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Offshoring at Global Information Systems, Inc.

The Opportunity

Early in the first quarter of 2004, Jane Harding was considering a proposal to shift 3,000 well-compensated computer programming jobs from the United Sates to existing company locations in China, India, and Brazil. Harding was the senior vice president for Human Relations in the Global Services Division (GSD) of Global Information Systems, Inc. (GIS). GIS had 2003 revenues of nearly $90 billion (**Exhibit 1**). GSD accounted for about half of GIS's total revenues and an equal fraction of its total profits. It also included more than half of the company's 315,000 worldwide employees.

Background

A significant portion of GSD's business came from customers outsourcing their business-process needs. GSD signed multiyear contracts with customers. Most of these long-term contracts were won through highly contested competitive proposals against firms such as Accenture, Ltd., Electronic Data Systems Corp., Computer Sciences Corp., and Perot Systems (**Exhibit 1**). The multiyear billings of some contracts totaled in excess of $1 billion. Pretax profit margins at the division level were close to 10%.

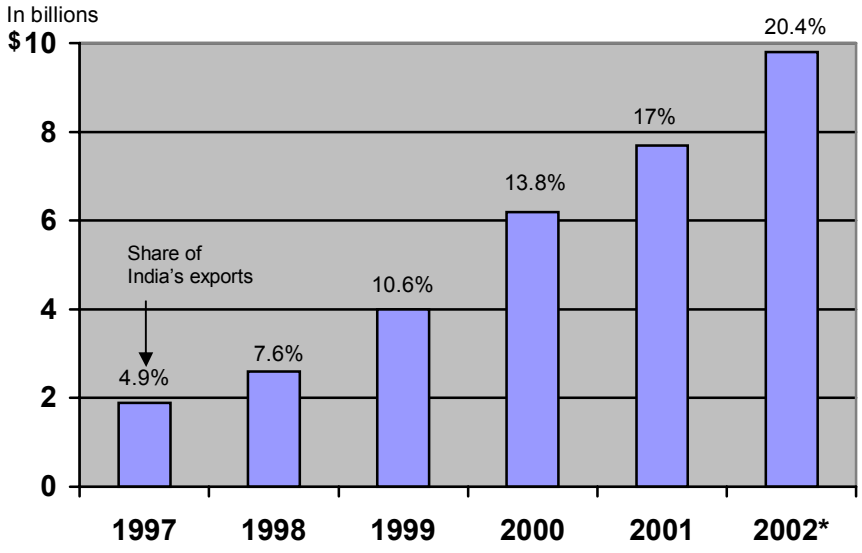
In order to present the most attractive value proposition to potential customers, GSD sought to cut costs and improve performance by "offshoring" certain activities. The combination of huge capacity expansion and similarly large price reductions in telecommunications made it highly efficient to establish customer service/call centers, software development centers, engineering design centers, and back-office accounting centers in low-cost areas of the world that had been or were now developing politically and socially reliable infrastructures.

In India, for example, exports of information technology services grew fivefold between 1997 and 2002.

Professor William E. Fruhan, Jr. prepared this case. This case was developed from published sources. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Table A India's IT Boom

Exports of Software, IT Services



Source: India's National Association of Software & Services Companies.

*Fiscal year ends in March.

Multinational firms headquartered in many of the developed areas of the world were participating in this trend. In February 2004, Siemens announced that it was moving 15,000 software programming jobs from Western Europe and the United States to India, China, and Eastern Europe.[1] Of the 30,000 programmers Siemens employed worldwide, 3,000 were already employed in India when the announcement was made.

The competitive landscape for some of the larger business-process outsourcing companies in the United States and Europe is shown below.

[1] *The Boston Globe*, February 17, 2004, p. C2.

Table B Business-Process Outsourcing Providers

Business Service Providers, Vertical Service Providers	Consultants	IT Service Providers	Process Specialists	Pure-Play Business-Process Outsourcers	Support Services
Employease	PwC	IBM	Paychex	Xchanging	Hays
NetLedger	Cap Gemini Ernst & Young	EDS	ADP	Exult	Serco
Marlborough Stirling	Accenture	CSC	Cerdian Arinso	Capita	
	KPMG	SBS	Spherion	Liberata	
	Hewitt	Accenture	Convergys		
		Xansa			

Source: Adapted from "Business Process Outsourcing," Schroder Salomon Smith-Barney, November 8, 2002.

Company Economics of Offshoring

In order to accommodate growth in its business, GSD had previously established its own programming centers in Bangalore, India; Shanghai and Dalian in China; and Sumare, Brazil. Now GSD would be going a step further—instead of taking business *growth* offshore, the new proposal would begin reducing the U.S. headcount for programmers involved in this activity and moving *existing* U.S. jobs offshore.

The cost savings from the proposed move promised to be dramatic (**Exhibit 2**). A U.S. programmer with a total employment cost (salary and all benefits) of $112,000 per year would be replaced by an offshore programmer with a total employment cost of $25,000 per year (line 3, **Exhibit 2**). Grossed up for 3,000 people, the cost saving would amount to $261 million per year. Of course, other costs associated with running this activity offshore would consume a significant fraction of the savings. Additional telecommunications and management cost would consume over 35% of the savings (line 7, **Exhibit 2**), and severance costs in the United States would amount to slightly over $25,000 per person displaced. Transition costs (line 9, **Exhibit 2**) would result in a loss of $19 million in 2004, the first year of the program (line 10, **Exhibit 2**). By 2005, however, the program would show a net savings of $40 million. By 2006, once all the transition costs had been absorbed, the savings would be about $168 million per year.

Political Sensitivity to Offshoring

While the numbers were very compelling, indeed staggering, Harding understood that a decision of this kind would be extremely sensitive. For example, some of the foreign programmers would come to the United States for several weeks to be trained by the very people they were replacing! There was also a strong debate under way in the developed world economies about both the politics and the economic implications of offshoring. In the United States, for example, presidential candidate John Kerry described executives who outsourced U.S. jobs as "Benedict Arnold CEOs."[2]

[2] Benedict Arnold was an American general in the U.S. Revolutionary War who became a traitor.

A newspaper article published in November 2003 captured the tone of the debate. The article noted an arrangement made by Massachusetts General Hospital (a Harvard University teaching hospital) to relieve an acute shortage of radiologists. "The hospital would beam images electronically from some scans to India, to be worked on by radiologists there."[3] Knowledge of the deal set off a minor furor among 30,000 U.S. radiologists. "Who needs to pay us $350,000/year if they can get a cheap Indian radiologist for $25,000/year?"[4]

Indeed, why would anyone in the developed world invest in highly specialized training in the future if the skill sets generally associated with higher-level training were becoming commoditized? (**Exhibit 3.**)

A backlash against offshoring was beginning to get under way by late 2003. At the state level a contract in New Jersey was awarded to an Indian company to relocate a call center for unemployment services. The contract was cancelled at an added cost of $900,000 to save 12 U.S. jobs.[5] At the federal level in the United States "the Thomas-Voinovich amendment to H.R. 2673 would prohibit any private company awarded a federal contract under OMB Circular A-76 to perform any of the work outside the United States."[6]

Job Losses in Manufacturing

On the economic front, job losses in the United States had previously been heavily focused in manufacturing. After hitting a peak in 1979, nearly 5 million manufacturing jobs had been lost to the U.S. economy (**Exhibit 4**). Employment levels in many industries ranging from primary metals manufacturing to computer manufacturing had shrunk (**Exhibit 5**) as both production capacity and well-paid jobs moved offshore.

Net imports of nonagricultural goods as a percent of manufacturing gross domestic product in the United States exceeded 30% by the end of 2002 (**Exhibit 6**).

While manufacturing had been the focal point of job losses in prior periods, now it appeared that job losses would move to the services sector. Forrester Research Inc., an economic forecasting company, suggested that over 3 million service jobs would disappear offshore from the United States between 2000 and 2015.

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[3] Andrew Pollack, "Who's Reading Your X-Ray," *The New York Times*, November 16, 2003, p. 1.

[4] Ibid.

[5] Stuart Anderson, "Creeping Protectionism: An Analysis of State and Federal Global Sourcing Legislation," The National Foundation for American Policy, December 2003, p. 1.

[6] Ibid.

Table C Number of U.S. Jobs Moving Offshore by Job Category, 2000 to 2015

	2000	2005	2010	2015
Management	0	37,477	117,835	288,281
Business	10,787	61,252	161,722	348,028
Computer	27,171	108,991	276,954	472,632
Architecture	3,498	32,302	83,237	184,347
Life sciences	0	3,677	14,478	36,770
Legal	1,793	14,220	34,673	74,642
Art, design	818	5,576	13,846	29,639
Sales	4,619	29,064	97,321	226,564
Office	53,987	295,034	791,034	1,659,310
Total number of U.S. jobs going offshore	**102,674**	**587,592**	**1,591,101**	**3,320,213**

Source: "Tech Strategy Research Brief," Forrester Research, Inc., November 11, 2002, p. 4.

Craig Barrett, CEO of Intel Corp., stated, "The structure of the world has changed. The U.S. no longer has a lock on high tech white collar jobs."[7]

Nandan Nilekani, CEO of Infosys Technologies, stated, "Everything you can send down a wire is up for grabs."[8]

The new environment of job losses created a whole new set of issues for individual workers, companies, and countries. In many prior situations when manufacturing jobs went offshore, they went to companies that were *headquartered* offshore. U.S. companies in the declining industries of **Exhibit 5**, for example, went out of business as their customers acquired the products offshore. In *this* round of job losses in the service sector, however, companies were not losing their customers. In fact they were striking preemptively by offshoring and were getting financially and competitively *stronger* even as their U.S. workforces experienced job losses.

The Global Economics of Offshoring

In thinking about who won and who lost in the process of offshoring, several factors needed to be considered. According to estimates by McKinsey and Company, offshoring created a "win-win" situation for both the "job transferor" economy and the "job transferee" economy. Using the United States and India as examples, McKinsey calculated a $1.47 value to the global economy from $1.00 of U.S. spending offshored. The gain of $0.47 was allocated $0.33 to India and $0.14 to the United States (**Exhibit 7**).

A key component of the value created for the United States in **Exhibit 7** is the $0.47 value of labor reemployed. **Exhibit 7** assumes that most of the service employees losing jobs to imports were eventually reemployed. This is in line with the data in **Exhibit 8** showing that about 70% of U.S. workers in service industries who lost their jobs between January 1999 and December 2001 were

[7] Steve Lohr, "Many New Causes for Old Problem of Jobs Lost Abroad," *The New York Times*, February 15, 2004, p. 25.

[8] Ibid.

reemployed in January of 2002. The balance of the workers who were not reemployed were either *unemployed* or had *left the workforce* (retired or stopped looking for work).

Exhibit 9 shows the new wages and salaries earned by those employees who were able to find new jobs after being displaced from their old jobs. If new jobs paid 95% of the wages of the old jobs, this value of U.S. labor reemployed of $0.47 per $1.00 of spending offshored can be calculated as follows:

(1)	Wage component of $1.00 of spending offshored equals	$ 0.72
(2)	Fraction of offshored employees finding new jobs	x 0.70
(3)	Wage recovery if new job pay equals old job pay	$ 0.50
(4)	Mean wage of new job versus old job	x 0.95
(5)	Value from U.S. labor reemployed	$ 0.47

While the arithmetic of how offshoring could produce a win-win was clear, the validity of some of the assumptions going forward was less so.

Historically the benefits of free trade had been premised on the logic of comparative advantage—an idea of economist David Ricardo.

> However, when Ricardo said that free trade would produce shared gains for all nations, he assumed that the resources used to produce goods—what he called the "factors of production"—would not be easily moved over international borders. Comparative advantage is undermined if the factors of production can relocate to wherever they are most productive: in today's case, to a relatively few countries with abundant cheap labor. In this situation, there are no longer shared gains—some countries win and others lose.
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> . . .
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> [There has been]... a seismic shift in the world economy brought on by three major developments. First, a new political stability is allowing capital and technology to flow far more freely around the world. Second, strong educational systems are producing tens of millions of intelligent, motivated workers in the developing world, particularly in India and China, who are as capable as the most highly educated workers in the developed world but available to work at a tiny fraction of the cost. Last, inexpensive, high-bandwidth communications make it feasible for large work forces to be located and effectively managed anywhere.[9]

Harding wondered whether the concept of comparative advantage was losing its relevance as an argument in favor of free trade, and what argument, if any, could replace it. If free trade merely transferred jobs, where would the new jobs come from to utilize the skills of highly trained displaced developed-world workers who had grown accustomed to high levels of pay? In 2004 new jobs were not appearing as the economy improved in the United States as they had following the recession of the early 1990s (**Exhibit 10**), and Europe and Japan appeared to be in worse shape than the United States in terms of unemployment trends (**Exhibit 11**).

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[9] Paul Craig Roberts, "The Jobs Problem...or Is It?" *The Washington Times*, January 18, 2004, p. B3.

Advice for Jason

After throwing her support behind the offshoring proposal, Harding arrived at home to welcome her son Jason. Jason was home for spring break from his college studies in upstate New York. He was a freshman and on his first day back was interested in discussing both his summer job opportunities and his course of study for his remaining three undergraduate years. Jason wanted some advice on whether he should pursue a degree in the humanities or whether he should have a more "preprofessional" focus to his studies such as on engineering, computer science, or premed (**Exhibit 12**).

Exhibit 1 Financial Data for Information Technology Business-Process Outsourcing Firms (1999–2003)

	1999	2000	2001	2002	2003
Sales			$ millions		
GSD	87,548	88,396	83,067	81,186	89,131
Electronic Data Systems Corp.	18,731	18,856	21,141	21,502	21,476
Accenture, Ltd.	9,550	9,752	11,444	13,105	13,397
Computer Sciences Corp.	8,111	9,371	10,493	11,379	11,347
Perot Systems	1,152	1,106	1,205	1,332	1,462
Net Profit					
GSD	7,712	8,093	7,723	3,579	7,583
Electronic Data Systems Corp.	658	1,762	2,148	1,525	-389
Accenture, Ltd.	2,023	2,464	1,057	245	498
Computer Sciences Corp.	356	403	233	344	440
Perot Systems	76	55	-3	78	18
Net Worth					
GSD	20,511	20,624	23,614	22,782	27,864
Electronic Data Systems Corp.	4,535	5,139	6,446	7,022	6,198
Accenture, Ltd.	2,208	2,368	690	958	1,678
Computer Sciences Corp.	2,589	3,044	3,215	3,624	4,606
Perot Systems	391	501	531	677	713
Pretax Profit/Sales			%		
GSD	13.4	13.1	13.8	9.3	12.2
Electronic Data Systems Corp.	3.5	9.3	10.2	7.1	-1.8
Accenture, Ltd.	22.5	27.7	9.2	8.1	12.0
Computer Sciences Corp.	6.6	6.5	3.2	4.4	5.4
Perot Systems	10.9	8.3	1.1	9.1	5.6
Net Profit/Net Worth					
GSD	39.0	39.7	35.1	15.4	30.0
Electronic Data Systems Corp.	8.1	23.6	23.5	16.7	-26.7
Accenture, Ltd.	-	107.7	79.8	68.0	80.8
Computer Sciences Corp.	15.5	14.3	7.5	10.1	10.8
Perot Systems	28.3	12.4	-.5	13.0	2.6
Market Value/Book Value					
GSD	9.5	7.4	8.8	5.9	5.7
Electronic Data Systems Corp.	6.9	5.2	5.1	1.3	2.1
Accenture, Ltd.	-	-	-	30.6	24.6
Computer Sciences Corp.	5.5	3.1	2.4	1.5	1.6
Perot Systems	4.5	1.8	3.9	1.7	2.2
Enterprise Value[a]/EBIT[b]					
GSD	18.1	15.0	23.3	22.6	17.3
Electronic Data Systems Corp.	22.0	16.1	16.8	6.6	29.5
Accenture, Ltd.	NA	NA	NA	9.8	NA
Computer Sciences Corp.	16.3	20.1	11.7	16.8	11.1
Perot Systems	13.3	11.4	-	8.1	-
Price/Earnings Ratio			Times		
GSD	29.1	19.1	26.3	19.9	21.3
Electronic Data Systems Corp.	34.9	25.2	25.6	8.3	36.1
Accenture, Ltd.	-	-	-	19.3	25.1
Computer Sciences Corp.	38.9	21.8	31.6	14.2	16.0
Perot Systems	32.5	17.3	32.9	15.8	24.5

Source: Company annual reports.

[a]Enterprise value equals the market value of all outstanding debt and equity securities minus the value of cash and cash and cash equivalents.

[b]EBIT equals earnings before interest and taxes.

Exhibit 2 Global Systems Division, GIS Corp.: Annual Benefit from Offshoring 3,000 Applications Programming Jobs

Line #		(1) U.S.	(2) Offshore	(3) = (1)–(2) Differences	(4) 2004	(5) 2005	(6) 2006	(7) Thereafter
1	Total salary and benefits/person[a]/hour	$ 56.00	$12.50					
2	Hours worked/year	x 2,000	x 2,000					
3	Cost/person/year	$112,000	$ 25,000					
4	Number of people displaced	x 3,000	x 3,000					
5	Total cost/year	$336,000,000	$75,000,000	$261,000,000				
						$ millions		
6	Net programmer salary and benefits savings post-transition				261.0	261.0	261.0	
7	Other incremental distance costs (telecommunications and management)				93.0	93.0	93.0	
8	Severance costs in U.S. @ $26,000/person displaced				30.6	47.4		
9	Savings delays, overlapping costs and other transition expenses				156.4	80.6	-	
10	Net savings				(19.0)	40.0	168.0	168.0[b]

Source: Casewriter.

[a]Three to five years' experience in writing software code and other programming tasks for applications software. No customer contact as part of job.

[b]Before any adjustment for inflation.

Exhibit 3 University-Level Educational Spending and Degree Holding

	Spending as Percentage of GDP from Public and Private Sources			Expenditure per Student in U.S. Dollars Converted Using PPPs	% of Population by Age Holding Degree		
Country	Public Sources	Private Sources	Total		25–34	35–44	45–54
Canada	1.6%	1.0%	2.5%	$15,211	25	20	20
South Korea	0.5	1.9	2.4	5,356	25	20	11
United States	1.[illegible]	1.2	2.3	19,220	30	28	30
Finland	1.8	n	1.8	8,114	18	16	13
Sweden	1.5	0.2	1.7	14,222	20	16	17
Denmark	1.5	n	1.6	10,657	11	8	6
Australia	0.8	0.7	1.5	11,725	21	19	19
Austria	1.4	n	1.5	12,070	7	8	6
Norway	1.4	0.1	1.5	12,096	32	26	23
Ireland	1.[illegible]	0.3	1.4	9,673	20	14	11
Netherlands	1.0	0.3	1.3	12,235	24	22	20
Switzerland	1.2	n	1.2	17,997	16	18	15
France	1.0	0.1	1.1	7,867	18	11	10
Germany	1.0	0.1	1.[illegible]	10,393	14	15	15
Hungary	0.8	0.2	1.1	5,86[illegible]	15	15	14
Mexico	0.8	0.3	1.1	4,789	15	15	11
Portugal	1.0	0.1	1.1	4,802	[illegible]1	7	5
Spain	0.9	0.3	1.[illegible]	5,707	24	18	13
United Kingdom	0.8	0.3	1.1	8,551	21	18	18
Greece	1.0	n	1.0	4,260	17	11	12
Japan	0.5	0.6	1.0	10,278	24	25	17
Poland	0.8	0.2	1.0	3,912	15	11	11
Turkey	1.0	n	1.0	4,328	10	8	9
Czech Republic	0.8	0.1	0.9	5,688	11	13	11
Italy	0.7	0.1	0.8	7,552	12	11	10
Slovakia	0.8	0.1	0.8	5,321	11	11	10
Country mean	1.0	0.3	1.3	9,210	18	16	14
OECD Total	0.9	0.7	1.6				
Brazil	1.[illegible]	n	1.1	13,557	7	9	9
China	0.5	0.4	.8	5,798	2	1	1
India	0.6	n	.6	n	n	n	n

Source: "Education at a Glance—2002," Organization for Economic Cooperation and Development (OECD).

Exhibit 4 U.S. Employment Levels: Employees on Nonagricultural Payrolls, by Major Industry, 1990–2003

	All Industries[a] Total		Manufacturing Total		Durable Goods Manufacturing Total		Nondurable Goods Manufacturing Total	
	(000s)	(%)	(000s)	(%)	(000s)	(%)	(000s)	(%)
1990	109,487	100.0	17,695	100.0	10,736	100.0	6,959	100.0
199[illegible]	108,374	99.0	17,068	96.5	10,219	95.2	6,849	98.4
1992	108,726	99.3	16,799	94.9	9,945	92.6	6,854	98.5
1993	110,844	101.2	16,774	94.8	9,900	92.2	6,873	98.8
1994	114,291	104.4	17,021	96.2	10,131	94.4	6,890	99.0
1995	117,298	107.1	17,241	97.4	10,372	96.6	6,869	98.7
1996	119,708	109.3	17,237	97.4	10,485	97.7	6,752	97.0
1997	122,776	112.1	17,419	98.4	10,701	99.7	6,716	96.5
1998	125,930	115.0	17,560	99.2	10,910	101.6	6,650	95.6
1999	128,993	117.8	17,322	97.9	10,830	100.9	6,492	93.3
2000	131,785	120.4	17,263	97.6	10,876	101.3	6,388	91.8
2001	131,826	120.4	16,441	92.9	10,335	96.3	6,107	87.8
2002	130,376	119.1	15,306	86.5	9,517	88.6	5,789	83.2
2003[p]	130,045	118.8	14,701	83.1	9,093	84.7	5,608	80.6

Source. Department of Labor, Bureau of Labor Statistics.

Note. Data are based on reports from employing establishments and relate to full- and part-time wage and salary workers in nonagricultural establishments who received pay for any part of the pay period that includes the 12th of the month. Not comparable with labor force data, which include proprietors, self-employed persons, unpaid family workers, and private household workers; which count persons as employed when they are not at work because of industrial disputes, bad weather, etc., even if they are not paid for the time off; which are based on a sample of the working-age population; and which count people only once as employed, unemployed, or out in the labor force. In the data shown here, people who work at more than one job are counted each time they appear on a payroll.

[a]Includes wholesale trade, transportation and warehousing, and utilities, not shown separately.

p Preliminary.

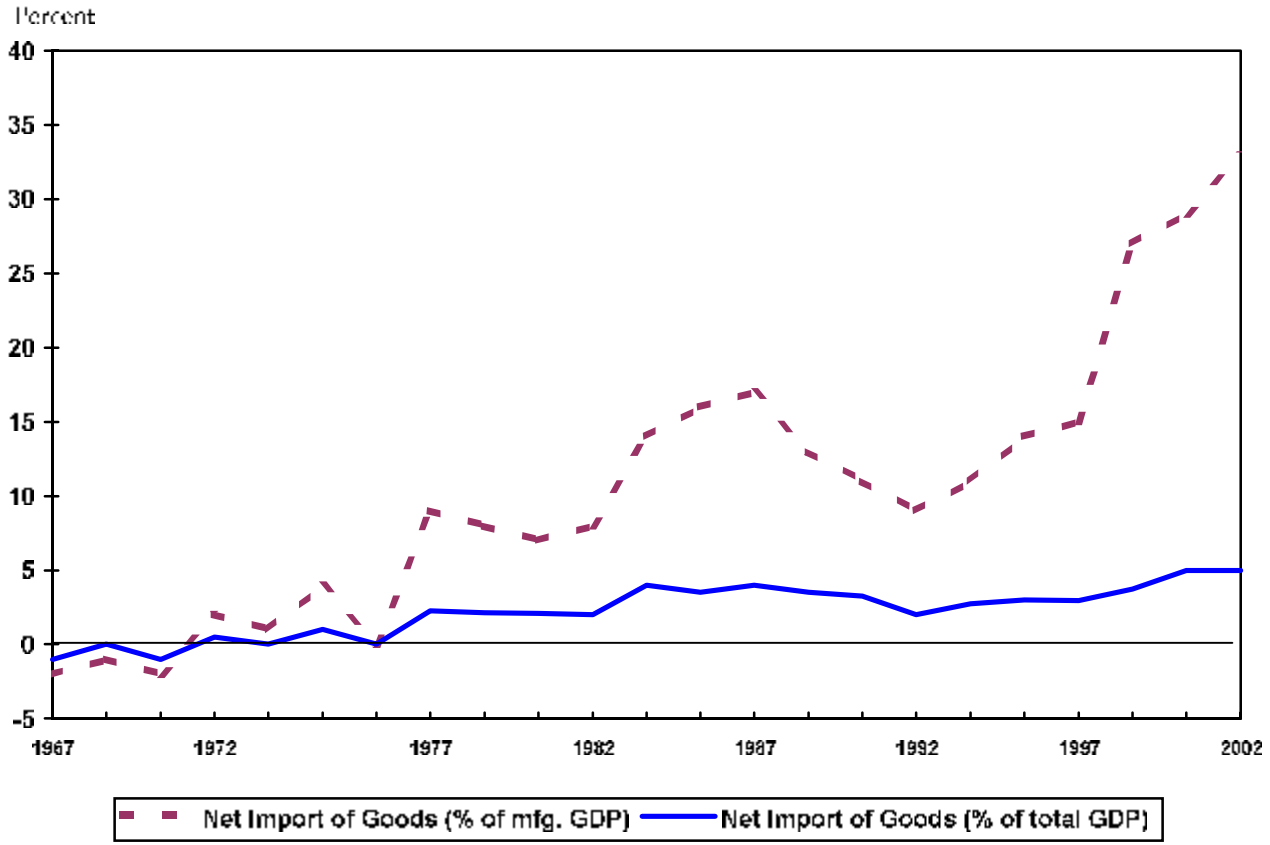
Exhibit 3 U.S. Employment Levels: Production Workers on Manufacturing Payrolls for Selected Industries

	Durable Goods						Nondurable Goods					
	Primary Metals		Computer and Electronic Products		Electrical Equipment and Appliances		Textile Mills		Apparel and Other Textile Products		Chemicals and Allied	
	(000s)	(%)	(000s)	(%)	(000s)	(%)	(000s)	(%)	(000s)	(%)	(000s)	(%)
1930	525.1	100.0	980.2	100.0	465.2	100.0	417.9	100.0	830	100.0	623.3	100.0
1931	496.9	94.6	925.6	94.4	435.6	93.6	407.2	97.4	805.1	97.0	599.7	96.7
1932	478.7	91.2	876.3	89.4	425	91.4	406	97.2	809.8	97.6	588.2	94.5
1933	473.3	90.1	856.4	87.4	421.8	90.7	403.9	96.6	788	94.9	590.1	95.1
1934	487.4	92.8	863.9	88.1	434.7	93.4	403.3	96.5	763.1	91.9	595.6	96.0
1935	500.3	95.3	890.3	90.8	438.4	94.2	393.2	94.1	719.3	86.7	598.4	96.5
1936	500.3	95.3	915.2	93.4	433.9	93.3	371.7	88.9	650.2	78.3	595.1	95.9
1937	501.6	95.5	951.1	97.0	427.7	91.9	367.1	87.8	611.5	73.7	593.3	95.6
1938	505.3	96.2	964.7	98.4	431.8	92.8	357.2	85.5	549.9	66.3	600.6	96.8
1939	491.9	93.7	932.9	95.2	433.2	93.1	333.7	79.9	471.8	56.8	595.2	96.0
2000	490.0	93.3	949.3	96.8	433.1	93.1	315.2	75.4	415.4	50.0	587.7	94.7
2001	446.9	85.1	875.8	89.3	402.2	86.5	275.8	66.0	351.2	42.3	562.2	90.6
2002	397.0	75.6	744.1	75.9	351.9	75.6	242.2	58.0	294.3	35.5	531.9	85.7
2003	369.7	70.4	675.8	68.9	319.7	68.7	216.0	51.7	248.9	30.0	525.5	84.7

Source: Bureau of Labor Statistics, National Employment, Hours and Earnings.

Note: All 2003 figures are preliminary.

Exhibit 6 U.S. Net Imports of Nonagricultural Goods as a Percent of Manufacturing GDP and Tota. GDP, 1967–2002

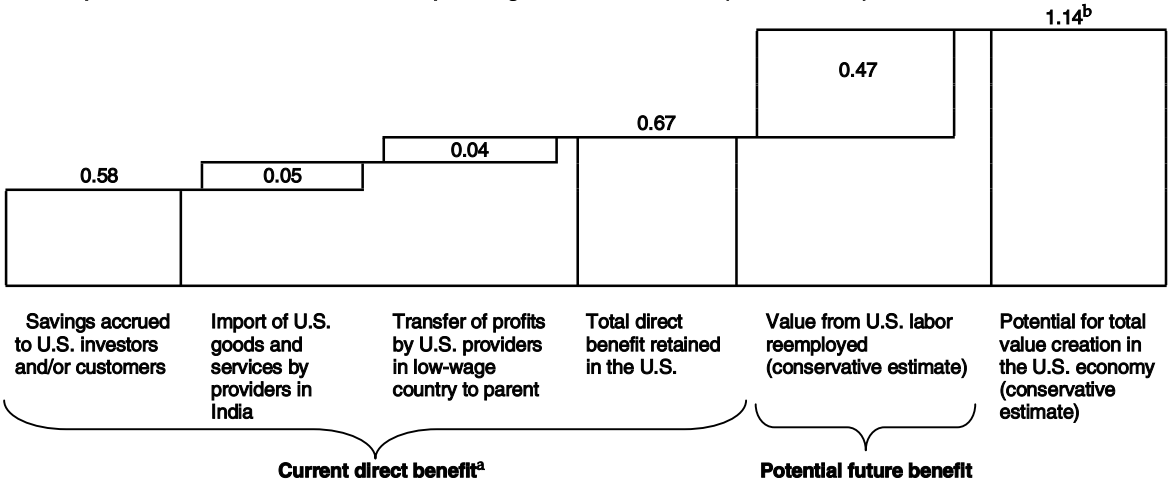


Source. United States Economic Report of the President 2003, Chart 2-11.

Exhibit 7

VALUE POTENTIAL ACCRUED TO U.S.

Value potential to the U.S. from $1 of spending offshored to India (2002 dollars)



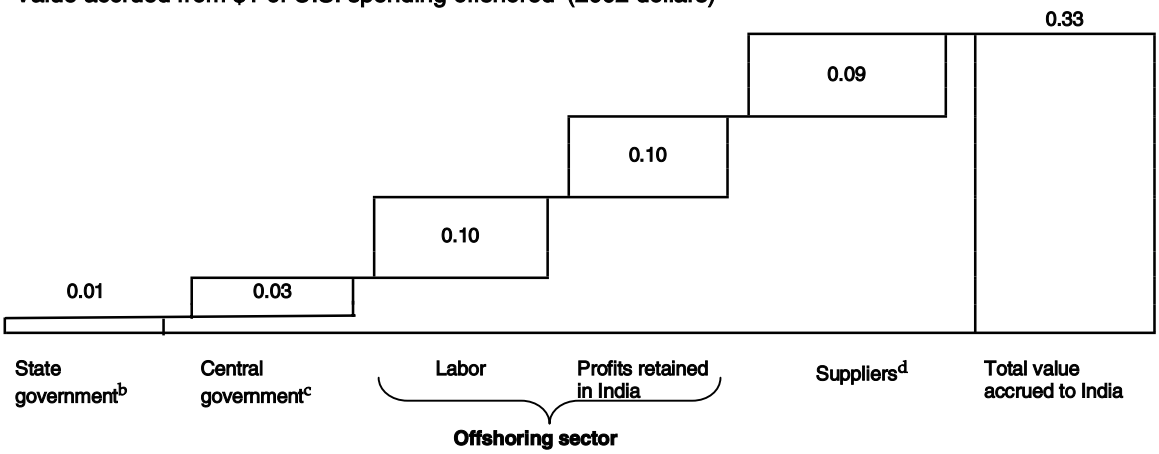
[a]Estimated based on historical reemployment trends from job loss through trade in the U.S. economy.

[b]Further value creation potential through

- Increased global competitiveness of U.S. business
- Multiplier effect of increased national savings

VALUE POTENTIAL ACCRUED TO SUPPLY COUNTRY—INDIA EXAMPLE

Value accrued from $1 of U.S. spending offshored[a] (2002 dollars)



Source: "Offshoring: Is It a Win-Win Game?" McKinsey Global Institute, August 2003.

[a]Estimated using the India offshored services industry example.

[b]Includes sales tax on the supplier industries and revenue from the sale of power to offshored service providers.

[c]Includes income tax from labor employed in the offshored services sector and the supplier industries and corporate tax on the supplier industries.

[d]Includes revenue accrued to the supplier industries less sales taxes, income taxes to employees, and corporate taxes.

Exhibit 8 Displaced U.S. Workers (1) by Industry and (2) Occupation of Workers Who Lost Jobs Between January 1999 and December 2001 and Employment Status in January 2002

		Percent Distribution by Employment Status in January 2002			
Industry of worker of lost job	Total	Total	Employed	Unemployed	Not in the Labor Force
	(thousands)				
Total, 20 years and over[1]	3,969	100.0%	63.6%	21.2%	15.2%
Agricultural wage and salary workers	45	100.0	a	a	a
Nonagricultural wage and salary workers	3,886	100.0	63.9	21.0	15.1
Private wage and salary workers	3,769	100.0	63.7	21.4	14.9
Mining	35	100.0	a	a	a
Construction	256	100.0	62.0	33.3	4.7
Manufacturing	1,318	100.0	55.7	25.5	18.8
Durable goods	862	100.0	52.9	27.8	19.3
Nondurable goods	456	100.0	60.9	21.2	17.9
Transportation and public utilities	295	100.0	61.6	23.6	14.8
Transportation	173	100.0	67.2	23.6	9.2
Communications and other public utilities	122	100.0	53.6	23.7	22.7
Wholesale and retail trade	723	100.0	68.4	17.3	14.3
Wholesale trade	227	100.0	74.6	18.9	6.6
Retail trade	495	100.0	65.6	16.6	17.8
Finance, insurance, and real estate	284	100.0	71.2	16.6	12.3
Services	858	100.0	70.3	16.4	13.3
Occupation of worker of lost job					
Managerial and professional specialty	1,200	100.0	68.2	18.5	13.3
Executive, administrative, and managerial	751	100.0	70.9	17.1	11.9
Professional specialty	449	100.0	63.6	20.8	15.6
Technical, sales, and administrative support	1,133	100.0	67.1	17.7	15.2
Technicians and related support	136	100.0	63.5	18.4	18.2
Sales occupations	446	100.0	71.2	13.8	15.0
Administrative support, including clerical	551	100.0	64.7	20.7	14.6
Service occupations	229	100.0	62.5	17.2	20.2
Precision production, craft, and repair	571	100.0	63.7	23.7	12.5
Operators, fabricators, and laborers	745	100.0	53.0	29.1	17.9
Farming, forestry, and fishing	37	100.0	a	a	a

Source: Bureau of Labor Statistics, Current Population Survey, Worker Displacement Survey, August 21, 2002.

[a] Data not shown where base is less than 75,000.

[b] Data refer to people who had three or more years of tenure on a job they had lost or left between January 1999 and December 2001 because of plant or company closings or moves, insufficient work, or the abolishment of their positions or shifts.

Exhibit 9 Displaced U.S. Workers (1) Who Lost Full-Time Wage and Salary Jobs Between January 1999 and December 2001 and Were Reemployed in January 2002 by Industry of Lost Job and (2) Earnings Level of New Job (in thousands)

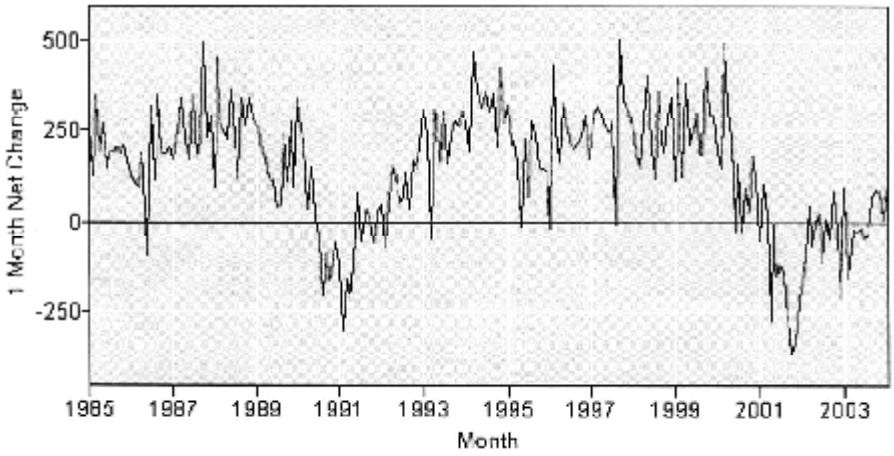
Industry of lost job	Total	Part Time	Total[b]	Reemployed in January 2002 Wage and Salary Workers Full Time Earnings Relative to Those of Lost Job				Self-employed and Unpaid Family Workers
				20 Percent or More Below	Below, but within 20 Percent	Equal or Above, but within 20 Percent	20 Percent or More Above	
Total who lost full-time wage and salary jobs[a]	2,298	234	1,893	450	356	483	255	171
Mining	26	-	22	7	6	5	4	4
Construction	154	2	135	38	17	35	27	17
Manufacturing	719	52	620	185	143	119	65	46
Durable goods	447	35	373	114	80	66	39	39
Nondurable goods	271	17	248	71	62	53	26	7
Transportation and public utilities	188	26	151	35	31	36	16	12
Wholesale and retail trade	432	60	335	72	51	107	42	37
Finance, insurance, and real estate	192	20	157	28	24	51	27	16
Services	539	63	439	77	81	124	70	37
Professional services	288	33	236	47	42	73	34	19
Other service industries	251	30	204	29	39	52	36	18
Public administration	17	4	13	-	3	6	4	-

Source: Bureau of Labor Statistics, Current Population Survey, Worker Displacement Survey, August 21, 2002.

[a] Data refer to people who had three or more years of tenure on a job they had lost or left between January 1999 and December 2001 because of plant or company closings or moves, insufficient work, or the abolishment of their positions or shifts.

[b] Includes about 349,000 people who did not report earnings on lost job.

Exhibit 10 Net Monthly Additions to Nonfarm U.S. Jobs, 1994–2004 (000s)



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1985	266	124	346	195	274	145	189	193	204	187	209	168
1986	123	107	93	188	125	–93	318	113	346	187	186	204
1987	171	232	249	338	227	171	346	170	229	492	231	294
1988	94	452	276	245	227	363	223	121	340	268	339	289
1989	262	258	192	173	118	117	39	47	249	111	277	95
1990	335	253	221	34	149	19	–47	–204	–84	–164	–146	–57
1991	–120	–300	–156	–217	–122	80	–50	19	33	8	–58	26
1992	52	–71	59	156	127	56	74	137	37	173	144	213
1993	307	237	–46	307	273	164	300	159	240	279	263	302
1994	270	192	468	357	339	310	359	303	354	206	425	270
1995	321	211	220	163	–9	227	71	278	239	149	144	140
1996	–18	435	255	165	329	271	228	203	218	238	292	177
1997	229	294	317	291	262	246	276	–7	506	339	307	298
1998	268	185	148	278	401	205	121	355	221	192	285	344
1999	113	396	124	382	214	257	295	193	187	422	295	294
2000	194	146	493	308	231	–25	160	–28	89	30	183	124
2001	–53	104	15	–271	1	–150	–115	–141	–267	–361	–332	–212
2002	–165	–90	43	–68	2	25	–111	11	–47	93	–37	–209
2003	94	–159	–110	–20	–28	–14	–45	–25	67	88	83	8
2004	97(p)	21(p)										

Source: U.S. Department of Labor, Bureau of Labor Statistics, March 7, 2004.

(p) = Preliminary.

Exhibit 11 Unemployment Rates in Five Countries, Approximating U.S. Concepts, Seasonally Adjusted, 1990–2004

Period	United States	Japan	France	Germany[a]	United Kingdom
1990	5.6	2.1	9.1	5.0	6.8
1991	6.8	2.1	9.5	5.6	8.4
1992	7.5	2.2	9.9	6.7	9.7
1993	6.9	2.5	11.3	8.0	10.4
1994	6.1	2.9	11.8	8.5	9.7
1995	5.6	3.2	11.3	8.2	8.7
1996	5.4	3.4	11.9	9.0	8.1
1997	4.9	3.4	11.8	9.9	7.0
1998	4.5	4.1	11.3	9.3	6.3
1999	4.2	4.7	10.6	8.5	6.0
2000	4.0	4.8	9.1	7.8	5.5
2001	4.7	5.1	8.4	7.9	5.1
2002	5.8	5.4	8.7	8.6	5.2
Qt. I	5.7	5.4	8.5	8.4	5.1
II	5.8	5.4	8.6	8.6	5.2
III	5.7	5.5	8.8	8.7	5.3
IV	5.9	5.4	8.9	8.9	5.1
2003	6.0	5.3	9.2	9.4	
Qt. I	5.8	5.4	9.0	9.3	5.1
II	6.1	5.4	9.2	9.4	5.0
III	6.1	5.2	9.3	9.4	5.0
IV	5.9	5.1	9.3	9.3	
August	6.1	5.2	9.2	9.4	5.0
September	6.1	5.2	9.4	9.4	5.0
October	6.0	5.2	9.3	9.3	4.9
November	5.9	5.2	9.3	9.3	4.9
December	5.7	4.9	9.3	9.3	
2004					
January	5.6	5.0	9.3	9.1	

Source: U.S. Department of Labor, Bureau of Labor Statistics, March 7, 2002.

[a]Germany (unified) for 1991 onward. Prior to 1991, data relate to the former West Germany.

Note on adjustments: The foreign country data are adjusted as closely as possible to U.S. concepts, with the exception of age limits and the treatment of layoffs, for which no adjustments are made. In addition, for some countries, no adjustment is made for deviations from U.S. concepts in the treatment of unpaid family workers, people waiting to start a new job, passive job seekers (for example, people only reading newspaper ads as their method of job search). In the United States, job search must be "active," such as placing or answering advertisements, and simply reading ads is not enough to quantify as active search. Except for the inclusion of passive job seekers in Canada (for which an adjustment is made), these "unadjusted" differences are believed to have a negligible effect on the comparisons. For further information on comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3–20.

Acknowledgment: Data used to calculate these unemployment rates come mainly from national statistical sources but also from OECD and EUROSTAT.

Exhibit 12 U.S. Employment and Wages by Occupation for High-Wage Occupations

	Employment (000s)	Mean Annual Wages ($ 000s)
Management Occupations		
Chief executives	455.9	107.7
Engineering managers	214.8	88.9
Architecture and Engineering Occupations		
Petroleum engineers	11.4	81.8
Life, Physical, and Social Science		
Physicists	10.9	83.7
Legal Occupations		
Lawyers	490.0	91.9
Judges, magistrate judges, and magistrates	27.9	79.5
Education, Training, and Library Occupations		
Law teachers, post-secondary	9.7	79.1
Health-care Practitioners and Technical Occupations		
Dentists	87.8	110.8
Optometrists	24.2	88.0
Anesthesiologists	24.7	131.7
Family and general practitioners	135.3	110.0
Internists, general	53.3	126.9
Obstetricians	17.2	133.4
Pediatricians	24.2	116.6
Psychiatrists	21.6	113.6
Surgeons	48.9	137.0
Podiatrists	7.6	94.5
Transportation and Material-Moving Occupations		
Airline pilots, copilots, and flight engineers	88.8	99.4
Air traffic controllers	23.0	83.4

Source: *Handbook of U.S. Labor Statistics*, Seventh Edition, 2004, pp. 229–239.