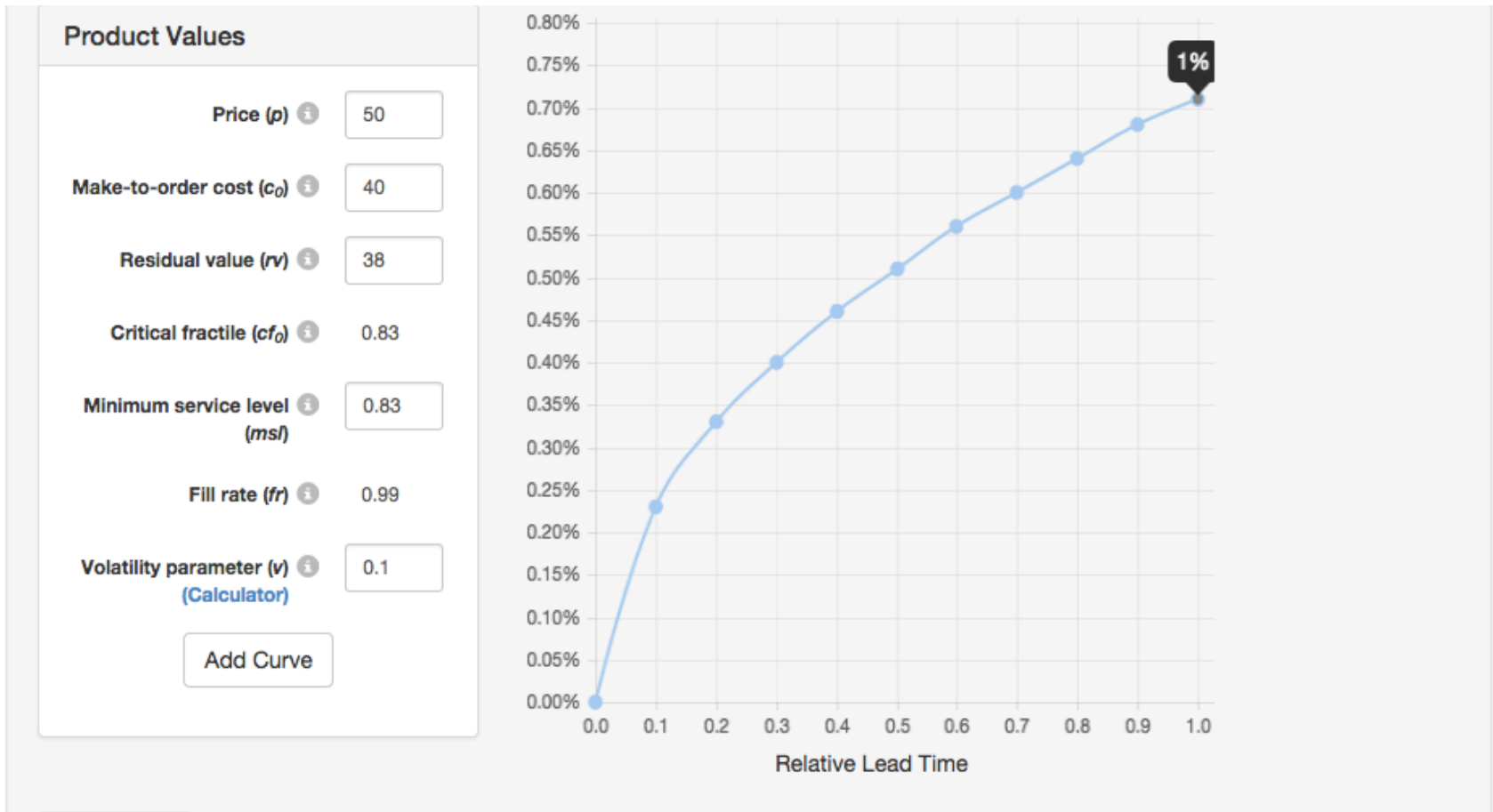
CDF + TCO matches cost differential



Product C

- Produced locally on same equipment as Product A
- Demand peak 1.1X median demand 2 months of 12
- Price \$50
- Materials \$16
- Overhead \$16
- Labor (local) \$8
- Labor (offshore) \$0 => 20% cost differential
- Inventory holding cost \$2

Obvious to offshore?



Portfolio combining Products A and C

- Capacity of 2X median demand for A maximizes profit and allows responsiveness
- A is profitable even with the labor and overhead costs of the extra capacity
- Leftover capacity used to produce C => incremental revenue
- Incremental cost of producing C: only variable cost
- Both A and C are thus profitable
- *C is more profitable than it would be produced offshore*

Benefits

- A produced close to R&D => innovation
- Local production of C closes off the “food chain” to the offshore competitor
- C—a standard product—still benefits from the innovation emerging from A
- Reduced carbon footprint

Take Aways

- The mismatch cost leaves an impressive amount of money on the table
- Use of the CDF together with the TCO provides a compelling case for local manufacturing
- A portfolio of high and low-volatility products yields high profit, competitive advantage, and innovation



The Reshoring Initiative Provides

- Free Total Cost of Ownership (TCO) software for:
 - Companies for sourcing
 - Suppliers of parts and equipment for selling
 - EDOs for promoting reshoring and FDI
- Online Library of 2,000+ 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 Comparison Example

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





19 TCO cases, China vs. U.S. 2012

Comparison Basis	% of cases where U.S. has the advantage
Price	5%
TCO	53%
Difference	48%*

*Conservatively 25% might return if companies shifted to TCO

Source: TCO user database



Reshoring More Effective than Exporting: U.S. is Much More Competitive at Home!

		Where Sold	
		U.S.	China
Where Made	U.S.	\$100	\$115
	China	\$100	\$85
Difference		0	30%

Based on TCO being 15% higher for exports

Economic Development Programs: PA, MS, NY

Action	Source/Responsibility
Identify local imports by U.S. or foreign companies	Datamyne
Suggest to companies they source locally	EDO/MEP/ etc.
Train companies on TCO & CDF to overcome issue of higher local price	Reshoring Initiative
Needed further cost reductions	MEP/ Comm. College/ Technology Suppliers/EDO



Need Boots on the Ground in PA and MS

- Need help from local suppliers
- Suggest companies where they lost to offshoring
- We will visit the companies, educate on TCO and encourage reshoring
 - MS: April 23 in Canton
 - PA: Email Reshore2PA@nepirc.com
- Details:
[MS and PA Reshoring | Reshoring Blog | Reshoring Initiative](#)
- Ready to expand to other states.

Reshored Industries

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

Sources:
Reshoring
Initiative Library,
August 31, 2014.

Cases 2007
through 8/31/14.

Negative Issues Offshore

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



Positive Reasons to Reshore

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

Countries From Which Reshored

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



Jobs Reshored by State

State	Jobs	Companies	Avg. Jobs/ Facility
SC	7780	7	1111
MI	6721	13	517
CA	6014	28	215
KY	4612	5	922
TX	3712	12	309
OH	3611	18	201
GA	3005	7	429
TN	2490	11	226
NY	1089	17	64
NC	1020	14	73
ID	1000	2	500
KS	1000	2	500
CO	738	6	123

State	Jobs	Companies	Jobs/ Facility
AZ	700	2	350
FL	611	12	51
MA	598	10	60
MS	540	5	108
UT	464	6	77
AL	397	4	99
WI	342	11	31
NJ	335	3	112
IN	320	5	64
PA	279	11	25
AR	210	4	53
IL	205	9	23
NH	200	1	200

State	Jobs	Companies	Avg. Jobs/ Facility
RI	200	2	100
IA	193	2	97
WA	150	3	50
MO	150	6	25
MD	90	6	15
MN	64	9	7
MT	25	1	25
DE	0	2	0
VA	0	1	0
CT	0	2	0
ME	0	1	0
VT	0	2	0
ND	0	1	0

Sources: Reshoring Initiative Library, August 31, 2014.

Cases 2007 through 8/31/14.

Help reverse the offshoring flood now!

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- [TCO Estimator](#)
- [Using the TCO Estimator: A How-To Guide](#)
- [Library](#)
- [Submit a Case Study](#)
- [Economic Development Program](#)