IS OUTSOURCING REALLY AS BAD AS IT IS MADE TO SOUND?

A RE-ASSESSMENT AND SOME PERSPECTIVE

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ABSTRACT

The debate on outsourcing of skilled jobs to India has recently picked up steam and has become a hot election-year issue. Bills put forth in almost twenty five states have provisions that seek to limit the outsourcing trend. This paper visits some issues concerning outsourcing in order to provide nuance to some of the rhetoric. In particular, we discuss the US-India outsourcing history and reassess the key questions surrounding the subject. We provide empirical evidence in order to support our main argument – that outsourcing has been going on for a while and that the risk to US job growth due to outsourcing is exaggerated. As framing the debate in strictly economic terms is difficult given that there are "real" winners and "real" losers caught in the crosstalk, the paper seeks to offer recommendations to help ease the socio-economic impact of outsourcing.

"Outsourcing is not a new concept. Blue-collar manufacturing jobs have been outsourced for 100 years. Textile jobs in South Carolina today were originally outsourced from Massachusetts. While the transition was painful for Massachusetts textile workers in the short run, they soon found better jobs in new industries. The same will be true as South Carolina textile jobs are outsourced to China,"[1]

"The risk of service outsourcing dramatically reducing job growth in the advanced economies has been greatly exaggerated."[2]

"This American election has a third party candidate – India. What's happening in Bangalore and Hyderabad has created tremors in Ohio and New Jersey, making outsourcing a red-hot campaign issue. Such is the wattage that every time anyone utters the word, the White House skips a beat."[3]

I. INTRODUCTION

The quotes mentioned above convey the message of this paper – outsourcing has been going on for a while, the risk to job growth due to outsourcing is exaggerated and that clamor is attributable to US election year histrionics. However, before we offer some perspective to the outsourcing debate, we would like to define it. According to the Gartner Glossary of Information Technology (IT) Acronyms and Terms, ***outsourcing*** is – *the procurement of resources- purely from an external source to accomplish business objectives*. ***Off shoring*** is defined as *the provision of services from a country that is geographically remote from the client enterprises*. If outsourcing is not a new concept, as Bartlett says, then why has it become a dirty word now? This paper contends that outsourcing has become a debated issue only due to the heat generated in this election year. To this end, the paper re-assesses the issue and offers some perspective. The paper

[1] Bruce Bartlett, Senior Fellow at the National Center for Policy Analysis, quoted in Outlook (2004) "The benefits of Outsourcing," July 29, 2004 available http://www.outlookindia.com

[2] Amiti and Wei (2004).

[3] Sirohi (2004).

is organized as follows. Section II presents a historic overview of the US-India outsourcing relationship and section III provides a re-assessment to the outsourcing debate by analyzing some contentious issues. Section IV examines the US (over) reaction to outsourcing of services to India and offers some perspective from the Indian standpoint. Section V, the concluding section suggests policy recommendations to help alleviate the current angst in the US labor market.

II. HOW DID IT ALL BEGIN?

The successful outsourcing of manufacturing operations from the US to Asia and Latin America since the early to mid-1970s has been well documented. In the late 1970s and 1980s, jobs were "exported" from developed countries to East Asian countries like Korea, Malaysia and Singapore. During the late 1980s and early 1990s, US companies were engaged in relocating their key manufacturing operations to mainland China to take advantage of its cheap labor and a variety of fiscal and other incentives offered to foreign investors in China's Special Economic Zones (SEZs). The success of NAFTA in the mid-1990s NAFTA propelled Mexico into focus as a geographically proximate, cheap labor base for manufacturing operations. Though outsourcing of manufacturing operations has been going on for a good thirty years, the outsourcing of services happens to be a relatively new phenomenon as US companies earlier did not consider it a viable business strategy. The reasons behind such thinking were varied- companies operated on the premise that skilled services could not be sourced from the developing countries, and also that the technology needed for such operations was not at hand. Further, services

were considered far too personalized, requiring face-to-face interaction, or at the very least geographical proximity, between the recipient and the provider.

This thinking changed in the late 1990s, particularly during the years leading up to Y2K. Congress raised the ceiling on H-1B visas and companies began sponsoring computer technicians from India to rewrite computer codes and avert a computer catastrophe on the morning of the new millennium. Meanwhile, Indian consulting companies, like Tata Consultancy Services (TCS), had already established themselves as providers of low end services such as maintenance of legacy systems or projects associated with the millennium bug (Y2K) and euro conversion. These firms undertook small projects overseas for MNCs and moved up the value creation chain as their reputations were established.

During this time, however, the US Congress did not set any caps on the issuance of the temporary L-1 visa that was designed to enable companies to fill temporary positions with workers from their overseas branches. This presented a golden opportunity to many Indian consulting companies that set up US offices, imported computer programmers from India and rented them out to cost conscious companies in the US. These "body shops" as they were called became the focus of agitated debates on outsourcing and its socio-economic impacts. The outsourcing polemic began to intensify when US companies decided to move their operations to India to garner greater cost savings. By 1999, 41 percent of software services were provided in India rather than on-site at the client's location, compared to only 5 percent in 1990. [4] Current estimates indicate that spending for global sourcing of computer software and services is expected

[4] This phenomenon in itself is not recent and even in the late 1980s, outsourcing pioneers such as General Electric, Nortel Networks, and Citibank had started viewing outsourcing as part of a long term investment strategy (Bajpai et. al (2004).

to grow at a compound annual rate of almost 26 percent, increasing from approximately $10 billion in 2003 to $31 billion in 2008. [5]

III. THE US REACTION TO OUTSOURCING- IS IT JUSTIFIED?

While India is welcoming the boom in its IT sector as a result of outsourcing, the current US reaction has been contentious and has acquired a hot-button national status during this election year. Indeed, it is not difficult to get perturbed when one reads that the McKinsey Global Institute estimates a 30 to 40 per cent annual increase in the volume of outsourced jobs for the next five years. Or when Forrester Research reports (2002) that over 3.3 million jobs and over $136 billion of wages will be transferred out of US by 2015.[6]

However, hyperbole aside, is there any truth behind the outsourcing bogeyman? The following points offer some perspective.

A. Is the decline in employment in the United States perfectly correlated with increases in outsourcing?

Table 1 presents data on job losses over the 2000-2002 time period for occupational categories that are most threatened by outsourcing. The categorical classification is based on the above-mentioned Forrester report. [7] As summarized in

[5] See Information Technology Association of America, "2004 IT Workforce Study", available http://www.itaa.org/

[6] See "3.3 Million US Services Jobs to Go Offshore," by John C. McCarthy, Forrester Research TechStrategy Research Brief, November 2002 available, http://www.forrester.com/. New estimates by the Forrester foundation predict that 830,000 positions will have moved offshore by 2005.

[7] The nine occupational categories are: Management; Business and Financial Operations; Computer and Mathematical; Architecture and Engineering; Life, Physical, and Social Science; Legal; Art, Design, Media, and Sports; Sales; Office and Administrative Support.

Table 1, over the period 2000-2002, the US has experienced a 1.7 percent decline in overall employment. Employment in Forrester's nine categories has also declined by 1.97 percent. However, an analysis of the data by sector shows that this decline in employment has been borne disproportionately by the manufacturing sector (25.4 percent). The services sector and the government sector recorded slight increases in employment; 0.6 percent and 1.7 percent, respectively over the 2000-02 time period. Thus, Table 1 seems to imply that Forrester's nine categories have suffered job losses in the US manufacturing sector. However, the data does not lead us to conclude that the *lost* jobs have moved offshore. Moreover, the rise in service sector employment in Forrester's nine occupations may suggest that US manufacturers have outsourced service-oriented manufacturing sector jobs to service sector companies *within* the US and not to India.

{Insert Table 1 here}

Where job-growth is concerned, the BLS reports that the total number of jobs in IT-related sectors stood at 17 million in 2002. As Mann (2004) notes, a broad diffusion of IT in the US economy will eventually increase the demand for US workers with IT skills. Specifically in the software and services area, the US 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 (ITAA, 2004).

In the clamor surrounding the outsourcing issue, a new phenomenon known as "reverse outsourcing' has quietly begun to assert itself. In the past 18 months, the outsourcing firm Wipro has added 300 U.S.-based consultants to its staff. And as reported

in BusinessWeek, " From startups to giants, companies based in such offshoring havens as India, China, Taiwan, South Korea and Ireland have begun setting up U.S. bases -- and hiring U.S. workers."[8]

B. Why Outsource?

The current debates on outsourcing appear to be ignoring some vital statistics on the phenomenon and its impact on the US economy. For instance, take the magnitude of cost savings engendered by outsourcing – US companies saved $6 billion in the last 4 years by outsourcing to India. During this period, they added 125,000 jobs, helped by these savings which enabled them to prevent layoffs.[9] A recent report from the McKinsey Global Institute substantiates these numbers by estimating that the US gains $1.12 to $1.14[10] for every dollar of costs moved abroad. According to a Global Insight (2004) study commissioned by the ITAA, total savings from the use of offshore resources are estimated to grow from $6.7 billion in 2003 to $20.9 billion in 2008.[11]

While cost saving is the primary reason for outsourcing, the Bajpai, et al (2004) survey also finds that quality remains an important consideration behind IT outsourcing. Indeed customer demand for quality in a global economy can be met by a well-trained, high quality work force such as India's. The better quality of work skills inherent in the Indian IT labor force also resonates with the analysis of Boston Consulting Group, which revealed that during confidential discussions with executives at its client companies, many conveyed low opinions of their American employees compared with labor

[8] See BusinessWeek, "The Outsourcing Boomerang," by Olga Kharif, August 11 2004.
[9] See Outlook: We've Gotta Get their Accent, available http://www.outlook.com
[10] http://www.mckinsey.com/knowledge/mgi/rp/offshoring/perspective/
[11] See, "The Impact of Offshore IT Software and Services Outsourcing on the U.S. Economy and the IT Industry," available http://www.globalinsight.com/About/PressRelease/PressRelease855.htm

available abroad.[12] India is a prime example of a country where educational standards are very high and Math skills are exceptionally developed, as is the case for the rest of Asia. However, India has the edge over other Asian nations; especially China, in that English, the standard language for IT and technology services, is the national language.

Compliance with the Sarbens-Oxley Act (2002) is yet another reason behind finance and accounting outsourcing. As per Section 404 of the Sarbanes-Oxley Act, corporate managers must maintain tight internal controls over their business processes and evaluate and document control effectiveness as part of their regular financial reporting duties. A survey conducted[13] by the Financial Executives Institute reports that the average costs for the largest U.S. companies to comply with the Sarbanes-Oxley Act may exceed $4.6 million in the first year. Thus, the outsourcing of transactional aspects of the finance and accounting business process can be a boon to cash starved companies. The cost savings generated through outsourced business processes can compensate for the increased costs associated with the compliance to the Sarbanes-Oxley Act. Further, outsourcers develop competencies that enable them to monitor key controls at a lower cost.

More recently however, the outsourcing of finance and accounting based work has sparked worries among thousands of U.S. accountants about their own financial security.[14] As such the outsourcing trend has generated complaints within the profession that clients in some cases may be receiving substandard work. Responding to concerns

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[12] See, "Outsource or Perish- US firms told," available http://in.rediff.com/money/2004/jul/02bpo.htm
[13] Financial Executives Survey on Section 404 of Sarbanes –Oxley Act (January 2004). Available at http://www.fei.org/news/404_survey.cfm

[14] Amiti and Wei (2004) contend that service outsourcing is different from material outsourcing in that it adds the "stress effect" – In the past, the white collar workers (like accountants, architects, radiologists, etc) did not fear losing jobs to professionals abroad and hence they were staunch supporters of free trade.

that some accountants may be keeping clients in the dark about their outsourcing arrangements, the American Institute of Certified Public Accountants (AICPA) has proposed new rules concerning the disclosure and client-confidentiality requirements that its members must follow when they outsource work to third-party contractors.[15] Perhaps outsourcing has become a convenient scapegoat in this instance as well!

C. Do outsourced jobs really leave the United States?

Where estimates of outsourced jobs are concerned, a BLS survey on mass layoffs has concluded that during the first quarter of 2004, 4633 US workers lost their jobs due to outsourcing. This number is less than 2 percent of the mass layoffs that totaled 239,361 over the same quarter. When adjusted for seasonal and vacation related layoffs, the percentage of workers that lost jobs due to outsourcing rises to 2.5 percent. The BLS reports that around 9,985 workers lost jobs due to companies moving to different locations *within* the US. Global Insight has estimated that the number of displaced IT software and services jobs due to outsourcing as of 2003 is 104,000 which is less than 30 percent of the jobs lost due to the post-2000 collapse of the dot-com bubble.[16]

Further, according to the U.S. Bureau of Labor Statistics data, 69 percent of US workers in non-manufacturing sectors who lost their jobs to outsourcing over the last 20 years found new work within six months. On average, these workers earned roughly the same wages. If re-employment trends continue at this pace, the U.S. economy will gain nearly 50 cents of additional economic output for every dollar outsourced.

[15] See, "Accountants Scrutinize Outsourcing," in the Wall Street Journal, August 1 2004.
[16] See http://www.globalinsight.com/About/PressRelease/PressRelease855.htm

D. Is outsourcing the only villain?

Job destruction and creation is Schumpeterian in nature as the Bajpai, et. al. (2004) analysis asserts. Their study documents that around 7 to 8 percent of all private sectors jobs in the United States are lost every quarter and even in the boom years of the late 90's, over 7 to 8 million jobs were lost every quarter but even more were being created. This certainly puts the "sucking sound of jobs sent to India" into perspective. The authors have also examined BLS average wage and employment data by occupational category to conclude that a more likely cause of future job losses will be technological change that will make lower end jobs redundant. BLS data shows that while lower end jobs in the IT sector have been lost over the period 1999- 2002, higher paying jobs have increased during this period. The job losses for lower end jobs can be explained both due to the recession but more due to the increasing standardization of IT technologies which is reducing the need for human input thus making these jobs suitable for outsourcing.

In sum, the foregoing analysis indicates that the slowdown in IT hiring is due to other contributing factors such as the collapse of the dotcom economy in 2000, the recession in early 2001, and the inevitable march of technology that increases labor productivity and reduces demand for IT workers in the economy.

E. Are developing countries the largest recipients of outsourcing from rich industrialized countries?

According to a study conducted by Amiti and Wei (2004), the belief that outsourcing involves the US and other industrialized countries contracting out services to

India and a few other developing countries is erroneous. Data for 2002 provided by the authors suggests that while the US ($41 billion) and Germany ($39 billion) are the largest outsourcers of business services, India and China – two countries that have been portrayed as major recipients of outsourcing in the media – are significant outsourcers themselves (with the values, $11 billion and $8 billion and ranks 11th and 18th, respectively). Tables 2a and 2b provides more detail on the global outsourcing/insourcing rankings and indicate that while the US is the largest outsourcer, it also happens to be a much bigger and the largest insourcer, with $59 billion and India – the country maligned in the media for being an outsourcing recipient ranks at 6th place ($18.6 billion) with China at 14th place ($10 billion). Tables 2a and 2b therefore blast the myth that the top recipients of global service outsourcing tend to be poor developing countries.

{Insert Table 2a and Table 2b here}

F. Does Outsourcing threaten the American Standard of Living in the long run?

In the past, laid off US workers were re-hired when the economy picked up steam. The recent outsourcing trend, however, marks the beginning of a structural shift in the US labor market and the US is in the grip of a "jobless" recovery because of sluggish job growth. However, economic theory predicts that outsourcing is a phenomenon that unleashes mutual gains and accordingly, in the long run, the United States stands to benefit from business cost savings, increased exports to India, repatriated earnings from Indian outsourcing providers in which U.S. companies have invested, and additional economic output created when American workers take new jobs. Also the outsourcing of

jobs and the use of better technology will increase productivity in the services sector. The experience will be like that in the US manufacturing sector, where technological changes and off shoring led to an increase in demand for skilled workers and the consequent increase in real income for these workers. This sentiment is echoed in Mann (2004), who finds that globalized production and international trade have succeeded in lowering the prices of IT hardware by 10 to 30 percent. These lower prices translated into higher productivity growth in all sectors that employ IT hardware. Mann (2004) also contends that just like IT hardware, globally integrated production of IT software and services (a.k.a. outsourcing of services) will reduce these prices and make tailoring of business-specific packages affordable, which will promote further diffusion of IT use and transformation throughout the US economy.

The benefits of global sourcing contribute significantly to real Gross Domestic Product (GDP) in the US, adding $33.6 billion in 2003 (about 3 percent of US GDP). 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. Mann (2004) estimates that real GDP growth might have averaged 0.3 percentage points less per year from 1995 to 2002, if globalized production of IT hardware had not occurred. Based on their analysis of the data released by US Congressional Budget Office and Forrester Research, Bajpai et. al. (2004) predict that global sourcing of services will help the US economy to grow higher by 0.2 percent every year by year 2010. This will also help US governments to have higher tax collection as the profits of the companies will increase due to cost savings.

Outsourced jobs create a demand for US exports, and such demand for U.S. exports is expected to increase. Real exports were $2.3 billion higher in 2003 and are expected to be $9 billion higher by 2008 per ITAA estimates. Table 3 provides a breakdown of US trade with India in advanced technology products. For both 2002 and 2003, total advanced technology exports to India are much larger than imports from India. Data provided in Mann (2004) also indicates a trade surplus in other private services that include financial services and business, professional, and technical services. In fact, the US and UK have been running a surplus in the business services category for every year since 1980 (Amiti and Wei, 2004). According to these authors, if every country reduced its overall service outsourcing, the US and UK would be the biggest two losers in terms of net dollars lost in service trade. The US current account deficit would become larger, and not smaller!

{Insert Table 3 here}

There are other beneficial spillovers stemming from outsourcing, in addition to the exports of goods, such as increased tourism to the US from India (perhaps aided by the recent decline in the value of the dollar). Multinationals also typically bring with them best practices in labor, environmental protection and corporate governance, thereby improving social conditions where they outsource business processes. They often transfer technology, knowledge and skills, motivating host economies to upgrade intellectual-property protection standards, data-protection procedures and the rule of law. From a strictly economic point of view, an analysis of intrafirm trade such as between a parent and subsidiary reveals that as US multinationals expand overseas, their headquarters'

service activities in the US do not suffer financially. Furthermore, as Mann (2004) points out, even foreign multinationals with US subsidiaries are inclined to integrate their "service transactions in the US rather than at their headquarters abroad".

Free trade theory has always promoted comparative advantage and argues that in the long run, the cost savings and the lower opportunity cost associated with outsourced resources result in lower domestic inflation, increased productivity, and reduced interest rates. However, textbook economics notwithstanding, we argue that the free trade model is not applicable to analyze an issue like outsourcing because it challenges some of the basic assumptions of the traditional free trade model. No longer can we speak of two-sector models where the manufacturing sector is the tradeable sector and the service sector remains non-tradeable. Indeed, technology has enabled the outsourcing jobs at every end of the value creation chain from computer programmers to radiologists (Roach, 2004). Viewed from this perspective, outsourcing is bound to create pressures and "jobless" recoveries in the US labor market. Perhaps proponents of outsourcing would be well served if they couched their arguments in terms of this "new" free trade economics. Likewise, critics of outsourcing have got to admit that outsourcing certainly doesn't threaten everybody's standard of living in the US. So far, however, free trade critics have not come up with viable arguments against outsourcing that does not sound like rabid protectionism— which would be contrary to the free trade model the US has espoused since Herbert Hoover!

IV. The US (OVER) REACTION

Outsourcing is an issue that has generated more heat than light in the US in comparison to other European nations. The difference in attitudes toward outsourcing between Americans and Europeans can partly be attributed to the current US climate. While the lower social safety net in the US as compared to Britain and Germany doesn't help matters, the lackluster US recovery, the seemingly endless "war on terrorism" and emotional pre- election stump speeches have all combined to ratchet US anxiety levels to a new high.

US ire on losing jobs to Indians is understandable but not defensible. For instance, it is hard to comprehend the utter lack of protests in the US when Indian doctors and engineers (trained on Indian government subsidized education) came to the US for higher studies. For decades, the global community has sent its promising young minds to be educated at American universities and colleges, to learn about American approaches to business and management, and view world matters through the American cultural lens. Should the US compensate these countries for their "brain drain"?

The hype around outsourcing to India has been further stoked by the media that seems to be presenting a one-dimensional perspective on outsourcing. However, is the media bashing of India justified? As we mention above, it is hard to not get disturbed when Lou Dobbs vilifies outsourcing to India for a week on CNN. But what gets no attention is what the Indian companies have given in return. No one in the media (especially television) refers to the research partnerships Indian companies have created with universities across the US. For example, TCS has programs with three universities, including Carnegie Mellon University, worth more than $3.5 million stretching over 3 to

5 years. These include research projects, sponsorship of PhD students, donating services of senior employees and endowing chairs (Mukherjee and Sirohi 2004).

Again, the media pays all the attention to an American losing job to an Indian, but rarely is any space devoted to the thought that the opposite may be happening too? As an editorial in the WSJ notes, so many U.S. fast food joints are springing up in India – often at the expense of local eateries – that some Indian workers could consider wearing T-shirts that read, "My job got burgered"[17] India too has been a victim of its own liberalization drive that was started in 1991. The Korean firms have replaced the Indian firms in electrical/electronic goods. Who wants to buy an Indian made Godrej refrigerator when one can choose to buy a Samsung or an LG?

Some political pundits in the US are eager to occupy a middle-ground on the outsourcing debate maintaining that *outsourcing is fine if India opens up the economy further.* The simple fact is that India has complied. It has reduced its custom duty from 25 percent to 10 percent. Other special and excise duties have been lowered as well. In addition, the new UPA government (the so-called *left-winged* government) has increased FDI limit from 49 percent to 74 percent in telecom, from 40 to 49 percent in civil aviation and from 26 percent to 49 percent in insurance.[18] Truly, India is caught between a rock and a hard place─ increased tax holidays to the Americans or the fear of job loss to the Chinese?

The reality of the situation is that India is basically an agrarian economy and generating gainful employment in the industrial sector has always been a challenge. With

[17] See "In India, a job paradox," by Joanna Slater, May 5 2004, available http://online.wsj.com.
[18] Figure 1 illustrates that the Indian economy has opened up in the 1990s, and it has been more open than the American economy, especially since the mid-1990s.

an official unemployment of 8 percent and a failed monsoon year, this number is likely to rise. Industry's share of Indian GDP has been essentially stagnant at 27.2 percent of GDP between 1990 and 2003. As a result, industrial activity has accounted for only 27 per cent of the cumulative increase in India's development. The services-led growth model that outsourcing has come to be identified with has enabled India to overcome its resource and infrastructural constraints. However, India too may soon face stiff competition from other nascent locations as Bangladesh, Brazil, Singapore, Thailand, Venezuela and Vietnam, the United Nations reports. As the outsourcing boom contributes to a rise in wages in India, it is likely to see competition from China, which with its growing industrial base and large labor force is fast becoming an alluring alternative to India. It is the opinion of the authors that in the very near future, possibly by the Beijing Olympics, China is likely to overcome its language barrier as a new generation of workers graduate from China's schools, where English instruction is now mandatory.[19]

Finally, in analyzing the US reaction to outsourcing one may as well ask what would happen if the US clamps down on outsourcing and stops the flow of labor and capital across the international borders. The outcome of such a move will be devastating - people, talent, and ideas are always seeking opportunity. If there is no opportunity in the US, highly educated knowledge workers, ambitious students and gifted scientists will take their skills elsewhere or keep them at home. In fact, they are already doing so. If talented professionals and promising companies cannot form productive business partnerships with US businesses in their own nations, they will seek alliances with non-

[19] Figure 2 offers an economic comparison of India, China, and the US. It is intended to provide some perspective to the outsourcing hoopla.

US companies. The consequences of such developments for US competitiveness and productivity are self-evident.

V. CONCLUSIONS AND POLICY RECOMMENDATIONS

Outsourcing is turning into a hot political issue in this presidential election year, as the lackluster economic recovery fails to generate all the new jobs anticipated by the administration. The shortfall is prompting Congress and the states to consider proposals aimed at stemming the loss of American jobs.[20] However, as the foregoing re-assessment and perspective suggest such measures tantamount to protectionism and will only hurt the US economy. It is the opinion of the authors that outsourcing is but one facet of a new competitive reality that requires careful consideration and not emotion as an analytical lens. The focus should be on making sure that the US maintains its presence as an educated innovator and not as "one that's trying to hold onto things while the world around them is changing…that strategy is a going-out-of-business strategy." (Evalueserve, 2003).

In closing, we offer the following policy recommendations to help alleviate job related anxiety whether due to recession, or structural change, or outsourcing.

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[20] The USA Jobs Protection Act, a bipartisan measure pending in Congress would close what critics see as major loopholes in the H-1B and L-1 visa programs. On Jan. 23, President Bush signed into law a measure preventing American companies from subcontracting some government jobs to companies outside the United States. Some states that have been especially hard-hit by IT outsourcing are considering prohibiting government work from being contracted to non-Americans or barring employers from requiring workers slated for layoff to train their foreign replacements.

a. Make information technology and other displaced service sector workers eligible for government assistance and create a better social safety net.
b. Consider offering skill re-training, job search and relocation allowances, and in appropriate circumstances, transportation, childcare and healthcare assistance for displaced workers.
c. Review current law and legislation to assure that everything possible is being done to support and enhance the United States educational system, especially in Math and Science at all levels from the earliest schooling to advanced post graduate studies. This requires an overarching strategy and the limited overhaul of community colleges as proposed by President Bush is simply not sufficient.[21] Perhaps as suggested by Mann (2004) it is time to integrate human capital into investment tax credit policies.
d. Build a public policy agenda that is based on dialog and not rhetoric that addresses the legitimate concerns of the American people. One such real concern is the rising income inequality in the US since 1980 and widened gap between rich and poor Americans.[22] Undoubtedly, outsourcing may exacerbate the trend but outlawing the phenomenon will hardly reverse the income divide.

In sum, it is easier to attack India rather than the inevitability of technological progress and the sluggish growth of the US economy. But, election year stump-speeches

[21] From President Bush's State of the Union address, Jan. 20, 2004.

[22] According to the US Census Bureau (1998), the share of aggregate income going to the wealthiest 5 percent of U.S. households has risen from 16 percent to 22 percent since 1980, while that received by the poorest 20 percent of all households has fallen by more than 80 percent, to just 3.5 percent of total US income.

aside, flexible responses to outsourcing often result in new industries, new jobs and new avenues for leadership. Resistance to the realities of the global economy for short term political gain will only stymie US evolution and call to question its fitness for leadership in the global economy.

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TABLE 1: U.S. JOB MARKET FROM 2000-2002

Period	2000	2001	2002	2000	2001	2002	2000-02	2000-02
	No. of Employed (in millions)			Percentage of total employment			Absolute ? / ?	Percentage ? / ?
All Occupations	130	128	128	100%	100%	100%	-2.2	-1.71%
of which								
Forester's 9 Categories	57.7	56.9	56.6	44.48	44.45	44.43	-1.1	-1.97%
of which								
Primary and Construction Sector	1.72	1.71	1.63	2.98	3.00	2.85	-0.09	-5.57%
Manufacturing Sector	5.93	5.54	4.42	10.25	9.73	7.8	-1.51	-25.4%
Services Sector	45.2	44.5	45.4	78.24	78.26	80.24	0.27	0.59%
Government Sector	4.99	5.11	5.07	8.64	8.98	8.95	0.08	1.71%

Source: BLS, Annual Occupational Employment and Wage Estimates,
Source: Table 1 from Kirkegaard (2004)

TABLE 2a:WHO ARE THE BIGGEST ABSOLUTE OUTSOURCERS (2002)?

Million of US Dollars

Rank	***Country***	***Business Service***	***Rank***	***Country***	***Computer &Information Services***
1	US	40,929	1	Germany	6,124
2	Germany	39,113	2	UK	2,602
3	Japan	24,714	3	Japan	2,148
4	Netherlands	21,038	4	Netherlands	1,586
5	Italy	20,370	5	Spain	1,572
6	France	19,111	6	US	1,547
9	UK	16,184	9	France	1,150
11	India	11,817	10	China, P.R.	1,133
18	China, P.R.	7,957	14	Russia	592
20	Russia	4,583			

Note: There is no separate information of computer and information services in the balance of payment of India

Source: Table 2 from Amiti and Wei (2004)

TABLE 2b: WHO ARE THE BIGGEST ABSOLUTE INSOURCERS (2002)?

Million of US Dollars

Rank	*Country*	*Business Service*	*Rank*	*Country*	*Computer &Information Services*
1	US	58,794	1	Ireland	10,426
2	UK	36,740	2	UK	5,675
3	Germany	27,907	3	US	5,431
4	France	20,864	4	Germany	5,185
5	Netherlands	20,074	5	Spain	2,487
6	India	18,630	10	France	1,191
8	Japan	17,401	11	Japan	1,140
14	China, P.R.	10,419	12	China, P.R.	638
29	Russia	2,012	25	Russia	137

Note: There is no separate information of computer and information services in the balance of payment of India

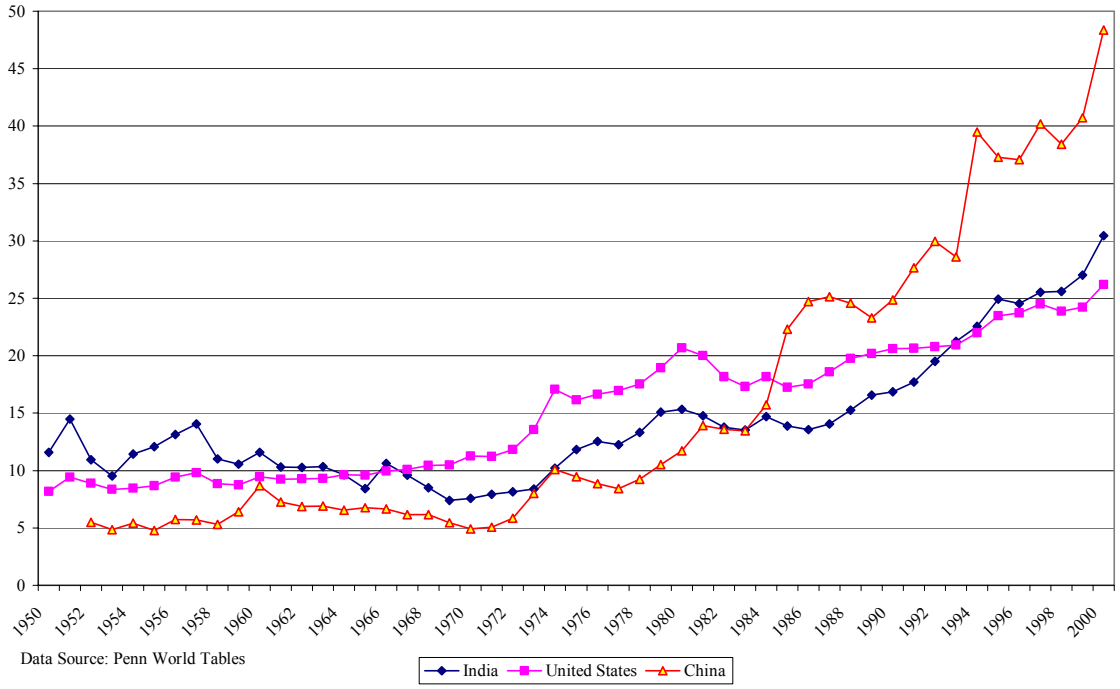
Source: Table 4 from Amiti and Wei (2004)

TABLE 3: U.S. TRADE WITH INDIA IN ADVANCED TECHNOLOGY PRODUCTS

	Exports to India	Imports from India	Trade Balance with India	Exports to India	Imports from India	Trade Balance with India
	2003	2003	2003	2002	2002	2002
(01) Biotechnology	4,872	1,021	3851	5,213	672	4541
(02) Life Science	164,508	159,087	5421	144,114	112,317	31797
(03) Opto-Electronics	15,958	5,047	10911	9,833	12,290	-2457
(04) Information & Communications	649,782	42,878	606904	628,373	32,462	595911
(05) Electronics	81,818	15,030	66788	69,636	19,911	49725
(06) Flexible Manufacturing	43,559	3,434	40125	35,701	8,605	27096
(07) Advanced Materials	8,075	3,194	4881	7,323	2,685	4638
(08) Aerospace	344,450	8,863	335587	333,448	5,058	328390
(09) Weapons	13,288	626	12662	13,225	749	12476
(10) Nuclear Technology	2,076	13,796	-11720	8,125	3,783	4342
TOTAL	**1,328,387**	**252,978**	**1075410**	**1,254,992**	**198,531**	**1056459**

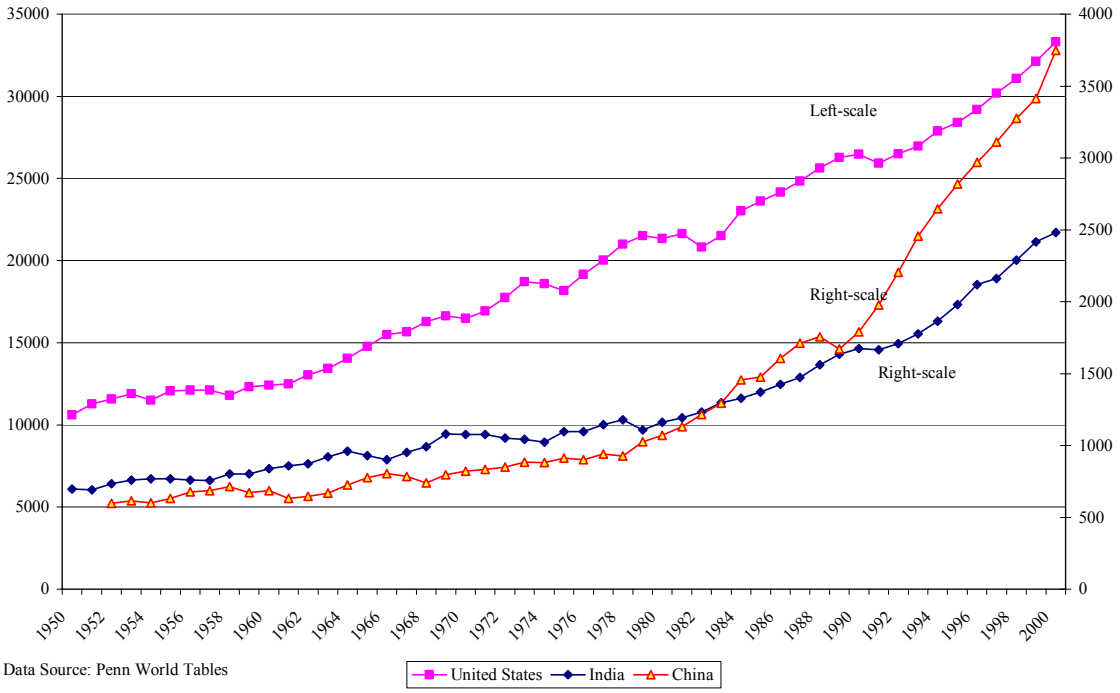
Source: http://www.census.gov/foreign-trade/statistics/product/atp/2004/03/atpctry/atpg04.html

FIGURE 1: INDEX FOR OPENNESS -- INDIA, CHINA AND THE UNITED STATES



Data Source: Penn World Tables

FIGURE 2: PER CAPITA REAL GDP AT PPP: INDIA, UNITED STATES & CHINA



Data Source: Penn World Tables