

Outsourcing High-Tech Jobs:

**Why benign neglect isn't working,
Why we should care**

**By Nancy Brigham
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“What do you say to someone in this country who has lost his job to someone overseas who's being paid a fraction of what that job paid here in the United States?” That question was posed directly to President George Bush in the third presidential debate last fall.

In the past, such a question might not have roused much interest among U.S. high-tech workers, who felt confident that their skills shielded them from the job losses that blue-collar workers had been suffering. But the new communications technology that high-tech workers helped build makes it possible to send huge amounts of information across the globe in lickety-split fashion. Now Information Technology (IT) jobs are also being sent around the globe. As Silicon Graphics CEO, Robert R. Bishop recently commented, “US software developers are now competing with everyone in the world who has a PC.” It's remarkably easy to outsource white-collar computer-related job overseas, especially because there's no heavy capital equipment to worry about. (Baker)

So how did the president say he'd console the person losing a job to such competition? He said: “Here's some help for you to go get an education. Here's some help for you to go to a community college.” But when the president switched the subject from jobs to education, he was not consoling many high-tech workers. “Bush wants to send me to college for retraining? ... I have a Computer Science degree, so I should go back and get a degree in ... what?” asked one jobless worker posting in a ZDNet forum. Said another: “I'm nearly 50, with 20 years in the IT field, and can't get a job 2 years after being laid-off due to outsourcing. I'm supposed to go back to school - and do what?” (Commission on Presidential Debates, diwillia, jwhooper)

Moreover, as Senator Kerry pointed out, the American economy lost 1.6 million jobs under Bush's watch, yet the Bush team actually cut funds for worker training, and it supports tax policies that subsidize moving jobs overseas. As offshoring became a political hot potato, Kerry had begun to distance himself from his own past support of Bush-style free trade, to that point that he called What difference does that make? some outsourcing executives “Benedict Arnold CEOs”. (Commission on Presidential Debates, Koprowski)

But the president has held firm. George Bush does not believe global outsourcing, often known as offshoring, is a problem. His campaign web site claimed that “free and fair trade and global economic growth

mean more jobs, higher wages, and greater prosperity for Americans.” His chief economic advisor Gregory Mankiw even praised outsourcing as "a plus for the economy in the long run." The man who founded Russia's first successful outsourcing company said that he was told by a top Commerce Department official that “offshoring is good for the United States.” (Bush-Cheney '04, Vieth, Arvedlund)

What, me worry?

The Bush team isn't alone in downplaying the issue. “We have a labor market of over 138 million people; 300,000 people [who lose jobs each year to offshoring] is almost a rounding error,” says Ed Potter, president of Employment Policy Foundation in Washington, DC. The Information Technology Association of America, a trade group that fronts for outsourcing companies like tech giants I.B.M., Electronic Data Systems and Accenture, funded a Global Insight study released in March, 2004 that claimed that global outsourcing will create more than twice the number of jobs that it displaces – and grow the economy, cut inflation and what's more, boost the average real wage. ((Rossheim, ITAA)

But the question President Bush dodged in the debates continues to trouble more and more high-tech workers. “Explain how offshoring helps me!” a reader shot back in one ZDNet discussion. “Until December 2001, I was a staff consultant for the same IT firm since 1995... In 2001, my gross income was \$85K. After I got laid off and became a ‘project consultant,’ I went 19 months without a job... In 2004 I've had three contracts three months or less... I'm still not making what I was and doubt I ever will again. My last contract ended abruptly when the IT manager decided to offshore the project to an Indian firm with whom he had a personal interest.” More than nine out of ten technology workers polled by the west-coast Washington Alliance of Technology Workers (WashTech) in December, 2003 said they were worried about offshore outsourcing. (itpro420, WashTech 2003)

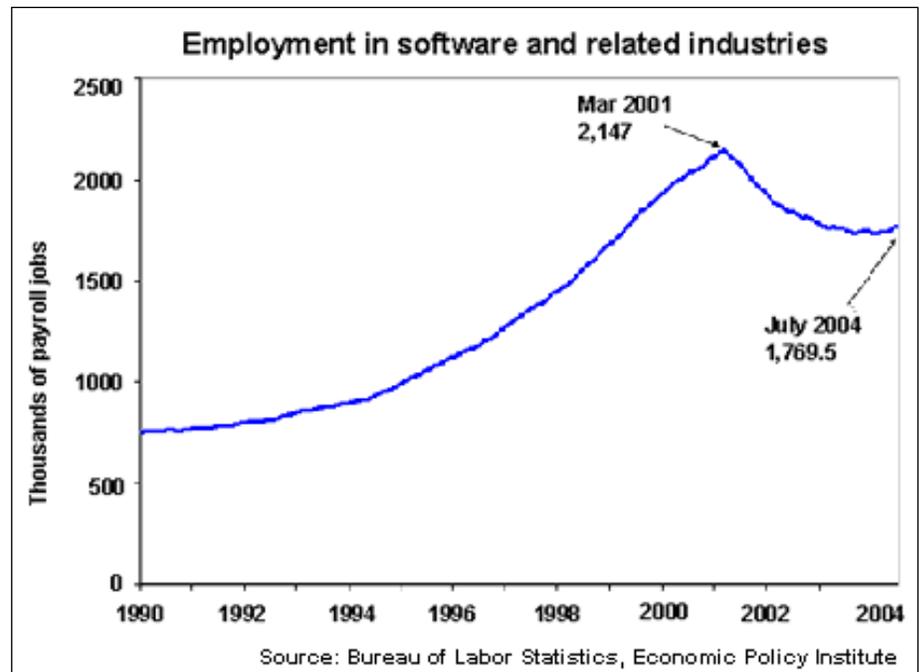
Are worried workers laggards, out of step with what's really happening? Probably not. Even a study released two weeks before the election from the Organization for International Investment called *Insourcing Jobs: Making the Global Economy Work for America*, had a sour ending. Written by Dartmouth's Tuck School of Business professor Matthew J. Slaughter, it documented the jobs Americans have gained from foreign companies setting up shop on U.S. soil – so-called “insourcing companies,” as a plus for U.S. economic growth. Over the 15 years from 1987 to 2002, Slaughter said the number of people working at such “insourced” jobs more than doubled. “Home and foreign employment can be complements rather than substitutes” he asserted. And low wages abroad mainly just reflect low worker productivity.

But as Slaughter completed his study, something changed. “In late 2004, a note of caution is warranted,” he conceded, and went on to warn that “It has never been guaranteed that the world's best companies would invest in the United States.” Since it's now easier for multinational companies to move operations into more countries, he acknowledges, the lure of investing in the United States may be fading. The

proof? Global capital investment in the U.S., which peaked in 2000 at \$314 billion, dropped precipitously to one-tenth that level -- \$29.8 billion -- by 2003. For the first time, China attracted more productive foreign direct investment than did the United States - as did France, Luxembourg, and the Latin America and Caribbean regions. If those trends continue, Slaughter concluded, “a generation from now, this report would likely show flat or even declining levels of employment, R&D, investment, and trade at insourcing companies.” (Slaughter)

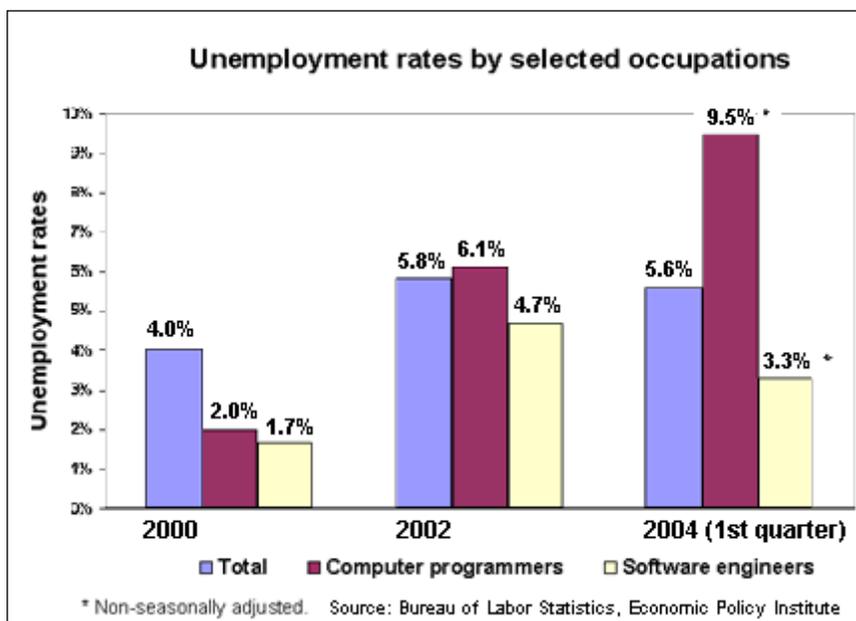
In any case, “most US jobs associated with new foreign investment consist of foreign purchases of US companies” rather than creation of new jobs in America, says Robert Scott, a senior economist

at the Economic Policy Institute. “Inshoring is creating very few, if any, new jobs. And it destroyed 2.8 million jobs between 1991 and 2001.” The outsourcing picture is even worse. (Rossheim)



Growing job losses

The U.S. branch of the world's largest technical professional society, the Institute of Electrical and Electronics Engineers, sounded an alarm about job losses to outsourcing in March, 2004. The IEEE, a prestigious 30-year-old public-interest group that counts more than 225,000 American electrical electronics,



computer and software engineers as members, concluded that “The offshoring of high wage jobs from the United States to lower cost overseas locations is currently contributing to unprecedented levels of unemployment among American electrical, electronics and computer engineers.”

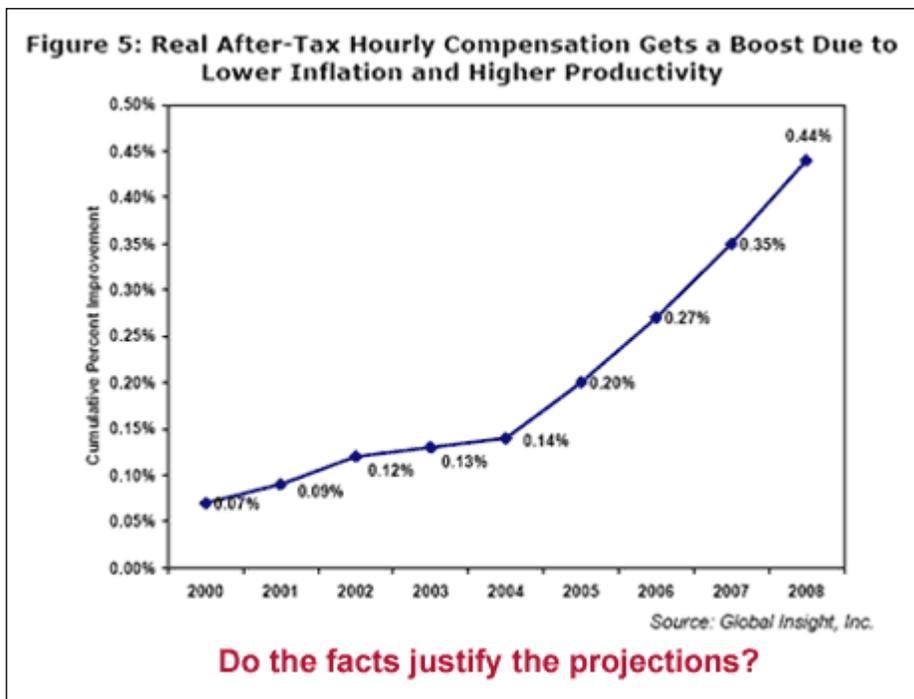
“American high-tech firms shed 560,000 jobs between 2001 and 2003, and expect to lose another 234,000 in

2004,” said the IEEE report. “The Commerce Department reports that the number of U.S. IT workers employed in all industries has declined by 8 percent since 2000. Although initially concentrated in the manufacturing sector and in low-skilled jobs, the Commerce Department says that ‘recent job losses have been widespread across most IT-goods and services producing industries, and across all IT skill levels.’ Some jobs are expected to return with a stronger economy, but the majority are probably gone for good.” Continued offshoring of high-tech work threatens to weaken our leadership in technology and innovation, and has serious implications for national security and the privacy of sensitive information warned the IEEE. It puts a downward pressure on wages that will likely “discourage many of America's best and brightest young people from pursuing careers in science and engineering.” (IEEE-USA 2004-1)

Even the ITAA industry study admitted that more than half the 516,000 new jobs it claims will be created in the software and services area over the next five years will go offshore. We’ll see a net loss of IT software and services through 2008, and U.S. workers will have 20,000 fewer new IT jobs than it would without outsourcing, acknowledged the ITAA. It claims that displaced IT workers will get jobs in the growing fields that benefit from outsourcing – like, say, manufacturing. The claim that the U.S. gained over 3,000 manufacturing jobs in 2003 and are slated to gain another 25,000 by 2008 is mind-boggling, given the fact that for 25 years manufacturing jobs have been in a freefall. In February, 2004 the Congressional Budget Office confirmed that we’ve lost 14.3 million manufacturing jobs in the past 4 years, partly because of low-wage foreign competition. (ITAA, CBO)

The good news is that real (inflation-adjusted) spending on IT software, which fell after 2000 in the

dot-com bust, recovered and has now outstripped its previous peak, says the Economic Policy Institute. But the bad news is that in July, 2004, jobs in software and related industries were still 377,500 short of their mid-2001 peak. In September the nation still had 585,000 fewer jobs than when Bush took office, and the Bureau of Labor statistics said half that loss was in software-related industries. Computer programmers are suffering jobless rates that soared from 2% to 9.5% over the last four years, and for software



engineers, unemployment doubled from 2000 to 2004, says the BLS. (EPI 2004-1, 2004-2). The San Jose, California metropolitan area has lost a third of its computer systems design jobs since 2001. (McMillion)

Where did the jobs go? Some jobs were lost to rising productivity. But Goldman Sachs estimates that between 400,000 and 600,000 professional services and information sector jobs were moved overseas – accounting for half of the total jobs lost over the past few years. About one in four IT workers surveyed by WashTech said their company had moved jobs overseas, and one in five said they'd either trained a replacement worker or knew someone who had done so. WashTech's Job tracker documents some 366,753 jobs offshored since January, 2000 by major companies like GE, EDS, Accenture, IBM, Computer Sciences Corp. Dell, MCI and Oracle, costing an estimated 175,082 workers their jobs. (AFL-CIO 2004-1, WashTech 2003, WashTech 2005)

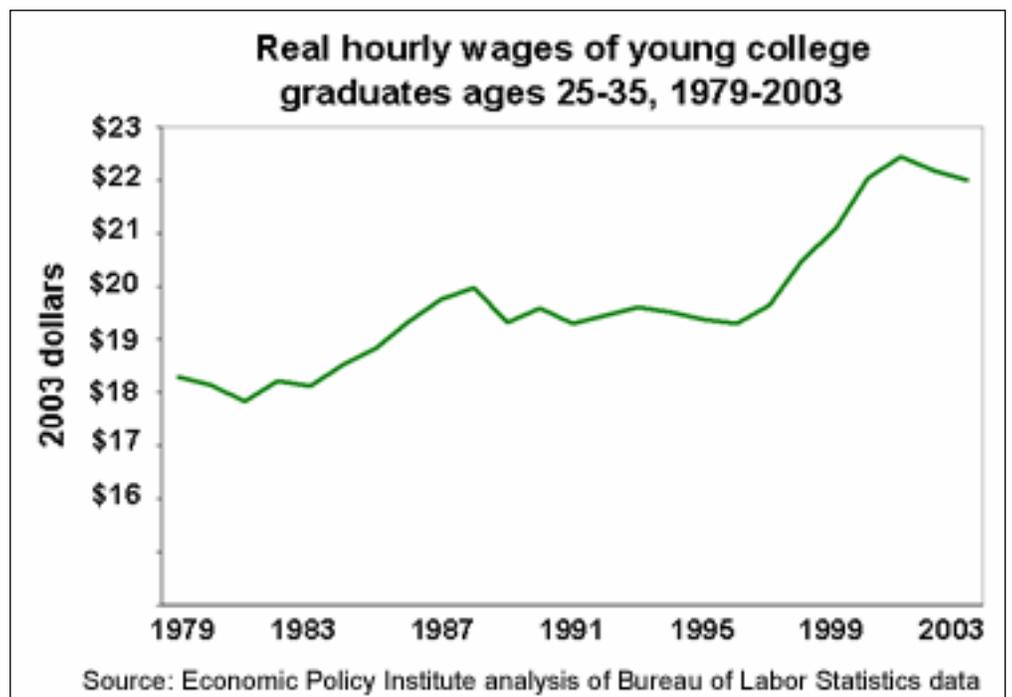
Pressure on paychecks

Is the IEEE right that those who are still working are paid less? The ITAA did some blatant fudging when it claimed a sunny wage picture for IT workers. Its own charts (chart on p. 4) actually show wage increases for the past three years of just 0.01% a year, and that's after-tax wages – in other words, after including gains from the huge Bush tax cuts that threw the federal budget from surplus into deficit almost overnight. The ITAA report projected that wage increases will take off in the future, yet the main author of the study, Global Insight chief economist Nariman Behraves, admitted in a press conference that information technology workers will experience “wage compression.” (ITAA, Thibodeau 2004-1, Hayes)

The ITAA's claim that “offshoring will do everything but whiten teeth and freshen breath” was greeted with skepticism by *ComputerWorld's* Frank Hayes, who called it “a comforting bedtime story.” Hayes

reminded readers that “this report is driven by politics every bit as much as the ITAA's wildly optimistic job-growth estimates of a few years ago” when it was lobbying for more visas for foreign workers.

Government (BLS) figures from October show that over the past year workers' real, inflation-adjusted weekly wages



dropped by .4% and hourly earnings fell by .7%. In information industries and professional and business services the drop in hourly pay was greater, down 1.1% and .7% respectively. Throughout the economy, *New York Times* columnist Bob Herbert pointed out, the typical household's income fell \$1500 behind inflation from 2000-2003, despite an impressive 12% rise in productivity. Real hourly wages of young college graduates have been falling since 2001. Former labor secretary Robert Reich says senior software engineers saw their paychecks cut by \$30,000 between 2000 and 2003. (Hayes, EPI, Herbert, BLS, Reich)

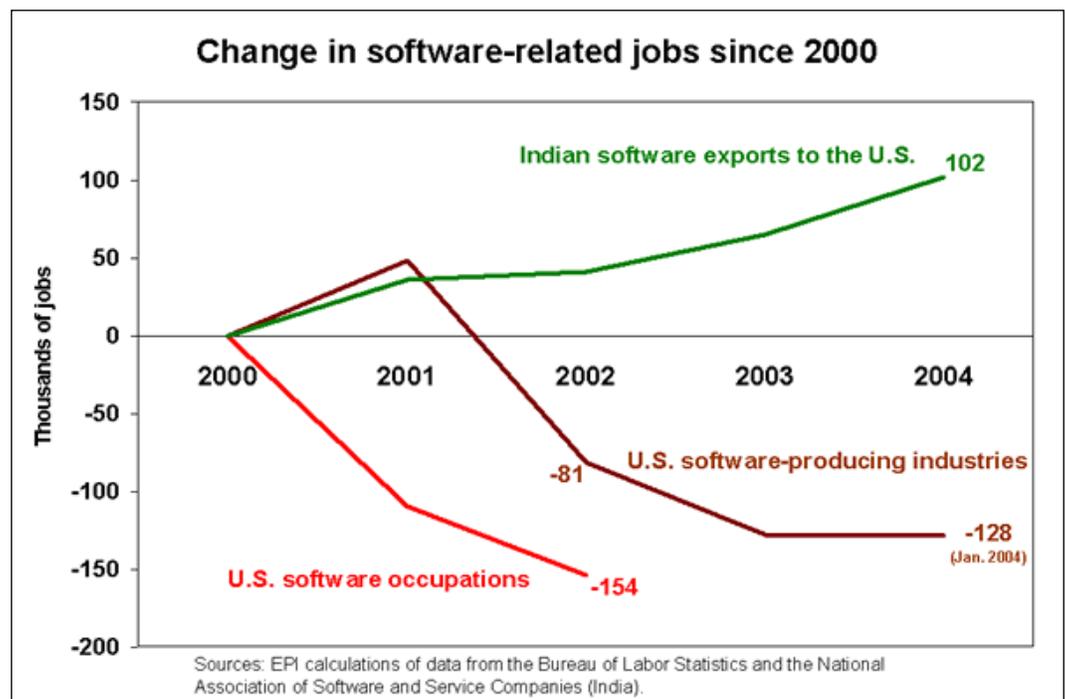
The future of outsourcing

The future doesn't look good. Forrester Research predicted half a million computer services jobs would move to other countries over the next 11 years. The Gartner research firm forecasted that 1 out of 10 jobs at information technology companies will move to emerging markets, and 1 out of 20 jobs in internal information systems would move overseas by the end of 2004. Recently Reuters, Veritas Software, Google and Accenture announced they were offshoring thousands more jobs. Deloitte Research says the 100 biggest financial services firms will move two million jobs to low-wage countries over the next five years, and 42 global telecom firms will send some 275,000 jobs off-shore. University of California-Berkeley says that overall, the jobs of one out of ten workers – totaling 14 million jobs - - are at risk of being outsourced. (Yamamoto and Frauenheim, Deloitte, Morello, Bardhan, Rai 2004-1)

“This is no longer about a few low-wage or manufacturing jobs,” warns *Business Outlook* Editor Kathleen Madigan. “One out of three jobs is at risk. As soon as work can be made routine – whether it's reading an X-ray or creating blueprints – the job can potentially be outsourced.” (Mandel)

Where did the jobs go?

Right now, the destination of choice for computer-related work is India, which gained at least 102,000 jobs over the past four years doing software work for U.S. firms. Sales to the U.S. account for 70 percent of the Indian IT industry's income, said Sify.com, and India expected “a



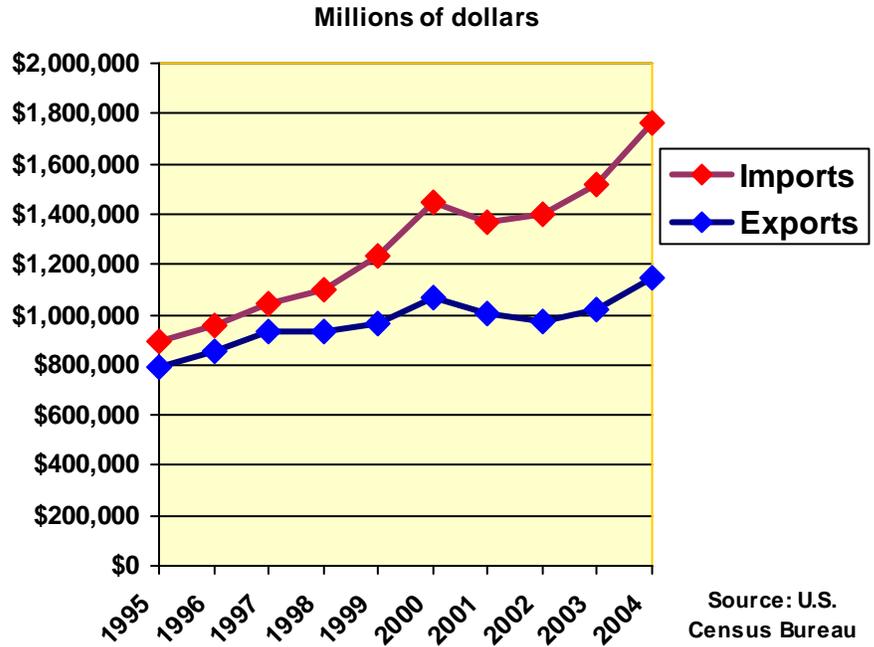
surge in order flows post-election, with several mega deals in the offing.” In just one month of last year, a U.C. Berkeley study found that U.S. firms advertised over 25,000 new outsourcing-related jobs in India. (EPI, Sify.com, Bardhan)

Can the U.S. export its way out of this?

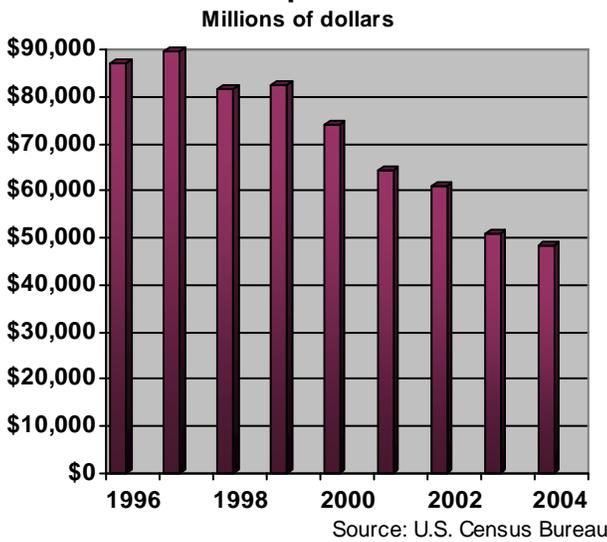
The Bush team boasts that America still benefit from trade because its exports to other countries are going up. But that’s like saying the San Francisco 49ers were having a good season because they made a couple of field goals. The overall picture is of trade deficits that grew to an all-time record of \$617 billion in 2004 for both goods and services -- roughly double the deficit we had when Bush was first elected. The monthly trade deficit is still widening, to an unprecedented \$61 billion a month in February. For every \$2 in goods and services the U.S. sells abroad, it buys \$3 from other nations. (US Census Bureau 2005-1, 2005-2)

What about the trade advantage America has always had in services, including computer programming, banking, engineering and management? It’s been cut nearly in half since 1997. By February, 2005 the U.S. was importing \$2.3 billion more in services than it did a year earlier, outrunning a modest growth in exports by \$400 million. At that rate, the nation’s advantage in services could quickly disappear, says *Barron’s*. (U.S. Census Bureau 2005-3, Erati)

U.S. Trade (goods and services)



U.S. Trade Surplus in Services



researchers estimate that major countries under-report service imports from India by 83%. (Kozlow and Borga). High-Tech is a key to the slippage. U.S. trade in advanced technology took a U-turn from a \$32 billion surplus as recently as 1997 (and a modest surplus in 2000) to a \$37 billion deficit in 2004. In 2004 the U.S. also experienced its first-ever combined deficit in technology goods and services. (McMillion)

The government is outsourcing too

While governments like Singapore make efforts to support local industry, the Bush team is jumping on the

outsourcing bandwagon It's cutting in-house software development in favor of off-the-shelf packages from companies that outsource, says *Federal Computer Week*. As a result, last year the U.S. imported \$2.5 billion more in government services than it sold abroad. (US Census Bureau 2005-3) The Congressional Research Service warns of security risks because defense is "one of the most heavily outsourced of activities in the federal government." That could be one reason why the Bush Administration earned a "D" for computer security from a key Congressional subcommittee. Nonetheless, Asia Times reports that the Pentagon is outsourcing the CAD (computer-aided design) for its next generation F35 fighters to an Indian company in collaboration with Dell. (French, Committee on Government Reform Subcommittee, Bhattacharjee)

What about training and R&D Investment?

George Bush, like the Clinton Administration before him, exhorts workers to be "the best in the world" by getting the skills to do high-end work that can't be outsourced. There are two problems with this. One is that the Bush Administration is actually cutting investment in education and skill development, as the nation's schools continue to deteriorate. He tried to cut more than \$1 billion from worker training over the last three years. The programs he does support too often go to companies as tax breaks – including outsourcing companies – rather than to workers themselves. IT workers aren't even eligible for the training benefits blue-collar workers get when they suffer trade-related layoffs. (Bush-Cheney '04, JohnKerry.com, Yamamoto)

Public school funding is crippled by Bush priorities that favor tax cuts and semi-private charter schools. Detroit schools, for example, are struggling with massive budget shortfalls, teacher layoffs and school closings, and teachers often have to buy supplies out of their own pockets.¹ Moreover, "the K-12 system does a good job of weeding out any students interested in math and science," commented Intel CEO Craig Barrett. "We prepare them to be lawyers and consultants, instead." Tuition hikes have put higher education out of reach for many students. (Yamamoto)

The other problem is that technical training alone won't stop the job hemorrhage. As one CIO at Trimble Navigation, a California software company, commented, "The very jobs we're training students to do are the ones we're exporting." General Motors now outsources its entire IT process to companies like IBM and Hewlett-Packard. And "there is no job that is America's God-given right anymore," H-P's Carly Fiorina famously testified. (Yamamoto, Ricciuti 2004-1, Drezner). The nation isn't investing in new opportunities either. The National Science Foundation reported that between 2001 and 2002, U.S. investment in industrial R&D plummeted a record \$7.7 billion, or 3.9 percent. In 2003, the national investment in R&D in all fields grew just 1%, compared to average annual growth of 5.8 % between 1994 and 2000. (National Science Foundation)

¹ Private teacher conversations with author

It could get worse. The Bush government now plans to chop off a fifth of the Pentagon's budget for basic science and technology research, and slash National Science Foundation education programs. Even Senator Christopher "Kit" Bond (R-MO) warned that this damages efforts to attract minority students into science, "at a time when the United States can't keep relying on foreign students." For 2006 Bush would deprive NSF of one-third the funding required by the NSF Authorization law he signed in 2002, after trying to cut its 2005 budget by \$100 million. His 2006 budget also axes altogether the Advanced Technology Program that funded high-risk private-sector technology R&D. (Pillsbury) In December, the Bush team deep-sixed a Congress-mandated bipartisan study by leading technologists and industrialists about how to re-energize U.S. competitiveness. That prompted New York Times columnist Thomas L. Friedman to characterize him as "an industrial-age presidency, catering to a pre-industrial ideological base..." The president's 2005 budget also slashed virtually all research not focused on weapons development and homeland security. (Friedman, American Association for the Advancement of Science, Ricciuti 2004-1, Yamamoto)

Bush seems to have forgotten that the innovations that made the U.S. a technology leader and propelled the nation into the Information Society – whether it's the Internet, satellites or the computer itself – were heavily promoted, organized and funded by the federal government.

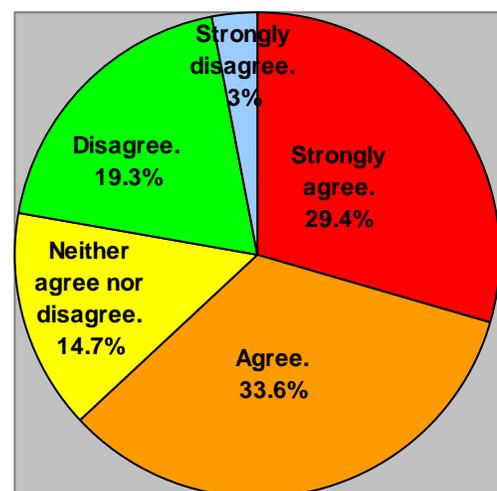
The fact is, there is less incentive for students to go into high-tech fields, and many are not. The number of U.S. undergraduates signing up for computer science or engineering programs dropped 18 percent in 2003, revealed a survey by Computer Research Association. The U.S. is now number three in the world, and falling farther behind number one (India) and number two (China), in terms of Computer Science graduates. (Yamamoto)

Wishful thinking: 'We'll always keep high-end jobs'

Policy-makers assure the high-tech community that America can still keep the top skilled jobs. "When a good or service is produced at lower cost in another country, it makes sense to import it rather than to produce it domestically. This allows the United States to devote its resources to more productive purposes," explained the head of Bush's Council of Economic Advisors. (Annenberg)

But there's more than a touch of hubris in those who claim, as does economist Michael J. Mandel, that "America's strongest suit is innovation, which will

Poll: The export of IT jobs threatens the long-term technology leadership of the United States.



always create new high-paying positions.” Why? India now graduates 2 million college students every year, including 200,000 English-speaking engineers -- and is beefing up education. In the first three years of the Bush administration, the United States dropped from 4th to 13th place in broadband Internet use. Thomas Bleha, former foreign service officer in Japan, puts the blame squarely on the Bush administration, and says we’re “the only industrialized state without an explicit national policy for promoting broadband” – a far cry from previous administrations, when government funding created the Internet and promoted its use. South Korea is number one, because of aggressive policies that have linked two out of three households and all schools with broadband connections. (Mandel, Hopkins, Bleha)

China is also pouring resources into science and technology, and has already developed supercomputers that are among the fastest in the world, along with next-generation optical communications and technology for broadband networks (developed jointly with Fujitsu Ltd.), and claim to have developed the world's first IPV6 router for the next generation of the Internet. The China Electronics Technology Group Corporation (CETC), founded in 2002 with government support, is associated with 46 electronics research institutions and 26 high technology enterprises and currently employs 33,000 technical professionals. Calling for a “new assessment” of China’s competitive strength, Michael Pillsbury, Senior Research Advisor for the US-China Commission, warns that US policy-makers could be in for a surprise as dramatic as in the early 1950s, when the Soviets launched the Sputnik satellite. (Pillsbury)

First it's the cheap jobs...

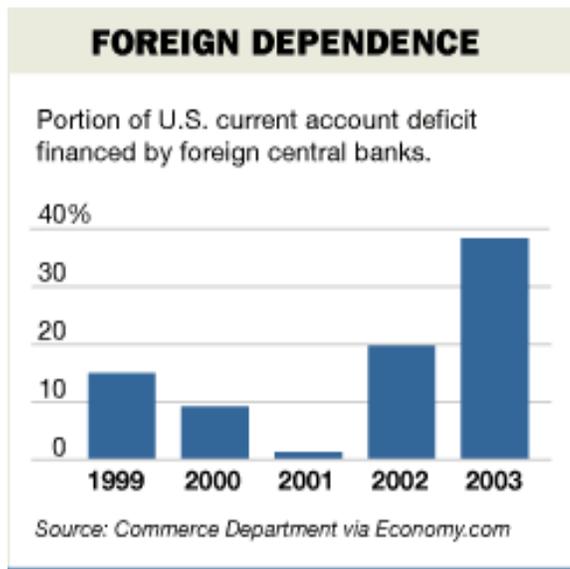
Wishful thinkers also ignore the fact that losing entry-level jobs means losing the entry points for high-end work. Many highly skilled workers start with code development. The U.S. technology industry can't afford to lose the “natural farm teams” that created architects, analysts and innovators for generation, pointed out C|Net, in an excellent series of articles on outsourcing. That can leave companies with little alternative but to outsource more important jobs. (Ricciuti 2004-1)

The high end that isn't outsourced keeps moving higher -- and smaller – just as it did in earlier decades with manufacturing jobs. Remember when Japanese and Chinese manufactured imports were cheap and labor-intensive toys and low-end products? Likewise, the first computer and IT jobs to be outsourced were call centers and routine programming. A *CIO Magazine* survey of chief information officers found that they planned to offshore more than one-third of application development and maintenance. More than one in ten had already sent system and architecture planning offshore – functions that experts predicted would never leave. One in seven had also offshored research and development and business processes.

Seventy-seven global companies have set up their own R&D centers in India, says Manoj Kunkalienkar, the executive director and president of ICICI InfoTech, a top Indian outsourcing company. "What is surprising is the list of industries doing R&D work out of India is varied, ranging from

telecommunications service providers and equipment manufacturers, chip designers and IT hardware companies to plastics and pharmaceuticals producers," he added. "I believe it's just a matter of time before India is recognized as 'the world's R&D center' or 'the knowledge hub.'" (Ware, Ricciuti 2004-1)

"If you peel back the arguments in favor of offshoring, what you finally end up with is an article of faith," commented *Washington Post* business columnist Steven Pearlstein, "faith that history will repeat itself and the U.S. economy will quickly generate enough new jobs in higher-paying industries to compensate for the ones lost to trade. What I've yet to see, however, is even an educated guess as to what those jobs might be." (Pearlstein)



Who's covering America's debts?

Economic theory says no nation can go on forever being the world's consumers, as jobs keep moving abroad. The U.S. is buying imports (including outsourced work) on credit, hoping other nations don't call in the loans. Its overall debt to the world is about \$4.4 trillion, nearly twice what it was in 2000. The U.S. now owes more than one-fourth its entire Gross Domestic Product (GDP) to the rest of the world (28%, compared to 5% in 1997). That puts its debt-to-export ratio "in shooting range of troubled Latin economies like Brazil and Argentina," warn Stern School of Business professor Nouriel Roubini and Brad

Setser of Oxford University. The International Monetary Fund has issued a warning that the U.S. trade deficit "threatens international instability." (Uchitelle 2004, Roubini and Setser, *Business Times*)

Since the rest of the world is swamped with dollars they get from selling to the U.S. -- dollars that they aren't spending on American products -- those surplus dollars should drop in value. A cheap dollar would then make foreign work more expensive. But although the dollar's value had dropped by 25 percent by April, 2005, it has barely budged in trade with China and other countries that sell 30 percent of its imports. (Mann and Pluck) Asian governments -- mostly Japan and China -- are propping up the dollar, partly by lending the U.S. billions of the dollars they gain from trade. Instead of investing in American products, they bought more than \$1 trillion in U.S. Treasury securities and other dollar assets over the last two years. Thanks to the huge budget deficit spawned by the Bush tax cuts, we have plenty of treasury bills to sell. Spending dollars on treasury bills helps the Chinese government keep its money -- the Yuan -- pegged to the dollar, so that when the dollar drops against other currencies, the Yuan drops with it. (Andrews 2004-1, Andrews 2004-2)

If foreign governments should stop investing in the growing American debt, the dollar could plunge. That would prompt the U.S. government and the Federal Reserve Bank to raise interest rates, both to lure

investment back and to tame inflation (by discouraging spending) as the prices of imports rise. That could halt economic growth in its tracks, threatening jobs worldwide. Many economists agree with the World Bank when it warned that the massive U.S. current account deficit is “unsustainable” and raises the chances of a global recession. (Gongloff-1, Gongloff-2)

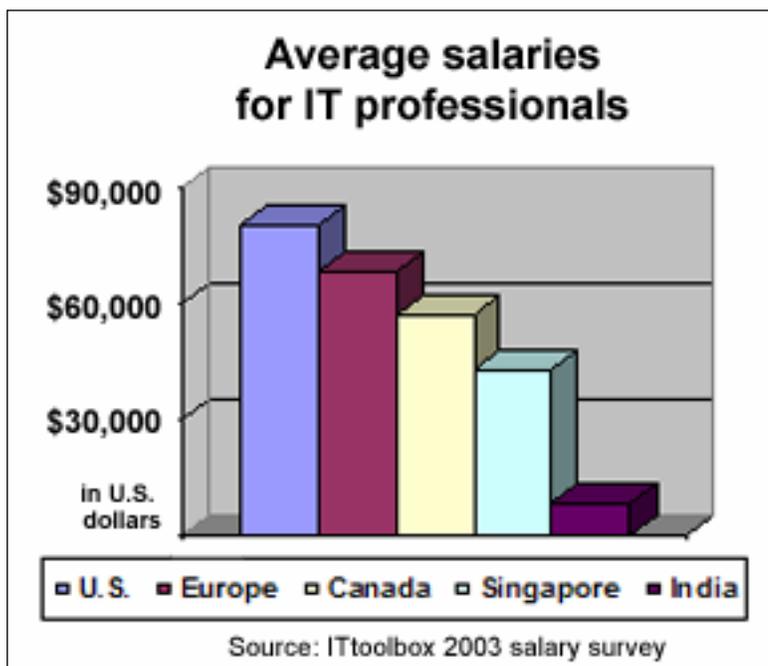
There are political risks as well. “Could foreign governments like China’s one day use this clout to influence U.S. foreign policy?” wonders the *Wall St. Journal*’s Greg Ip. (Ip 2004-1)

It’s about the money (honey): IT work in Asia

Treasury Sec. John Snow put it bluntly enough: “You can outsource a lot of activities and get them done just as well at a lower cost.” Indian computer salaries are around one-fifth U.S. levels. Indian programmers get paid anywhere from \$6,400 for new-hires to \$30,000 for workers with at least five years experience, and software engineers makes less than one-sixth what they’d get in Silicon Valley. (Byczkowski, Erati, Tsuruoka, InStat/MDR)

While the Indian economy grew by 10.4% in the last quarter of 2003, the vast majority of nation's one billion people get nothing from the high-tech boom. Some 300 million Indians live on less than a dollar a day, and one in four Indians -- 260 million people -- live below the poverty line. Some 400 million cannot read or write, let alone use a computer. For the majority, things have actually gotten worse. To attract foreign capital and offer subsidies to high-tech moguls, the government slashed public services, cut wages, privatized agencies, and neglected transportation and other basic infrastructure needs. (Sly)

Indian computer workers frequently change jobs and many are dissatisfied with the lack of services that can force them to spend long hours commuting and do without high-bandwidth access. Many aren’t happy



that high-tech development is largely for export and controlled by fickle multinational companies that often neglect local markets and crowd out smaller employers. Many were outraged when India’s largest private telecom company contracted out all its core functions to IBM and other multinationals. ²

Free-trade boosters assume that as Indians gain more experience and their productivity goes up, so will wages. And Singapore, which has been the first stop for high-tech outsourcing, might have seemed to be

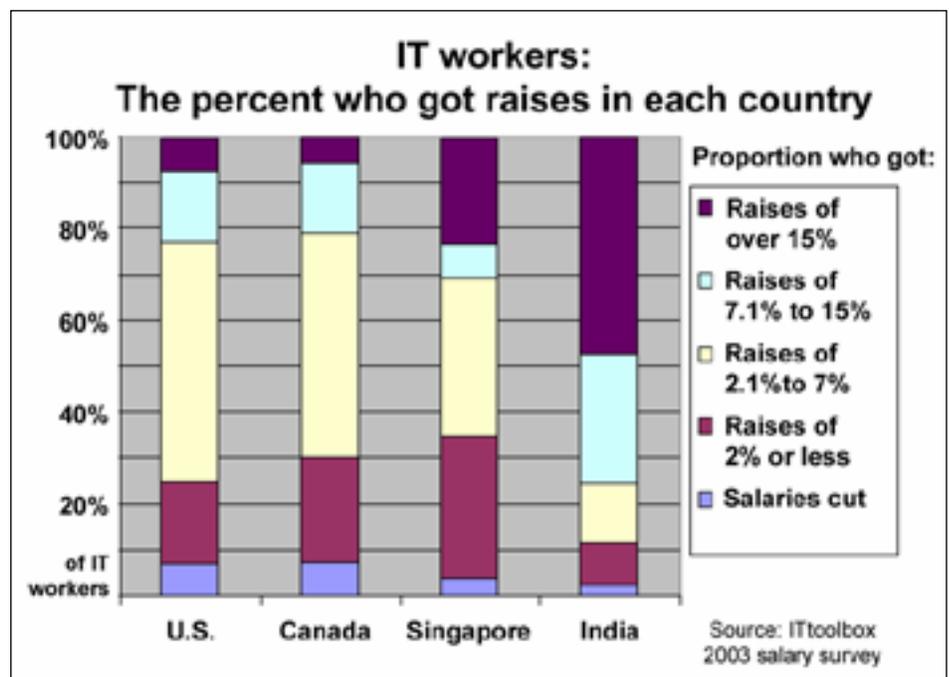
² Private email correspondence in author’s possession.

a good example of that. But in fact Singapore, as David Rothkopf reported in the *New York Times*, now “faces smaller-scale versions of the problems that beset the U.S. economy: It has to compete with much cheaper labor and much larger markets available in its Asian neighbors.” Rothkopf believes Singapore is still holding its own, with an economy that’s still growing three times as fast as the U.S., because the government invests in health care and infrastructure and proactively works with industry to plot a National Economic Strategy. Singapore still hosts the Asian headquarters of IBM, Electronic Data Systems Corp. and other global companies and attracts outsourced work because of world-class telecommunications infrastructure and a highly skilled workforce. (Collett, Rothkopf, Thibodeau 2004-2)

There’s always a lower wage -- elsewhere

But IT workers in Singapore are feeling the competitive heat. In 2003, ITtoolbox, which provides information to IT professionals worldwide, surveyed more than 3,000 of its members about their paychecks. In Singapore, IT professionals said they made the equivalent of \$43,058 a year, little more than half the \$80,286 reported salary of American IT professionals. But that’s five times the \$8,593 that Indian professionals said they made. More than one in three Singapore IT workers (34.6%) said they hadn’t seen any raises, and 3.8% experienced pay cuts. One in four U.S. workers (24.7%) haven’t gotten raises, with 6.7% suffering pay cuts. (ITtoolbox)

Wages are still surging ahead in India, where almost half – 47.3% -- the IT professionals said they’d enjoyed raises of 15% or more. But how long will that last? What India is to Singapore, China - - or Russia, Poland, the Philippines or Vietnam -- could become for India. All are investing in IT workers, and India won’t be the last stop for bargain-hunting employers. In Vietnam, programmers make half what they make in India -- and one-twentieth what they make in the U.S. (ITtoolbox , Hoffman)



“If you work for a U.S. firm that recently outsourced all its computer work to staffers in New Delhi, it might appear that India owns the market for cheap IT services,” *Investor's Business Daily* reported in November. “Think again. ...Nothing stays the same.” Writer Doug Tsuruoka said Indian firms will “drown in

a sea of rising labor costs” in five years or so, and their clients will start shopping elsewhere for cheap IT. (Tsuruoka) Growth in India is also hampered by its low investment in infrastructure like broadband and transportation, compared to China and even Brazil. (Rai 2005)

Indian IT workers are anxiously looking over their shoulders at China, where giants like Microsoft, Sun Microsystems and Bearing Point are expanding high-tech research centers and hiring software engineers. IBM is employing experienced Chinese programmers for around \$12.50 an hour doing work that pays \$56 an hour in the U.S. Even Infosys Technologies, one of India’s star producers of outsourced work, is itself outsourcing some work to China. Indian outsourcing rivals Tata Consultancy Services and Wipro Technologies are also setting up shop in China to do application development and maintenance work for long-term customers like General Electric. China still doesn’t have comparable skills or widespread proficiency in English, and rampant software piracy limits its appeal. But it already has over 200,000 IT workers and is putting a strong emphasis on education for such jobs. The Chinese government also keeps labor cheap with severe limits on worker rights and tying its exchange rate to the U.S. dollar. (*China Economic Net*, Rai 2004-2, Singh, McMillion)

Even if the dollar drops precipitously, making U.S. work cheaper in world markets, there’s no guarantee that will bring back the jobs. Although the dollar has dropped in value in Europe, the U.S. trade gap with Europe continues to grow. That’s partly because there’s no longer a domestic alternative to some imported work. And it’s American companies with operations abroad that are now bringing in nearly half the nations’ imports, says the Commerce Department. As they keep roaming the world to find the cheapest labor, a falling dollar won’t stop imports from growing, says the director for the global institute at McKinsey & Co. (Uchitelle 2005)

‘Free trade’ – for whom?

While Senator Kerry was right to criticize tax incentives that reward employers for moving jobs and assets abroad, that’s just a small part of the problem. The modern trade system is skewed to favor corporate mobility and make the world their oyster, regardless of the impact on workers, living standards, and communities. Nobel Prize Laureate Paul Samuelson, author of the most popular economics textbook ever written, recently registered his “dissent from the mainstream economic consensus about outsourcing and globalization,” and rejected the assumption that the U.S. economy “will benefit in the long run from all forms of trade, including the outsourcing of call-center and software programming jobs abroad.” It is “dead wrong,” he asserts, to assume the gains some Americans get from the current trade system are big enough to make up for what others lose. (Samuelson)

There's a punishing double standard in what we today call free trade. Modern trade agreements have strict rules to protect and promote financial investments and property, while they curb the ability of governments to balance those rights against the rights of workers and citizens.

It wasn't until the 1986-94 Uruguay round of GATT trade negotiations that investment, services and intellectual property rights were included in trade agreements. Until then, free trade was mainly a matter of cutting tariffs and import quotas, slowly and selectively. The Uruguay Round, however, broadened the definition of "barriers to trade" to include policies, laws, or even cultural or religious customs that might interfere with the competitive rules of supply and demand – and corporate mobility. For example, GATT rules bar a country from “discriminating” against imported goods produced in an environmentally dangerous way, such as chlorine-treated paper.

It was the Uruguay round that set up the World Trade Organization, which operates behind closed doors to enforce expanded free-trade rules and settle disputes. Belgian Professor Mireille Buydens complained in the *UNESCO Courier* five years ago that free trade pacts boost “an ill-considered increase in the number of privately held exclusive rights at the expense of the public domain.” But attempts by labor and environmental activists to include in modern agreements the rights for people to stand up for themselves and have safe, decent working conditions, livable wages, or a healthy environment and share in their own productivity have so far largely failed. “Our trade agreements are about investing in foreign countries and sending back the products unimpeded to the United States,” a former senior Congressional aide told the *New York Times*. (Oxfam America, Buydens, Polaski, Becker)

Why not human rights?

Yet it doesn't have to be so. Even some Clinton Administration officials who negotiated past trade treaties now call for re-evaluating them and for including enforceable labor and environmental standards. Some bilateral agreements, notably pacts with Cambodia and Jordan, do mention labor rights. A key older agreement, the Trade Act of 1974, considers violations of internationally recognized workers' rights to be an unfair trade practice --- one that countries can retaliate against. U.S. trade preferences are also supposed to hinge on respect for basic worker rights. What are those basic rights? They're spelled out by core conventions set by the International Labour Organization, a special agency of the United Nations with a tripartite structure involving labor, corporations and government. The U.S., however, has one of the worst records in the world for adopting minimal worker rights standards – It's adopted only half as many core ILO conventions as India. In contrast, Europe and South America have adopted all the core conventions. (Hayden, ILO, Polaski)

Some basic ILO conventions would apply to IT workers, like those that protect the rights of workers to organize through freedom of association – a right that hasn't yet been ratified by the U.S. or India -- or to enjoy equal rights, without discrimination. To the extent that IT workers can freely organize, they can

publicize an alternative vision and influence the public policy debate, as the IEEE is now doing. CPSR could potentially play a similar role. In international organizations like IEEE and CPSR, U.S. professionals can also discuss common concerns across borders, with the people doing outsourced work. If we can work together to change the global balance of power between workers and multinational companies, we will all benefit.

Very few professional IT workers are union members. Bangalore, India's Silicon Valley, lured outsourced work by becoming a Software Technology Park zone that allows full foreign ownership and gives companies duty-free imports and tax breaks. Although in India such free-trade zones don't promise freedom from labor law, as they do in China, they let IT companies be categorized as "public utilities" and limit the ability of workers to strike. Before the voters threw out the ruling BJP party, it had proposed more extreme changes "to amend labour laws according to the needs of globalization," including delays for the right to strike and more freedom to lay off workers and control their working hours.. (Datey, Karnik, Samachar)

Where workers are unionized, they often have the clout to negotiate contracts and influence public policy to keep companies from shipping out work as soon as they see a cheaper alternative on the horizon. In India, layoffs are still rare among banking workers, for example, because they're unionized, and in the U.S., the UAW auto workers union has negotiated early retirement, transfer rights and rules covering layoffs for Daimler-Chrysler engineers as well as blue-collar workers. UAW contracts also set up a what are probably the biggest private retraining programs in U.S. history.³ But while all this helps current workers, it doesn't solve the problem of jobs moving to lower-wage havens over the long-term. (Rauss, Kalita)

Global reaction: Fair Trade

Around the world, governments and citizens are calling for changes to trade rules that strip power from people and communities, even as they help big companies hop across borders. Global human rights groups like Oxfam call for a bottom-up participatory approach to trade talks instead of conducting them behind closed doors. Such NGOs want, for example, to ease the intellectual property rules that make it so hard for poor countries to get drugs people need. Other groups are lobbying for global environmental standards. Senator Kerry belatedly promised to try to get enforceable labor and environmental standards into future agreements. (Oxfam-America, JohnKerry.com)

The union movement in India has staged more than six general strikes since 1991 to protest the demands of international financiers and the basic lack of democracy in "imperialist globalization," which it blames for rising unemployment, poverty and "reckless privatization" of government services. A one-day strike of well over a million workers, led by bank and insurance company employees, shut down several provinces on February 24, 2004. The dispute was over a new anti-strike ruling as well as corporate globalism in general. A few months later Indians voted out of office the rightist Hindu nationalist alliance credited with

³ Author formerly worked on UAW Public communications staff.

attracting high-tech jobs with its “Shining India” program. (BBC News, All-India State Government Employees’ Federation, Pilger)

One Indian union federation toured the U.S. in December to discuss with U.S. unions its complaints about corporate-style globalism. Ashim Roy, who represents Indian GE workers, explained that “The number of jobs that multinational companies destroy in the U.S. is far higher than the jobs they create in India, as workers here work harder and longer” and experience “inhuman working conditions. We want to work with our American counterparts to prevent exploitation and guarantee jobs with fair wages and human dignity for all.” That way “we may be able to pressure companies to offer better job options,” he says. “We will resist the corporations’ efforts to pit us against each other,” said another Indian union leader. (Shah)

In the U.S., unions are also protesting this “relentless global race to the bottom,” and the CWA Communications workers has called for “an alternative path to development -- one that seeks to build sustainable economies by linking the defense of good, secure jobs in one country to the fight for good, secure jobs globally.” The AFL-CIO has filed Section 301 petitions against China’s widespread violations of workers’ rights, as well as the overvalued yuan, saying that both distort trade relations. (Communications Workers of America, AFLCIO 2004-2)

Competitors or allies?

The consumers who are supposed to benefit from lower prices have also started to organize against the worst abuses of globalism, and the Internet facilitates worldwide cooperation among them. A global anti-sweatshop movement led by students, churches and unions is successfully forcing companies like Nike to improve wages and working conditions and respect worker rights in many factories making sports clothing and other college equipment -- and to not flee as soon as conditions get better. Now that the outsourcing of IT jobs has become a high-profile issue, there is some potential to get public support for endangered IT workers, especially given the threat that outsourcing their jobs poses to the nation’s overall prosperity, independence and security. Congress took a small first step by implementing one IEEE recommendation, when it authorized \$2 million to fund a study studying offshore sourcing and its impact on the country. (IEEE-2)

Often international trade is seen as pitting North against South, and rich countries against poor ones, and Indian programmers are understandably leery of rocking the boat that has so far lifted them. But when it comes to job competition, workers everywhere stand to gain from calling a halt to the worst abuses and changing the rules of the game. The fast, unchecked migration of investment from one country to another is destabilizing not only to workers, but to whole societies and the international trading system itself. That’s why it’s becoming increasingly hard for world leaders to negotiate more of the same.

The planned Free Trade Area of the Americas pact fell victim to opposition from Brazil and other countries last year, although its main provisions are still being negotiated in talks between the U.S. and

individual nations. Now President Bush has to delay submitting the CAFTA (Central American Free Trade Agreement) to Congress because as of this writing, he doesn't have the votes. Critics "say the agreement would benefit international corporations at the expense of poor subsistence farmers in Central America. They also say the pact's labor and environmental provisions are weak and will lead to abuses." (Dow Jones Newswires) On May Day, workers in Guatemala, Honduras and El Salvador protested against CAFTA.

Can we go on like this?

As long as corporations can profit from outsourcing, unfair trade rules, and global wage competition, President Bush wants to stay the course. But he could be courting disaster. Warnings are getting louder that the world's trade imbalances may not be settled tidily by "market forces." Former Federal Reserve Chairman Paul Volcker urges the U.S. -- and the world -- to "act now" to stem off disaster. Although Volcker's favorite remedy is belt-tightening through raising interest rates, along with pressing China and other Asian economies to loosen control over their exchange rates, he is probably right that we can't go on like this. "The circumstances seem to me as dangerous and intractable as any I can remember," he wrote in a *Washington Post* editorial. "As things stand, it is more likely than not that it will be financial crisis rather than policy foresight that will force the change." Economists Catherine L. Mann and Katharina Pluck warn that the "enormous trade imbalance is not sustainable" and that when the "adjustment" comes, it "could end up costing every American \$2,350," a bill that will keep rising the longer we refuse to act. (Volcker, Mann and Pluck)

IT workers aren't the only ones who are worried -- the same forces that threaten their jobs are also threatening national and world prosperity. And as pressure grows for solutions, IT workers should find new ways to become part of the solution, and make their voices heard.

References

- AFL-CIO. 2004-1. "Shipping Jobs Overseas: How Real Is the Problem?" (Last viewed 12/5/04): http://www.aflcio.org/yourjobeconomy/jobs/outsourcing_problems.cfm
- AFL-CIO. 2004-2. "Unions File Case: China's Currency Policies Cost U.S. Jobs" *News for Working Families* (September 9): <http://aflcio.org/issuespolitics/manufacturing/ns09092004.cfm>
- All-India State Government Employees' Federation. 2004. "Some lessons of the Strike of 24 February, 2004." <http://www.tradeunionindia.org/miscellaneous/strike1.htm>
- Andrews, Edmund L. 2004-1. "The dollar is down: Is it a cause for concern?" *The New York Times*. (November 16): C1
- Andrews, Edmund L. 2004-2. "Foreign Interest Appears to Flag As Dollar Falls." *The New York Times*. (November 27): C1
- Annenberg Political Fact Check. 2004. "Outsourcing jobs: The PRESIDENT Said That?" *FactCheck.org* (April 3): <http://www.factcheck.org/article.aspx?docID=168>

Arvedlund, Erin E. 2004. "Modest Now, Russian Outsourcing Has Big Hopes." *New York Times* (December 15): W1

BBC News. 2004. "Indians strike over walk-out ban." (February 24):
http://news.bbc.co.uk/2/hi/south_asia/3515777.stm

Baker, Stephen and Manjeet Kripalani . 2004. "Software." *Business Week*. (March 1): cover story:
http://www.businessweek.com/magazine/content/04_09/b3872001_mz001.htm

Bardhan, Ashok Deo and Cynthia A. Kroll. 2003. "The New Wave of Outsourcing." University of California, Berkeley (Fall): http://www.haas.berkeley.edu/news/Research_Report_Fall_2003.pdf

Becker, Elizabeth. 2004. "October Trade Gap a Record, Up 9% in Month." *New York Times*. (December 15):C4

Bhattacharjee, Arun. 2004. "India's US trade gamble." *Asia Times*, Hong Kong. (August 31):

Bleha, Thomas. 2005. "Down to the Wire," *Foreign Affairs*, (May/June):
<http://www.foreignaffairs.org/20050501faessay84311/thomas-bleha/down-to-the-wire.html>

Bureau of Labor Statistics. 2004. "Real Earnings in October 2004." (November 17):
<ftp://ftp.bls.gov/pub/news.release/History/realer.11172004.news>

Buydens, Mireille. 1999. "Is Copyright On The Wrong Track?"
UNESCO Courier. (September): http://www.findarticles.com/p/articles/mi_m1310/is_1999_Sept/ai_56027290

Bush-Cheney '04. 2004. "The President's Economic Security Agenda." Georgewbush.com (Last viewed 10/10/04)

Business Times. 2003. "IMF Urges US Action on Deficit as Economy Improves." *Global Policy Forum* (August 6): <http://www.globalpolicy.org/soecon/crisis/2003/0806imf.htm>

Byczkowski, John. 2004. "Treasury's Snow says jobs coming." *The Cincinnati Enquirer* (March 30):
http://www.enquirer.com/editions/2004/03/30/biz_biz1treas.html

China Economic Net. 2004. "China holds most promise for growth." *ce.cn*.(November 11, 09:38 Beijing Time): http://en-1.ce.cn/Industries/IT/200411/11/t20041111_2250849.shtml

Collett, Stacy. 2003. "Singapore: Small but powerful." *Computerworld*. (September 15):
<http://www.computerworld.com/managementtopics/outsourcing/story/0,10801,84813,00.html>

Comments from Indian programmers: author's privileged access to private email.

Commission on Presidential Debates. 2004. "2004 Debate Transcript." (October 13):
<http://www.debates.org/pages/trans2004d.html>

Committee on Government Reform Subcommittee on Technology, Information Policy, Intergovernmental Relations & the Census. 2003. "Federal Computer Security Report Card." (December 9):
<http://reform.house.gov/TIPRC/News/DocumentSingle.aspx?DocumentID=2025>

Communications Workers of America. 2004. "Outsourcing Hurts Globally, Cohen Tells World Bank" (July 2): <http://cwa-union.org/news/WhatsNew.asp?ID=469>

Congressional Budget Office. 2004. "What Accounts for the Decline in Manufacturing Employment?"
Economic And Budget Issue Brief (February 18): <http://www.cbo.gov/showdoc.cfm?index=5078&sequence=0>

- Datey, V.S. "SEZ, EOU, STP and EHTP Schemes." *ISO Customs Law Primer*: <http://dateyvs.com/index.htm>
- Deloitte Research. 2003. "The Titans Take Hold: How offshoring has changed the competitive dynamic for global financial services institutions." <http://www.deloitte.com/dtt/research>
- diwillia. 2004. "Retraining? hah!" *ZDNet TalkBack* (10/22/04): <http://news.zdnet.com/5208-9589-0.html?forumID=1&threadID=6011&messageID=123451&start=-41>
- DOW JONES NEWSWIRES "CAFTA Opponents Say Trade Deal Won't Pass US House." *Wall Street Journal Online* April 20, 2005 6:48 p.m.
- Drajem, Mark. 2004. "Offshoring aids economy, says business study," *Star-Telegram.com/Bloomberg News*. (March 31): <http://www.dfw.com/mld/dfw/business/8319303.htm?1c>
- Drezner, Daniel W. 2004. "The Outsourcing Bogeyman." *Foreign Affairs*. (May/June): <http://www.foreignaffairs.org/20040501faessay83301-p10/daniel-w-drezner/the-outsourcing-bogeyman.html>
- Economic Policy Institute. 2004-1. "An introduction to offshoring." (June): http://www.epinet.org/content.cfm/issueguide_offshoring
- Economic Policy Institute. 2004-2. "IT software demand exceeds previous peak, employment still lags." *Economic Snapshots*. (June 2): <http://www.epinet.org/content.cfm?id=1815>
- Erati, Milton. 2004. "Employment Insecurity." *Barron's Online* (November 8): http://online.barrons.com/article/SB109969937386766471-search.html?collection=barrons%2F30day&vql_string=outsource+jobs%3Cin%3E%28article%2Dbody%29
- French, Matthew. 2004. "The outsourcing hole." *Federal Computer Week*. (July 19): <http://www.fcw.com/fcw/articles/2004/0719/pol-outsource-07-19-04.asp>
- Friedman, Thomas L. 2005. "Bush Disarms, Unilaterally." *New York Times*. (April 15): A19
- Gongloff, Mark. 2005-1. "World Economy Hanging on a Buck?" *Wall Street Journal Online* (April 6 5:12 p.m.): <http://www.wsj.com>
- Gongloff, Mark. 2005-2. "Gaping Gap" *Wall Street Journal Online* (April 12 5:14 p.m.): <http://www.wsj.com>
- Hayden, Tom and Lori M. Wallach. (2004). "Kerry's Trade Winds." *The Nation*. (September 30): <http://www.thenation.com/doc.mhtml?i=20041018&s=hayden>
- Hayes, Frank. 2004. "ITAA's Job Dream." *Computer World* (April 5): <http://www.computerworld.com/careertopics/careers/story/0,10801,91892,00.html>
- Herbert, Bob. 2004. "We're More Productive. Who Gets the Money?" *New York Times* (April 5) : A21
- Hoffman, Thomas and Patrick Thibodeau. 2004. "Wage Inflation Unlikely to Soon End India's Offshore Dominance." *Computerworld* (April 5): <http://www.computerworld.com/managementtopics/outsourcing/story/0,10801,91916,00.html>
- Hopkins, Jim. 2004. "Other nations zip by U.S. in high-speed Net race." *USA TODAY*. (January 22): <http://www.detnews.com/2004/technology/0401/22/technology-42463.htm>
- IEEE-USA. 2004-1. "POSITION: Offshore Outsourcing" (March): <http://www.ieeeusa.org/policy/positions/offshoring.asp>

- IEEE-USA. 2004-2. "Congress Funds Major Offshoring Study" (November 23):
<http://www.ieeeusa.org/policy/features/offshoring-update112404.asp>
- ITAA (Information Technology Association of America) and Global Insight (USA), Inc.. 2004. "The Comprehensive Impact of Offshore IT Software and Services Outsourcing On The U.S. Economy." (March):
<http://www.ita.org/itserv/docs/execsumm.pdf>
- Ip, Greg. 2004-1. "Could Overseas Financing Hurt the US?" *Wall Street Journal*. (April 26):
<http://online.wsj.com/article/0,,SB109723637861040346,00.html>
- Ip, Greg. 2004-2. "Last Pre-Election Jobs Report Shows Modest Payroll Growth." *Wall Street Journal Online Update*. (October 8, 4:40 p.m.): <http://online.wsj.com/article/0,,SB109723637861040346,00.html>
- InStat/MDR. 2004. "India: Rise of a Mighty Market." (May):
http://www.3dnetworks.com/downloads/wp_india_465239.pdf
- International Labour Organization. 2004. "Ratifications of the ILO Fundamental Conventions." (December 16): <http://webfusion.ilo.org/public/db/standards/normes/appl/appl-ratif8conv.cfm?Lang=EN>
- itpro420. 2004. "Explain how offshoring helps me!" *ZDNet Forum* (October 21): <http://news.zdnet.com/5208-9589-0.html?forumID=1&threadID=6011&messageID=123091&start=-41>
- ITtoolbox. 2003. "2003 ITtoolbox salary survey." *ITtoolbox Oracle Knowledge Base* (June):
http://oracle.ittoolbox.com/Research/survey.asp?survey=salary_survey&p=1%3E
- JohnKerry.com. 2004. "A Plan To Create Good-Paying Jobs At Home." (Last viewed 12/05/04):
<http://www.johnkerry.com/issues/economy/jobs.html>
- jwhooper. 2004. "Good for the wealthy, not for U.S." *ZDNet TalkBack* (10/21/04):
<http://news.zdnet.com/5208-9589-0.html?forumID=1&threadID=6011&messageID=123100&start=-41>
- Kalita, S. Mitra. 2004. "The New India: Special Series." *Newsday*. (December 16):
<http://www.newsday.com/business/ny-biz-indiamain.story>
- Karnik, Kiran 2004. "ITs Rising Star: Kolkata." *The Telegraph* Calcutta, India:
http://www.itwb.org/details_April04.htm
- Koprowski, Gene J. 2004. "Outsourcing Clash Heats Up Election Campaigns." *E-Commerce Times* (March 5):
<http://www.ecommercetimes.com/story/33052.html>
- Kozlow, Ralph and Maria Borg. 2004. "Services Offshoring: What Do the Data Tell Us?" The Brookings Institution (June 22):
http://www.bea.doc.gov/bea/about/background/1104/BEA_Advisory_Committee2.pdf
- Lohr, Steve. 2004. "An Elder Challenges Outsourcing's Orthodoxy." *New York Times* (September 9): C1
- Mandel, Michael J. 2003. "Outsourcing Jobs: Is It Bad?" *Business Week* (August 25):
http://businessweek.com/magazine/content/03_34/b3846027.htm
- Mann, Catherine L. and Pluck, Katharina. 2005. "When the Dollar Bill Comes Due." *New York Times* (April 27): A29
- McMillion, Charles W. (2005) "Field Investigation: China's High Technology Development." *US-China Economic and Security Review Commission*. (April 21-22):
http://www.uscc.gov/researchpapers/2005/05_04_21_22_briefing_paper_palo_alto_hearing.pdf

- Morello, Diane. 2003. "Gartner: U.S. Offshore Outsourcing Leads to Structural Changes and Big Impact" *CIO.com* .(August 13): <http://www2.cio.com/analyst/report1647.html>
- Oxfam America. 2003. "Make Trade Fair for Central America. Agriculture, Investment and Intellectual Property: Three Reasons to Say No to CAFTA." (September): http://www.oxfamamerica.org/pdfs/cafta_090303.pdf
- Pearlstein, Steven. 2004. "Realities Make 'Offshoring' Hard to Swallow." *Washington Post* (February 13): E01
- Pilger, John. 2004. "INDIA: Not shining, but drowning." *The New Statesman* reprinted in *Green Left Weekly* (September 22): <http://www.greenleft.org.au/back/2004/599/599p17.htm>
- Pillsbury, Michael. 2005. "China's Progress in Technological Competitiveness: The Need for a New Assessment." *US China Economic and Security Review Commission* (April 21): http://www.uscc.gov/researchpapers/2005/05_04_21_technological_progress.pdf
- Polaski, Sandra. 2004. "Protecting Labor Rights Through Trade Agreements: An Analytical Guide." *Journal of International Law and Policy*. (July 14): <http://www.carnegieendowment.org/programs/global/index.cfm?fa=proj&id=102>
- Rai, Saritha. 2004-1. "Financial Firms Hasten Their Move to Outsourcing." *New York Times*. (August 18): W1 <http://www.iht.com/articles/2004/11/04/business/outsourch.html>
- Rai, Saritha. 2004-2. "In India, outsourcing firms rejoice." *New York Times*. (November 5): <http://www.iht.com/articles/2004/11/04/business/outsourch.html>
- Rai, Saritha. 2005. "Gridlock on India's New Paths to Prosperity." *New York Times*. (February 12): B1
- Rauss, Uli. 1995. "India's Silicon Valley - Bangalore, India is a booming software producing center." reprinted from *Stern* (April 20): http://www.findarticles.com/p/articles/mi_m1453/is_n7_v42/ai_17134456
- Reich, Robert. 2003. "Jobless in America." *CIO Magazine* (Fall/Winter): <http://www.cio.com/archive/092203/reich.html>
- Ricciuti, Mike and Mike Yamamoto. 2004-1. "Outsourcing: Where to draw the line." *CNET News.com/TechRepublic*. (May 5): <http://techrepublic.com.com/5100-6228-5212239.html>
- Ricciuti, Mike, Ed Frauenheim and Mike Yamamoto. 2004-2. "Outsourcing: The next technology battlefields." *CNET News.com/TechRepublic*. (May 13): <http://techrepublic.com.com/5100-6228-5212252.html>
- Rossheim, John. 2004. "Dueling Perspectives on Offshoring Numbers." *Monster Salary Center*. (Last viewed 12/15/04): <http://content.salary.monster.com/articles/offshoredebate/>
- Rothkopf, David C. 2004. "Just as scary as terror: Anyone Seen Our Economic Policy?" *New York Times*. (July 25): B01
- Roubini, Nouriel and Brad Setser. 2004. "The US as a Net Debtor: The Sustainability of the US External Imbalances." (revised November): <http://www.stern.nyu.edu/globalmacro/Roubini-Setser-US-External-Imbalances.pdf>
- Samachar.com. "Belated labour reforms." *Free Press Journal*: <http://www.samachar.com/features/250202-sify.html>

- Samuelson, Paul A. 2004. "Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization." *Journal of Economic Perspectives* (Summer) v 18: no 3. 135–146: http://econ-www.mit.edu/faculty/download_rp.php?id=50
- Shah, Gouri. 2004. "TUs plan a visit to Uncle Sam, outsourcing tops agenda." *The Economic Times*. (November 30): <http://economictimes.indiatimes.com/articleshow/940404.cms>
- Singh, Jaspreet. 2003. "Country Analysis: China." *Impacts of National Information Technology Environments on Business* (December 7) :<http://www.american.edu/initeb/js5518a/Country-analysis-china.html>
- Sify finance. 2004. "Outsourcing is here to stay." (November 4, 7:37): <http://sify.com/finance/fullstory.php?id=13604165>
- Slaughter, Matthew J. 2004. *Insourcing Jobs: Making the Global Economy Work for America*. Organization for International Investment. (October): http://www.ofii.org/insourcing/insourcing_study.pdf
- Sly, Liz. 2004. "Poor reap little in high-tech India." *Chicago Tribune*. (April 18): <http://www.mercurynews.com/mld/mercurynews/news/world/8461651.htm>
- Thibodeau, Patrick. 2004-1. "Outsourcing could create 'wage compression' for IT workers." *ComputerWorld* (March 31): <http://www.computerworld.com/managementtopics/outsourcing/story/0,10801,91787,00.html>
- Thibodeau, Patrick. 2004-2. "Wage Inflation Unlikely to Soon End India's Offshore Dominance." *ComputerWorld* (April 5): <http://www.computerworld.com/managementtopics/outsourcing/story/0,10801,91916,00.html>
- Tsuruoka Doug. 2004. "Tech Firms Love India's Wages, But IT Salaries Are Rising Fast." *Investor's Business Daily*. (November 29, 7:00 pm): http://biz.yahoo.com/ibd/041129/general_1.html
- Uchitelle, Louis. 2004. "U.S. and Trade Partners Maintain Unhealthy Long-Term Relationship." *New York Times*. (September 18): C1
- Uchitelle, Louis. 2005. "Made in the U.S.A. (Except for the Parts)." *New York Times*. (April 8): C1
- United States Census Bureau. 2005-1. "U.S. Trade in Goods and Services - Balance of Payments (BOP) basis." (March 11): <http://www.census.gov/foreign-trade/statistics/historical/gands.txt>
- United States Census Bureau. 2005-2. "U.S. Trade in Goods and Services February 2005." (April 12): <http://www.bea.doc.gov/bea/newsrelarchive/2005/trad0205.pdf>
- United States Census Bureau. 2005-3. "Exhibit 3. U.S. Services by Major Category—Exports & Exhibit 4. U.S. Services by Major Category—Imports" (March): http://www.census.gov/foreign-trade/Press-Release/current_press_release/exh3.pdf and [exh4.pdf](http://www.census.gov/foreign-trade/Press-Release/current_press_release/exh4.pdf)
- United States Department of Commerce News. 2005. "U.S. International Trade In Goods And Services." (April 12): <http://www.bea.doc.gov/bea/newsrel/tradnewsrelease.htm>
- Vieth, Warren and Edwin Chen. 2004. "Bush economic report praises 'outsourcing' jobs." (February 10): <http://www.post-gazette.com/pg/04041/271362.stm>
- Volcker, Paul A. 2005. "An Economy On Thin Ice." *The Washington Post* (April 10): B07
- Ware, Lorraine Cosgrove. 2003. "Weighing the Benefits of Offshore Outsourcing." *CIO Research Reports* (September 2): <http://www2.cio.com/research/surveyreport.cfm?id=62>

WashTech. 2003. "A Survey of Information Technology Workers." (December):
"http://www.washtech.org/reports/WashTechSurvey/WashTech_Survey.pdf

WashTech. 2005. "Offshore Tracker." (last viewed May 13, 2005): <http://www.techsunite.org/offshore>

Wolfe , Raymond M. National Science Foundation. "Largest Single-Year Decline in U.S. Industrial R&D Expenditures Reported for 2002." (2004) InfoBrief (May): <http://www.nsf.gov/sbe/srs/infbrief/nsf04320>

Yamamoto, Mike and Ed Frauenheim. 2004. "Outsourcing: U.S. needs reforms, not rhetoric." *Tech Republic CNet News*. (May 11): http://techrepublic.com.com/5100-6228_11-5210485.html