Executive Summary: The Comprehensive Impact of Offshore IT Software and Services Outsourcing on the U.S. Economy and the IT Industry

SPONSORED BY:

Information Technology Association of America
1401 Wilson Boulevard
Arlington, Virginia 22209

PREPARED BY:

Global Insight (USA), Inc.
24 Hartwell Avenue
Lexington, Massachusetts 02421

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THE COMPREHENSIVE IMPACT OF OFFSHORE IT SOFTWARE AND SERVICES OUTSOURCING ON THE U.S. ECONOMY

Highlights

The current rapid increase in offshore IT software and services outsourcing has sparked a debate on the costs and benefits of this trend to the U.S. economy. To help understand the comprehensive economic impact of offshore IT software and services outsourcing, Global Insight has undertaken a thorough analysis on behalf of the Information Technology Association of America (ITAA). The analysis was undertaken in the context of Global Insight's economic models and incorporates information from third-party research reports, members of the IT industry, and primary research surveys.

Although "lower cost" is the most commonly cited reason for offshore outsourcing, intense global competition in an environment of slower growth and low inflation demands constant vigilance over costs. Due to the low costs and high quality, using offshore resources in selected countries makes good economic sense. Beyond the cost incentive, global sourcing provides several other practical benefits including: the ability of multinational organizations to efficiently stage 24x7 operations; the opportunity to customize products and services to meet local needs; and the means of geographically deploying workers and facilities to succeed in globally dispersed, highly competitive markets.

Through the research, analysis, and model simulations, Global Insight's major findings are:

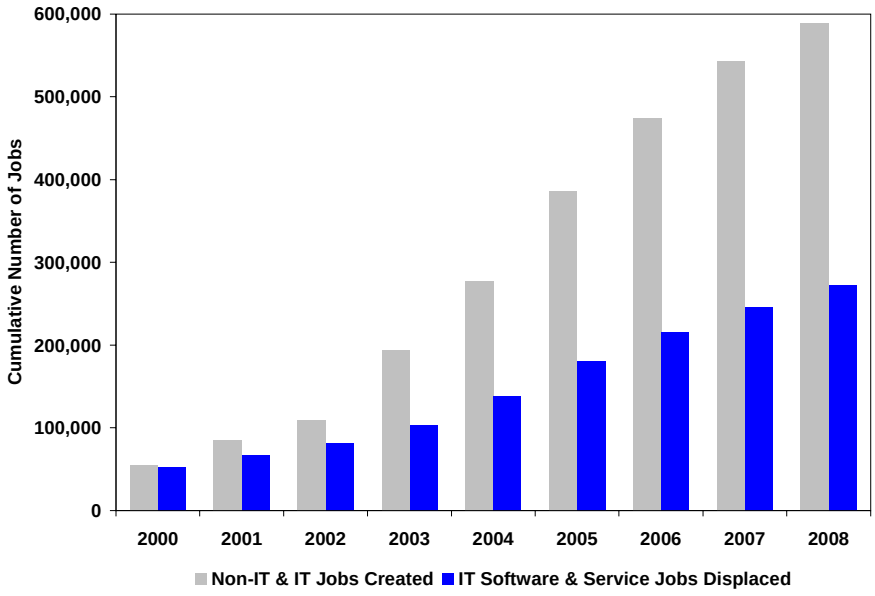
- Spending for global sourcing of computer software and services is expected to grow at a compound annual rate of almost 26%, increasing from approximately $10 billion in 2003 to $31 billion in 2008. During the same time period, total savings from the use of offshore resources are estimated to grow from $6.7 billion to $20.9 billion. The estimated spending amounts represent 2.3% and 6.2% of total IT software and services spending by U.S. corporations in 2003 and 2008, respectively.
- The cost savings and use of offshore resources lower inflation, increase productivity, and lower interest rates. This boosts business and consumer spending and increases economic activity.
- The benefits of global sourcing contribute significantly to real Gross Domestic Product in the United States, adding $33.6 billion in 2003. By 2008, real GDP is expected to be $124.2 billion higher than it would be in an environment in which offshore IT software and services outsourcing does not occur.
- While global IT software and service outsourcing displaces some IT workers, total employment in the United States increases as the benefits ripple through the economy. The incremental economic activity that follows offshore IT outsourcing created over 90,000 net new jobs as of 2003 and is expected to create 317,000 net new jobs by 2008.
- In the software and services area, the economy is expected to create 516,000 jobs over the next five years in an environment with global sourcing but only 490,000 without it. Of these 516,000 new jobs, 272,000 are expected to go offshore, while 244,000 are expected to remain onshore. Thus, the U.S. IT workforce will continue to grow.
- The impact of global sourcing on employment varies by industry sector. The major industry groups that are expected to gain a significant number of incremental jobs over the next five years include education and health services, transportation and utilities, construction, wholesale trade, financial services, professional and business services, and manufacturing.
- Workers are expected to enjoy a bump up in real wages. Offshore IT software and services outsourcing actually increases average real wages of U.S. workers. With lower inflation and higher productivity, real wages were 0.13% higher in 2003 and are expected to be 0.44% higher in 2008.

- Demand for U.S. exports is expected to increase due to relatively lower prices of U.S. produced goods and services and higher incomes in the offshore outsourcing destinations. Real exports were $2.3 billion higher in 2003 and are expected to be $9 billion higher by 2008.
- The U.S. has a large and rapidly growing trade surplus in services. The expected increase in offshore IT software and services outsourcing will not reverse this trend.

Study Summary

The benefits of free trade—lower costs, higher labor productivity, and more efficient production—induce businesses to leverage the offshore resources. The use of offshore resources lowers costs, frees domestic resources to pursue other productive ends, yields high quality software and services, and increases labor productivity among end-users. These benefits flow through to lower prices, lower interest rates, and higher spending throughout the economy. While offshore IT software and services outsourcing (ITO) has displaced and will continue to displace workers in IT software and services occupations, increased economic activity creates a wide range of new jobs—both IT and non-IT. As the benefits compound over time, the U.S. economy operates more efficiently, achieves a higher level of output, creates more than twice the number of jobs than are displaced, and increases the average real wage.

Figure 1: Cumulative Non-IT and IT Jobs Created Due to Increased Economic Activity vs. Cumulative IT Jobs Lost or Never Created Due to Offshore ITO



Source: Global Insight, Inc.

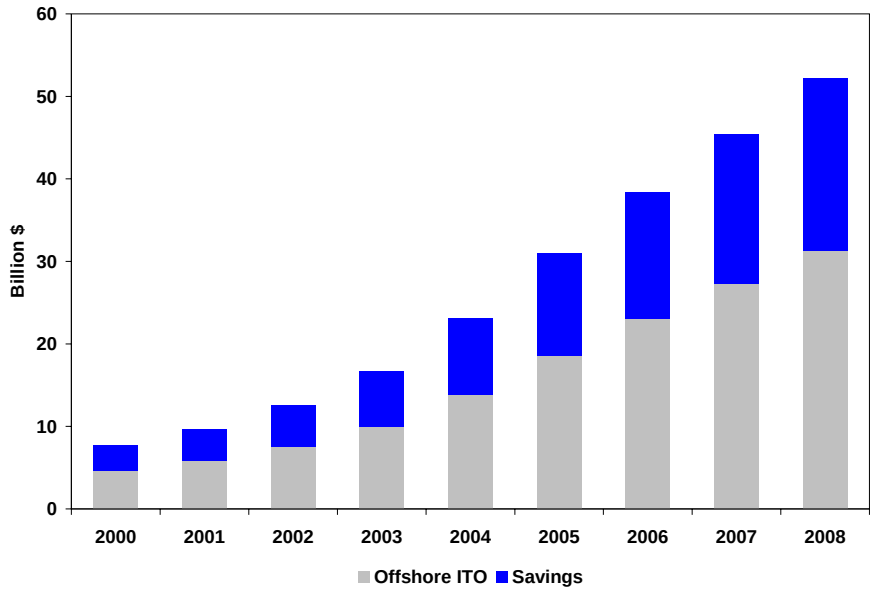
Global Insight has estimated that the number of displaced IT software and services jobs due to offshore ITO as of 2003 was 104,000. This includes not only jobs that were eliminated by some U.S. companies that substituted offshore resources for domestic resources, but it also includes jobs that were never created as other U.S. companies expanded their IT activities using offshore resources without reducing their domestic resources. However, it is important to note that the total number of IT software and services jobs that have been lost since 2000 when the dot-com bubble burst is 372,000. That is, 10% of all IT software and services jobs in the U.S. have disappeared since 2000, but only 2.8% of the total IT software and services jobs were lost because of offshore ITO. Over 268,000 IT software and services jobs disappeared for other reasons including:

- The end of the dot-com boom in 2000 that halted and reversed the aggressive hiring trend of the late 1990s and led to a correction in wages, bonuses, and other perks;
- The mild recession in 2001 that caused businesses to tighten their belts to prepare for slower economic growth following the exuberant economic growth in the late 1990s; and
- Labor productivity gains and technological advances that lowered the labor requirements for most information technology processes throughout the economy.

Offshore IT Spending Lowers Costs

From 1998 through 2003, offshore IT software and services spending increased from $2.5 billion to $10 billion. This represents a compound annual growth rate of 32% over the five-year interval. The key reasons for going offshore in the late 1990s and into 2000 were cost savings and the short supply of skilled IT workers in the United States at that time. The cost savings in 2003 reached $6.7 billion. This represents an assumed 40% savings versus what would have been spent if domestic resources had been used instead of offshore resources.

Figure 2: Estimated Offshore ITO Spending and Potential Savings



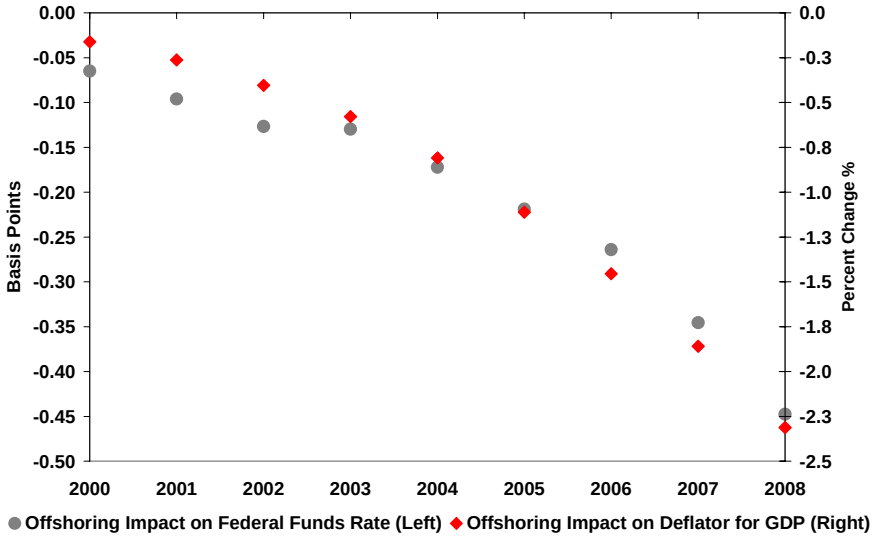
Source: Global Insight, Inc.

Over the next five years, offshore IT software and services spending will continue to grow at a rapid pace. Global Insight estimates the likely spending amount will be $31 billion in 2008. The key reasons for going offshore now and in the foreseeable future are cost savings, software quality, access to global markets and talent, and labor productivity gains. The potential savings implied by the projected spending amount in 2008 is almost $21 billion. For businesses operating in increasingly competitive, low-inflation markets, the advantages of offshore IT software and services outsourcing result in lower output prices for the goods and services they produce. As the estimated savings grow over the next five years, benefits to U.S. corporations, consumers, and the rest of the economy are expected to grow as well.

Lower Inflation Spreads Throughout the Economy

The benefits that businesses derive from offshore ITO set off a chain reaction throughout the economy that accumulates over time. By 2003, the overall price level was estimated to be 0.6% lower after a decade of increasing offshore ITO spending. As the offshore ITO spending and the associated savings and productivity benefits increase over the next five years, the GDP price level is expected to be 2.3% lower in an environment with offshore ITO than without it.

Figure 3: Lower IT Costs and Higher Productivity Yield a Lower GDP Price Level and Lower Interest Rates



Source: Global Insight, Inc.

Economic Activity Increases

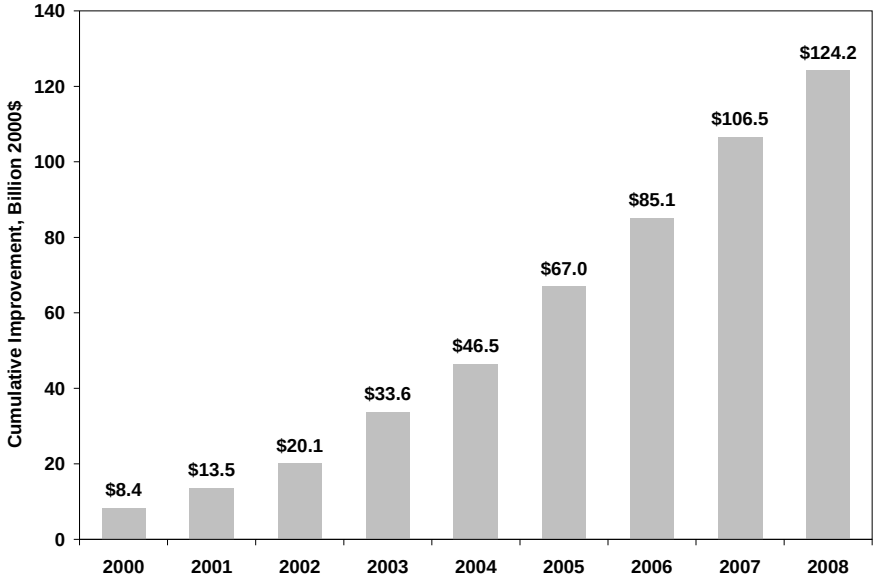
Lower inflation, lower interest rates, higher real wages, and higher labor productivity are expected to generate additional consumer and business spending and higher total output. Global Insight has estimated that some gains have already been realized, even though the offshore ITO spending amounts have been relatively small until very recently. But additional, larger gains are expected as offshore ITO spending increases significantly over the next five years.

By 2003, cumulative offshore ITO spending and, more importantly, the cumulative savings, higher productivity, lower inflation, and lower interest rates yielded an additional $33.6 billion in real GDP. As offshore ITO spending and the related impacts grow through 2008, the positive impact on real GDP is expected to increase as well. By 2008, real GDP is expected to be $124.2 billion greater in an environment in which offshore resources are used to lower production costs in the U.S. The estimated gains in each year are not due simply to the spending levels in that year: they are due to the accumulation of the savings, quality, and productivity benefits over time.

Real Wages Get a Boost

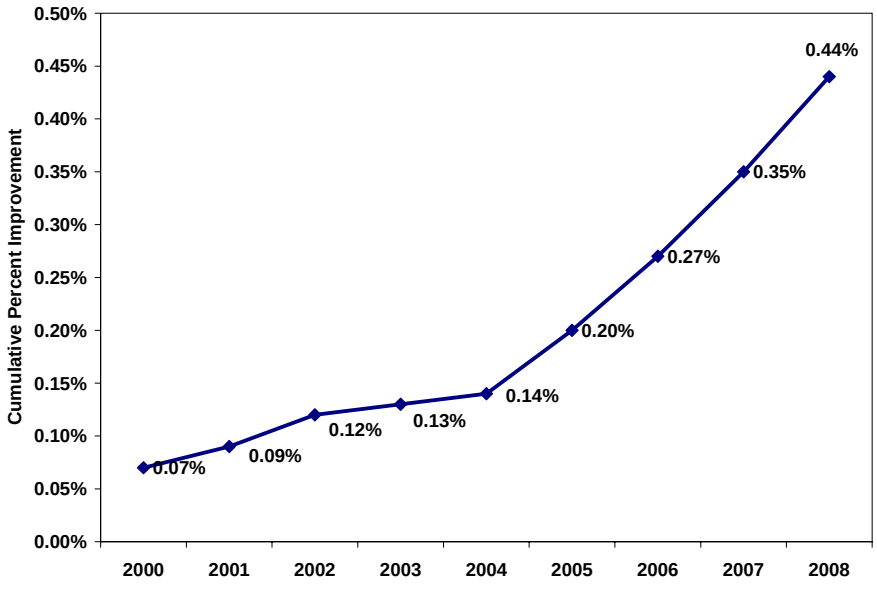
Lower inflation and higher labor productivity boost real wages throughout the U.S. economy. Currently, the estimated real wage gain is hovering around 0.1%. As offshore ITO spending increases over the next five years and savings and productivity increase in response, the incremental real wage gain is expected to reach 0.44% in 2008.

Figure 4: Real Gross Domestic Product Responds to Higher Productivity and Greater Consumer and Business Spending Levels



Source: Global Insight, Inc.

Figure 5: Real After-Tax Hourly Compensation Gets a Boost Due to Lower Inflation and Higher Productivity

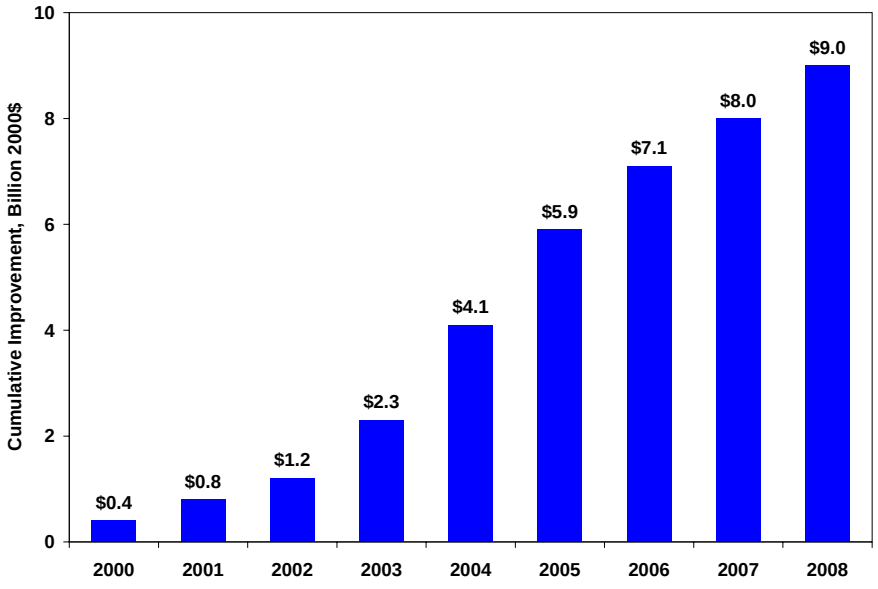


Source: Global Insight, Inc.

Exports Rise with Offshore Incomes and Lower U.S. Prices

While personal consumption spending and business investment comprise most of the positive real GDP impact, real exports increase as well. The increase in offshore ITO spending by U.S. companies directly increases income among offshore service providers and their employees. The increase in savings due to the use of offshore resources restrains price increases in response to already low inflation and competitive pressures. Some of the additional offshore income creates an increase in demand for U.S. exports. The lower price level spurs demand for U.S. exports as well. In 2003, the real value of U.S. exports was $2.3 billion higher due to the effects of offshore ITO spending. By 2008, the impact on real exports is expected to increase to $9 billion.

Figure 6: Real Exports Rise as Offshore Incomes Increase and U.S. Prices Respond to Lower U.S. Costs



Source: Global Insight, Inc.

Additional Economic Activity Creates New Jobs

Offshore IT software and services outsourcing has a positive, cumulative effect on job creation throughout the U.S. economy. In fact, the economic benefits of offshore ITO creates many more jobs than are displaced. While offshore outsourcing has and will continue to displace workers in the IT software and services profession, the positive gains to the economy, as a whole, will stimulate job creation throughout the economy. The overall gain is positive: an estimated 193,900 new jobs were created in 2003 and over 589,000 new jobs are expected by 2008, if offshore ITO continues. These estimates include both IT and non-IT jobs. After accounting for the number of displaced IT software and services jobs, the net number of new jobs in 2003 was estimated to be over 90,000, and the net number of new jobs in 2008 is expected to be over 317,000.

The net employment gains are not limited to one area. Most industries are expected to gain net new jobs as a result of the estimated economic benefits that accompany offshore ITO spending.

As the economy expands, several broad sectors lead the way in terms of net new job creation. These include Education and Health Services, Transportation and Utilities, and Construction. Other sectors that

are expected to gain a significant number of jobs include Manufacturing, Retail Trade, Professional and Business Services, Financial Services, and Wholesale Trade. Most of the displaced IT software and services jobs are expected to occur in two sectors: Publishing, Software and Communications and Professional and Business services sectors. In the Publishing, Software and Communications sector, the new jobs created – while substantial – do not offset the number of displaced IT software and services jobs, resulting in a net decrease by 2008. However, in the Professional and Business Services sector, the number of newly created jobs exceeds the number of displaced IT software and services workers, resulting in a net gain by 2008. The job creation in the other sectors helps absorb the displaced IT software and services jobs throughout the economy.

Table 1: Incremental Employment Impacts by Industry (Number of Net New Jobs)

INDUSTRY SECTOR	Net New Jobs		Total Employment With Offshore ITO	
	2003	2008	2003	2008
Natural Resources & Mining	1,046	1,182	562,953	466,367
Construction	19,815	75,757	6,813,323	7,763,619
Manufacturing	3,078	25,010	14,301,493	14,348,283
Wholesale Trade	20,456	43,359	5,817,096	6,301,966
Retail Trade	12,552	30,931	14,982,090	15,138,270
Transportation & Utilities	18,895	63,513	4,902,726	5,688,011
Publishing, Software & Communications	-24,860	-50,043	3,325,202	3,507,217
Financial Services	5,604	32,066	7,807,356	8,167,050
Professional & Business Services	14,667	31,623	15,946,375	19,651,930
Education & Health Services	18,015	47,260	16,566,840	18,331,695
Leisure, Hospitality & Other Services	4,389	12,506	17,351,984	18,396,412
Government	-3,393	4,203	21,490,648	22,372,105
Total Employment	**90,264**	**317,367**	**129,868,086**	**140,132,925**

Source: Global Insight, Inc. and NAICS

Global Insight also estimated the total number of net new jobs by state, by examining each state's industry employment concentration and forecasted industrial growth. It is no surprise that the larger, more economically diversified states are expected to gain the most net new jobs. States such as California, Texas, Florida, New York, Illinois, Ohio, Pennsylvania, and Michigan are the largest beneficiaries, primarily due to their sheer size. However, other states—such as Kansas, Nevada, Washington, North Carolina, Arizona, Colorado, Iowa, South Carolina, and Georgia—will lead in terms of the expected growth in the number of net new jobs.

Table 2: Estimated and Expected Employment Impacts by State (Number of Net New Jobs)

STATE	2003	2008
Alabama	1,278	4,530
Alaska	215	748
Arizona	1,824	6,909
Arkansas	900	3,069
California	9,354	34,276
Colorado	1,326	5,010
Connecticut	1,082	3,721
Delaware	305	1,051
Dist. of Columbia	156	583
Florida	5,661	19,709
Georgia	2,686	10,045
Hawaii	398	1,285
Idaho	452	1,534
Illinois	4,280	15,008
Indiana	2,084	7,492
Iowa	934	3,496
Kansas	698	2,914
Kentucky	1,308	4,728
Louisiana	1,497	5,120
Maine	428	1,391
Maryland	1,848	6,124
Massachusetts	2,099	7,210
Michigan	3,006	10,279
Minnesota	1,854	6,686
Mississippi	738	2,632
Missouri	1,835	6,389

STATE	2003	2008
Montana	290	1,009
Nebraska	658	2,356
Nevada	911	3,741
New Hampshire	439	1,481
New Jersey	3,086	10,010
New Mexico	505	1,707
New York	5,058	18,239
North Carolina	2,555	9,699
North Dakota	227	770
Ohio	3,811	13,280
Oklahoma	973	3,379
Oregon	1,058	3,824
Pennsylvania	4,054	12,809
Rhode Island	319	1,069
South Carolina	1,248	4,669
South Dakota	271	940
Tennessee	2,016	6,747
Texas	7,236	23,920
Utah	716	2,620
Vermont	202	668
Virginia	2,241	7,859
Washington	1,491	5,771
West Virginia	498	1,513
Wisconsin	1,947	6,708
Wyoming	208	641
Total	**90,264**	**317,367**

Source: Global Insight, Inc.

Conclusions and Recommendations

Offshore IT software and services outsourcing is rapidly creating a new competitive reality for employers, employees, government agencies, and academia. The analysis presented here finds that the U.S. economy has much to gain from global sourcing and an environment of free trade, open markets, and robust competition. The economic benefits include job creation, higher real wages, higher real GDP growth, contained inflation, expanded exports, and others enjoyed throughout the economy.

Given the benefits that accompany offshore ITO spending by businesses in the United States, it would be unwise to enact protectionist legislation or regulations as a result of the political pressures being created by this economic transition. At the same time, however, government and industry should be responsive to the needs of displaced IT workers, as well as the need to continue encouraging the next generation of workers to enter the IT field. To retain preeminence in global markets and respond to the growing needs for IT professionals in the United States, businesses, government, schools, and workers must recognize the competitive realities of global markets and respond to the challenges by improving competitive performance. Some recommended actions include:

- Make information technology and other service sector workers eligible for government assistance when their jobs are displaced by foreign operations.
- Consider offering assistance to service workers similar to that offered manufacturing workers, in a variety of forms, including skills training (and compensation during the training period), job search and relocation allowances, and in appropriate circumstances, transportation, childcare and healthcare assistance.
- Continue full and fair enforcement of U.S. trade laws as a high priority. The U.S. government should investigate moving against countries that are not following international agreements by using tariff or non-tariff barriers to harm global trade, including trade in services and government procurement. The US should continually encourage other countries to remove their existing barriers to U.S. exports and open their services markets to foreign competition in the current international trade negotiations.
- Review current law and legislation to assure that everything possible is being done to support and enhance the United States educational system, at all levels from the earliest schooling to advanced post graduate studies;
- Preserve American leadership in innovation. Support basic research and development programs to help insure continuing U.S. leadership in innovation based on advanced science and technology;
- Review current law and legislation to assure that everything possible is done to foster a business climate that encourages risk and rewards entrepreneurial effort; and
- Build a public policy agenda that addresses the legitimate concerns of the American people, while achieving for their benefit the greatest economic growth through enhanced trade, beneficial immigration, increased employment, and other important related issues.