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THE GLOBALIZATION OF WHITE-COLLAR JOBS: CAN AMERICA LOSE THESE JOBS AND STILL PROSPER?

HEARING

BEFORE THE

COMMITTEE ON SMALL BUSINESS
HOUSE OF REPRESENTATIVES

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HEARING ON THE GLOBALIZATION OF WHITE-COLLAR JOBS: CAN AMERICA LOSE THESE JOBS AND STILL PROSPER?

WEDNESDAY, JUNE 18, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, D.C.

The Committee met, pursuant to call, at 2:03 p.m. in Room 2360, Rayburn House Office Building, Hon. Donald Manzullo [chairman of the Committee] presiding.

Present: Representatives Manzullo, Velazquez, Schrock, Akin, Capito, Shuster, Franks, Beauprez, Chocola, King, Ballance, Christian-Christensen, and Bordallo.

Chairman MANZULLO. Good afternoon and welcome to this hearing of the Committee on Small Business. I especially welcome those who have come some distance to participate.

Today we are going to talk about the globalization of white-collar jobs. Most Americans do not realize the significant link between manufacturing and services. I hope it becomes clear by the end of this hearing.

You know my passion for manufacturing, so why are we talking about the service sector today? I want people to begin to understand that what has been going on in manufacturing is not because manufacturing jobs are less important than service sector jobs. As goes manufacturing, so goes the economy.

I have heard over and over again from pretty well educated people that we should not worry about manufacturing since we have such a strong service economy, as though services has some sort of a hedge of protection from foreign competition.

There is a false sense of security. It is foolish to think that way. Engineers, accountants, architects, programmers, and other highly-skilled professionals are learning quickly that someone equally or more qualified than they are is taking their job for far less money both here in the U.S. and halfway around the world. Here is the connection.

According to a recent National Science Foundation study, 48 percent of our engineers work in the manufacturing industry. These are the folks that create the designs, engineer processes, and drive innovations for manufactured goods. The U.S. economy is trying to grow and trying to create jobs. It is just that Americans are not filling those jobs. They have been moved overseas where foreigners will work for a lot less.

Some would argue that pure free trade theory should prevail. Whatever can go overseas should go. I would put my free trade voting record against anybody's, but the theorists miss a very important point. Free trade does not operate in a vacuum. It presumes that all countries participating are playing by the same rules, whatever those rules may be. The problem is that not all of our trading partners play by the rules and even our own laws have loopholes that allow for some of this.

The February 3rd edition of Business Week had on the cover, "Is your job next? A new round of globalization is sending up-scale jobs offshore. They include ship design, engineering, basic research, even financial analysis. Can America lose these jobs and still prosper?"

Examples include radiologists in India interpreting—Congressman Kirk, did you have a constituent you wanted to——.

Mr. KIRK. John Challenger. Nobody knows more about outplacement for these economic times——.

Chairman MANZULLO. If you can stick around for a couple of minutes as soon as we finish our opening statements I will let you introduce your constituent. Do you want to do that?

Mr. KIRK. Sure.

Chairman MANZULLO. Just have a seat over here. Thank you.

Examples include radiologists in India interpreting CT scans for U.S. hospitals. Accountants are assessing loan risks for homes halfway around the globe. Five technicians sit at a computer in Ghana processing New York City parking tickets. Blueprints for a staircase in a New York City building get drafted in Shanghai. It is interesting stuff.

This is what globalization is supposed to be about. Everybody wins, right? Wrong.

According to Forrester Research, 3.3 million white-collar jobs and nearly $140 billion in wages will shift from the U.S. to other nations over the next 12 years. This does not count the number of displaced Americans resulting from loopholes in our immigration laws. Increased global trade was supposed to lead to better jobs and higher standards of living for Americans by opening markets around the world for U.S. goods and services.

The assumption was that while lower-skilled jobs would be done elsewhere, it would allow Americans to focus on higher-skilled, higher paying opportunities.

What do you tell the Ph.D., professional engineer or architect or accountant or computer scientist to do next? Where do you tell them to go? What higher academic credentials are they to aspire to next? They did what we said: Go to school and get the best education you can. Get a job in the technical field and you will be good to go. Now that this can be done for less elsewhere should we be satisfied with having the intellectual capital of this nation draining out to other countries? Should we sit back and wait for China or India or Singapore or Poland to tell us what the next great technological breakthrough is going to be? Should we be concerned about our national security when our intellectual capital is being shipped overseas?

Our nation's international economic competitiveness depends absolutely on the U.S. labor force's innovation and productivity. Ac-

cording to economist Joel Popkin, if our innovation processes, represented by our scientists, engineers, and technicians shift to other countries, "A decline in U.S. living standards in the future is virtually assured." That is from the NAM's white paper issued just two weeks ago.

Wanting to keep jobs in America is not protectionism. It is in fact the very thing needed to promote free trade. Without the high productivity of the American worker and high levels of consumption by American families free trade will have no solid foundation on which to thrive.

The challenge is whether we can ensure that our optimism for a free and fair global market place can become a reality.

I look forward to the opening statement of Mrs. Velazquez.

[Mr. Manzullo's statement may be found in the appendix.]

Ms. VELAZQUEZ. Thank you Mr. Chairman.

As the tech industry grows, tourism flourishes and the global market expands, it is apparent that our world is shrinking.

Today people travel between nations as easily as they do between states. Globalization which allows economic, political and cultural systems to cross national borders freely has caused a shift in the economic phase of our nation. We have witnessed the effects of the first wave of globalization when U.S. manufacturing moved production and American jobs overseas.

Now we are experiencing a second wave of globalization which is impacting the strong and profitable service sector here in the United States. It is by far the largest component of our economy, accounting for 81 percent of private sector output and providing roughly 95 million jobs. In fact the majority of companies within the services industry are small businesses.

As this sector braces for the effect this new reality will have on the economy just as the manufacturing sector did a decade ago, analysts foresee the flight of white-collar jobs abroad. It has been predicted that the United States service industry should expect to lose at least 3.3 million white-collar jobs while $136 billion in wages will shift from the U.S. to low-cost countries by the year 2015.

For many businesses, both large and small, the global marketplace offers an array of opportunities, especially for growth. Yet it also presents one major drawback—job outsourcing. Companies in the service sector are able to find skilled labor abroad at lower wages. High-end service work such as writing software code and processing credit card receipts is being moved to developing countries like India, China, Russia, and Eastern Europe. This has the potential to worsen our nation's already suffering economy which has lost an estimated 2.7 million jobs since the start of the Bush Administration.

There are a number of policies linked to this trend that have caused the shift in service sector jobs away from American workers. One is immigration policy. As non-immigration programs are being used and abused to obtain cheap labor.

It also does not help that the rising cost of benefits in the U.S. makes cheap labor overseas and less worker protections more attractive. After all, U.S. companies are trying to cut costs and make a profit in this economic downturn.

In addition, a strong dollar has led to a trade imbalance that favors importing foreign produced goods and services because it is more cost effective. The technological ease with which companies now do business creates an atmosphere where overseeing workers, assessing production, and managing transactions in Jakarta is just as easy and probably cheaper than here in the United States.

As globalization now permeates the service sector it is still too soon to know exactly how small businesses will be affected. Since small businesses dominate the service sector it is critical to factor them into the equation making sure that policies like immigration help instead of hurt them.

In working to protect the small business sector, we can better ensure that it does not meet the same fate as the manufacturing sector. This will be another serious blow for the American economy, possibly making the current downturn longer and even more severe.

Thank you, Mr. Chairman.

[Ms. Velazquez's statement may be found in the appendix.]

Chairman MANZULLO. Mr. Kirk, if you could take no more than 90 seconds to introduce your constituent.

Mr. KIRK. Thank you, Mr. Chairman.

I am just here to welcome John Challenger who is the head of Challenger, Gray and Christmas, probably our Chicago-land's number one expert on outplacements. That is such a critical moment in people's careers and a critical part of the economy. I am looking forward to his testimony, and thank you for coming.

Chairman MANZULLO. Thank you for coming. You can stay as long as you like.

Congresswoman Johnson, we look forward to your testimony.

STATEMENT OF HON. NANCY JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CONNECTICUT

Ms. JOHNSON. Thank you very much, Mr. Chairman and distinguished members of the Committee.

I appreciate your invitation because I believe we are experiencing a real crisis in our job market. While our pro-growth tax policies will help, there are still far too many people unemployed, and beneath that aggregate unemployment numbers lies an even more disturbing trend.

Unlike past instances of high unemployment, the ranks of the jobless are increasingly composed of highly skilled, college educated workers that typically had little difficulty finding a new job in the past. Today they are suffering lengthy periods of unemployment.

There are a host of reasons for this persistent weakness in the labor market but I believe that we are inadvertently making the situation worse through our generous guest/worker visa program.

During the April recess I had an opportunity to visit with a group of constituents who told me a very sobering story. These constituents, all unemployed information technology workers, told me that their former employers were replacing them with cheaper workers brought in from overseas on H–1B or L–1 visas.

My constituents claim that companies are using foreign workers because they can pay them less. Due to the fact that the foreign

workers' stay in the United States is contingent upon the employer, these foreign workers are also more easily managed.

In some cases the American worker has been instructed to train the new arrival only to be summarily dismissed and replaced by the foreign worker.

If this is true it directly contradicts the intention and spirit of our immigration law.

I was so alarmed by these stories that I contacted several of my local employers to ascertain what their policy was regarding guest workers. While to the best of my knowledge none of the companies are violating the law, I have subsequently discovered that my constituents' experience is not unique nor is it isolated and we need to change the law.

As you are aware, the L–1 visa program was created to enable multinational corporations to bring in key executives to work in the United States for up to seven years. It was thought that the business community needed a special class of visas to expedite intercompany transfers. You will see the rationale for that in the Chamber letter.

More recently, however, a cottage industry has emerged to exploit the L–1 visa program. These companies can be constituted with the express purpose of funneling workers into the United States. IT consultancies with operations overseas, for example, are using the L–1 visa program to import workers who are then contracted out to domestic companies and there is no annual limit on the number of L–1 visas.

The L–1 visa program is not subject to any of the constraints or governance that the H–1B visa dependency program is. If you are a dependency company then you have to look and see is there an American who can do the job and you have to pay them the same. If you are not a dependency company, and practically no one is because you have to have 15 percent of your employees H–1B visa employees, if you are not a dependent company then you do not have any of those constraints. You do not have to look and see if an American can do the job and you do not have to pay them the prevailing wage.

I find this absolutely outrageous and more egregious than corporate expatriation to Bermuda which has received a lot of attention in this Congress because the expatriation is at least a paper operation. These operations directly take jobs, well-paying jobs, skilled jobs, from American workers.

There are several steps I believe Congress can take to address this situation.

First we should initiate a thorough and detailed reevaluation of the various guest worker programs, and I believe there is a very important role for guest worker programs to play in many sectors of the economy. The H–1B visa program, for instance, was increased in 1999 to address the apparent shortage in qualified IT workers leading up to the year 2002. That was true. We allowed the cap up. If the shortage no longer exists then the justification for the inflated number is moot. We have no public interest in keeping qualified American workers unemployed in order to accommodate guest workers.

We should also examine the rules governing the L–1 visa program. Clearly the law was not intended to promote the wholesale importation of contract consultants.

I am the cosponsor of a bill introduced by Representative Mica that will close the loophole that allows consultancies to bring in guest workers for contract work. If a company was supposed to be allowed to bring in people from their own companies abroad so they could learn domestic management styles and a lot about how the company operates. Perfectly legitimate. But when it is a consultant company bringing in people who are consultants and farming them out to an American business, that is a whole different issue.

We should devote more resources to worker training, and companies certainly have a legitimate need for talented, knowledgeable IT workers, but ironically now that we have used some of that H–1B visa money to build up our IT capability, we have kids in those classes taking those courses unable to find a job upon graduation.

Throughout my congressional career I have been a strong proponent of free trade and open markets. My support is not contingent or qualified because I believe in the end free trade means more jobs for Americans and greater worldwide prosperity, but we cannot allow an individual to be compelled to lower their standard of living to compete with individual immigrants not covered by the same rules applied to H–1B dependent companies. U.S. companies that cultivate a workforce that is skilled and well trained, develop teamwork and make wise capital investments can compete and thrive in the world market. Companies that pay multi-million dollar salaries to their top executives and cut $20,000 here and there from significant skilled jobs are in my estimation setting themselves on a downward spiral. They are undermining our strength as a national economy and compromising our ability to compete.

I thank you very much, Mr. Chairman, for having this hearing. I believe it is an important one, and I thank you for your time and attention.

Chairman MANZULLO. Thank you very much Congresswoman Johnson.

Did you want that letter from the Chamber made part of the record?

Ms. JOHNSON. Yes, I would like to do that. Actually it is to you.

Chairman MANZULLO. That is correct. It is also to the Committee.

Any time that you would want to leave, Congresswoman, please feel free to do so.

Ms. JOHNSON. I would like to hear as much testimony as I have time to hear.

Chairman MANZULLO. We appreciate that.

Ms. JOHNSON. Thank you.

[Ms. Johnson's statement may be found in the appendix.]

Chairman MANZULLO. Our next witness is Bruce Mehlman. He is Assistant Secretary of Commerce for Technology. I have known him for a period of years. He is a very, very bright attorney.

Prior to going into your testimony, Mr. Mehlman, if you could take just a few seconds or half a minute to tell exactly the nature of your position and the purpose of it. That would help lay the

groundwork for the rest of your testimony. Once you do that, I can start your 5 minute clock. How does that sound?

Mr. MEHLMAN. Very good. Certainly, Mr. Chairman.

Chairman MANZULLO. Thank you.

Mr. MEHLMAN. Thank you.

I lead something called the Office of Technology Policy within the Technology Administration of the Commerce Department. Our office focuses, for the most part, on four areas with the mission of maximizing technology's contribution to America's competitiveness, to our job growth, and to our long-term prosperity.

Our office serves as policy analysts. The most recent thing, and I brought copies for the Committee today as well as we are going to be distributing them to all Members of Congress, is the Secretary's report to Congress on education and training for the information technology workforce which is a 225 page, fairly exhaustive report. We sat with workers, we sat with employers and other business leaders, business leaders, to try and understand the nature of this very complex and rapidly evolving training landscape; in part because we believe and Congress believes that to remain competitive and to have our workers be successful we are going to need a dynamic reskilling environment.

We also take a look at other technology-influenced long term trends including things such as the deployment and usage of broadband networks, biotechnology policies, particularly in the area of bio-defense vaccines and immunologics.

We have looked at IT workforce questions for quite some time. We are taking a look at technology transfer through Bayh-Dole and Stevenson-Weidler which are the acts that gave birth to our office back in the 1980s.

We really do have an exciting area and we are trying to advise as best we can both Congress and the Administrative branch on policies and policy recommendations and on technology trends that we think America needs to know about to remain competitive.

Chairman MANZULLO. That is a great introduction of yourself. Now I can start the five-minute clock.

Mr. MEHLMAN. Very good.

Chairman MANZULLO. Thank you.

STATEMENT OF THE HONORABLE BRUCE P. MEHLMAN, ASSISTANT SECRETARY FOR TECHNOLOGY POLICY, U.S. DEPARTMENT OF COMMERCE, WASHINGTON, D.C.

Mr. MEHLMAN. Chairman Manzullo, Ranking Member Velazquez, members of the Committee. Thank you for inviting me to appear before you here today and for your leadership. The issue of global competition for white-collar service work is an important and a timely one.

Few Americans are feeling greater uncertainty these days than our information technology and communications workers. I know this both in my professional capacity and through prior personal experience having been at an information technology company, and I have many friends who express many of the concerns that were reflected in that Business Week article.

Over the past five years IT workers have endured multiple shocks to IT spending and employment, including the end of the

year buildup in 1999, the bursting of the Internet and telecom bubbles in the year 2000, dramatic reductions in corporate IT spending during the 2001 recession that began in January of that year, the 9/11 terrorist attacks, investor and business uncertainty as many business scandals of the late 1990s came to light, continued market caution preceding the liberation of Iraq, and of course accelerating global competition.

As detailed more fully in my written testimony, it is difficult to precisely separate American IT job losses due to this post-bubble business cycle from slower job growth resulting from global competition or off-shoring of work. It is certainly clear, however, that as the growth of U.S. IT jobs has slowed dramatically for many reasons, the volume and value of offshore work has grown rapidly.

Most analysts agree this competition and IT services will increase as offshore IT service providers improve their quality, their processes, and their expertise; as improved telecommunications connections, especially broadband, enables more business customers to out-source and offshore work effectively; and as these business customers including very many manufacturers determine they can realize value and gain competitive advantage through outsourcing.

As with so many global trends there is significant disagreement over the implication of competition in white-collar service work for American prosperity and competitiveness. One might note so far that America has benefited from trade in IT services. In 2001, U.S. cross-border exports of IT services totaled $10.9 billion while our imports totaled $3 billion, yielding a trade surplus of $79 billion. Yet we must all be concerned with the impact of this growing competition on American jobs, on wages, and on workers. I think the Committee's concern is very well placed.

Certainly we will need further investigation and analysis to understand the dynamics at work and to formulate appropriate policy responses. As I mentioned, we today released an exhaustive report on the education and training landscape for IT workers and we very much hope that our findings are going to contribute to policymakers' understanding and thinking on this topic.

One thing we already know is that U.S. workers and employers are going to face unprecedented global competition going forward and permanent innovation will be absolutely essential to our long-term success. We need to be ready.

The Bush Administration has an aggressive pro-job growth, pro-technology innovation agenda. I have detailed it a bit longer in my written submission, but specifically we aim to promote innovation through greater research and development investments, through stronger intellectual property rights protection, and through a billion dollar program through NSF and the education department to improve math and science teaching.

We intend to support entrepreneurship, especially among small businesses through appropriate tax, trade and regulatory policies. We are aiming to improve our innovation infrastructure including broadband, spectrum, energy and of course critical infrastructure protection, an area particularly highlighted post–9/11.

And last but hardly least, we need to empower and we are enacting policies to empower current and future generations of American workers through education and through e-government.

Education clearly sits at the heart of our future competitiveness and as evidenced by H.R. 1, the No Child Left Behind Act, we are focused on this challenge.

We must continue to aggressively pursue reform and improvement in education as we implement this landmark legislation.

We will additionally need to find ways to boost the productivity, flexibility, creativity and effectiveness of American IT workers to enable them to overcome global wage disparities by leveraging a dynamic and responsive reskilling landscape that lets us compete and win on our own terms. We hope the extensive report we released today might prove a constructive first step.

Global competition accelerates so-called creative destruction, a fairly ugly economist term that refers to the process by which new ideas, jobs, technologies and industries replace older ones. That can be good for innovative and market-based economies overall at the macro level. But creative destruction is terribly difficult for displaced communities and it is unacceptable for individuals.

America must compete in the global marketplace but we must never compete in the losing battle to see who can pay their workers the least. Only sustained innovation can ensure that we do not have to.

There are many real challenges facing our nation but I remain very optimistic about America's future and I have tremendous confidence in the quality and dedication of our workforce.

The Administration looks forward to working with this Committee and others in Congress to ensure we provide American workers with the tools, the technology, and the skill sets and the talents they need to compete and win in the 21st Century global economy.

Thank you, Mr. Chairman.

[Mr. Mehlman's statement may be found in the appendix.]

Chairman MANZULLO. Thank you for that excellent testimony.

The complete statements of all the witnesses will be made part of the record.

Our next witness is Pete Engardio, Senior News Editor for Business Week. You are also the author of this article.

We look forward to your testimony.

Mr. ENGARDIO. Thank you very much.

STATEMENT OF PETE ENGARDIO, BUSINESS WEEK, NEW YORK, NY

Mr. ENGARDIO. You have the article, I believe, in the record so I will just kind of summarize very quickly.

We have followed this trend in Business Week for quite a while. I wrote my first long article about outsourcing of white-collar work 10 years ago, when I was based in Asia. Back then we were talking about data processing in the Caribbean, software, code writing in India, some call center work, some kind of processing of loan application and credit card paperwork in Malaysia. So this trend is not new but it has picked up steam tremendously in the past decade and now it is really hitting critical mass. You now are seeing cor-

porations hiring people in the Philippines, India, China, setting up operations with 500 people to 5,000 people each.

Companies like AIG, General Electric probably have 10,000 service workers overseas. And you are seeing just a vast acceleration happening right now. It is happening because of digitalization. Almost every kind of work process can be codified and written into bits and bytes. This happened because of a dramatic improvement in IT infrastructure overseas, especially in developing countries.

There are very, very good providers now that have years of experience, companies like Wipro, which we mentioned, and the American companies like General Electric and IBM Services are now becoming very global in the services they provide. And corporations are under extreme cost pressure which is why we are seeing the explosion I think of this work right now.

So it fits into the outsourcing trend that has been going on in the country. The difference is now it is moving abroad to where the workers are. Rather than the workers having to come here, having to get H–1B visas, the work can now go to them at a fraction of the cost, wages at their level.

In addition, education is improving dramatically in the developing world. So we are not talking about sweat shops, we are talking about architects working for Fluor Daniel in the Philippines which has 700 of them doing the blueprints for the most advanced power plants and factories and semiconductor wafer fabs that are being built in this country and around the world.

But these are highly qualified, over-qualified draftsmen. Often, many have a master's degree in architecture, a master's degree in accounting. The Philippines has an over-abundance of them. China graduates 70,000 mechanical engineers a year, hundreds of thousands of chemical engineers every bit as well educated as ours. In our country there is right now a shortage of these skills, at least that is what companies say.

But these workers that are working in call centers, almost all are college graduates. We have talked to a number of them in many countries and we have been to a number of call centers. These workers see these jobs as careers. They are working for American Express. They are working for Delta Airlines and they are proud of it. To them this is a dream come true. So they are getting very well paid in their local standards. They do not feel exploited, the ones that we spoke with. They are happy to get the work.

The numbers you saw I think being quoted by Forrester, 3.3 million is obviously a real guess, but I think many other consultancies are coming up with similar kinds of studies that kind of are along those lines. DeLoitte & Touche just released a study estimating about two million financial services workers alone will be going to developing countries over the next ten years or so. About 800,000 of those from the United States.

So I do believe this is a megatrend that is just starting to hit critical mass right now and is going to snowball and snowball. Right now, even though we have spent a tremendous amount of work on this project, we are just still scratching the surface.

Quickly, about who wins and who loses, it is way too early to tell. Obviously the developing world gains tremendously from this. Countries like India, the Philippines, that really have never been

that great at manufacturing are now developing much more rapidly because of service industries. It is good for them. It is good for their workers. And it is also skills that they are picking up with American companies are being used to develop much better service industries domestically which means they do not have to export. They do not have to export manufacturing. So it is good for them, clearly.

Is it good for the United States economy? We do not have a clue. We have not come across any serious analysis of this subject. Every big trade economist that we spoke with said they had not started looking at it. It is all very intriguing.

Is it good for the American worker? It really depends I think on what job category you are looking at. I do not think it makes any difference for a mechanical engineer since there is a shortage of them. I believe that is true for chemical engineers too.

Obviously, IT support workers, and as the gentleman from the Commerce Department said, it is very hard to make the direct correlation. But clearly people are being laid off right now and are being substituted in India in certain categories, and wages are declining.

Chairman MANZULLO. Very good.

[Mr. Engardio's statement may be found in the appendix.]

Our next witness is Ron Hira. Mr. Hira is Chair of the IEEE-USA Research, Development and Policy Committee. He holds a Ph.D. in Public Policy from George Mason, an M.S. in Electrical Engineering, a B.S. in Electrical Engineering. His interests include R&D, policy, et cetera.

We look forward to your testimony.

STATEMENT OF RON HIRA, PH.D., P.E., COLUMBIA UNIVERSITY, CENTER FOR SCIENCE, POLICY AND OUTCOMES, WASHINGTON, DC

Mr. HIRA. Thank you, Mr. Chairman. Thank you and the other distinguished members of the Committee for inviting IEEE–USA to talk about this very important issue.

My name is Ron Hira. I am a post-doc fellow at Columbia University at the Center for Science, Policy and Outcomes. I am testifying here on behalf of the 235,000 U.S. members of the Institute of Electrical and Electronics Engineers also known as IEEE–USA. We are a professional society with individual memberships. Our members are electrical engineers, computer engineers, software engineers, you name it. They work in industry, in government, in university, as professors of students, as managers, as engineers. About 20 percent or so work for small businesses directly.

I think Pete Engardio and his colleagues at Business Week have done a really great job of framing what is going on and I am just going to reiterate that the trend is gaining momentum by the day, outsourcing.

Let me give you a quick example. Just this morning on CBSMarketWatch.com I downloaded an article that says EDS, Electronic Data Systems which is the largest of the IT services companies in the U.S., is going to cut 2700 jobs to save cash.

Yesterday there was an article in the Economic Times of India which is the largest financial daily newspaper there that says EDS

plans to expand operations in China and Hariana, India. So at the same time that EDS is cutting jobs, it is also expanding operations in India.

Why are companies doing this? Clearly cost is one driver. If you do a simple back of the envelope calculation a $70,000 salary for an engineer in the U.S., a Russian engineer would be equally happy with $14,000. Just do the simple calculations based on what economists call purchasing power parity. There is a big difference in terms of the standard of living, cost of living in those countries and engineering talent is much cheaper there.

But it is not going to be just engineering or information technology, but also research and development and accounting and law and so on and so forth. And even though India is most often discussed as a nation, it is not going to be in India. In fact I spent a few weeks in Romania about two years ago working with some IT companies there. You would be surprised at how good their English is, the educated population there.

Not only that, but part of their strategy is to try to target these types of jobs.

What are some of the impacts? Clearly I think there are going to be some impacts on the unemployment situation for domestic workers. Right now electrical engineers, computer engineers, software engineers are facing unprecedented levels of unemployment. Seven percent for electrical engineers; 6.5 percent for computer hardware engineers; and 7.5 percent for software engineers. You would expect maybe one to two percent generally in those categories. So this is an incredible waste of human capital, some of our best and brightest in America.

Secondly there are going to be a number of impacts in terms of the economic security and military security, homeland defense. It is almost universally agreed that technology and technological innovation is what drives economic growth as well as military advances and defense advances, and as more work and more sophisticated work goes offshore, it will be more difficult for us to sustain an economic growth rate that is reasonable as well as sustain our military advances.

And location really does matter in the innovation process. This is pretty well agreed upon no matter what side you are on ideologically. You just look at Silicon Valley. Things feed on themselves, technological advance does.

For our members it is not an ideological or a theoretical issue, it is a practical one. They are not able to find positions.

John Gibson who is the head of our section down in Research Triangle Park, North Carolina, says that even if Congress expands unemployment benefits his members down there have been unemployed for so long that it is just meaningless.

Lastly I just want to touch on a couple of quick public policy alternatives. First, I will reiterate that timely and reliable statistical information on what types of positions and how many are going abroad is very important. We have heard the 3.3 million quote over and over again and it is not clear to me what that is based on.

Secondly, the current non-immigrant system has actually accelerated the movement of work offshore. The H–1B and L–1 visas need to be reformed.

Lastly, Congress needs to look at the WTO general agreement on trade and services and follow what is going on there because these developing countries are actually pushing for much laxer regulations in terms of the H–1B and L–1.

Thank you.

Chairman MANZULLO. Thank you very much.

[Mr. Hira's statement may be found in the appendix.]

Chairman MANZULLO. Our next witness is John Challenger who has already been introduced. We look forward to your testimony.

STATEMENT OF JOHN CHALLENGER, CEO, CHALLENGER, GRAY & CHRISTMAS, INC., OAKBROOK, IL

Mr. CHALLENGER. Thank you Mr. Chairman, Ms. Velazquez, and members of the Committee. I am very pleased to have the opportunity to appear before the Small Business Committee today. I am John Challenger, CEO of Challenger, Gray & Christmas.

When responsible companies lay off workers or release executives and middle managers they offer outplacement services to those people. We work closely with the discharged people to shorten their time out of work and improve the quality of the job that they find.

My father, who fathered the company in the industry in the mid 1960s, created this process.

Thank you for allowing me to share my ideas with you. In regard to the issue of permanent job loss in a global economy.

It would be arrogant to think that only unskilled and semi-skilled jobs can or will be done overseas as many have already testified. The United States is certainly not the only natural sanctuary for the most skilled. Our education system is not number one in the world and certainly we must strive to improve our education system, a critical factor in the long-term health of our country. We must change our paradigm that leads most people to consider their education completed by their early 20s.

To try and stop the globalization of the workforce is futile. It is a natural force that is happening. As certain kinds of jobs dry up here there is no reason to think that our talented workforce will not redeploy their skills in new directions and endeavors. In fact the entrepreneurial spirit and the minimal structural barriers for business startups in the U.S. is the envy of the world.

The movement to a global economy workforce will be filled with disruptions and hardships. The globalization of manufacturing has stranded many people in their 40s and 50s. Some go back to school for retraining, others work in poor paying jobs, some have left the workforce and are on disability or in prison. Many transition to new jobs.

In 2002 we saw just under 50 percent of the people who came through our programs change industries for a new job. We must look for ways to help them. Their children look to newer jobs and careers and their parents must insist they get more education to accomplish those goals.

We must restructure the education system to reflect the fact that lifelong education is crucial. Programs that encourage companies and government entities to offer skills training and tuition reimbursement programs to adults throughout their lives are crucial.

When looking for lessons about how the U.S. and other first world countries must manage the transition to a global economy look to West Germany's swallowing of East Germany. Technology is paving the way for and making inevitable the globalization of skilled jobs. The decline in cost of technology, the growth in computer power, Moore's Law, the long term expansion of airport and aerospace infrastructure, and the 24/7 work week, all these factors and many more are laying the foundation for the global village and economy.

Millions of jobs will never be moved en masse overseas because they require proximity and are essentially in-person work. Some examples include store personnel, nurses, doctors, teachers, musicians, golf professionals, construction workers, counselors, social service professionals, pilots, cooks, executives, librarians, movie makers, soldiers, security workers and entrepreneurs.

The job loss scare we are seeing now parallels what we saw in the early 1990s when the first wave of downsizing hit and everybody talked about how we were de-layering America. Middle management was disappearing.

In the late 1990s we saw the same kind of thing happen when we thought that the world was going to become virtual. All the jobs were going to disappear, all companies were going to disappear and people were going to do their work at home.

We see how discredited those ideas are now, the dot-com era fear of job loss from technology. Now the fear, and it is another part of that same feeling, is that globalization is going to consume the job, and that is bubble mentality. And it is also recession mentality.

Out of fear people misidentify the issue as permanent job loss. The problem is more about effective job transition rather than permanent job loss. Effective transition revolves around education and the development of programs and resources to help people make effective job changes. Entrepreneurs and small businesses create most of the jobs in this country. It is the big companies who can achieve the global reach to move and outsource major segments of their operations overseas.

Skilled and unskilled workers are equally migratory. As jobs shift around the U.S. and the world, so will people. Many more jobs today are just in time. When a company's revenues fall it is much quicker to let people go; when it expands, the company hires more workers. We saw almost 2.5 million jobs created each year in the 1990s during the long boom. Since February of 2001, really the recession period here, the slowdown with the economy in this condition, there have been 2.5 million jobs lost. We created 2.5 million every year in the 1990s. As the economy expands and contracts, so do jobs.

One last point from the Bureau of Labor. Severe labor shortages are likely in fact to return within ten years. Many are predicting this already. Some companies may begin to feel the pinch within 24 to 48 months. Certain industries like health care, construction, are already suffering badly.

Chairman MANZULLO. We are a little bit out of time here and I want to get through before the bells go off.

Mr. CHALLENGER. Sorry.

Chairman MANZULLO. That is okay. I appreciate your passion.

[Mr. Challenger's statement may be found in the appendix.]

Chairman MANZULLO. Our next witness is John Palatiello, Administrator, Council on Federal Procurement of Architectural and Engineering Services. We look forward to your testimony.

STATEMENT OF JOHN PALATIELLO, ADMINISTRATOR, COUNCIL ON FEDERAL PROCUREMENT OF ARCHITECTURAL AND ENGINEERING SERVICES (COFPAES), RESTON, VA

Mr. PALATIELLO. Thank you, Mr. Chairman, members of the Committee.

The Council on Federal Procurement of Architectural and Engineering Services is a coalition of the nation's leading associations in architecture, engineering, surveying and mapping. Under the SBA size standards, more than 99 percent of our members are from small business firms.

For some time the A&E community has been concerned about the practice of some firms sending drafting, data conversion, scanning, digitizing and other design and mapping services offshore to subcontractors.

Before September 11, 2001 there was discussion in the community about whether this was a good business practice and whether it was ethical. Like many other aspects of American life, things changed on September 11th.

In his State of the Union Address in January of 2002, President Bush said, "Our discoveries in Afghanistan confirmed our worst fears. We have found diagrams of American nuclear power plants and public water facilities, surveillance maps of American cities, and thorough descriptions of landmarks in America."

Since the September 11th attacks there has been an increased concern about this issue of offshore subcontracting. This is because access to the drawings, mapping data, and other work products of architects and engineers if in the wrong hands can be used for nefarious and destructive purposes.

For example, after September 11th GSA announced a new policy regarding access to the A&E drawings of federal buildings. A number of federal agencies revised their public web sites and removed maps showing the location of our critical infrastructure.

While these may have been prudent and necessary steps, if the work has gone offshore at the front end when these maps and blueprints were created, these actions could be the case of shutting the barn door after the horse has escaped.

Sending A&E work offshore raises a number of issues regarding access to data about the location of power plants, buildings, pipelines, water supply systems, underground utilities, and other critical infrastructure by individuals in foreign countries who have not been through any degree of security clearance, and where control of access to the data simply does not exist. It is occurring not only in commercial work but on federal contract work as well.

In your letter of invitation you asked for suggestions on policies that could help protect U.S. jobs from this practice. Let me offer a few.

With regard to A&E work we would urge a review of the potential danger to homeland security of sending A&E drawings and maps of critical infrastructure to offshore entities. As you know,

Mr. Chairman, the Buy America Act generally does not apply to services so that law does not help us. There is, however, potential help under the Service Contract Act. Action would be needed to close a loophole in that law because currently it actually encourages firms to send work offshore.

Federal contracts and subcontracts for services require the payment of the prevailing wage under the Service Contract Act, and as you may know many state and local governments have similar prevailing wage laws. But the act in its regulations apply only to contracts performed in the United States. Thus if Firm A is submitting a proposal to a federal agency and it will perform the work domestically, it is covered under the Service Contract Act. If Firm B is submitting a proposal and it will perform the work through an offshore subcontractor, it is exempt from the Service Contract Act.

This clearly undermines the intent of the law. It puts firms that propose to perform work domestically and its employees at a severe competitive disadvantage.

We would urge the Committee to investigate this loophole in the SCA and insist on a regulatory or legislative solution.

Firms that send work offshore do so to take advantage of lower labor costs. We would ask the Committee to explore if a firm were to send federal contract work offshore, take advantage of the lower labor rates, fail to pay the prevailing wage rate, pocket the difference, all without the client agency's knowledge is that a violation of contract clauses and does it subject the firm to fraud, criminal penalties, and possible federal contracting debarment?

We would urge the Committee's investigation of these questions.

I would also bring to your attention, Mr. Chairman, the fact that we are deeply concerned about the predatory nature of federal prison industries. How does that relate to the discussion today?

As the Committee knows from its hearing held last November in which I was honored to be able to testify, FPI is rapidly moving into services, particularly commercial services claiming that a 1930 statutory ban on the interstate commerce of prison products does not apply to services. So what is FPI targeting for its expansion? Commercial services, those where domestic prison labor performance would replace those activities that are going offshore. One of the services entered is mapping and digitizing of engineering and facilities management drawings.

Thus we are concerned that the trend towards offshore performance of A&E and mapping work results in a double whammy for U.S. small business—low wage competition from offshore sources, as well as unfair competition from federal prison industries. So we would urge Congress to prohibit federal and state prisons from engaging in commercial services in the open marketplace.

The recent trend toward offshore subcontracting is particularly troublesome to our small business member firms. They are not as able as large firms to set up offshore subsidiaries and negotiate teaming arrangements in foreign countries and we are concerned about the long-term impact.

Finally, we generally support free trade. We are generally resistant of government intrusion into our business affairs. For obvious anti-trust reasons only government actions, not professional or code

of ethics actions, can govern this. We would urge your attention, but we would urge you to proceed very cautiously.

I have several documents that are based on my testimony that I would like to enter into the record.

Chairman MANZULLO. Those documents will be made part of the record.

[Mr. Palatiello's statement may be found in the appendix.]

Chairman MANZULLO. We are being subjected to the tyranny of the bells. I understand it is three votes. It could be as long as 45 minutes before we come back, so we would indulge your patience on that.

This Committee is adjourned.

[Recess.]

Chairman MANZULLO. The good news is no more votes for the rest of the day.

Our next witness is Christopher Kenton, President and co-founder of Cymbic, Incorporated, a technology marketing firm based in the San Francisco Bay area.

Mr. Kenton, we look forward to your testimony.

Is your testimony on your computer there?

Mr. KENTON. Yes.

Chairman MANZULLO. However you want to do it. You may have to crank up the mike higher and pull it a little bit closer.

We look forward to your testimony.

Mr. KENTON. Thank you, Mr. Chairman.

STATEMENT OF CHRISTOPHER KENTON, PRESIDENT, CYMBIC, INC., SAN RAFAEL, CALIFORNIA

Mr. KENTON. Mr. Chairman, members of the Committee. While I do not presume to speak for the small business community I am grateful for the opportunity as a small business owner to add my perspective to the debate on the outsourcing of white-collar jobs.

Cymbic has been in business for 15 years in the San Francisco Bay area providing marketing services to large technology companies like Motorola, Intel and Dell as well as to startups like Ascend Communications, a company with whom we worked from the time there were five partners working in a garage until they were sold to Lucent Technologies for $24 billion.

We are all familiar with the process of creative destruction and Cymbic has even seen that process in our own business.

Two years ago we had grown to 35 employees earning more than $3 million a year in revenue, but in the wake of 9/11 we lost 95 percent of our sales and we were forced to lay off 90 percent of our people.

Our principles have had to face down both business and personal bankruptcy while losing our offices and most of our equipment. We have made heroic efforts to survive in the current economy. Part of our survival effort depends on developing new products and services to remain competitive. In the past we relied on our own software programmers to develop new products or we used one of our many development partners, but with literally no labor or capital resources available to us today we simply cannot afford it in these economic times.

Recently we defined a new piece of software that we wanted to develop for a new service. We took local estimates averaging about $5,000 to build that software. That may sound like nothing, but when you consider that every investment in our business is competing with a mortgage payment it changes the perspective.

Through an on-line search we were able to find a programmer in Argentina willing to develop our software for under $200. The software is now in the final stages of development and we will be offering it as a new service to our clients within the next six weeks. This represents a new opportunity for much-needed revenue for our company.

Our project pales in comparison to the million dollar outsourcing deals among large corporations but it highlights a lesser-known trend of overseas outsourcing among small businesses. My concern today is that what is becoming a growing cry for new regulations to deal with outsourcing on larger corporations will have an unintended consequence for small businesses like mine that use overseas development to create opportunities that would otherwise not be available to us.

Since many of my clients are large technology companies I am very well aware of the plight of workers who have lost jobs to L–1 and H–1B visas. Personally I strongly believe that we should not allow the immigration system to be exploited for the production of cheap labor, but I also believe that we should not allow trade policies to be exploited for preventing the development and patronage of offshore labor markets.

While the intended effect of this policy is the protection of American jobs, I believe the unintended consequences will be a stifling of opportunities for small business.

The potential loss of white-collar jobs is certainly a legitimate concern for Congress but before we consider new regulation I think we need to be honest about the root causes.

It is ironic that many of the technology jobs moving overseas today are the very same jobs that created the infrastructure that makes outsourcing possible. I think it is naive to believe that the loss of such jobs can be stemmed by preventing outsourcing. Today thousands of programmers are working on advanced systems like ASML which is the abstract state machine language to automate much of the programming done by humans today, creating the opportunity to outsource to the cheapest labor source of all, computers.

The simple fact is that the driving purpose of technology is and always has been since the creation of the wheel, the reduction and elimination of human labor. As technology eliminates time and distance it becomes ever more efficient.

While we try to reduce the impact of issues like outsourcing there are already systems on the production line ready to create the next wave of upheaval. This so-called creative destruction ensures that the mix and definition of jobs that comprise the American economy will continue to change unless we decide we want to forestall technological innovation altogether.

The process certainly creates new jobs with new technology as well as a burgeoning industry of training but whether it leads to a net increase or a loss in jobs I think is a huge unknown.

Since we are then forced to manage rapidly changing symptoms, I think that we need to act consistently according to a set of fundamental principles, and that is where I believe the true debate lies.

The first principle that I believe is important is to focus on policy that increases the parity in the standard of living among nations rather than building walls to prevent encroachment on our own standard of living.

I do believe in a roll for the government in many areas of regulatory policy, but I think the creation of trade barriers to prevent outsourcing would be costly, problematic and ineffective. I would rather see efforts geared toward leveling the playing field among competing nations.

There are serious issues that make outsourcing unnaturally attractive including the manipulation of currencies by foreign governments, the suppression of workers rights, and the absence of environmental regulations. Although the gap between the standard of living in other nations and our own has created an opportunity for cheap labor today, I believe that focusing our trade policy on eliminating those gaps provides the greatest benefit in the long run. I believe that approach is consistent with our role as a world leader, in this case leading other nations to a better standard of living rather than simply focusing on protecting our own.

The second principle I think is important to consider is differentiating between outsourcing for organizational efficiency and outsourcing for innovation. I think we need to explore the differences between large and small businesses and how regulations may cause unintended consequences. Small businesses provide much of the energy in our economy, driving innovation and pushing larger businesses to evolve. Small businesses like mine also play important roles in the success of larger businesses by providing critical support services and expertise.

While I can see problems and indeed some abuses among larger corporations pursuing ever-lower costs and higher margins, I think any policies designed to mitigate those abuses should be examined for their impact on small business.

Larger companies use reduced development costs in global labor markets to improve margins but small companies may use the opportunity to innovate in ways that would otherwise require increasingly costly investment capital.

Mr. Chairman, members, thank you very much for your consideration.

Chairman MANZULLO. Thank you very much.

[Mr. Kenton's statement may be found in the appendix.]

Chairman MANZULLO. Our next witness is Paul Almeida, President of the Department for Professional Employees, AFL–CIO. We look forward to your testimony.

STATEMENT OF PAUL ALMEIDA, PRESIDENT, DEPARTMENT FOR PROFESSIONAL EMPLOYEES, AFL–CIO

Mr. ALMEIDA. Mr. Chairman, members of the Committee, thank you for the opportunity to testify today on behalf of the Department for Professional Employees of the AFL–CIO.

We are very alarmed at the recent trend of outsourcing of white-collar and information technology jobs. This trend which is clearly

accelerating is affecting workers at all levels and education levels. Technology companies are laying off American workers with high paying, desirable jobs while they add thousands of jobs overseas.

The surge of outsourcing can be traced to the explosion in the last five years of H–1B and L visas which saw in excess of one million foreign guest workers enter the U.S.. As they developed their core competencies in high tech and other fields they have returned home and taken these and future white-collar and other jobs with them.

Based on a survey of the world's 100 largest financial service firms, Deloitte Research found that these companies expect to shift $356 billion worth of operations and about two million jobs to low wage countries over the next five years.

If these trends continue to accelerate we will see even more dramatic job loss and wage erosion affecting workers throughout the income scale. This will severely impact the wages and job security of American middle class in addition to depriving state, local and federal governments of tax revenues.

Policymakers must recognize and acknowledge the severity of the problem and act quickly to stem the job loss.

When manufacturing jobs started moving offshore we were told not to worry, that the U.S. comparative advantage was in services and high tech. We were assured that in the new global division of labor it was both natural and benign. We would keep high paying, high skilled jobs while the developing countries would do the actual work of making things. For decades American workers were told to simply acquire more skills and education in order to succeed in the U.S. job market.

Now engineers with Ph.D.s and recent college graduates alike are hearing that they are too expensive, that their jobs can be done more cheaply abroad.

Federal Reserve Chairman Alan Greenspan has warned that at almost five percent of GDP the current account deficit is dangerously high and unsustainable.

There is another deficit that is a direct result of outsourcing and that is the social security deficit. As fewer and fewer workers are paying into the system, outsourcing will bring the program further into harm's way at a date much earlier than projected. The outsourcing is not spurred by a lack of skills or education here in the United States as 2003 saw record numbers of college graduates at all levels.

All these factors taken together should be setting off alarm bells for Congress and other policymakers. If an advanced degree and years of experience and excellent work habits are not enough to land a job and the U.S. advantage in service and high tech has seriously eroded, what does the future of work look like for the United States?

If these cost-saving job shifts are taken to their logical extreme, even American corporations should be wondering where their future consumers will be located and how will they pay for the goods and services that are offered?

Just as the labor movement has fought hard for trade and tax policies that will help the U.S. manufacturing sector thrive and

survive, we also need to take a close look at the politics that impact the service sector and information technology jobs.

First, we should make sure that our tax policies are consistent and coherent at the national, state and local level. Many of the companies rushing to outsource jobs have received and continue to receive tax breaks negotiated on the assumption that they would support local job creation. We need to target tax relief to companies that support their own communities with decent jobs.

Second, we can and should ensure that government tax dollars are spent to support strong communities and jobs domestically.

Third, we should support both transparency and openness on the part of companies that are outsourcing and more research to understand better the scope of the problem.

Finally, we need to reexamine our trade policies to make sure they are reflecting the concerns and interests and American workers as well as U.S.-based corporations.

In conclusion I would like to thank the Committee for holding this hearing and inviting me here today to testify. I look forward to working with you as we craft effective policy responses to the very great challenge facing us in this area.

Chairman MANZULLO. Thank you very much for the excellent testimony.

[Mr. Almeida's statement may be found in the appendix.]

Chairman MANZULLO. We are done with votes for the day so what I would like to do is have the members limit their questions and responses to five minutes. Then we can move through several rounds so we will all have an opportunity.

Mr. Almeida, I was looking for "the" question to ask to everybody on the panel and you asked it. Here is the question.

If these cost saving job shifts are taken to their logical extreme, even American corporations should be wondering where their future consumers will be located and how they will buy the goods and services that are offered. That is the question.

Who would like to take a stab at that?

Mr. KENTON. One of the points that I made is that I think there are two ways to approach the policy. One is to focus on protecting ourselves from encroachment and the other is to try and use our policy to have an effect on the issues that are making the labor so cheap in foreign countries.

In some areas of the world there are already shifts in labor organization. I think it was in Peru recently where there was a very large protest among service workers.

The first thing I would say is I think it is naive to believe that we are going to maintain a standard of living that is so high above the rest of the world, and that the rest of the world is not going to work passionately to try and attain it. I think that as they do attain a better standard of living they are going to go through the same shifts that we have made, where laborers as they see an increase in wages, as they see greater education, are going to make greater demands on their own governments for more freedom, for more possibilities, and that in turn I think, although it is a long term process, will be the future markets where we are selling our goods as well.

Chairman MANZULLO. Anybody else want to try and tackle that?

Mr.MEHLMAN. Yes, thank you, Mr. Chairman. A couple of thoughts.

First, one might remember in a bit of U.S. history as some jobs were moving from the North in the South in some areas such as textiles, there were similar questions asked. How will the Northern economy survive and is this something that the overall union can allow? Of course in the end the success of all states in America proved greater because they were open to one another and because they would trade with one another and they would take advantage of their comparative advantage.

Mr. Almeida talked about comparative advantage and he said that we had always been told that our comparative advantage is in services or in technology. I do not think that is quite right. I think our comparative advantage is in innovation. I think it is in the ability to be more productive, to apply technology and creativity to whatever areas we are in.

For one, I am not prepared to and I know Mr. Chairman you are not prepared to write off manufacturing. I think we can and must retain a core and a base of manufacturing, and I think the key to doing so is being innovative. In fact, next Wednesday we are having, as part of the Secretary of Commerce's Manufacturing Initiative, a roundtable bringing in some of the national thought leaders including someone else from the AFL–CIO to examine the question of the future face of manufacturing: Manufacturing 2020. What do we need in terms of policies and resources so that manufacturing can continue to thrive and flourish?

To do so it seems that we have to leverage the comparative advantage that my testimony describes that we have enjoyed historically.

Chairman MANZULLO. Let me try to answer that question for you. If you take a look at Roll Call, we have inserted provisions into the defense bill, and the Pentagon is fighting us tooth and nail on it, big time. I am at 11 percent unemployment. Nancy Johnson is being cored out, Rob Portman is being cored out. The manufacturing base of this country is being systematically destroyed and the Pentagon is a part of it. I have said that publicly and I am going to stand behind it.

If you take a look at the provisions that have been put into the defense bill as it came through the House, it increases Buy America provisions from 50 to 65 percent so that anything that is purchased by the Department of Defense for military use has to have at least 65 percent U.S. content. OMB and Pentagon are fighting us on it.

We added into the defense bill the fact that we think that tires are strategic. We have to have a base in this country that will make tires. The Pentagon and OMB are fighting us on it.

We added into the defense bill provisions that would add to it some type of language saying if you have a new acquisition over $5 million and you need to buy a machine tool, that tool has to be made in America with at least 70 percent U.S. content. OMB and the Pentagon are fighting us on it.

Also that you have to have the tools and the molds that are made in America. OMB and the Pentagon are fighting us on it.

I think we have to take the $240 billion of procurement in this country and use it as a tool to level the playing field.

Northrop Grumman, one of the prime contractors for the F–35, instead of going to Ingersoll Milling in Rockford to give them a contract for a sophisticated drilling machine told me to my face there is not a company in American that can make the type of machine that we can make in Spain. So U.S. taxpayers' dollars are going to Spain on the F–35, the Joint Strike Fighter. Ingersoll filed bankruptcy. There is one company left in America that builds those big machines and that is Cincinnati Milacron and they are hanging on by their nails.

The guys that make the orders do not even know what is made in America because at the same time that Northrop Grumman said Ingersoll cannot build their machine to do the sophisticated drilling, Ingersoll had a contract with Lockheed Martin to build the very same sophisticated drilling machine.

That is what is going on. The message that we would like you to bring back to the White House and to the Secretary of Commerce is let us start with the Pentagon.

We had Steve LaTourette who got into a big fight with the Pentagon when they went to Germany to buy a million dollars worth of topping. He got in a dragged-out battle with them. It all started here two and a half years ago when this Chairman insisted that the Pentagon was not going to buy black berets from Romania, Sri Lanka, India, South Africa and China. There are 614,999 Chinese-made black berets rotting in the warehouse in Mechanicsburg, Pennsylvania because I put down my foot, and this panel did.

Now if you want to bring back American manufacturing, let us start with the orders. People are looking for orders. The Pentagon has got all kinds of orders. But they have to stop sending those orders overseas. That is the message that we would like you to bring back to the Secretary.

We commend the Secretary and Grant Aldonis for the great work that they are doing in trying to get their arms around this whole issue of manufacturing. We look forward to working with you on that issue.

Thanks so much.

Mr.MEHLMAN. Thank you, Mr. Chairman.

Chairman MANZULLO. Ms. Velazquez?

Ms. VELAZQUEZ. Thank you, Mr. Chairman.

Mr. Mehlman, companies that outsource jobs normally seek places where labor laws are weak so that they can pay lower wages. You saw it here, you heard it here. That is what our witnesses are telling us.

If this is the case, why in the recent Chile and Singapore agreements did the Administration find it appropriate to pursue, and I will quote, "enforce your own labor law policy."

As stated in the agreement, each country commits its signatories to enforcing its own domestic labor law. It does not actually commit the signatories to have labor laws in place or to ensure that the labor laws meet any international standard.

Are not these kind of policies just inviting companies to outsource even more American jobs to this country where they can

exploit their labor force regardless of if it is white or blue-collar jobs?

Mr.MEHLMAN. Thank you for your question.

I may take issue briefly with the predicate in terms of the companies that I have spoken to are not looking for nations to outsource to that have weak labor laws. They are looking for where they can get the best value, the best return on investment or bang for their dollar.

There are nations with worse labor laws than, for example, even India, but the reason that businesses outsource, the reason that manufacturers and others do is because they are trying to invest their dollars on their core and strategic areas, and if they can get equal or higher quality information technology service work done then that is where they are going to go.

So first, I do think it is, companies are targeting where they are going to get the highest quality.

First in that regard it means as a competitiveness issue we need to make sure the quality of the American worker and the tools and technology and the talents that we help them have are better.

Ms. VELAZQUEZ. Sir, can you tell me why labor laws were included in the Jordan agreement and not on this one?

Mr.MEHLMAN. I cannot.

Ms. VELAZQUEZ. You cannot.

Mr.MEHLMAN. No.

Ms. VELAZQUEZ. Mr. Almeida, would you please comment on my question to Mr. Mehlman?

Mr. ALMEIDA. I am not quite sure——.

Ms. VELAZQUEZ. I am asking him if we say that companies in America are outsourcing jobs in foreign countries because labor laws in those countries are weak, and therefore then they can pay lower wages, I asked him why is it that the Administration in their negotiation of the Chile Singapore agreement did not include labor laws, therefore inviting companies to go and outsource jobs there.

Mr. ALMEIDA. I think you have answered the question. Because it just makes it further cost effective for them to do it without any labor laws.

Ms. VELAZQUEZ. Thank you.

Mr. Mehlman, will you please submit to this Committee a written answer as to why labor laws were included in the Jordan agreement and not on this one?

Mr.MEHLMAN. I can tell you what I will pledge to try to do. I will try to get the United States Trade Representative and the International Trade Administrator, Grant Aldonis, to answer the question as best they can. I would not want to offer guess work similar to Chairman Manzullo's last comment Secretary Rumsfeld has proven a readiness and facility at speaking for himself, and I will try to defer to the experts. But yes, I will do my best to get you an answer.

Ms. VELAZQUEZ. Mr. Mehlman, on January 31, 2003 Business Standard published an article entitled "Bush Party to Raise Funds Via India."

Can you share your comments on the irony we have here? As we discussed, the problem associated with job outsourcing especially in the white-collar sector, the Republican party is conducting

outsourcing itself by contracting telemarketers in India to conduct its fundraising.

Mr.MEHLMAN. I am not familiar with that article or the facts therein. I would expect with respect to the way the article was phrased, after the 1996 elections and a lot of the foreign contributions that clearly happened in those elections, from the contribution perspective you are going to see greater caution by both parties in the 2004 election cycle.

With respect to where work is done, I am not aware of how——.

Ms. VELAZQUEZ. My question is not about contributions, sir. My question is about outsourcing telemarketers in India.

Mr.MEHLMAN. I am not aware of the Republican National Committee's choices of vendors and whether they are U.S. or not U.S. based.

Ms. VELAZQUEZ. Just tell the Administration it does not look good.

Can you comment, Mr. Engardio, can you comment on the fact that most economists believe the offshore outsourcing trend is not substantial enough yet to have a big impact on the broader U.S. economy?

Mr. ENGARDIO. For one it does not seem to be that big in terms of the total U.S. job force, as far as we can tell. We can see it in terms of—Are you talking about physical transfers of work that we otherwise would have had here? We can see it in a few professions like information technology support, which is a big profession. But that is one area where jobs are declining in the United States, where wages are declining and hiring is increasing abroad. But that is a very small part of the U.S. job force.

So I am just saying that we consulted about three or four labor economists of various stripes and nobody has really looked into it and it is not measurable yet.

So when you are seeing these big numbers that Forrester is putting out and others, this is real speculation. These are projections over ten years.

So it has not hit yet. It has not hit in a measurable way yet. That is why we are cannot tell you.

Ms. VELAZQUEZ. Thank you, Mr. Chairman.

Chairman MANZULLO. Mr. Schrock.

Mr. SCHROCK. Thank you, Mr. Chairman.

The Chairman pretty much said it all. I like the way he says it and I would probably have said it the same way. Let me make a couple of comments. I think at the start we talked about our trading partners. Our trading partners are really not playing by the rules and I believe Secretary Mehlman said it, free trade yes, but fair trade. And that is clearly not happening.

I think sometimes up here on Capitol Hill we create laws and regulations that have unintended consequences. I think Mr. Kenton mentioned it.

By the way, are those your children?

Mr. KENTON. No, nieces and nephews.

Mr. SCHROCK. They are neat kids. You have the baby in the back. That is a nice sound, believe me.

Chairman MANZULLO. Mr. Schrock, could you suspend for a second?

Mr. SCHROCK. Sure.

Chairman MANZULLO. We have some very special guests here. I would like to know, these three children over here, is your father one of the witnesses testifying here? Your nieces and nephews here. Okay. And we have the little guy back there, and that is your family. Very nice. We are glad to have you here as our special guests.

In fact these two nieces here, would you like to come up here and have a seat? And the nephew. Would you like to sit up here? No questions, but you are welcome to come up if you like.

[Laughter]

Any time you want to come up you can do that. You are welcome to do that.

We are going to start your clock all over again.

Mr. SCHROCK. I think we needed to mention the family because I am sure Christopher Kenton would not be nearly what he is without his family, is that right?

Mr. KENTON. Absolutely.

Mr. SCHROCK. You were saying unintended consequence, and I think sometimes the things we do up here create that and that is why we have half the problems we have. But free trade, fair trade. I would certainly agree with that.

And clearly we are going to be facing competition. It is not going to end. We have lost the manufacturing sector. I think the only thing we do now is build war machine and cars and that is about the only thing we do. As you heard the Chairman say, the DoD wants to buy offshore and I am really opposed to that. I just do not think that is a good thing.

Now if a certain country is the only country that produces a widget that needs to go in a tank somewhere, that is a different story, but that is probably not going to be the case.

I think the problem with that is if we get into conflict with a country that makes that one widget that makes our war machine go they are going to say we are not going to give it to you because we do not want you fighting the war. So we have to be very, very careful how we do that.

These are probably three of the best testifiers we have ever had in here.

[Laughter]

They are what it is all about.

But you know business is not the bad guy. It is the regulators, and I mean like us. We are the ones that create this stuff and then we have some bureaucrat downtown trying to enforce these things. I think that is what is driving a lot of this stuff offshore.

Yes, we are going to face competition. Are the problems with the trade policies we have? Probably. The regulatory policies? Probably. The tax system? Absolutely. We are just messing over these businesses something fierce with the tax policies we have. Until we change that this is not going to change.

Is it the high cost of labor? We keep talking about labor costs. Mr. Almeida, maybe you can comment on that.

I have a feeling a lot of these countries are going, I know they are, they are going to countries where they can pay less, they know they are not going to have strikes, they know they are going to have a lot of these different things. Now right or wrong, and it is probably wrong, but that is what they are doing. Because what it is, they want to go to a place where they can produce a product so we in America can buy it as cheap as we want. I am as bad as the next guy. I would go to Wal-Mart and look to see which one is cheapest. I think that is just human nature.

But at some point we have to get our hands around that so we can bring this business back to here, and we in Congress have to make sure we are business friendly. That we are making sure these people want to stay here by the laws that we create.

Every law we create has unintended consequences. Every time we pass a law up here Americans and business loses more and more of their freedom. We have got to stop doing some of that stuff.

So until we are willing to get our hands around it I do not know how we are ever going to solve this thing. I do not know if you want to comment on that or if you just think I am a madman, but that is the way I feel about it. We have got to do some changing, we have to do it up here.

From these kids back, these are the people, this is where it has to be done.

Chairman MANZULLO. Mr. Engardio?

Mr. ENGARDIO. One observation. We are talking about service jobs. A lot of these jobs I do not believe are unionized in the United States to begin with.

Mr. ALMEIDA. That is not right.

Mr. ENGARDIO. Okay.

One thing I want to point out, when we talk about some of these things like some very sophisticated semiconductor work is being done in India and companies are opening up theses R&D facilities. I have gone to Silicon Valley many times. I have gone to Bangalore, I have gone to Singapore. When I go into U.S. companies, in the 1990s you could go into Sun Microsystems, Intel, HP, you walk into the R&D Division and they are two-thirds Chinese and Indian. Silicon Valley, there are a lot of studies on how many businesses have been started up by Indian and Chinese immigrants, including Taiwanese. About one-third to two-fifths of tech startups in the United States in the Silicon Valley are by Chinese and Indians.

What we are talking about is why? Is this is because Silicon Valley has had a unique environment in the world for a long time that no other country could replicate? The best world talent came here because it was the best environment to do R&D and do creative work.

What is happening now is that other cities around the world are finally starting to replicate some of this environment. Bangalore is starting to get there. In many areas it is getting attractive. A lot of the engineers that we spoke with said, "I would have gone to the United States five years ago. I would have gone to the United States to work for TI. I would have gone to Seattle to work for Microsoft. But now they are coming here, I do not have to."

These are people that would have gotten H–1B visas before. So this is what you are dealing with. It is the environment getting better overseas.

That is one thing if you want to talk about the implications.

Mr. SCHROCK. Mr. Chairman, I know my time has expired, but it boils down to the education system. Our education system has been dumbed down so much we are not creating these geniuses that can do this sort of thing. Half the children in the area where I represent, Virginia Beach and that area, the valedictorians and salutatorians of those high schools are of Asian descent. It is because they come from a culture where they promote education and the parents make sure the kids get the education. We do not. We just expect our society to take care of itself and that is not going to happen.

One more quick comment.

Were you listening to all the different professions that have gone offshore?

Mr.MEHLMAN. Yes.

Mr. SCHROCK. Did you mention movie makers?

Mr.MEHLMAN. I did not mention movie makers.

Mr. PALATIELLO. I mentioned it as one that could still be here. There are certainly movie makers in India.

Chairman MANZULLO. They are going to Canada.

Mr. PALATIELLO. Canada and——.

Mr. SCHROCK. Some of the garbage the movie makers are making, they can go as far as I am concerned.

Chairman MANZULLO. All right. On that note——.

Mr. SCHROCK. On that note.

Chairman MANZULLO. They can make some beautiful movies in the American Virgin Islands. Dr. Christian-Christensen.

Ms. CHRISTIAN-CHRISTENSEN. Thank you. I want to make a point about that too, but first I want to thank you Mr. Chairman and our Ranking Member for this hearing. As usual our Committee is ahead and being very proactive on an issue that really we have not begun to feel the full impact or even a little of the impact yet.

Globalization has its pros and cons and we on this Committee do have a responsibility to look at it and the potential impact on small businesses and also small jurisdictions and see what can be done to maximize the positives and minimize the negatives.

In my district it presents some unique challenges for me and Guam, who also sits on this Committee, who rely on duty-free status to be competitive. But also in the case of outsourcing we find that a lot of the outsourcing that is being done bypasses jurisdictions like ours which have incentives programs to attract the investment but meet all of the U.S. standards. Which because of our size has very, very little impact on the U.S. economy but has tremendous positive impact for us.

So I am saying that to say that apropos of unintended consequences as we look at outsourcing to foreign jurisdictions we do not want to be lumped into that. We are American citizens and we are very small jurisdictions and outsourcing which has not really gotten hold in our territories as yet could benefit us. And as I said, we are not foreign, we are U.S. jurisdictions.

The other concern that I would have about this is with regard to the H–1B and the other work visa programs. Relying very heavily on that as we have done in recent years and not paying enough attention to ensuring that our public school system is given what it needs to prepare our own citizens for these jobs. So I agree with Mr. Mehlman and some of the other panelists who spoke about that.

My first question would be, I guess I would direct it to you, Mr. Mehlman. Given the fact that some of our more educated people in the field of technology are finding themselves without jobs, and recognizing that we do have to improve the educational system and the training so that people are able to take these jobs, do you think that will have an impact on the outsourcing trends that we are seeing ? Would the jobs tend to stay here if we had the trained workforce given that most of the incentive is really around the salaries, the lower salaries in other jurisdictions?

Mr. MEHLMAN. I think that is the $64,000 question as it were. What do we do in a world with global competition—By the way, I was hoping you were going to ask a question that was going to merit a field hearing in your district.

[Laughter]

Ms. CHRISTIAN-CHRISTENSEN. We are working on that. We are.

Mr. MEHLMAN. I have family there and have spent a substantial amount of time there and I share your sentiment, that I think it has probably been overlooked and is a natural place as a way to service a lot of businesses and have better economic growth than it has had.

With respect to the question, my sense first and foremost is to be competitive yes, improving the education system it is not just more degrees. It is higher quality, higher productivity, higher flexibility, and higher creativity.

One example, albeit it is a little off the IT services space, we are recently seeing IBM, one of our bigger companies, successfully getting semiconductor contract manufacture work back into New York. Reported in Business Week, I do not think by you, Pete, but they brought it back to New York.

I called them because my office spends a whole lot of time trying to focus on what do we do to get just those types of results? What IBM is doing is they are taking their smartest engineers and they are saying you come and you bring your chip design work here and we are going to help you improve it and we are going to help you make it better.

They are not lower cost than the Taiwanese where they were taking the work from, amazingly, but rather they are adding a value add based upon, IBM hires the true best and brightest, but based upon values that only this American company and only these American workers may be able to add. They are bringing jobs back to the United States, high tech manufacturing jobs, based upon added valuer and added skills.

My sense in the IT work space is there will be some areas, call centers may be one example, that are going to be a real challenge, and there are going to be a lot of other areas where we are going to make sure if our people do have the skills and do have the tools, that they are able to out-compete because they are able to deliver

value that nobody anywhere else regardless of their cost is able to add.

Ms. CHRISTIAN-CHRISTENSEN. Thank you.

I see my time is up, Mr. Chairman.

Chairman MANZULLO. Thank you.

Mr. Beauprez?

Mr. BEAUPREZ. Thank you, Mr. Chairman. This has been a great hearing.

Like many of the issues we get into, I am not sure that there is a singular simple solution, but certainly we have identified the problem.

It seems to me, and this is not only from testimony today but in visiting with some of the businesses in my district and in my state, which is Colorado, in and around the Denver area, a fairly high concentration of some high tech companies. Many people that have gone through serious downsizing. White-collar folks out of work. The issue of visas has really come up just recently. I think we do need to take a serious look at it Mr. Chairman, within this Committee and within this Congress. What is an appropriate level.

But in thinking about the situation in total I go back to one of my basics and that is that you usually get what you incentivize for.

I would submit to this Congress, certainly this Committee, the question of whether or not we have truly incentivized for jobs in this country. To just put it right on the table. Is that really what we want? If we really want that, have we done a good job of laying those incentives out when I think most of us understand health care cost is increasing 15 to 20 percent a year. Somebody has got to pay for that.

Taxation, we know what the levels are. I think somewhere I read that the United States business tax is about the second highest in the world. Second highest.

The cost of complying with taxation, I read recently that, anybody can estimate whatever they want, but the number I see is somewhere between $200 and $300 billion a year, the B word, $200 and $300 billion just to figure out how much you owe before you pay it.

I read just this morning, that the cost of government regulation, is about eight percent of the gross domestic product, roughly $843 billion a year.

I heard education talked about a lot. I think it is fair to ask the serious question, have we really, as a society, incentivized the kind of education requirements and advanced degrees that are going to be attractive for the kind of jobs that we are talking about today.

Sadly, I come back to a statement that one of my friends in my district told me when I looked at his business, about 25 employees, all high tech, all well paid. The vast majority were Indian or African here on visas. I said why do you not hire local folks? This was now a couple of years ago, and I am quite certain that the job market has changed, but he said I cannot get qualified applicants. A very sad indictment on our education system again. When we were pushing kids out of our local school system that looked just like these folks, genetically I am sure just as good or superior perhaps to those folks, capable. But we were not giving them the education.

So I come back to you all and looking for that hard and fast recommendation. Where is it? I have not heard a serious one. We have to adjust the tax code, we have to adjust the regulation, we have to address some of the hard issues that are out there, but I think if what we really want is what my granddad came here for, an opportunity to get a really good job and keep it and produce something so you can own something for yourself and your family and pass it on, the old American dream stuff, I am not sure that we are incentivizing that, especially as we look at the global market. If we still believe in the same foundation.

So I was going to address that kind of subject rather than a question, Mr. Engardio, to you. I think maybe you have as broad a perspective as anybody.

Mr. ENGARDIO. I can tell you what companies tell me. One is that there seems to be a real mismatch in the kinds of skills that our universities are producing and to what they could really use for that kind of pay. If you have a chemical engineer we do not want somebody that is going to do process engineering. They do not want them to do the mundane parts of that. They want somebody who can manage an R&D project, that can supervise international staffs, that can also be broad enough to start looking into biotechnology applications and things like that. They cannot get—We have a limited pool of chemical engineers that are not very well allocated in this country and they say——.

And it applies to other professions. It goes to architectural services. The graduates coming out of school are doing still kind of commodity kind of work when they should be doing much more.

So now you are comparing people doing work that can be replicated very easily overseas for a tenth of the cost. There is just no contest.

On the other side of it, I do think it has gotten to the point now where companies, it has gotten beyond just skill shortages in some areas and where it really is coming down to just huge cost discrepancies in wages. In IT support. There are a lot of people getting laid off that cannot find work that are very, very good. They are just paid three times more, five times more than a comparable Indian with maybe a doctorate degree.

I think it is just a painful transition that is going to occur in some of these fields. I do not see any way out of it.

Mr. BEAUPREZ. That is a fair answer.

I would just say, Mr. Chairman, I think we have really got to focus as a Congress and as a government on what do we want the end product to be. If we want our corporations and our employees to be as competitive in the global market as possible then our laws and our regulations ought to reflect that.

Chairman MANZULLO. I appreciate that.

Mr. Miller?

Mr. MILLER. Thank you, Mr. Chairman.

This is the second Committee hearing just like this or almost just like this that I have attended in the last month. I am also a member of the Science Committee and within the last month we had a Committee meeting on how to prevent or what to do about the outsourcing of manufacturing jobs. The concern of all the witnesses at the Committee was that we did need to have a manufacturing

economy, we did need to make things. We could not all just give golf lessons to each other. That our economy could not possibly prosper that way. But the witnesses also said we very badly need a policy on how to protect manufacturing jobs, how to develop new manufacturing jobs, how to protect the ones that we have if we can protect them, and that we did not have anything resembling the policy.

To paraphrase the old country music song, if it were not for bad policy we would have no policy at all.

Mr. Engardio, do you think we need a policy? Do we have a policy?

Mr. ENGARDIO. One of the conditions for my magazine, journalists often do not come to these Committees but one rule is we are not supposed to be advocating policy. We can spit back what people say.

Mr. MILLER. Without advocating one, do you know one when you see it?

[Laughter]

Mr. ENGARDIO. Gosh, it just seems that it comes down to education. In terms of restricting the forces of what is driving this globalization of skilled work, it seems like it is so beyond the control of policymakers. Also the cat is out of the bag. It has gotten to the point where an EDS, an IBM, an Accenture has no choice but to hire thousands and thousands of Indians in order to compete because the cost structure of this industry has now changed. Permanently, I believe. So it is very hard to go back the other way.

It is like manufacturing. Once it got to be, a few manufacturers went out to make the garments, nobody else could compete with them. Everybody had to do it to stay in business. Productivity only does so much. I think that is kind of where we are in some of these areas.

Mr. CHALLENGER. You could offer tax incentives to companies for training their people, if you begin to think of education as not something that ends at 22 but something that is lifelong, then to offer companies that retrain their workers and continue to upgrade their skills, then those companies are going to make more efforts in that direction.

Mr. MILLER. Mr. Challenger and Mr. Engardio, you said much the same thing and I think several of the witnesses mentioned training. Mr. Engardio, you mentioned the mismatch between what colleges or universities train for and what the job needs are in the market.

Probably the place in our economy where those job skills are matched to the specific training is at technical and community colleges.

Mr. ENGARDIO. Exactly.

Mr. MILLER. Among the first calls that an employer makes in the community is to the technical or community college to say this is how many folks we need, these are the job skills they need, can you develop a curriculum to deliver that workforce with those very skills?

Does it make any sense to you at all to cut funding for vocational training at technical and community colleges?

Mr. ENGARDIO. I do not know enough about it.

It is clearly where the problems are happening I think are at the polytechnic level, community college, as you say. The premier universities are dealing with the upper end of the talent pool. These guys are going to be okay. They are going to adjust. They are going to be creative. It is the lower levels where you hear that the curriculum is just not up to date. Many companies say they keep going to these schools and saying you have to change.

I cannot give you an answer as to whether funding is adequate or not, but that is where the problem is.

Mr. CHALLENGER. It also may very well be not just the Asians and the Indians and the Africans who are creating the businesses, running Silicon Valley, the new entrepreneurs. It is the Indian Americans and the Chinese Americans who are creating those businesses and then creating the jobs and the infrastructure that results from that.

Mr. MILLER. Mr. Kenton?

Mr. KENTON. Yes. First of all, I appreciate the tremendous hospitality that the community has extended to my family. It made a trip to Washington very personal.

I think one of the issues is that the so-called process of creative destruction consumes technology and training so fast. Among the technical workers with whom I work it is a constant process of having to go out and learn the latest technologies. It is a process that does not stop. I think there are always going to be gaps between the development of the new technologies and the ability of the school to catch up. Almost by the time they catch up they are already moved on to something else. So I think there is a fundamental problem there.

To get back to something that Mr. Schrock said, I think there is also a fundamental problem in regard to just leadership of what is it that we are doing? If you look at why would programmers be involved now in creating software that is going to make them obsolete in ten years? The reason for that is, they are paid for it. If you are able to go out and have a job on the cutting edge that is going to assure you a high salary and benefits for a certain period of time. If you happen to be one of those lucky people that creates one of those breakthrough technologies that inevitably makes you obsolete, you get to cash out of the system because you make millions of dollars and it no longer matters to you any more.

But I think that what that process does it is shows a lack, I think, of a fundamental sense of direction. I think we have abrogated a lot of our sense of vision to unfortunately marketing. Everybody wants to go out and make money as fast as they can, and that is essentially the structure that we have built.

Mr. MILLER. Mr. Almeida?

Mr. ALMEIDA. The answer to your question is obvious, that there should be no cuts in the funding.

The small businesses have to rely on the community colleges and the technical pools for their pool of workers, it is clear.

Chairman MANZULLO. Mr. King?

Mr. KING. Thank you, Mr. Chairman. Thank you for holding these hearings today and I would like to thank the panel for their presentation.

As I sit here and listen to your remarks and the questions and comments of the other panel members and of the Committee a word pops into my mind that I have not heard involved with the educational system in a long time, and that word is meritocracy. There are a few places in the world where they do promote such an idea, and that used to be the American creed. Where people who actually produced were the ones that got ahead, and they stood on their own merits regardless of individual rights, individual merit. There has been some reference to that today in that we are seeing folks come from other parts of the world that are competing at an advantage within this environment in this country.

One of the statistics that I would point out would be that in 1995 the Asian composition of the student body at University of California at Berkeley was 12 percent, by design, by formula. And a short five years later after Proposition 209 was passed, that composition went up to 46 percent.

Now you can do the math on that. To me, it looks like there were a lot of folks that were not getting the opportunity that they might have otherwise if it had not been for that, I will call it a goal system because we do not use that other word even though it in effect is the other particular moniker.

So I would go to a meritocracy. Then eliminate preferential treatment. Put people out and give everybody equal opportunity. If they can succeed by equal opportunity they can chase their dreams and their goals.

The other part of this economy that strikes me as being something that I have not heard anyone frame either, we are talking about manufacturing jobs, industrial jobs. It has been the heart of America's economic might since the inception.

As I watch the jobs transfer out of the United States, and we have talked about that considerably here today, the lower skilled jobs are going to the developing countries and they will, as you said, continue to accelerate their effort to get a larger and larger share of that market.

Our salvation I do not think is in trying to get any of those jobs back. I think there is some merit in seeking to slow the loss of those jobs.

The other side of this is the high tech industry where we need investment capital, research and development, high tech education. That is where the new jobs, the high paying jobs are going to come from.

So if we can expand this, we can slow the loss of the low skilled jobs, we can accelerate the creation of the high skilled jobs, that is probably the best we can hope for within this environment for us to compete against the rest of the world.

So then it brings me to that single solitary solution that Mr. Beauprez remarked upon. There probably is not one. But I think there is a formula that helps us substantially. I would pose this question to I think Mr. Mehlman. That would be if we could discount all of the products that we export overseas by 22 percent, could you speculate on the impact of the loss of those low skilled jobs that are going overseas?

Mr. MEHLMAN. I guess if the question is if our products going overseas were less expensive relative to the markets in which we

are trying to sell them, we would undoubtedly have more success in selling those products.

One of the things I think is currently being reported on by Business Week and others is as the dollar's value is not what it was a year ago, we are seeing our manufacturers and some of our exporters having greater success in selling their products into some markets where a year ago or two years ago our products were relatively priced out of the range of customers.

Mr. KING. Have you speculated in your own mind as to which policy I am addressing when I say 22 percent discount?

Mr. MEHLMAN. I have a guess after visiting with Mr. Rumsfeld and Mr. Zelnick. I am off to see Secretary Snow.

Mr. KING. That would be of course a national consumption tax where we have an embedded cost of 22 percent in all of our export and our domestic products. And our exports also hinge upon one or two percent. That is the margins on when we are promoting products overseas. One or two percent makes a significant difference in all of these large markets, and yet we have the embedded costs of 22 percent in our taxes.

Mr. Beauprez mentioned that I think the number was around $300 billion, the cost of just getting prepared to pay the federal taxes. But nobody is talking about the disincentive that is in place because of the cost of the taxes. There are millions of people in this country that make decisions day by day that is, "I worked hard enough, I risked enough capital, I am not going to go out another hour this week or this month because the federal government takes too much and consumes too much of our productivity."

If you add those dollars up that come from the dollars of what we have to pay the IRS, what we have to pay to force compliance, what we have to pay other folks to do our taxes and what we ourselves take out of our productivity to keep record of all of that, then the disincentive, I am going to tell you I believe that that cost of our federal tax system is over a trillion dollars a year. And what a huge anchor we could cut the chain to and how that would help so much our export markets. It would also incent the formation of capital, research and development, high tech, higher education. That comes I think as close as anything to a solution and the one-stop shopping for a solution.

I had to do this for Mr. Beauprez's benefit here. I knew it would help his day out.

Thank you very much, Mr. Chairman.

Chairman MANZULLO. I think Mr. Mehlman had a response to that.

Mr. MEHLMAN. Just with respect to both Congressman King an Congressman Beauprez. I think you both are right on. There is somebody who has been talking about the competitive dynamic of the high state of taxation or regulation, litigation, health care costs, for example. It is the President. So much of the Administration's initiatives on the fiscal side and on the regulatory side have been aimed at helping our businesses compete and be more successful globally in part by making sure the taxes and the regulations we have are all that we need to have but not more and are not sufficient burden upon our exporters and upon our producers

that we either price ourselves out or put money into taxation or tax compliance as opposed to into production and competing.

Chairman MANZULLO. Thank you.

Mr. Ballance?

Mr. BALLANCE. Thank you, Mr. Chairman. This very interesting debate, testimony I should say this afternoon.

I live in rural eastern North Carolina. Most of the folk that I represent are not being debated about here today. They have already lost their jobs in textiles.

Since I only have five minutes, by show of hands how many of the panelists believe that we as representatives of the U.S. government can do anything about this problem?

[All hands raised]

Mr. BALLANCE. Well, that is good.

The question I have and what I read as a free enterprise society, businesses can do what they want to do within certain regulations. What can the government do to stop a company from shipping its jobs to China or wherever they want to ship them?

Mr. KENTON. One thing that has not been mentioned so far is benefits. For a small business the cost just of medical care, providing medical care for employees is prohibitive. So when I look at the possibility of hiring a new employee, I have to look at that against the cost of providing the benefits for that employee. I do not want to say that is as much as the tax burden, but it is a very significant burden.

Mr. BALLANCE. If I am the government what can I do about that? To keep a private company from sending its jobs to Taiwan?

Mr. KENTON. I think that is a whole other panel. But I think the issues with the cost of health care and the requirements for providing health care are issues that need to be resolved.

Mr. BALLANCE. Mr. Challenger, what do you say about that? What can we do? Can we craft a policy with Mr. Manzullo leading the way to keep some of our jobs in America?

Mr. CHALLENGER. One of the efforts that Chairman Manzullo may be making is that defense is something that is under the control of the government. Those contracts can be given out to local businesses. So certainly government can take steps to award contracts to the businesses they want in. In terms of creating long term jobs it may also be heavy focus back to the education issue. That is what are the new jobs of the future? If textiles are not going to be here what are the jobs and how can we train our workforce to attract businesses in this area?

Mr. BALLANCE. I do not want to cut you off, but from what I understand all of those folk that got laid off were well educated. They were Ph.D.s and they had great degrees, but they were given pink slips or whatever kind of slips they got.

Mr. CHALLENGER. Nobody is invulnerable to job loss. We are seeing people today change jobs now seven, eight times in a career. That is a far cry from say 10, 20 years ago where you might have worked for one company all your life. That was the way it went.

So the question then becomes how do you help people make those transitions from company to company because everybody is going to have to go through periods of job loss. We need to get people to not only equip them with skills to make those changes, just in

terms of how to search and how to get at it, but also give them incentives to move to where the jobs are and give them training to also take on new jobs.

Mr. BALLANCE. It would seem to me, I do not know who is the tax expert on the panel, but it seems to me that we could in our tax policy, the way we treat American businesses, that that is one way we could impact. Also I agree with the Chair and the Ranking Member that certainly how we spend our money, we can impact that. But does anybody think that tax policy on companies that offshore their jobs would be one way we could look at it?

Mr. MEHLMAN. I have never heard, any company that I have talked to has not raised taxes as an issue to me.

Mr. PALATIELLO. To some extent we are the victims of our own success. We have created in a lot of the industries and professions represented in this panel high paying white-collar high quality jobs, and now we are almost being punished for doing that because we are being undercut by lower paying jobs in other countries.

I think the cost of labor is certainly a significant factor, but I think the comments that several members have made is there is also a cumulative cost of doing business. There is a cost of taxation, there is a cost of regulation, there is a cost of litigation. A lot of those things are driving up the cost of doing business in the United States and if you do not have those same costs of doing business in other places and you add to that a lower wage labor base it is going to be very difficult for us to be competitive.

I would go back to a couple of comments that people have made. The federal government spends over a quarter of a trillion dollars a year in contracts. That is just the federal government, not to mention money that is given out in grants and assistance to state and local governments.

If in the wisdom of the Congress you believe it is in the country's best interest that service work be done domestically, certainly Congress is within its power to encumber that money whether it is by direct federal contracts or subcontracts or grants and assistance to state and local government to say the work will be performed domestically.

Chairman MANZULLO. Does anybody else want to comment on that question?

Mr. Engardio, then Mr. Mehlman.

Mr. ENGARDIO. I would just say, I can maybe put it in perspective in terms of a manufacturing job, and I think the same things apply in a lot of the service jobs we are talking about.

When you ask companies and consultants that help them relocate what are the factors they are considering, wages is one. It is not the only thing. The Shanghai area, we looked at why are jobs going from Japan to China? Land cost of Shanghai area is about one-fifth the price of Japan; it is about one-third the price of Malaysia which is a low-cost country. Water costs are about half. Cargo handling fees are about a half of any comparable Asian country. It gets into a lot of things. In that mix taxes are not, in some countries it is a factor. In a lot of countries it is not. So there are about five or six things going on. The shipping costs, physical shipping costs from that place to the United States.

If you were to break down what is a competitive advantage of Manila in call center work for Delta Airlines which has like 500 people working there, wages is one. But they have a lot of very cheap office space. They have nine at least office centers, very modern office complexes around the Manila area. Their telecom costs are about a half to a third. This is a very big factor. They have very cheap broadband connections. We do not in this country.

There are a lot of things. Maybe you can identify those six or seven factors and say what areas are within any government influence?

I hope that helps.

Chairman MANZULLO. Mr. Mehlman, did you have a comment on that?

Mr. MEHLMAN. Yes, sir.

I do think there are things the government can do and I certainly think we are trying to and in fact are doing a lot of them from the Administration. One caution offered by others on the panel that I would echo is to be aware of the sort of the only unrepealable law in Washington, the law of unintended consequences.

Right now in the global competitive market for IT services, the U.S. comes out ahead in 2001 by $7.9 billion. We are exporting to other nations $7.9 billion more than we are receiving in IT services back on-shore.

If we say we are not purchasing any more, other nations might also and that would put us deeper into the current account deficit by $7.9 billion.

The other unintended consequence that we have to I think meaningfully consider is that a lot of the businesses that are looking globally for IT service work are not doing so out of a lack of patriotism or a lack of love for their country or their neighbors or where they live. They are doing so because they are competing globally for making semiconductors or cars or whatever they are making. They are trying to be as competitive an enterprise as they can possibly be.

To what the Chairman said in the government context, I imagine that is a similar consideration. In New Jersey there was a well publicized circumstance where the state Division of Family Planning, which is a welfare organization that tries to help provide benefits to those who need welfare in the State of New Jersey. They had a call center and they sent it offshore because it meant they could have more money for welfare recipients.

There was a storm of protest that nine jobs were sent offshore so they brought them back. They increased their costs by 20 percent so their administrative costs went up by 20 percent and the money they had available for those who are on welfare was reduced by a commensurate amount.

It means that we are going to need some real good economists to understand when it is better to have the money go to the strategic core purpose for which the money is intended, even if it means you are using equal value but offshore work, and when it is better to increase the cost and have less dollars for R&D or whatever the ultimate product you are trying to do, but use domestic information technology or other service work.

I think that is a tough calculation that a lot of businesses are trying to weigh.

Chairman MANZULLO. Ms. Bordallo before I turn over the microphone to you, I would just make this comment. The very government that is responsible for all the high costs is the same one that says we are going to go offshore and purchase because it is too high to purchase here. That is where the line gets drawn in the sand. You cannot have it both ways. That is why we are in this huge dispute with the Pentagon, because of the continuous overseas purchasing of goods, equipment, and services that could be done here in the United States.

Ms. Bordallo?

Ms. BORDALLO. Thank you very much, Mr. Chairman. I just wanted to say how much I appreciated the meeting we were at yesterday in your office to discuss some of these problems.

I represent the island of Guam in the Pacific area. I would like to express my sympathies for the situation that has been described by our witnesses today.

An example from Guam, to highlight the need to address the loss of service sector jobs.

The economy on my island is largely supported by two service sector industries. The first is tourism including hotels and small business tour operators. The second is the support of military operations on Guam such as a ship repair work, logistics and base operations servicing which requires a highly skilled workforce.

Now you would think that if anything were safe the procurement of services for the Department of Defense would be immune from the globalization trend that we have been discussing here today. However, I would like to share with you one example of how outsourcing of ship repair services has impacted a small business with fewer than 300 employees on our island of Guam.

The Navy is allowed under current law to repair military Sealift Command vessels outside the United States if they have no designated home port. Using this loophole the Navy waits two years until a ship needs repair, and then announces it is being deployed to Singapore, for example, bypassing the U.S. ship repair services on Guam. There they can do repair work with no regard for American fair labor practices, worker protection, or environmental standards.

The result is that the Guam shipyard cannot sustain the workforce they need of highly skilled repair workers. They cannot afford training programs. And over time the knowledge base on Guam will not be replaced. Once this happens foreign firms will have no American competition in the Western Pacific.

I was very impressed yesterday with the Chairman telling us the story about the black beret scandal of the Army and how we were able to, he was able to get to the bottom of that and turn it around.

So I feel as some of you do gentlemen that we can do something about this.

What we are doing here, our own country, is eroding our manufacturing base and causing an increasing rise of unemployment in our own country. We are responsible for it.

I do not know what the solution is now, but I am very interested to work with the Chairman and the Ranking Member of this Com-

mittee to help and protect our small businesses and our manufacturing firms around our country.

Thank you very much, Mr. Chairman.

Would anyone like to respond to that?

[No audible response]

Thank you.

Chairman MANZULLO. Mr. Mehlman, I like your spirit. This panel has been great. We three weeks ago had a gentleman by the name of Wayne Fortun. He runs a company called Hutchinson Technology in Hutchinson, Minnesota. He is the sole survivor of 38 U.S. manufacturers of CD springs. He has several thousand employees in Minnesota, Wisconsin and North Dakota. He is going head to head with the Chinese and succeeding. He is exporting 98 percent.

Some members of our staff are going to take a look at his facility. We would like to invite you to go up there with them because we are obviously on the right target.

You are looking for the success stories and want to know how these guys are doing it, so we look forward to you thinking about it and joining us on that trip.

Mr. MEHLMAN. It sounds great. Thank you.

Chairman MANZULLO. I have just a couple of comments and then Ms. Velazquez has some questions.

First or all I want to thank you all. This is tremendous testimony. The area of the country that I represent, Rockford, Illinois, has a 25 percent manufacturing base. We are at 11 percent unemployment and it is getting worse.

I think Mr. Challenger you had mentioned that as the economy improves those jobs are going to come back. They are not. The 2.7 million manufacturing jobs that are gone, they are gone. The factories are closed. The work has been outsourced overseas. At one time this Committee had people in China, Southeast Asia, and Brazil combing for contracts for manufacturers. That is just our Committee. That is the amount of time we spend on manufacturing and international trade. Those jobs are gone forever.

The tool and die industry is being absolutely demolished in this country. It is being savaged. We just cannot get our government to wake up to the fact that, and I hate to use the word protect, but I like to call it national industrial base. That is absolutely necessary—We have in this country, in Tiffin, Ohio, the last manufacturer of the cold forming machine. That machine makes bullets in one step, about 500 a minute. Otherwise you have to machine each bullet for military use, hand by hand.

Every time we try to bring these things to the attention of the people in the Pentagon it just falls on dear ears. No one gets it.

The environment of Washington, D.C. with 1.5 percent unemployment. The inflation rate in Washington is five times higher than it is in the rest of the country. The price of an average single family home is $540,000. The average or the medium income, per household income in Washington, is close to $100,000 a year.

This city is so out of whack of what is going on in the rest of America that it is very difficult for may policy leaders and makers to try to understand. That is why Members of Congress—we are fighting back for our manufacturing jobs. Regardless of how people

have voted on these trade issues, because we know what is going on.

I could tell you, Mr. Engardio, what is going on in my district. engineering jobs are going to Poland.

Mr. ENGARDIO. What industries?

Chairman MANZULLO. Aerospace. Let me give you an example here.

If this item were exported from the United States and let us say it is $100 million sale. So this shows up on the trade surplus merchandise ledger as plus $100 million even though it could contain $99 million worth of imported parts.

There is no index. There is no indicator, there is no study to indicate the extent of imported parts in our exported items.

I would estimate that our trade deficit is five times greater than the $500 billion that it is. Otherwise how could you possibly come up with the fact that we are supposing the process of recovery and unemployment in my district is going up.

The latest study that just came down from the FDIC on sectorial manufacturing job losses, a 47-page document. FDIC.gov. It takes it sector by sector by sector.

The latest study by the NAM, the very last sentence in the executive summary is saying essentially the United States is becoming a third world country because of the massive destruction of our industrial base. And no one seems to get it.

About every two days we revise our challenges to manufacturing power point, and we passed out 60 copies today. We are always adding yet another reason in there.

Somebody brought up our own version of forced labor in America: Prison industries. Peter Huxtra in Michigan lost 600 jobs in one day! Then we found out that those people at the FDIC in violation of their own charter, Federal Prison Industries, those people were taking things and saying they had been manufactured or assembled in factories, in prisons when in fact all the were doing was slapping their label on them, acting as a warehouse. $550 million right there to start in manufacturing. It is all over the place. It is always a government policy that is involved.

Let me throw out another one, and I do not know if this is presently the law on it. I bought a WI-FI. This is the cat's pajamas. It is just unbelievable. I turn on my laptop and I am on the Internet.

Now the particular box says Toshiba. I do not know if it is made in Japan, made in the United States, but it says on the box, "This item may not be exported to any country except Canada without a validated license by the Bureau of Export Control." I do not know if that is changed. It had to be an older box because the Bureau of Export Control now has a new name. But what is it? We always come back to a particular government policy.

So what happens is the very things that we make best in our country we cannot sell.

We held a hearing here two weeks ago on bringing in people from tier three countries to look at items that we manufacture, even though they are not covered by a valid manufacturing license. Four axis cutting machines. And two tremendous public servants from the FBI and from the Department of Consular Affairs at the

State Department sat on this panel here and explained the problem, working towards a resolution. I think we are going to come up with some tremendous progress, bringing people in to this country that want to buy things without having to wait months and months on it.

Anyway, Ms. Velazquez, you have——.

Ms. VELAZQUEZ. Sure. Just one more question.

Mr. Mehlman, you espoused so enthusiastically on this cause the Administration views regarding fiscal policies and taxes. Can you please comment for this Committee what are your views on the effect of running one of the largest deficits in the nation in the last 30 years?

Mr. MEHLMAN. Sure. Thanks for the question.

Obviously I have a lot of respect for some of the leading folks in the Administration who helped formulate tax policy. My belief and expectation, though, hearing from both manufacturers as part of the Secretary's initiative, certainly hearing from more than two years from high tech companies, what they need right now is they need customers making capital expenditures, they need investors returning to the market, and they need employers hiring again, and the appropriate efforts right now with respect to fiscal policy are to try to get investment being made again, capital expenditures happening again, businesses able to hire again so that as we retrain folks they have employers who are willing and ready and able to hire them.

Ms. VELAZQUEZ. Do you think running a deficit is healthy for our economy? Do you think that will help us grow?

Mr. MEHLMAN. I am hardly the expert on fiscal policy, but right now yes. I believe the tax policies and budgetary policies that have been offered by the White House are very much the right policies to promote jobs and to promote growth. And if this year there is a deficit, it is a deficit with the goal of creating jobs because the jobs are the key to the tax base. I think we saw back frankly in the Hoover Administration what happens when you slam on the fiscal brakes during a period of tough economic times when in fact there should be greater access to capital and greater access to jobs.

Ms. VELAZQUEZ. We saw that happen under the Ronald Reagan Administration with a huge deficit. The money went away with the taxes and the jobs disappeared.

Thank you.

Mr. MEHLMAN. Thank you.

Chairman MANZULLO. Thank you all very much. Tremendous, tremendous testimony. And thanks to our very three special guests for coming here.

This Committee is adjourned.

[Whereupon at 4:48 p.m. the Committee was adjourned.]

House Committee on Small Business

"The Globalization of White-Collar Jobs: Can America Lose These Jobs and Still Prosper?"

June 18, 2003

Opening Statement of Committee Chairman Don Manzullo

Good afternoon and welcome to this hearing of the Committee on Small Business. I especially welcome those who have come some distance to participate. Today, we're going to talk about the globalization of white-collar jobs. Most Americans don't realize the significant link between manufacturing and services. I hope it becomes clear by the end of this hearing.

You all know my passion for manufacturing. So why are we talking about the service sector today? Because I want people to begin to understand that what's been going on in manufacturing is not because manufacturing jobs are less important. As goes manufacturing so goes the economy. I've heard over and over again from pretty well-educated people that we shouldn't worry about manufacturing since we have such a strong service economy; as though services has some sort of hedge of protection from foreign competition. There was a false sense of security. It's foolish to think that way. Engineers, accountants, architects, programmers, and other high-skilled professionals are learning quickly that someone equally, or more, qualified than they are taking their jobs, for less money – both here in the US and halfway around the world.

Here's the connection: according to a recent National Science Foundation study, 48% our engineers work in the manufacturing industry. These are the folks that create the designs, engineer processes, and drive innovation for manufactured goods.

The US economy is growing and creating jobs. It's just that Americans are not filling those jobs. They have been moved overseas where foreigners will work for a lot less.

Some would argue that pure free-trade theory should prevail: whatever can go overseas should go. I put my free-trade voting record against anybody's, but the theorists miss a very important point. Free trade doesn't operate in a vacuum. It presumes that all countries participating are playing by the same rules – whatever they may be. The problem is not all of our trading partners play by the rules, and even our own laws have loopholes that allow for some of this.

The February 3rd edition of Business Week had this on the cover: "Is Your JOB Next? A new round of globalization is sending upscale jobs offshore. They include chip design, engineering, basic research – even

financial analysis. Can America lose these jobs and still prosper?"

Examples include, radiologists in India interpreting CT scans for US hospitals. Accountants are assessing loan risks for homes halfway around the globe. Computer technicians in Ghana are processing NY city parking tickets. Blueprints for a staircase in a NY city building get drafted in Shanghai. This is cool stuff. This is what globalization is supposed to be about. Everybody wins, right? Wrong. Deloitte Research estimates that nearly three-of-four major financial institutions will be offshore within two years. According to Forrester Research, 3.3 million white-collar jobs and nearly $140 billion in wages will shift from the US to other nations over the next 12 years. This doesn't count the number of displaced Americans resulting from loopholes in our immigration laws.

Increased global trade was supposed to lead to better jobs and higher standards of living for Americans by opening markets around the world for US goods and services. The assumption was that while lower-skilled jobs would be done elsewhere, it would allow Americans to focus on higher-skilled, higher-paying opportunities. But what do you tell the Ph.D., or professional engineer, or architect, or accountant, or computer scientist to do next? Where do you tell them to go? What higher academic credentials are they to aspire to next? They did what we said. Go to school and get the best education you can. Get a job in the technical field and you will be good to go. Now that this can be done for less elsewhere, should we be satisfied with having the intellectual capital of this nation drain out to other countries. Should we sit back and wait for China or India or Singapore or Poland to tell us what the next great technological breakthrough is going to be? Should we be concerned about our national security when our intellectual capital is being shipped overseas? Our nation's international economic competitiveness depends absolutely on the U.S. labor force's innovation and productivity. According to economist Joel Popkin, if our innovation process, represented by our scientists, engineers, and technicians, shifts to other countries, "a decline in U.S. living standards in the future is virtually assured."

Wanting to keep jobs in America isn't protectionism. It is, in fact, the very thing needed to promote globalism. Without the high productivity of the American worker and the high levels of consumption by the American family, free trade cannot thrive. The challenge is whether we can ensure that our optimism for a free and fair global marketplace can become a reality.

U.S. Manufacturing in Crisis

Summer 2003

By Donald A. Manzullo
Chairman, House Committee on Small Business

Declining State of U.S. Manufacturing

- Severe internal and external pressures on the U.S. economy have decimated U.S. manufacturing base
- Over 2.5 million manufacturing jobs lost in the last 3 years
- Manufacturing employment in the U.S. economy, currently at 14.8 percent, has fallen below the level at which it was first officially measured

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Declining State of U.S. Manufacturing

- "The Federal Reserve said output at manufacturing plants, mines and utilities slid 0.5 percent [in April], its second consecutive drop. Industry operated at only 74.4 percent of capacity, the lowest level in 20 years." (New York Times 5/16/03)
- "The manufacturing woes were one big reason why the Labor Department reported Friday that the U.S. Unemployment rate rose to 6% in April from 5.8 in March. A continuation of the so far jobless recovery." (USA Today 5/5/2003)
- "The flight of labor-intensive goods-making tasks to low wage countries isn't the only reason [for manufacturing unemployment] anymore. Lately it's been big companies' tendency to order parts from foreign countries that has cost small to medium-sized U.S family firms a lot of business." (Los Angeles Times 5/18/03)
- U.S. recovery further clouded by bad economic news globally and uncertainty with Iraq reconstruction, terrorism, and the Middle East

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Why Small U.S. Manufacturers Matter

- 95% of Manufacturers considered small or medium-sized businesses[1]
  - Employ half of all manufacturing workers
  - Account for more than $1 trillion in receipts
  - Pay their workers 20% more than other small businesses
  - Account for the vast majority of the basic products (e.g., tools, dies, molds) and inputs (e.g., specialty metals) essential and critical to our national security

[1] *Source:* National Association of Manufacturers – The Manufacturing Institute, "Today's Small and Medium Manufacturers," 2001

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Ten Factors Working Against U.S. Manufacturers

1) *Washington's* cluelessness as to importance of manufacturing
2) Surging cost of insurance of all kinds (esp. health care)
3) Overwhelming regulatory burden (federal, state, and local)
4) Suffocating tax burden (federal, state, and local)
5) Inaccessibility of capital (e.g., tighter credit standards)
6) Inaccessibility of Federal procurement contracts
7) Overvalued U.S. dollar (inflating cost of U.S.-made goods)
8) Steel tariffs and corresponding spikes in domestic prices
9) Domestic trade barriers (e.g., export controls, unilateral sanctions)
10) Foreign trade barriers (e.g., tariff & other barriers to market access)

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1. *Washington* Clueless on Manufacturing

- What we hear in Washington:
  - "Manufacturing is only 15 percent of GDP"
  - "We have a service and high-tech economy"
  - "Nobody wants a factory job any more"
- Ignorance of the "multiplier effect" of manufacturing
  - $1.00 manufacturing product = $1.26 in intermediate economic output (the service sector statistic is $0.74 for every $1.00 of final sales)[1]
  - $1 million manufacturing sales = 8 manufacturing jobs + 6 service jobs ($1 million in *service* sector sales = 3.5 service jobs)[1]
  - 150 manufacturing jobs translates to $30 million in economic output[2]
- Bureau of Labor Statistics underestimates role of manufacturing in communities

Educate Washington officials about U.S. manufacturing and how it affects the economy, communities, and constituents

[1] *Source:* National Association of Manufacturers
[2] *Source:* Penn State Study, "Community Costs of Technical Skills Deficits: A Pennsylvania Case Study," October 25, 1996

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2. Surging Health Care Costs

- Small business premiums soaring 20-40%
- Percentage of small businesses offering health care benefits slumping (from 67% in 2000 to 61% in 2002) (Kaiser Foundation Survey, Sept 9, 2002)
- 60% of the nation's 43 million uninsured are small business owners and their employees and families
- Large Business healthcare advantages:
  - 100% tax deductibility of healthcare premiums
  - Ability to buy health care at reduced-rates based on volume

Initiatives to ease the burden of high health care costs:

- **Association Health Plans – enabling small businesses to pool interests in negotiations with health care providers**
- **President's tax credits for the uninsured**
- **Medical Savings Accounts – tax deferred savings accounts for health care costs not covered by health insurance**
- **Medical malpractice/litigation reform**

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3. Overwhelming Government Regulation

- Complying with government regulations costs businesses about $843 billion per year ($8,164 for a family of four),[1] or about 8% of GDP
  - Annual regulatory burden is 60% higher for small firms (under 20 employees) compared with medium to large firms (over 500 employees)[1]
    - Federal regulations in 2000 exceeded 83,000 pages (double the size in 1980)
  - Environmental regulations and the paperwork burdens of tax compliance make up about 40% of the total regulatory burden on businesses[1]
- Regulations affect small businesses *more*:
  - Small businesses lack the resources to manage and fight these burdens
  - Large businesses spread costs over greater volume
  - Government regulation pushing manufacturing offshore

Use the Congressional Review Act to nullify overly burdensome regulations (e.g., proposed ergonomics rules); enforce the Regulatory Flexibility Act to require economic impact analysis on small business before regulations become final; and fix the law (EAJA) that's supposed to make losing federal agencies pay a prevailing small party's legal fees

[1] *Source:* Office of Advocacy, SBA, "The Impact of Regulatory Costs on Small Firms," October 2001.

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4. Suffocating Tax Burden

- High taxes and a complex tax system block small business growth
- The U.S. has one of the highest corporate tax rates (national and state taxes at 40%) compared to other developed nations (average of developed countries at 31%) *(Source: CATO Institute, Apr. 12, 2002)*
- While moving outside the U.S. solely to avoid taxes is wrong, our flawed and expensive tax system encourages offshore movement

The proposed Job Protection Act would lower corporate taxes for domestic manufacturers by 10%; the president's economic growth package supports rate reductions, increased expensing, "bonus" depreciation, and relief from the double taxation on dividends; also seeking permanent repeal of the "Death Tax"

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5. Inaccessible Capital

- Small businesses – those most in need of financial backing – lack access to growth capital
- Fees too high on SBA loan guarantee programs, making the programs unattractive for most small manufacturer borrowers
- SBA loan limits too low for the capital-intensive credit needs of most small manufacturers
- Banks reluctant to lend to small manufacturers in the Midwest

Increase small business access to SBA lending programs; raise SBA loan limits for manufacturers; support the BRIDGE act (tax deferral initiative) to help small business capital needs

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6. Inaccessible U.S. Procurement Contracts

- The U.S. government buys well over $200 billion worth of goods and services each year; yet it rarely reaches the modest 23 percent goal for small business
- Small business hurt in many ways (e.g., preference for "bundled" contracts)
- U.S. policy to "streamline" procurement often makes it difficult for small companies to break in with a new idea or product
- U.S. government (esp. the Pentagon) uses U.S. taxpayer dollars to import products instead of using domestic U.S. manufacturers (harming domestic manufacturing base and jeopardizing future national security needs)
- U.S. agencies forced to buy many prisoner-made products from Federal Prison Industries because of its "mandatory sourcing" preference, even though price may be higher and the quality and delivery of service lower

Examining Pentagon procurement practices (Army Berets / Joint Strike Fighter / Titanium) to keep production in the U.S. while fighting unsound contract bundling; House-passed defense bill protects U.S. industrial base, e.g., (1) raises Buy-American content requirement from 50 to 65%, and (2) mandates that defense contracts greater than $5m must use American-made machine tools, dies, and industrial molds

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7. Overvalued U.S. Dollar

- By most measures, the U.S. dollar remains overvalued, making our:
  - exports more expensive, harming global competitiveness and eroding global market share of our firms, and
  - imports that much cheaper, diminishing pricing power and eroding domestic market share of our firms
- Other nations routinely manipulate currency markets to prevent their currencies from appreciating against the U.S. dollar, and thus keep the dollar overvalued

The U.S. Administration has recently ceased talking-up the dollar; the Treasury Secretary also should vocally oppose foreign governments manipulating world currency markets; we sent a letter to China's Premier urging China to un-peg its currency from the U.S. dollar and allow market forces to determine the Chinese currency's value, making Chinese imports properly more expensive in the U.S., and U.S. exports properly less expensive/more competitive in global markets

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8. Consequences of the Steel Tariffs

Five general themes of a policy initiative gone bad:

1. Small U.S. manufacturers have seen their steel prices rise by up to 80%
2. Steel-using manufacturers face arbitrary allocations and shortages
3. U.S. sales lost to foreign companies purchasing steel at world prices
4. Layoffs because steel prices have made manufacturers uncompetitive
5. Big steel producers breaking existing contracts to arbitrarily raise prices

Initiated Section 332 Investigation by the International Trade Commission concerning the impact of the tariffs on steel users; encouraging Administration to end steel tariffs at the midterm review period in September 2003

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9. Export Controls / Unilateral Trade Sanctions

- Export controls and trade sanctions cost $20 to $40 billion in lost exports per year, or roughly 400,000 jobs[1]
- Export controls place severe and often outdated limitations on U.S. high-tech manufacturers (e.g., machine tool builders) selling "dual use" products (with mainly commercial but potentially military applications) to key foreign markets
- Our key international competitors have no such limitations and take away many high value sales from our manufacturers
- Unilateral trade sanctions imposed by the U.S. to make a foreign policy statement often cause great harm in lost business opportunities
- U.S. agencies use visa policy to unduly restrict access to the U.S. for foreign customers, tourists, and others seeking to do business here

U.S. export policy causes U.S. businesses to be unreliable suppliers; even our allies use U.S. export policies against our businesses

[1] *Source:* Institute for International Economics

House Committee on Small Business

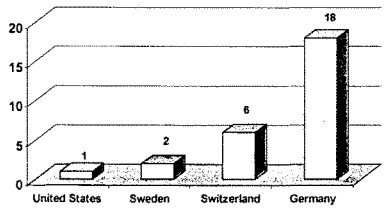
Examples of Misdirected Export Policy

- Cray Computer
  - Because of the long delays for our government to process an export license for Cray to sell a supercomputer to India in 1989, India turned around and created its own supercomputer industry that now competes directly against U.S. firms
- Hughes Communications
  - After the State Department denied an export license to Hughes to launch a $600 million communications satellite from China, China went ahead and bought an Alcatel satellite from France; the world market share for U.S. satellite manufacturers declined 40% (our European competitors took the market share) in just 2 years after the State Department took over the licensing process in 1998

House Committee on Small Business

Example: Sale of 5-axis Machines to China

Chinese Imports of Licensed 5-Axis Machines (1997)[1]



Because of counter-productive export controls, we lost the 5-axis machine tool market in China in 1997

[1] *Source:* The Association for Manufacturing Technology

House Committee on Small Business

10. Foreign Trade Barriers

- Trade barriers cost U.S. businesses $200 billion annually[1]
- Our domestic consumers enjoy lower prices because the U.S. is among the "most open economies" in the world, but our producers struggle mightily in an uneven and unfair international tariff environment
  - We benefit from foreign investment (subsidiaries of foreign companies in the U.S. employ over six million Americans)
  - Yet our businesses face high tariff and non-tariff trade barriers against their exports from most other countries

Promote exports while guarding against unfair trade; Level the playing field through use of anti-dumping and countervailing duty trade laws, and the Byrd amendment (higher tariffs go to injured companies, not the U.S. Treasury)

[1] *Source:* University of Michigan Study, 2001

House Committee on Small Business

Focusing Big Business on Small Business

- We must do better to make trade work for small business
- Barriers to entry are too great
  - Small businesses have been sidelined, unable to get involved in international trade on their own
- We need the support of our large U.S. multinational firms, in addition to U.S. government backing, to make trade work for small business

House Committee on Small Business

AJF – Our Message to America's CEOs

- ***America's Jobs First (AJF):*** U.S. Multinational firms should put America's jobs *first* by actively soliciting competitive American small business suppliers for their global supply chains
- Benefits include having higher quality American inputs, saving and creating American jobs, and recovering political support for free trade
- Bottom lines will *IMPROVE*
  - Multinationals depend on the expansion, protection, and safety of overseas markets created and sustained by trade-friendly U.S. policies, which in turn depend entirely on public support for free trade
  - Any costs can be offset by redirecting some of the $1.5 billion in reported annual lobbying expenditures, and part of the corporate advertising budget, to assess and advertise U.S. opportunities in supply chains

House Committee on Small Business

A Meaningful Trade Strategy for US Corporations

- U.S. products and services are of the highest quality, and purchasing agents worldwide are *still* willing to pay more for them
- The imperative: When the quality of U.S. inputs is equivalent or superior, and the price competitive, stir the value of free trade into the calculation and *source American*, putting American jobs first
- There's never been a better time for a "Buy American" campaign
  - Shows patriotism, corporate responsibility, and American values
  - Shows concern for U.S. "dislocations" and "adjustments" of free trade
  - Demonstrates that free trade can work for the little guys, too
  - Stops destruction of U.S. manufacturing and defense industrial base
  - Rehabilitates public image of Corporate America
  - Furthers the Administration's National Export Strategy

House Committee on Small Business

STATEMENT
of the
Honorable Nydia M. Velázquez,
Ranking Democratic Member, House Committee on Small Business
Hearing on Service Sector Outsourcing
June 18, 2003

Thank you, Mr. Chairman.

As the tech industry grows, tourism flourishes and the global market expands - it is apparent that our world is shrinking. Today, people travel between nations as easily as they do between states.

Globalization, which allows economic, political and cultural systems to cross national borders freely, has caused a shift in the economic base of our nation. We witnessed the effects of the first wave of globalization when U.S. manufacturing moved production - and American jobs - overseas.

Now we are experiencing a second wave of globalization, which is impacting the strong and profitable service sector here in the U.S. It is by far the largest component of our economy, accounting for 81 percent of private sector output and providing roughly 95 million jobs. In fact, the majority of companies within the services industry are small businesses.

As this sector braces for the effect this new reality will have on the economy just as the manufacturing sector did a decade ago, analysts foresee the flight of white-collar jobs abroad. It has been predicted that the United States service industry should expect to lose at least 3.3 million white-collar jobs while $136 billion in wages will shift from the U.S. to low-cost countries by the year 2015.

For many businesses - both large and small - the global marketplace offers an array of opportunities, especially for growth. Yet it also presents one major drawback - job outsourcing. Companies in the service sector are able to find skilled labor abroad at lower wages.

High-end service work such as writing software code, and processing credit card receipts, is being moved to developing countries like India, China, Russia and Eastern Europe. This has the potential to worsen our nation's already suffering economy, which has lost an estimated 3.1 million jobs since the start of the Bush administration.

There are a number of policies linked to this trend that have caused the shift in service sector jobs away from American workers. One is immigration policy, as non-

immigration programs are being used - and abused - to obtain cheap labor.

It also doesn't help that the rising costs of benefits in the U.S. make cheap labor overseas and lax worker protections more attractive. After all, U.S. companies are trying to cut costs and make a profit in this economic downturn.

In addition, a strong dollar has led to a trade imbalance that favors importing foreign-produced goods and services because it is more cost-effective. The technological ease with which companies now do business creates an atmosphere where overseeing workers, assessing production, and managing transactions in Jakarta is, say, just as easy - and probably cheaper - than here in the U.S.

As globalization now permeates the service sector, it is still too soon to know exactly how small businesses will be affected. Since small businesses dominate the service sector, it is critical to factor them into the equation, making sure that policies - like immigration - help, instead of hurt, them. In working to protect the small business service sector, we can better ensure that it doesn't meet the same fate as the manufacturing sector. This would be another serious blow for the American economy, possibly making the current downturn longer and even more severe.

Thank you.

House Small Business Committee Democrats
B343-C Rayburn HOB
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Testimony of the Honorable Nancy Johnson
Small Business Committee
June 18, 2003

Mr. Chairman and distinguished members of the committee thank you for the gracious invitation to testify before you. I think it is fair to say that we are experiencing a crisis in the job market. Although I believe that we have taken the necessary and appropriate steps to lower unemployment through pro-growth tax policies, there are still far too many people who are seeking work and cannot find it. Beneath the aggregate unemployment numbers lay an even more disturbing trend. Unlike past instances of high unemployment, the ranks of the jobless are increasingly populated by highly skilled, college educated workers. Workers that typically had little difficulty finding a new job are becoming discouraged by their lengthy stay on unemployment. There are a host of reasons for the persistent weakness in the labor market, but I believe that we may have inadvertently made the situation worse through our generous guest worker visa programs.

During the April recess I had an opportunity to visit with a group of constituents who told me a sobering story. These constituents, all unemployed information technology workers, told me that their former employers were replacing them with cheaper workers brought in from overseas on H1-B or L-1 visas. My constituents claim that companies are using foreign workers because they can pay them less and, due to the fact that the foreign worker's stay in the United States in contingent upon employment, they are easier to manage. In some cases the American worker was instructed to train the new arrival only to be summarily dismissed and replaced by the foreign worker. If this is true, it would be in contravention to the intention and spirit of our guest worker program. I was so alarmed by their stories that I contacted several of my local employers to ascertain what their policy was regarding guest workers. While to the best of my knowledge none of the companies are violating the law, I have subsequently discovered that my constituents experience is not unique nor is it isolated.

As you may be aware, the L-1 visa program was created to enable multinational corporations to bring in key executives to work in the United States for up to seven years. It was thought that the business community needed a special class of visas to expedite intra-company transfers. More recently, however, a cottage industry has emerged to exploit the L-1 visa

program. It appears that companies can be constituted with the express purpose of funneling workers into the United States. IT consultancies with operations overseas, for example, are using the L-1 visa program to import workers who are then contracted out to domestic companies. Unlike the H1-B visa program, the L-1 visa is not subject to annual limits.

There are several steps I believe Congress can take to ameliorate this situation. First we should initiate a thorough and detailed reevaluation of the various guest worker programs. The H1-B visa program, for instance, was increased in 1999 to address the apparent shortage in qualified IT workers leading up to the Y2K event. If the shortage no longer exists, then the justification for the inflated number of H1-B visa holders is moot. We have no public interest in keeping qualified American workers unemployed in order to accommodate guest workers.

We should also examine the rules governing the L-1 visa program. Clearly the law was not intended to promote the wholesale importation of contract-consultants. I am a cosponsor of a bill introduced by Representative Mica that will close the loophole that allows consultancies to bring in guest workers for contract work. We should also devote more resources to worker training. Companies have a legitimate need for talented, knowledgeable IT workers. While at the same time classrooms full of college student who study IT are not being hired. In our zeal to reform the visa system we should not put an inappropriate burden on our domestic companies. I think that we all agree it is in our national interest to have a skilled, native IT workforce.

Throughout my congressional career I have been a strong proponent of free trade and open markets. My support is not contingent or qualified because I believe in the end free trade means more jobs for Americans. But we cannot afford to have our labor market roiled by the unchecked flow of international workers under the guise of our immigration laws. With unemployment over 6 percent nationwide, we have a responsibility to promote jobs for Americans and ensure that they are treated fairly.

Thank you for your courtesy.

BEFORE THE HOUSE OF REPRESENTATIVES
COMMITTEE ON SMALL BUSINESS
June 18, 2003

TESTIMONY OF BRUCE P. MEHLMAN
Assistant Secretary for Technology Policy
United States Department of Commerce

Chairman Manzullo, Ranking Member Velázquez, Members of the Committee:

Thank you for inviting me to appear before you today and for your leadership on questions of American competitiveness. The issue of global competition for white-collar service work is an important and timely one. Declines in American employment at all levels concern us deeply, and the February 3, 2003 *Business Week* cover concisely captured the fears of many when its screaming headline asked: "Is Your Job Next?"

Few Americans are feeling greater uncertainty these days than information and communications technology ("IT") workers. Over the past five years, IT workers have endured multiple shocks to IT spending and employment, including:

- the end of Y2K preparations in 1999;
- the bursting of the Internet and telecom "bubbles" in 2000;
- dramatic reductions in corporate IT spending during and after the January-September 2001 recession;
- the 9/11 terrorist attacks;
- investor and business uncertainty as the WorldCom, Enron and other business scandals of the late 1990s came to light;
- continued market caution preceding the liberation of Iraq; and
- accelerating global competition.

At the Commerce Department, the Office of Technology Policy seeks to maximize technology's contribution to American economic growth, job creation and global competitiveness. We have been following trends in the IT workforce for some time, including reporting on global competition in IT services. We have also put significant research and analysis into IT worker education and training opportunities, and Secretary Don Evans this week released a Congressionally-mandated report we prepared on "Education and Training for the Information Technology Workforce." I have brought copies of the report for this Committee, and it can also be found online at: www.technology.gov/reports.htm.

Today I offer testimony on trends and implications of global competition in IT services, a broader assessment of American strengths and challenges to remain the world's innovation leader, and Administration policies that are promoting U.S. competitiveness. Notwithstanding many challenges facing our nation, I remain optimistic about America's future and look forward to working with Congress to ensure we provide American workers with the tools, technology and talents needed to compete and win in the 21st century global economy.

GLOBALIZATION OF IT SERVICES: IDENTIFYING THE TRENDS

It is difficult to precisely separate American IT job losses due to the post-bubble business cycle from slower growth in overall IT employment resulting from global competition or "off-shoring"[1] work. Little data exists to demonstrate one-to-one relationships. It is certainly clear that as the growth in U.S. IT jobs slowed dramatically for multiple reasons, the volume and value of off-shored work has increased rapidly. 2001 was the first year in more than two decades with negative growth in U.S. IT employment.

At the same time, the amount of IT service work done overseas has been growing for years. Many analysts agree this global competition in IT services will increase as: (1) offshore IT service providers improve their quality, processes and expertise, (2) improved telecommunications (especially broadband) enables more business customers to outsource and offshore work effectively, and (3) business customers conclude they can realize value and competitive advantage through outsourcing. The Gartner Group estimates that "[b]y 2004, more than 80 percent of U.S. executive boardrooms will have discussed offshore sourcing, and more than 40 percent of U.S. enterprises will have completed some type of pilot." A widely-quoted 2002 Forrester report estimates that over the next 15 years, 3.3 million U.S. service industry jobs – including 1 million IT service jobs – and $136 billion in wages will "move offshore." While other analysts offer less dramatic projections, growing numbers of global competitors are likely to capture increasing shares of IT and white-collar service work.

GLOBALIZATION OF IT SERVICES: ASSESSING THE IMPLICATIONS

As with so many global trends, there is significant disagreement over the implications of this competition for American prosperity and competitiveness. Many observers are pessimistic about the impact of offshore IT service work at a time when American IT workers are having more difficulty finding employment, creating personal hardships and increasing demands on our safety nets. Competitors from lower-wage nations, it is feared, could put downward pressure on profit margins and salaries in this sector going forward, *see IDC Price Erosion Study, 2003*, while the work being sent overseas may migrate up the value chain from call centers, help desks and low-end programming to design, accounting, high-end programming, financial analysis and consulting. Some question the national security implications, asking whether U.S. interests are put at risk by increasing dependence upon foreign nationals to handle economically critical tasks and, often, highly sensitive data. Many fear that reduced wages and increased unemployment in IT might discourage future generations of Americans from pursuing science and technology careers. And the opportunity to do high-wage, high-value work without immigrating to the U.S. reduces the "brain gain" that has contributed to America's historical success.

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[1] It should be noted that "outsourcing" is not the same as "off-shoring." Outsourcing occurs when businesses hire outside specialists to handle tasks outside their strategic focus or core expertise, such as IT, administration or HR. For example, in December 2002 JP Morgan hired IBM to handle all of its IT operations. Off-shoring refers to outsourcing using service providers outside the U.S. Of course the distinctions become more difficult to make as businesses globally integrate their operations and workforces. Just as buying a Ford does not guarantee a car made entirely in America, buying IT services from IBM does not guarantee use of exclusively American IT workers.

Others suggest the rise of global competition in IT service work is a net positive trend for our nation. Competition drives down prices for businesses and consumers and increases their choices. By outsourcing to lower cost operations, businesses are able to reduce their overhead, compress time-to-completion with around-the-clock operations, and focus on core, strategic investments and hiring. Many manufacturers, for example, are running leaner, more competitive operations as the result of outsourced (often off-shored) IT services, focusing their resources on the research, design and processes for improving their products.[2] Some have even suggested that off-shored service work is of higher quality, although their data is anecdotal only.[3] It is worth noting that [fellow witness] Dr. Hira's organization, the IEEE, recently awarded Wipro Technologies – one of the major Indian IT service providers – its prestigious IEEE Award for Software Process Excellence.

Optimists note that the majority of work sent offshore is lower-wage, represents a small fraction of the overall market for software and IT services, and will never displace a large majority of work done here in the U.S. Indeed, the Bureau of Labor Statistics projected in December 2001 that the number of professional IT jobs in the U.S. will grow by 72.7% between 2000 and 2010. And since global competition is a two-way street, U.S. IT companies gain opportunities to win global business, particularly as developing nations improve their own domestic markets for hardware, software and services. For example, IBM won a $2.5 billion (over 10 years) contract to manage Deutsche Bank's IT operations in December 2003. In fact, in 2001 U.S. cross-border exports of IT services totaled $10.9 billion, while imports totaled $3 billion, yielding a trade surplus of $7.9 billion *(U.S. International Trade Commission).*

PUTTING TRENDS INTO GLOBAL CONTEXT

Many observers suggest that global competition for white-collar service work mirrors trends we have seen for decades and will benefit our nation. During these decades we saw heavy competition in tradable goods (with lower-wage, lower-value-added jobs) and far less competition in knowledge-based services (with higher-wage, higher-value-added positions), such as information technology. Advanced economies leveraged their comparative advantages to develop the high-wage jobs as the lower-skilled work became commoditized and went abroad.

It seems we have entered a new era. Advances in communications technologies have empowered once-distant service sector workers to compete in real-time, while increasing interconnectivity generated new market opportunities for both our businesses and theirs. We are now competing for low-skilled *and* higher-skilled work, both in IT and elsewhere, and we will need to replace both with high-skilled, high-wage opportunities to

[2] Proctor & Gamble told Fortune Magazine it has saved $1 billion since 1999 by concentrating back-office work in Costa Rica, the Philippines and Britain. ("In the Age of the Internet, A Company's Location Hardly Matters," May 12, 2003).

[3] A recent survey of 145 U.S. companies by Forrester Research found that 88 percent of the firms that look overseas for services claimed to get better value for their money offshore than from U.S. providers, while 71 percent said offshore workers did better quality work.

grow our standard of living. Our success or failure will turn on our ability to create and retain new jobs, new industries and new processes, goods and services – to innovate.

INNOVATION IN AMERICA

Starting in early 2002, the Commerce Department convened a series of roundtables and outreach efforts to assess the state of innovation in America. We were particularly interested in better understanding the factors that influenced some private actors when they were deciding where to locate their R&D and knowledge work. Our goal, of course, was to assess how we might maximize those elements that promote innovation in America, while reducing any comparative disadvantages that discourage on-shore R&D. Transcripts from these discussions can be found on our web site at www.technology.gov/reports.htm.

WHY INNOVATORS LOCATE KNOWLEDGE WORK ON U.S. SHORES

According to the corporate, university and government leaders we convened, America presently remains the premier destination for innovative activity for several reasons.

1. PEOPLE. The scientific talent pool in this country is second to none, with industry experts, lab scientists and university researchers all contributing to an unmatched quality and quantity of expertise. For example, America publishes one-third of the world's scientific and technical articles, triple the share of the next largest country, and has the largest share of the world's science, engineering, and technical workforce (according to NSF data). Our university system is unequalled, attracting the best and brightest from around the world and remaining a hotbed for generating inventions and training inventors.

2. BUSINESS CLIMATE. America has the most entrepreneurial business climate, one promoting market-based competition, rewarding risk, permitting failure and relatively easy access to capital. Unburdened by government-owned national champions, new ideas and new entrants are able to compete and win on the merits. In this regard we fare very well against many European competitors, where governmental burdens make entrepreneurship more difficult and less common. For example, in March 2002 the *Wall Street Journal* reported on a British study that found it takes 43 months on average to get the regulatory approval needed to open a gas station in Europe, three times longer than in the U.S.

3. INFRASTRUCTURE. From world-class federal labs such as the National Institute of Standards & Technology and Argonne National Lab, to our telecom, energy and transportation systems, America's infrastructure permits cutting-edge R&D almost anywhere in our nation. Innovators and technology entrepreneurs stay here to leverage these unique assets that underlie competitive discoveries and speed time-to-market.

4. MARKET ACCESS: Innovators want to conduct R&D in the world's biggest and wealthiest market – close to the customer – with consumer, business and government spending encouraging innovation in America. Our culture offers a

good fit for innovators – consumers are eager for new gadgets and medicines, success is rewarded handsomely and innovators are celebrated as cultural icons (e.g. Thomas Edison, Bill Gates, Albert Einstein, Jeff Bezos, etc.).

5. INTELLECTUAL PROPERTY PROTECTION. It is not surprising that innovators will create jobs and technologies wherever their ideas are best protected and most profitable. The United States boasts the most consistent protections for intellectual property rights, the most effective patent office, and the system least likely to impose price controls over intensely innovative products such as pharmaceuticals. In this area we retain a significant advantage over rising powerhouse China, with its far less consistent commitment and ability to protect and develop intellectual property.

6. GOVERNMENT. We provide an honest and transparent government, with political stability and a broad respect for the rule of law. While government taxes and regulates, we do not prop up national champions and we rely on the market, not federal agencies, to pick winners and losers.

7. QUALITY OF LIFE. People who can choose where to live are often attracted by America's high quality of life, the result in large part of our democracy, freedoms, clean environment and outstanding health care system. America's relative security and abundance likewise attract the best-and-brightest to live and work on our shores.

WHY INNOVATORS GO OFFSHORE

At the same time, multiple factors are encouraging accelerating R&D and knowledge work in other parts of the world. While the National Science Foundation reports that the United States accounted for 44 percent of the total R&D among OECD nations in 2001 – more than the rest of the G7 nations combined – we accounted for 70 percent of this total in 1970. A great many nations have witnessed America's unparalleled economic success over the past 60 years and understandably seek to emulate it by fostering their own innovation excellence. The rest of the world is not standing still, and they are competing for a growing share of foreign direct investment in research and knowledge work. Here's why:

1. COST. Research talent and facilities cost appreciably less in many areas of the world. Similarly, many foreign nations offer businesses and researchers significant financial incentives to locate R&D (and manufacturing) within their borders.

2. PEOPLE. There are many highly talented researchers among the more than six billion people on the planet who are not U.S. citizens, and some foreign nations such as China are now graduating more physical science and engineering students than the U.S. every year. U.S. companies facing global competition want to tap the best and the brightest, wherever they may live, and the GE's, Microsoft's, IBM's and others like them are investing heavily in new research facilities in

emerging technology clusters such as Bangalore, India and Guandong Province, China.

3. MARKET ACCESS. Many business leaders are attracted to the perceived market possibilities in nations such as China and India, with 2.4 billion people between them. Other innovators believe they need to globalize their research efforts to overcome foreign government impediments to doing business (e.g. standards), or to ensure they can gain needed regulatory approvals in the future (e.g. merger approvals).

4. INFRASTRUCTURE. Foreign governments are making their own investments in university and lab research facilities, transportation, energy and telecommunications to more effectively compete. It is no accident that the new global clusters attracting the most foreign investment and most knowledge work are precisely those with the most advanced infrastructures.

5. BUSINESS CLIMATE. A great number of top-tier innovative companies explain moves to Asia by pointing to their less burdensome taxation, regulation and litigation environments. These reflect both bottom-line and speed-to-market concerns, although many appropriately question whether nations lacking in freedom, robust intellectual property rights, worker and environmental protections can sustain innovation leadership over a long period.

6. PROXIMITY TO OFFSHORE MANUFACTURING. While the rise in offshore IT service work does not appear to result predominantly from the global migration of manufacturing, some suggest that other white-collar service and R&D jobs may be pulled abroad by off-shored manufacturing. Semiconductor industry experts, for example, indicate chip design work needs to happen close to manufacturing facilities.

LONG-TERM CHALLENGES

Going forward, the quality and intensity of global competition is likely to increase. Foreign nations will continue to make their business climates more attractive to global innovation leaders. We may take some comfort from the fact that we have risen to seemingly overwhelming challenges before – my office was established in the 1980s, with Congress convinced that we were insufficiently competitive with "Japan, Inc." Our economy, people and systems will face tougher challenges in the 21st century than ever before, particularly as the pace of change accelerates, disruptions cut deeper and complexity increases. Four long-term challenges stand out in particular.

1. Building the best and brightest. Within a generation we will need a far more science-literate, technology-savvy society than we have today. Yet American students at the K-12 level continue to lag behind their international counterparts in math and science learning. U.S. eighth graders ranked 19th out of 38 nations in math and 18th in science in the 1999 Third International Math & Science Study Repeat. The World Competitiveness Yearbook ranked the U.S. 24th out of 45 nations in science education and 18th in

"attractiveness of S&T to youth." Other nations are aggressively acting to stem their ow brain drains and entice citizens trained in the U.S. to return to their native countries, and many are succeeding. *How can we grow, educate, attract and retain the best and brightest scientists and engineering students?*

2. Funding the Future. Americans enjoy and expect a very generous entitlement system. Retirees are living longer and receiving far more in government benefits than they ever paid into the system. According to the Congressional Budget Office, in 2001, the big entitlement programs accounted for 26 percent of non-interest federal spending; but in 2030, they could account for up to 70 percent. Things we can afford to provide our parents may well become too expensive for our children to pay for us. *How can we ensure sustained federal support for education, infrastructure, and research and development?*

3. Defining national interests in a global economy. While policymakers try to promote national interests, it is getting much harder to define them as the global economy develops. For example, is it better for America to buy a BMW made in South Carolina c a Ford made in Canada? How about IT services procured through IBM but performed in India, versus services purchased from Infosys but staffed using H1B workers living and spending their salaries in America? Is it better to help manufacturers remain competitive by enabling them to cut IT costs through off-shoring or help IT service workers remain employed by shielding them from global competition? New Jersey recently wrestled with a similar question when its Department of Human Services (Division of Family Development) off-shored a basic call center used to support a welfare program. In the wake of controversy, the state returned the nine jobs to New Jersey, albeit at 20 percent higher cost (thereby reducing the amount of funds available for the welfare recipients foı whom the call center is needed). *How will we answer the question when seeking to maximize resources for medical care for the elderly, education for our children or homeland defense?*

4. Equipping people and building systems able to cope with change. If accelerating change is the one constant in the 21st Century, then we will need systems that can rapidly adapt and people who can constantly learn and improve their skills. The IT worker challenge offers the quintessential example. In the late 1990s there was much talk of IT worker "shortages," and many companies complained of difficulty in filling jobs even as many IT workers applied often but could not find work. In fact, the aggregate number of self-classified IT workers was probably equal to the number of corporate-classified IT jobs available – hence the extreme and understandable frustration among existing IT workers. But what did not always match up were current skill sets. Mainframe programmers were not network administrators, Cobol is not C++, and someone ready to hit the ground running in Y2K remediation is not necessarily ready to tackle wireless security issues. As our report released this week explains, because employers demand immediate expertise in whatever skill is "hot," and today's hot skill may not be in demand tomorrow, we could face a perennial skills mismatch putting great stress on our IT workforce and providers. *How do we best equip U.S. workers with the tools, opportunit*

and resources to constantly update their skills and the ability to compete in a just-in-tim world?

BUSH ADMIN INNOVATION & JOBS AGENDA

'o keep pace with change in such a dynamic environment, and to maintain American leadershi ompetitiveness and job growth, the Administration is pursuing a high tech agenda that ptimizes the environment for innovation. As President Bush observed on June 12, 2002:

> We'll continue to support science and technology because innovation makes America stronger. Innovation helps Americans to live longer, healthier and happier lives. Innovation helps our economy grow, and helps people find work. Innovation strengthen: our national defense and our homeland security.

pecifically, our policies aim to promote innovation, support entrepreneurship, improve nfrastructure and empower people.

'o promote innovation, the President has proposed aggressive investments in new esearch and development – $123 billion for 2004, up more than 25 percent since taking ffice, with significant increases in critical emerging technologies such as anotechnology and biotech. This will help ensure an ongoing innovation pipeline and a vell-trained science and technology workforce. We have also been asking Congress to nake the research and experimentation tax credit permanent, to reflect the importance of rivate investments in R&D, which are twice as large as government's. We are trying to trengthen intellectual property protection – by devoting far more resources to the U.S. 'atent & Trademark Office within the Commerce Department, overhauling its policies nd procedures to speed operations and improve quality, and by enforcing intellectual roperty rights aggressively at home and abroad. The President also launched an nitiative to improve math and science teaching at the K-12 level, devoting $1 billion hrough the National Science Foundation and Department of Education over five years.

'o support an entrepreneurial business climate, the President continues to offer pro-job rowth, pro-tech fiscal policies. Many experts believed the 2001 tax cut moderated the ecession that began one month before President Bush took office. Our 2002 stimulus ackage extended benefits for displaced workers and accelerated depreciation schedules or businesses investment in capital equipment, which helped maintain new business nvestment in IT in the wake of uncertainty exacerbated by 9/11 and the corporate orruption scandals. The President's recently enacted jobs and growth package should urther stimulate job creation, investment and growth, including a tripling of allowances or small business investments. We are aggressively promoting export opportunities for merican companies through the WTO and in multiple bilateral agreements, working to pen global markets for goods and services made by American workers. The President as proposed expanding citizens' access to quality health care by reducing costs imposed y frivolous litigation and expanding prescription drug benefits for seniors. And the dministration has taken a leadership role in addressing concerns about investor onfidence after the excesses of the 1990s by aggressively prosecuting those who broke

the law, implementing new rules to strengthen corporate governance and increasing transparency for investors.

To improve our infrastructure, the President's technology priorities include hardening the Nation's defenses, especially critical infrastructure protection and cyber security; implementing a national energy plan that uses innovative technologies to improve energy efficiency while expanding generation and transmission capacities; strongly supporting deployment and use of high-speed Internet (broadband) networks; and improving the efficiency with which we manage radio spectrum. Led by our colleagues at Commerce's NTIA, we have made great strides already in spectrum, breaking a two year logjam to find spectrum for 3G services, supporting the elimination of spectrum caps, proposing a plan to expand spectrum available for unlicensed data use in the 5 GHz space (pending ratification at the World Radio Conference), and creating a fund to ensure that government users can relocate when the spectrum they are currently using is allocated for commercial use.

Lastly, to empower people, the President made e-government a top management priority for the Administration, leveraging federal investments in IT ($59 billion proposed for 2004) to provide more services to citizens and operate government more efficiently. Of greatest importance to this President may be the bipartisan efforts to improve our Nation's education system, exemplified by the No Child Left Behind Act. The most significant education reform in a generation, effective implementation of this legislation will be key to sustaining American leadership and productivity in the 21st Century by ensuring our children learn and know how to learn. To remain globally competitive – both as a tech-led economy and as the most-inclusive opportunity society – we must place education first, and that is what President Bush is doing.

CONCLUSIONS AND RECOMMENDATIONS

Notwithstanding this ambitious agenda, much work remains. Certainly we will need further analysis to understand the impact of global competition in white-collar service work on American prosperity and competitiveness, separating so-called globalization trends from the economic shocks of the post-bubble, post-9/11, post-Enron and post-Iraq world. One thing we already know is that American workers and employers will face unprecedented global competition going forward, and we must be ready.

We will need to develop systems that can anticipate and address rapid and complex changes in the marketplace. In the information technology workforce world this means improved learning environments and training opportunities. We will need to find ways to boost the productivity and effectiveness of American IT workers to overcome wage disparities, building a dynamic and responsive re-skilling landscape.

Global competition accelerates creative destruction, which can be good for innovative and market-based economies overall, but terribly difficult for displaced communities and individuals. America must never compete in the battle to see who can pay their workers the least, and it will take sustained innovation to ensure we don't have to. Congress and the Administration will need to work together on further policies that enable Americans

to compete and win on our own terms, and we look forward to assisting this Committee in the months and years ahead.

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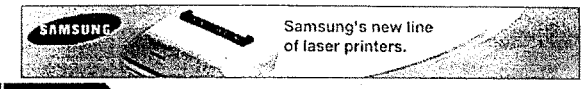

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FEBRUARY 3, 2003

COVER STORY

The New Global Job Shift

The next round of globalization is sending upscale jobs offshore. They include basic research, chip design, engineering--even financial analysis. Can America lose these jobs and still prosper? Who wins? Who loses?

The sense of resignation inside Bank of America (BAC) is clear from the e-mail dispatch. "The handwriting is on the wall," writes a veteran information-technology specialist who says he has been warned not to talk to the press. Three years ago, the Charlotte (N.C.)-based bank needed IT talent so badly it had to outbid rivals. But last fall, his entire 15-engineer team was told their jobs "wouldn't last through September." In the past year, BofA has slashed 3,700 of its 25,000 tech and back-office jobs. An additional 1,000 will go by March.

Corporate downsizings, of course, are part of the ebb and flow of business. These layoffs, though, aren't just happening because demand has dried up. Ex-BofA managers and contractors say one-third of those jobs are headed to India, where work that costs $100 an hour in the U.S. gets done for $20. Many former BofA workers are returning to college to learn new software skills. Some are getting real estate licenses. BofA acknowledges it will outsource up to 1,100 jobs to Indian companies this year, but it insists not all India-bound jobs are leading to layoffs.

Cut to India. In dazzling new technology parks rising on the dusty outskirts of the major cities, no one's talking about job losses. Inside Infosys Technologies Ltd.'s (INFY) impeccably landscaped 22-hectare campus in Bangalore, 250 engineers develop IT applications for BofA. Elsewhere, Infosys staffers process home loans for Greenpoint Mortgage of Novato, Calif. Near Bangalore's airport, at the offices of Wipro Ltd. (WIT), five radiologists interpret 30 CT scans a day for Massachusetts General Hospital. Not far away, 26-year-old engineer Dharin Shah talks excitedly about his $10,000-a-year job designing third-generation mobile-phone chips, as sun pours through a skylight at the Texas Instrument Inc. (TXN) research center. Five years ago, an engineer like Shah would have made a beeline for Silicon Valley. Now, he says, "the sky is the limit here."

About 1,600 km north, on an old flour mill site outside New Delhi, all four floors of Wipro Spectramind Ltd.'s sandstone-and-glass building are buzzing at midnight with 2,500 young college-educated men and women. They are processing claims for a major U.S. insurance company and providing help-desk support for a big U.S. Internet service provider--all at a cost up to 60% lower than in the U.S. Seven Wipro Spectramind staff with PhDs in molecular biology sift through scientific research for Western pharmaceutical companies. Behind glass-framed doors, Wipro voice coaches drill staff on how to speak American English. U.S. customers like a familiar accent on the other end of the line.

Cut again to Manila, Shanghai, Budapest, or San José, Costa Rica. These cities--and dozens more across the developing world--have become the new back offices for Corporate America, Japan Inc., and Europe

GmbH. Never heard of Balazs Zimay? He's a Budapest architect--and just might help design your future dream house. The name SGV & Co. probably means nothing to you. But this Manila firm's accountants may crunch the numbers the next time Ernst & Young International audits your company. Even Bulgaria, Romania, and South Africa, which have a lot of educated people but remain economic backwaters, are tapping the global market for services.

It's globalization's next wave--and one of the biggest trends reshaping the global economy. The first wave started two decades ago with the exodus of jobs making shoes, cheap electronics, and toys to developing countries. After that, simple service work, like processing credit-card receipts, and mind-numbing digital toil, like writing software code, began fleeing high-cost countries.

Now, all kinds of knowledge work can be done almost anywhere. "You will see an explosion of work going overseas," says Forrester Research Inc. analyst John C. McCarthy. He goes so far as to predict at least 3.3 million white-collar jobs and $136 billion in wages will shift from the U.S. to low-cost countries by 2015. Europe is joining the trend, too. British banks like HSBC Securities Inc. (HBC) have huge back offices in China and India; French companies are using call centers in Mauritius; and German multinationals from Siemens (SI) to roller-bearings maker INA-Schaeffler are hiring in Russia, the Baltics, and Eastern Europe.

The driving forces are digitization, the Internet, and high-speed data networks that girdle the globe. These days, tasks such as drawing up detailed architectural blueprints, slicing and dicing a company's financial disclosures, or designing a revolutionary microprocessor can easily be performed overseas. That's why Intel Inc. (INTC) and Texas Instruments Inc. are furiously hiring Indian and Chinese engineers, many with graduate degrees, to design chip circuits. Dutch consumer-electronics giant Philips (PHG) has shifted research and development on most televisions, cell phones, and audio products to Shanghai. In a recent PowerPoint presentation, Microsoft Corp. (MSFT) Senior Vice-President Brian Valentine--the No. 2 exec in the company's Windows unit--urged managers to "pick something to move offshore today." In India, said the briefing, you can get "quality work at 50% to 60% of the cost. That's two heads for the price of one."

Even Wall Street jobs paying $80,000 and up are getting easier to transfer. Brokerages like Lehman Brothers Inc. (LEH) and Bear, Stearns & Co. (BSC), for example, are starting to use Indian financial analysts for number-crunching work. "A basic business tenet is that things go to the areas where there is the best cost of production," says Ann Livermore, head of services at Hewlett-Packard Co. (HPQ), which has 3,300 software engineers in India. "Now you're going to see the same trends in services that happened in manufacturing."

The rise of a globally integrated knowledge economy is a blessing for developing nations. What it means for the U.S. skilled labor force is less clear. At the least, many white-collar workers may be headed for a tough readjustment. The unprecedented hiring binge in Asia, Eastern Europe, and Latin America comes at a time when companies from Wall Street to Silicon Valley are downsizing at home. In Silicon Valley, employment in the IT sector is down by 20% since early 2001, according to the nonprofit group Joint Venture Silicon Valley.

Should the West panic? It's too early to tell. Obviously, the bursting of the tech bubble and Wall Street's woes are chiefly behind the layoffs. Also, any impact of offshore hiring is hard to measure, since so far a tiny portion of U.S. white-collar work has jumped overseas. For security and practical reasons, corporations are likely to keep crucial R&D and the bulk of back-office operations close to home. Many jobs can't go anywhere because they require face-to-face contact with customers. Americans will continue to deliver medical care, negotiate deals, audit local companies, and wage legal battles.

Talented, innovative people will adjust as they always have.

Indeed, a case can be made that the U.S. will see a net gain from this shift--as with previous globalization waves. In the 1990s, Corporate America had to import hundreds of thousands of immigrants to ease engineering shortages. Now, by sending routine service and engineering tasks to nations with a surplus of educated workers, the U.S. labor force and capital can be redeployed to higher-value industries and cutting-edge R&D. "Silicon Valley doesn't need to have all the tech development in the world," says Doug Henton, president of Collaborative Economics in Mountview, Calif. "We need very-good-paying jobs. Any R&D that is routine can probably go." Silicon Valley types already talk about the next wave of U.S. innovation coming from the fusion of software, nanotech, and life sciences.

Globalization should also keep services prices in check, just as it did with clothes, appliances, and home tools when manufacturing went offshore. Companies will be able to keep shaving overhead costs and improving efficiency. "Our comparative advantage may shift to other fields," says City University of New York economist Robert E. Lipsey, a trade specialist. "And if productivity is high, then the U.S. will maintain a high standard of living." By spurring economic development in nations such as India, meanwhile, U.S. companies will have bigger foreign markets for their goods and services.

For companies adept at managing a global workforce, the benefits can be huge. Sure, entrusting administration and R&D to far-flung foreigners sounds risky. But Corporate America already has become comfortable hiring outside companies to handle everything from product design and tech support to employee benefits. Letting such work cross national boundaries isn't a radical leap. Now, American Express (AXP), Dell Computer (DELL), Eastman Kodak (EK), and other companies can offer round-the-clock customer care while keeping costs in check. What's more, immigrant Asian engineers in the U.S. labs of TI, IBM (IBM), and Intel for decades have played a big, hidden role in American tech breakthroughs. The difference now is that Indian and Chinese engineers are managing R&D teams in their home countries. General Electric Co. (GE), for example, employs some 6,000 scientists and engineers in 10 foreign countries. GE Medical Services integrates magnet, flat-panel, and diagnostic imaging technologies from labs in China, Israel, Hungary, France, and India in everything from its new X-ray devices to $1 million CT scanners. "The real advantage is that we can tap the world's best talent," says GE Medical Global Supply Chain Vice-President Dee Miller.

That's the good side of the coming realignment. There are hazards as well. During previous go-global drives, many companies ended up repatriating manufacturing and design work because they felt they were losing control of core businesses or found them too hard to coordinate. In a recent Gartner Inc. survey of 900 big U.S. companies that outsource IT work offshore, a majority complained of difficulty communicating and meeting deadlines. As a result, predicts Gartner Inc. Research Director Frances Karamouzis, many newcomers will stumble in the first few years as they begin using offshore service workers.

A thornier question: What happens if all those displaced white-collar workers can't find greener pastures? Sure, tech specialists, payroll administrators, and Wall Street analysts will land new jobs. But will they be able to make the same money as before? It's possible that lower salaries for skilled work will outweigh the gains in corporate efficiency. "If foreign countries specialize in high-skilled areas where we have an advantage, we could be worse off," says Harvard University economist Robert Z. Lawrence, a prominent free-trade advocate. "I still have faith that globalization will make us better off, but it's no more than faith."

If the worries prove valid, that could reshape the globalization debate. Until now, the adverse impact of free trade has been confined largely to blue-collar workers. But if more politically powerful middle-class

Americans take a hit as white-collar jobs move offshore, opposition to free trade could broaden.

When it comes to developing nations, however, it's hard to see a downside. Especially for those countries loaded with college grads who speak Western languages, outsourced white-collar work will likely contribute to economic development even more than new factories making sneakers or mobile phones. By 2008 in India, IT work and other service exports will generate $57 billion in revenues, employ 4 million people, and account for 7% of gross domestic product, predicts a joint study by McKinsey & Co. and Nasscom, an Indian software association.

What makes this trend so viable is the explosion of college graduates in low-wage nations. In the Philippines, a country of 75 million that churns out 380,000 college grads each year, there's an oversupply of accountants trained in U.S. accounting standards. India already has a staggering 520,000 IT engineers, with starting salaries of around $5,000. U.S. schools produce only 35,000 mechanical engineers a year; China graduates twice as many. "There is a tremendous pool of well-trained people in China," says Johan A. van Splunter, Philips' Asia chief executive.

William H. Gates III, for one, is dipping into that pool. Although Microsoft started later than many rivals, it is moving quickly to catch up. In November, Chairman Gates announced his company will invest $400 million in India over the next three years. That's on top of the $750 million it's spending over three years on R&D and outsourcing in China. At the company's Beijing research lab, one-third of the 180 programmers have PhDs from U.S. universities. The group helped develop the "digital ink" that makes handwriting show up on Microsoft's new tablet PCs and submitted four scientific papers on computer graphics at last year's prestigious Siggraph conference in San Antonio. Hyderabad, India, meanwhile, is key to Microsoft's push into business software.

This is no sweatshop work. Just two years out of college, Gaurav Daga, 22, is India project manager for software that lets programs running on Unix-based computers interact smoothly with Windows applications. Daga's $11,000 salary is a princely sum in a nation with a per capita annual income of $500, where a two-bedroom flat goes for $125 a month. Microsoft is adding 10 Indians a month to its 150-engineer center and indirectly employs hundreds more at IT contractors. "It's definitely a cultural change to use foreign workers," says Sivaramakichenane Somasegar, Microsoft's vice-president for Windows engineering. "But if I can save a dollar, hallelujah."

Corporations are letting foreign operations handle internal finances as well. Procter & Gamble Co.'s (PG) 650 Manila employees, most of whom have business and finance degrees, help prepare P&G's tax returns around the world. "All the processing can be done here, with just final submission done to local tax authorities" in the U.S. and other countries, says Arun Khanna, P&G's Manila-based Asia accounting director.

Virtually every sector of the financial industry is undergoing a similar revolution. Processing insurance claims, selling stocks, and analyzing companies can all be done in Asia for one-third to half of the cost in the U.S. or Europe. Wall Street investment banks and brokerages, under mounting pressure to offer independent research to investors, are buying equity analysis, industry reports, and summaries of financial disclosures from outfits such as Smart Analyst Inc. and OfficeTiger that employ financial analysts in India. By mining databases over the Web, offshore staff can scrutinize an individual's credit history, access corporate public financial disclosures, and troll oceans of economic statistics. "Everybody these days is drawing on the same electronic reservoir of data," says Ravi Aron, who teaches management at the Wharton School at the University of Pennsylvania.

Architectural work is going global, too. Fluor Corp. (FLR) of Aliso Viejo, Calif., employs 1,200

engineers and draftsmen in the Philippines, Poland, and India to turn layouts of giant industrial facilities into detailed specs and blueprints. For a multibillion-dollar petrochemical plant Fluor is designing in Saudi Arabia, a job requiring 50,000 separate construction plans, 200 young Filipino engineers earning less than $3,000 a year collaborate in real time with elite U.S. and British engineers making up to $90,000 via Web portals. The principal Filipino engineer on plumbing design, 35-year-old Art Aycardo, pulls down $1,100 a month--enough to buy a Mitsubishi Lancer, send his three children to private school, and take his wife on a recent U.S. trip. Fluor CEO Alan Boeckmann makes no apologies. At a recent meeting in Houston, employees asked point-blank why he is sending high-paying jobs to Manila. His response: The Manila operation knocks up to 15% off Fluor's project prices. "We have developed this into a core competitive advantage," Boeckmann says.

It's not just a game for big players: San Francisco architect David N. Marlatt farms out work on Southern California homes selling for $300,000 to $1 million. He fires off two-dimensional layouts to architect Zimay's PC in Budapest. Two days later, Marlatt gets back blueprints and 3-D computer models that he delivers to the contractor. Zimay charges $18 an hour, vs. the up to $65 Marlatt would pay in America. "In the U.S., it is hard to find people to do this modeling," Zimay says. "But in Hungary, there are too many architects."

So far, white-collar globalization probably hasn't made a measurable dent in U.S. salaries. Still, it would be a mistake to dismiss the trend. Consider America's 10 million-strong IT workforce. In 2000, senior software engineers were offered up to $130,000 a year, says Matt Milano, New York sales manager for placement firm Atlantis Partners. The same job now pays up to $100,000. Entry-level computer help-desk staffers would fetch about $55,000 then. Now they get as little as $35,000. "Several times a day, clients tell me they are sending this work off shore," says Milano. Companies that used to pay such IT service providers as IBM, Accenture (ACN), and Electronic Data Services (EDS) $200 a hour now pay as little as $70, says Vinnie Mirchandani, CEO of IT outsourcing consultant Jetstream Group. One reason, besides the tech crash itself, is that Indian providers like Wipro, Infosys, and Tata charge as little as $20. That's why Accenture and EDS, which had few staff in India three years ago, will have a few thousand each by next year.

Outsourcing experts say the big job migration has just begun. "This trend is just starting to crystallize now because every chief information officer's top agenda item is to cut budget," says Gartner's Karamouzis. Globalization trailblazers, such as GE, AmEx, and Citibank (C), have spent a decade going through the learning curve and now are ramping up fast. More cautious companies--insurers, utilities, and the like--are entering the fray. Karamouzis expects 40% of America's top 1,000 companies will at least have an overseas pilot project under way within two years. The really big offshore push won't be until 2010 or so, she predicts, when global white-collar sourcing practices are standardized.

If big layoffs result at home, corporations and Washington may have to brace for a backlash. Already, New Jersey legislators are pushing a bill that would block the state from outsourcing public jobs overseas. At Boeing Co. (BA), an anxious union is trying to ward off more job shifts to the aircraft maker's new 350-person R&D center in Moscow (page 42).

The truth is, the rise of the global knowledge industry is so recent that most economists haven't begun to fathom the implications. For developing nations, the big beneficiaries will be those offering the speediest and cheapest telecom links, investor-friendly policies, and ample college grads. In the West, it's far less clear who will be the big winners and losers. But we'll soon find out.

By Pete Engardio, Aaron Bernstein, and Manjeet Kripalani
With Frederik Balfour in Manila, Brian Grow in Atlanta, and Jay Greene in Seattle

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FEBRUARY 3, 2003

COVER STORY

Online Extra: Perilous Currents in the Offshore Shift

Companies now desperate to cut costs by sending skilled, high-paying jobs overseas often don't understand what they're really doing

Each day, Gartner Inc. Research Director Frances Karamouzis says she speaks with several giant U.S. companies interested in shifting information-technology and back-office jobs abroad. From this feedback, Karamouzis is convinced that the trickle of skilled work migrating offshore is about to turn into a torrent.

Until recently, says the outsourcing specialist, only a handful of globalization trailblazers like General Electric (GE) and Citibank (C) employed more than a few hundred people in India, the Philippines, and other low-wage nations to handle key IT support and administrative duties such as payrolls and accounts receivables. "Now what's happening is that the pragmatists, the mainstream companies, are starting to join this market in all kinds of industries," Karamouzis says. "We're talking about financial services companies, high-tech manufacturers, media conglomerates, health-care organizations -- they're all exploring this."

The reason for the surging interest seems clear: "Now that we're in a down economy, the top agenda item of every chief information officer is to cut budget," says Karamouzis. Within three years, she predicts, 30% of large U.S. companies will outsource IT services and manage certain business processes through offshore vendors. In jobs that are highly transportable, such as IT support, up to 20% of U.S. positions could head overseas. And the types that are considered transferable are getting more important, ones that pay $80,000 and more. "The interesting question is how far up the food chain this will go."

BROADER IMPLICATIONS. All of this is great for business at IT market-research firms like Gartner, which is supplying big clients with gobs of info on everything from data-transmission rates in Manila to the going salary for an Indian software engineer with a master's degree and three years of experience. But Gartner also is assembling a research team that's looking at the broader implications of this next wave of globalization. What are companies really gaining and losing by firing white-collar workers at home and becoming more dependent on far-flung foreign operations? And what does this mean to America's white-collar workforce?

Gartner's early conclusion: Many companies simply haven't thought these questions through. CEOs are rushing to shift jobs now in their desperation to slash costs and boost the bottom line, but with little understanding of whether or not they're enhancing or endangering core operations. As a result, many companies that will join the bandwagon are likely to stumble. And if it's perceived that companies are exporting good jobs simply to save a buck, Corporate America may be setting itself up for a nasty backlash as the pink slips mount.

"We anticipate that you'll see a disproportionate number of layoffs this year and next in info tech. The impact will be very severe," says Diane Morella, a Gartner research director focusing on workforce issues. "And there's very little discussion about what this means for the U.S. and Western Europe four or five years from now."

ENGINEERS NEEDED. How are companies deciding which jobs to keep and which can go? Clearly, salaries are the big factor. In some job categories, the gap between what a certain skilled job pays in the U.S. vs. in a developing nation like India is 5 or 10 to 1. Another factor, of course, is that certain skills are still in acutely short supply in the U.S.

Take mechanical engineering. U.S. colleges graduate only about 35,000 of them annually -- about half of what Corporate America will need in the coming years. "We have always had a higher demand for engineers than can be supplied in the U.S.," says Daniel Miklovick, Gartner's research director for manufacturing. "The big shortage is just beginning to materialize."

While Corporate America has been able to fill that gap by arranging H1-B work visas for foreign engineers, getting such visas is now harder because of the U.S. economic slowdown and tighter immigration rules in the wake of September 11. As a result, more U.S. manufacturers are hiring mechanical engineers in countries like China, which has an oversupply.

DOES IT ADD VALUE? Similarly, big shortages of software programmers in the 1990s, especially during the height of the Y2K panic, gave low-cost Indian IT service providers the chance they needed to show companies they could do the same quality of work as IBM (IBM), Electronic Data Systems (EDS), and Accenture (ACN) at a fraction of the cost.

But these days, pay and skills aren't the only considerations as U.S. businesses cut ever deeper into the ranks of salaried professionals. The most fundamental factor in deciding whether to shift a job offshore is whether that position adds a lot of value to a company. "Jobs that require an understanding of a company's requirements and an ability to translate that understanding into an IT operation, won't go away. This is a unique skill set," says Karamouzis.

Once a job can be defined and codified so that outsiders can do it, however, it becomes lower-value and "can get commoditized more easily," she says. Karamouzis cites one Gartner client that recently laid off 500 IT staffers, mostly software coders and programmers, and is shifting the work to India. "But this company will keep all of the senior, higher-priced IT architects who can develop solutions really, really well."

THREATENING SIGNALS. The big problem is that not all corporations are adept at figuring out which jobs really should stay close to home and which are dispensable, Gartner analysts say. Even fewer are very good at managing networks of support staff, R&D teams, and other white-collar workers that are dispersed around the globe. Nor do they know how to manage such a shift without sending threatening signals to white-collar staff that they really want to keep.

Karamouzis notes that GE, which has 10,000 staffers in India alone and is in the process of doubling that, has spent many years gradually building up its overseas operations. "They did this at a slow pace, and they didn't displace many workers in the U.S.," she says. "So they didn't experience as much of a work backlash as you would think."

The next few years are likely to be much more contentious, with some companies hiring thousands of staff in India, the Philippines, China, and other countries while simultaneously downsizing ruthlessly at

home. Indeed, the global job shift could become so problematic for many companies that some kind of pullback is likely. "I think we are at the start of a very deep and difficult learning curve," says Karamouzis.

She explains that historically, with any new business trend, "you can expect that after five or seven years, the pendulum will shift back. Companies will discover they they have suffered a loss of knowledge and will retrench." But eventually, companies will likely get through that learning curve and figure out how to manage a global workforce efficiently. Then the offshore job shift could really kick into full swing.

By Pete Engardio in New York

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Testimony of

Ron Hira, Ph.D., P.E.
Chair, Research & Development Policy Committee
The Institute of Electrical and Electronics Engineers – United States of America

To

The Committee on Small Business
United States House of Representatives

On

Global Outsourcing of Engineering Jobs: Recent Trends and Possible Implications

18 June 2003

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1. Introductory Remarks

Let me begin by thanking Chairman Manzullo and other distinguished Members of the House Committee on Small Business for inviting IEEE-USA to testify on the subject of the global outsourcing of white-collar jobs – an increasingly controversial issue with serious implications for individual Americans and the future economic and technological competitiveness of the United States.

My name is Ron Hira and I am a Post Doctoral Fellow at Columbia University's Center for Science, Policy and Outcomes in Washington, D.C. I am testifying here on behalf of the more than 235,000 U.S. members of the Institute of Electrical and Electronics Engineers. I chair IEEE-USA's Research and Development Policy Committee and am an active member of its Career and Workforce Policy Committee.

The Institute of Electrical and Electronics Engineers is a transnational technical and professional society made up of more than 382,000 individual members in 150 countries. The IEEE's primary purposes are to advance the theory and practice of electrical, electronics, computer and software engineering; improve the careers of our members and increase their ability to innovate and create wealth for the benefit of the societies in which they live and work. IEEE-USA was established in 1973 – in the midst of an earlier economic downturn – to promote the professional careers and technology policy interests of IEEE's U.S. members.

Nearly 70% of IEEE-USA's members work for private businesses, primarily in the aerospace and defense, bio-medical technology, computers and communications, electrical and electronics equipment manufacturing and electric power industries. Approximately 1/3 of our industry members work for firms with 500 or fewer employees. Ten percent of our members work for Federal, state and local governments. Another ten percent teach at American schools of engineering or work at non-profit research organizations. Most of the rest are self-employed and work as consultants to businesses and government.

2. Global Outsourcing - Recent Trends and Future Projections

Pete Engardio and his colleagues at Business Week have assembled a comprehensive and very compelling description of the global outsourcing phenomenon. The graphics, statistical tables and sidebars in their February 3, 2003 article entitled "Is Your Job Next" explain related trends and their implications for white collar workers, including U.S. engineers and scientists, in startling detail.

The article provides an alarming picture of the kinds and numbers of white-collar jobs that major American companies are shifting to overseas locations, mostly in developing economies in the Far East, Latin America and Eastern Europe. The article also makes it very clear that the most important economic and strategic driver behind global outsourcing is the ready availability of substantial numbers of skilled professionals in other countries who are willing and able to work for much less than their counterparts in the United States.

The following tables describe global outsourcing of white collar jobs in more detail. To illustrate the trend , the first table identifies several major U.S. based employers who are currently outsourcing important scientific and engineering work to lower cost, offshore locations.

Table 1 – Major U.S. Exporters of Science and Engineering Jobs

Company	Numbers of Workers and Country	Types of Work
Accenture	5,000 to the Philippines by 2004	Accounting and software
General Electric	20,000 to India and China in 2003	Aircraft and Medical R&D
Intel	3,000 to India by 2006	Chip design, tech support
Microsoft	500 to India and China in 2003	Software design, IT support
Oracle	4,000 in India	Software design and support
Phillips	700 in China	Consumer electronics R&D

Source*: **Business Week***

The second table compares recent increases in the numbers of natural science and engineering degrees awarded in countries to which white-collar jobs are being outsourced with similar statistics for the United States.

Table 2 - Science and Engineering Degree Production in Selected Countries

Country	BA and BS Degrees		MA, MS and PhD Degrees	
	1989	1999	1989	1999
China	127,000	322,000	19,000	41,000
India	165,000	251,000	64,000	63,000
Philippines	40,000	66,000	255	937
Mexico	32,000	57,000	340	63,000
United States	196,000	220,000	61,000	77,000

Source: National Science Foundation

The third table describes the cost of engineering talent in the United States and four other countries based on the concept of purchasing power parity.

Table 3 – Annual Salary Requirements for an Engineer in Selected Countries

Country	Purchasing Power Parity	Annual Salary
United States	1.0	$70,000
Hungary	0.367	$25,690
China	0.216	$15,120
Russia	0.206	$14,420
India	0.194	$13,580

Source - Ron Hira, Columbia University

The fourth table includes estimates of the numbers and kinds of white-collar jobs likely to be outsourced in the years immediately ahead.

Table 4 – Projected Numbers of US Jobs to be Moved Offshore*

Profession	By 2005	By 2010	By 2015
Architecture	32,000	83,000	184,000
Business Operations	61,000	162,000	348,000
Computer Science	109,000	277,000	473,000
Law	14,000	35,000	75,000
Life Sciences	3,700	14,000	37,000
Management	37,000	118,000	288,000

* To low wage countries such as China, India, Mexico and the Philippines

Source – Forrester Research Inc.

3. Global Outsourcing of Jobs Exacerbates U.S. Engineering Unemployment

Unemployment among America's engineers has spiked sharply upward from 2.0% in 2001 to 4.2% in 2002 to more than 6.0% in the first quarter of 2003.

The unemployment problem is even worse for all electrical, electronics, computer and software engineers. According to the Bureau of Labor Statistics at the U.S. Department of Labor, unemployment among electrical and electronics engineers reached 7.0% in the first quarter of 2003. 6.5% of all computer hardware engineers and 7.5% of computer software engineers were also unemployed during the same period. These are *unprecedented* levels for each occupation.

IEEE-USA is concerned that these increases in engineering unemployment may not be a short term, cyclical phenomenon that will correct itself when the economy begins its long anticipated upturn. Instead, current engineering unemployment is the result of much more fundamental structural changes in the U.S. economy that could have very serious, long-term affects – not only on the future viability of engineering as a high-wage/high value added career – but on the nation's economic and technological competitiveness and the continuing ability of small businesses to be a major driver of innovation and job creation in the United States.

The current economic and employment problems we face are complex and interrelated. There are no easy answers or silver bullets in terms of public policy recommendations. But we do think that the continuing movement of manufacturing facilities and blue-collar jobs, and the growing willingness of major employers to move essential service functions and white collar jobs of all kinds to lower cost, offshore locations is a major contributing factor to our current unemployment crisis.

4. Global Outsourcing Has Economic, Technological and Security Implications

Traditionally, the United States has been a leader in technological innovation – a major contributor to improvements in productivity, economic growth and personal well-being that took place during the 1990's. Engineers and scientists at colleges and universities, at businesses of all sizes and at public and private research organizations have long been prime movers in the conversion of scientific discoveries into useful products and services and in technological innovation. A nation's ability to innovate is at the core of its economic and technological strength. Location matters when it comes to the innovation process because it generates enormous local spillover benefits and feeds on itself. An obvious example is Silicon Valley.

Global outsourcing of high wage/high value added engineering jobs threatens this leadership on a number of fronts.

- The movement of more and more manufacturing and related service functions to offshore locations means that many technological improvements in manufacturing processes that are discovered and perfected as goods are produced will be developed in other countries.

- The outsourcing of information technology applications development and delivery outside of the United States will reduce opportunities for continuing domestic innovations in software, data communications and data security applications.

- The downward pressure on job opportunities, wages and working conditions that will occur as more and more scientific and engineering jobs are shifted to lower cost offshore locations is likely to reduce the willingness of America's best and brightest young people to pursue careers in science and engineering.

- Personal economic and national security will be subject to increasing risk as responsibility for more and more private, proprietary and mission critical military and national security data is transferred to other countries.

5. Global Outsourcing Has Costs As Well As Benefits

Global outsourcing is often justified as absolutely critical to the preservation and enhancement of corporate viability and the quality of life in the United States in an increasingly competitive, technology-driven global economy. While there are benefits to global outsourcing, proponents often fail to address the related costs. There are serious, long-term consequences for many Americans, their communities and the nation as a whole. Such adverse consequences may include:

- Loss of employment and income for more and more American professional workers if outsourcing continues to exert downward pressure on job opportunities, wages and other forms of compensation.

- Loss of payroll and income taxes at the national, state and local levels at a time when demands on pay as you go social insurance programs, such as Social Security and Medicare, and the need for improvements in our communications, educational, health care and transportation infrastructures are beginning to accelerate.

- Loss of employer contributions to government sponsored unemployment insurance and workmen's compensation programs that will be needed to help sustain the increasing numbers of displaced workers whose jobs have been moved offshore.

- Loss of national economic and technological competitiveness and increasing dependence on foreign sources of supply for consumer products, military hardware and defense systems as well as the technical talent needed to design, produce and maintain them.

- Further imbalances in international trade and the US balance of payments as America is forced to buy more products and outsourced services than its sells to its major trading partners.

6. Public Policy Alternatives

As I said at the outset of my testimony, the causes of current economic and related employment problems are complex and appropriate policy options for addressing them will require some creativity. We do know that offshore outsourcing is accelerating and policymakers can mitigate some of its negative impacts.

Before we can deal effectively with complex economic problems, we must first learn more about their causes and effects. Reliable statistical information about the current magnitude of global outsourcing and its effects on national and international labor markets is sorely lacking. One policy recommendation, therefore, is to pool the resources of interested parties – educators, employers, government agencies, labor unions and professional societies – to identify the kinds and possible sources of statistical information needed to "get our arms around" the global outsourcing phenomenon.

The current non-immigrant system that brings in temporary foreign workers with H-1B (specialty occupations) and L-1 (intra-company transfers) visas has *accelerated* movement of work offshore as temporary workers in management positions outsource work to overseas colleagues, and as temporary workers who have returned home use their knowledge and connections in the U.S. market to competitively bid for outsourced work. A policy shift away from reliance on guest workers and towards permanent immigration would help minimize this problem.

Increasing reliance on high tech temporary workers has had other negative impacts apart from increased unemployment. Charges of abuse and exploitation of temporary workers are on the rise. Similarly, there are frequent reports of displaced American engineers and IT workers being forced to train their L-1 visa replacements as a condition of their severance package. The H-1B and L-1 visa programs should be reformed to limit these abuses and bring the programs back in line with Congress' original intent. Much engineering and information technology work needs to be done onsite in the U.S., and American workers should have preference over foreign guest workers.

Additionally, Congress should monitor current World Trade Organization (WTO) General Agreement on Trade in Services' (GATS) mode 4, movement of natural persons, negotiations. Many countries have pushed the U.S. to make it even easier to misuse the H-1B and L-1 visas.

Another possible policy option is to identify appropriate tax and other financial incentives needed to encourage employers to create and retain more high wage/high value added manufacturing and service sector jobs by establishing and maintaining more high end research, design, development and manufacturing facilities in the United States.

Current offshore outsourcing has affected U.S. workers more than larger U.S. companies, so another appropriate policy response is to provide assistance to employed, underemployed and dislocated workers in the form of tax incentives to help pay for lifelong learning (continuing education and training), including tax credits for employers that offer training or retraining in high demand technical, management and marketing skills; tax-favored savings accounts to help pay for job and career-related education and training expenses incurred by individual taxpayers; and possibly even relocation accounts to help workers move from low growth to high growth labor markets.

And finally, related to national security considerations, Congress may wish to increase enforcement of "deemed export laws" to reduce the likelihood that mission critical and other sensitive technologies will be transferred overseas through global outsourcing of scientific and engineering jobs.

STATEMENT OF JOHN CHALLENGER

Donald A. Manzullo
Chairman
Committee on Small Business

Dear Congressman Manzullo,

In regard to the issue of permanent job loss in a global economy:

It would be arrogant and thickheaded to think that only unskilled and semi-skilled jobs can or will be done overseas. The United States is certainly not the only natural sanctuary for the most skilled. Our education system is not number one in the world. Certainly, the U.S. must actively strive to improve our education system, a critical factor in the long term economic health of our country.

To try and stop the globalization of the workforce is futile. It is a natural force.

As certain kinds of jobs dry up here, there is no reason to think that our

talented workforce will not redeploy their skills in new directions and

endeavors. In fact, the entrepreneurial spirit and the minimal structural

barriers for business startups in the United States is the envy of the world. Look at the change as opportunity. The movement to a global economy and workforce will be filled with disruptions and hardships. The globalization of manufacturing has stranded many people in their 40s and 50s. Some go back to school for retraining, others work in poorer paying jobs, and some have left the workforce and are on disability or in prison. We must look for ways to help them. Their children look to newer jobs and careers, and their parents must insist they get more education to accomplish those goals.

We must restructure our education system to reflect the fact that lifelong education and learning is crucial to our economic growth. Programs that encourage companies and government entities to offer skills training and tuition reimbursement to adults throughout their lives are crucial.

When looking for lessons about how the U.S. and other first world countries must manage the transition to a global economy, look to West Germany's swallowing of East Germany.

Technology is paving the way for, and making inevitable, the globalization of skilled jobs. The decline in cost of technology, the growth in computing power (Moore's law), the long-term expansion of airport and aerospace infrastructure, and the 24/7 workweek...these factors and many more are laying the foundation for the global village/economy.

Millions of jobs will never be moved en masse overseas because they require proximity and are essentially "in-person work." Some examples include store personnel, nurses and doctors, teachers, musicians, golf professionals, construction workers, counselors, social service professionals, pilots, cooks, executives, librarians, moviemakers, soldiers,

security workers, entrepreneurs, etc. The job loss scare parallels what we saw in the late 90s when many thought that every job, business, and worker would become virtual. We see how discredited those ideas are now. The fear that all jobs are going to disappear, whether it revolves around overseas workers stealing the jobs or technology consuming them, is bubble mentality.

Entrepreneurs and small businesses create most of the jobs in this country. It is the big companies who can achieve the global reach to move and outsource major segments of their operations overseas. Skilled and unskilled workers are equally migratory. As jobs shift around the U.S. and the world, so will people.

Many more jobs today are "just-in-time." When a company's revenues fall, it is much quicker to let people go. When it expands, the company hires more workers. We saw almost two and a half million jobs created each year in the 1990s during the long boom. Since February 2001 (two and a quarter years), with the economy in recession, there have been 2.5 million jobs lost. As the economy expands and contracts, so do jobs.

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Testimony of John M. Palatiello
Administrator
Council on Federal Procurement of Architectural & Engineer Services (COFPAES)
Before the
House Committee on Small Business
Hearing on Sending White-Collar Jobs Offshore
June 18, 2003

Mr. Chairman, members of the Committee, I am John Palatiello, Administrator of the Council on Federal Procurement of Architectural & Engineer Services (COFPAES), a coalition of the Nation's leading trade associations and professional societies in the architecture, engineering, surveying and mapping field. Our members are the American Congress on Surveying and Mapping (ACSM), American Institute of Architects (AIA), American Society of Civil Engineers (ASCE), National Society of Professional Engineers (NSPE) and the Management Association for Private Photogrammetric Surveyors (MAPPS). Our coalition represents more than 500,000 practicing architects, engineers, surveyors and mapping professionals.

COFPAES was formed in 1966 to speak for the design professional community with a unified voice on Federal procurement issues. Paramount to the council is the qualifications based selection (QBS) process for government procurement of architect-engineer (A-E) services, which is codified in 40 USC 541 and part 36 of the Federal Acquisition Regulation. This process has also been enacted in more than 35 states and is endorsed in the American Bar Association Model Procurement Code for State and Local Government.

For some time, the architecture, engineering, surveying and mapping (A/E) community has been concerned about the practice of sending production work offshore. U.S. firms send drafting, data conversion, scanning, digitizing, and other work related to design and mapping to subcontractors outside the United States.

Before September 11, there was discussion in the A/E community about the practice of sending certain work offshore for subcontractor performance. That discussion focused on whether this was a good business practice and whether this was an ethical activity.

Like many other aspects of American life, things changed on September 11, 2001. In his State of the Union address in January, 2002, President Bush said, *"Our discoveries in Afghanistan confirmed our worst fears ... We have found diagrams of American nuclear power plants and public water facilities, detailed instructions for making chemical weapons, surveillance maps of American cities, and thorough descriptions of landmarks in America and throughout the world. What we have found in Afghanistan confirms that, far from ending there, our war against terror is only beginning."*

Access to A/E drawings, mapping data and other work products of the design community can be used for nefarious and destructive purposes if in the wrong hands. Since the September 11 attacks, there has been increased concern about this issue.

For example, after September 11, GSA announced its new policy regarding access to A/E drawing of Federal buildings. GSA, along with the American Institute of Architects (AIA) and the National Society of Professional Engineers (NSPE) issued a joint statement on dealing with unusual requests for building plans.

A number of Federal agencies revised public web sites and removed maps, drawings and other data about our critical infrastructure. For example, the U.S. Department of Transportation's web site on the National Pipeline Mapping System, which provided location data on interstate gas and petroleum transmission lines, was shut down.

While these may have been prudent and necessary steps, they could in some respects be tantamount to shutting the barn door after the horse has escaped.

There are instances in which U.S. firms send conversion work, mapping and other geographic and design information work offshore, to India, Pakistan, China, the Philippines, and other countries with lower labor costs. This practice raises issues regarding access to data about the location of power plants, buildings, pipelines, water supply systems, underground utilities and other critical infrastructure by individuals in foreign countries who have not been through any degree of security clearance and where control of access to data simply does not exist.

While the Federal "Buy America Act" (40 USC 10a) generally does not apply to services, for a Federal Government contractor to send work off-shore could be illegal and potentially dangerous. The only reason a firm would send work offshore would be to take advantage of lower labor costs. If a firm were to send Federal contract work offshore, take advantage of the lower labor costs, fail to pay the prevailing wage required by the contract, and pocket the difference, it could be in violation of contract clauses and subject the firm to fraud, personnel to criminal penalties, and possible Federal contracting debarment. We would urge the Committee's investigation of the legality of such a practice.

Federal A/E contracts and subcontracts are subject to the prevailing wage requirements of the Service Contract Act of 1965 (41 U.S.C. 351 et seq.). Many state and local governments have similar prevailing wage laws. Some would quickly assume that with regard to Federal contracts, this practice could not be taking place, due to the requirement that the prevailing wage be paid to prime contractors' workers and subcontractors' workers pursuant to the Service Contract Act of 1965 (41 U.S.C. 351 et seq. and 29 CFR 4.101 et. seq.) ("SCA").

However, upon researching this issue, it has come to our attention that there is a loophole in the SCA and its regulations that not only permits this practice, but indeed may provide an incentive. The Act and its regulations apply only to contracts performed in the United States. Thus if Firm A is submitting a proposal to a Federal agency and it will perform the work domestically, it is subject to the SCA wages. If Firm B is submitting a proposal, and it will perform the work through an offshore subcontractor, it is exempt from SCA.

This clearly undermines the intent of the law. It also disadvantages workers in firms that propose to perform domestically. And it puts those firms at a competitive disadvantage.

The following is from the Department of Labor's web site section on Frequently Asked Questions about the SCA:
(http://www.dol.gov/esa/regs/compliance/whd/web/SCA_FAQ.htm)

Does the SCA apply to all government contract work?

No, the SCA does not apply to: 1) contracts for construction, alteration and/or repair, including painting and decorating of public buildings or public works; 2) work covered by the Walsh-Healey Public Contracts Act; 3) contracts for the carriage of freight or personnel by vessel, airplane, bus, truck, express, railway line, or oil or gas pipeline where published tariff rates are in effect; 4) contracts for the furnishing of services by radio, telephone, telegraph, or cable companies, subject to the Communications Act of 1934; 5) contracts for public utility services, including electric light and power, water, steam, and gas; 6) contracts for direct services to a Federal agency by an individual or individuals; 7) contracts for the operation of postal contract stations; and 8) services performed outside of the geographical scope. For additional exemptions, see Title 29, Part 4 of the Code of Federal Regulations, Section 4.123(d).

What geographical areas are covered under the SCA?

The SCA applies to all work performed within the United States. For purposes of the SCA, the term "United States" includes any State, the District of Columbia, Puerto Rico, the Virgin Islands, Outer Continental Shelf lands as defined in the Outer Continental Shelf Lands Act, American Samoa, Guam, Wake Island, Johnston Island, and the Commonwealth of the Northern Mariana Islands. The SCA does not apply to work performed in any other territory under the jurisdiction of the United States or any United States base or possession within a foreign country. Also, the SCA does not apply to work performed on ships operating in international or foreign waters. If a portion of the contract services is performed within the United States and a portion is performed outside the United States, the SCA applies to the portion performed in the United States. (Emphasis added)

The specific exemption for work performed outside the United States is in 29 CFR 4.112.

The SCA only applies to work performed in the United States. On a Federal contract, to send work off-shore is technically ***not*** a SCA violation. Given the nature of our economy when the SCA was enacted, it is apparent that Congress did not anticipate offshore subcontracting. This is a loophole Congress did not consider, which should be closed. A number of state have laws regarding prevailing wages on state service contracts. At least four state legislatures, Connecticut, New Jersey, Maryland and Washington State have before them this year legislative proposals to prohibit offshore subcontracting. We respectfully urge the Committee to investigate this loophole in the SCA and assist in a regulatory or legislative solution.

Professionals in architecture, engineering and surveying are licensed by the states. In most cases, state law or regulation requires work, defined in state law as the practice of architecture, engineering or surveying, to be performed under the direct supervision of the licensed

profession, and that the licensed professional be in "responsible charge" of such work. A question should be raised as to whether sending A/E work offshore meets the licensing law intent on direct supervision and responsible charge.

COFPAES is also concerned about work going offshore because of the predatory nature of Federal Prison Industries (FPI). As the Small Business Committee knows from its hearing held last November, FPI is rapidly moving into the services sector of our economy. Prison industries are looking to enter the commercial market for services, claiming a 1930s ban on interstate commerce for prison made products does not apply to services. FPI is targeting for domestic prison labor performance those commercial services that are going offshore. FPI's own documents show it is "broadening its prime contractor role ... in the areas of ... digitization of maps for GIS applications, digitization of engineering and facilities management drawings (am/fm), scanning and digitizing, CALS conversions." Thus, COFPAES is concerned that the trend toward offshore performance of architecture, engineering and mapping activities will result in a double-whammy for U.S. small business A/E firms – low wage competition from off-shore sources as well as from prison industries.

The recent trend toward offshore subcontracting is particularly troubling to small A/E firms. They are not as able as large firms to set up offshore subsidiaries or to negotiate teaming agreements with firms outside the United States.

Our greatest concern, is the fact that when one looks at what has happened in the manufacturing sector, one realizes that once an activity goes offshore, it does not come back home. We are concerned about the long term impact offshore subcontracting will have on the A/E profession and the U.S. economy.

We generally support free trade policies. We are generally resistant to government intrusion in the business affairs of our profession and our members business practices. It should be noted that for obvious anti-trust reasons, private firms or trade associations cannot enforce ethical policies that in any way limit sending work offshore. While this is an area where only government action can affect this activity, we urge caution by Congress and regulatory agencies. We appreciate the Committee's careful attention to this important matter and commend you, Mr. Chairman, for holding this important hearing.

UTILIZING Foreign LABOR

Smart or unethical?

BY CATHY MURPHY

Whether or not engineering firms should utilize foreign labor to save clients money is a hot topic. There's no doubt that firms are already doing it.

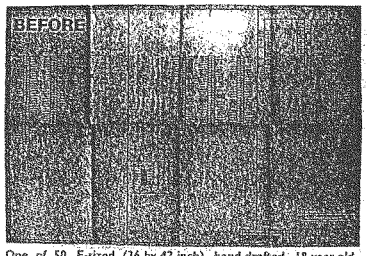
Some U.S. firms outsource entire projects to overseas engineers. Other firms rely on employees from their international offices to do "grunt" work on domestic projects. A few A/E firms and municipalities outsource other types of work such as digital mapping and contract documents.

Of course, depending upon their own experiences and upon the types of work being exported, individual engineers have different opinions about utilizing foreign labor.

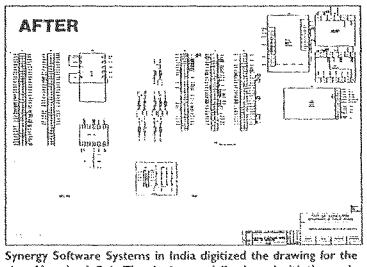
What engineers say

Proponents — Advocates of the trend toward the "global dispersion of work" (noted in a recent Businessweek article) believe that in a capitalistic society, company leaders should be free to save their clients money any way they'd like. They point to the law — there is, after all, nothing illegal about a firm expanding its employee base overseas. In fact, some say using foreign labor is just a step toward a future where there will be a global community without boundaries or limitations.

Other proponents have a more practical outlook. As one participant on the cenews.com discussion group noted, "There doesn't seem to me to be much difference between having an E.I.T. in the office prepare a set of plans, which



One of 50, E-sized (36-by-42-inch), hand-drafted, 18-year-old drawings of a hydroelectric substation in Loveland, Colo.



Synergy Software Systems in India digitized the drawing for the city of Loveland, Colo. The city is especially pleased with the work.

a senior P.E. then reviews and seals, and having an overseas engineer do the plans, which are then signed and sealed stateside by the reviewing engineer who subcontracted the work to the overseas guy."

Some engineers think delegating monotonous grunt work to others will enable them to focus on more important tasks. In the August 2000 issue of ASCE News, former American Society of Civil Engineering President Delon Hampton, P.E., wrote of the global economy and the "low-cost, high-quality" design centers being established overseas. He wrote, "As price becomes more of a factor, both in the selection process and in the final contract amount, we can expect that on major projects a large percentage of the production engineering design will be done overseas. The future for U.S. engineers will be predominantly in the areas of conceptual design and program and construction management."

Stan Scholl, P.E., F.ASCE, a self-employed structural/civil engineer in Laguna Beach, Calif., shared a similar view: "I don't believe there is much to worry about. For most projects, the majority of engineering work has to be done locally. Fitting the project to the local site, to local utilities and codes, performing structural observations, and coordinating the design with the geotechnical, mechanical, and electrical engineers, as well as the architect, are all most easily done locally. Only the grunt work, which most of us don't like to do much of anyway, can be done in some isolated area of the world. This is similar to hiring a New York architect for a California project — a local professional has to be hired to do about half of the work. I am involved in doing things all over the world [Papua New Guinea, Guatemala, Haiti, and Kenya] and have to get locals to do much of the work for me."

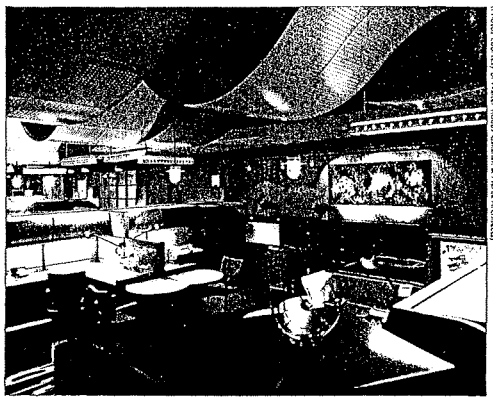
Critics — The other side of the argument is that paying foreign engineers less money to do work traditionally reserved for U.S. firms is unethical. These engineers worry that they will have to lower their own rates as they compete with inexpensive engineers in other countries.

Some engineers resent being asked to train engineers from other countries, only to have their own fees undercut later.

For instance, Dennis S. Wish, P.E., a civil engineer in La Quinta, Calif. who specializes in structural engineering, was recently asked to train a Mexican engineer hired by a local company that wished to compete in the design of custom and multi-residential homes. The U.S. company, which manufactures a plated roof truss system and develops a shearwall system, planned to train the Mexican engineer in the United States, then send him back home to oversee and coordinate work from an engineering firm near Mexico City. Wish said, "The intent was to produce an assembly line practice, which would match or beat the lowest-priced competition and would guarantee work in three to four weeks. I ended up refusing to work with them because I would, essentially, be cutting my own throat by training another engineer to do what I do and to allow them to promote their services to my clients.

"More to my dislike was that the four partners intended to pay as little as possible to the Mexican professionals, including the engineer they sponsored here, who would obtain his reciprocity and return to Mexico. His fee and those of his office would not be comparable to rates in the United States; however, the selling price of the services would compete unfairly with local [U.S.] labor. The profits would be shared between the American partners, as they had no intentions of helping the Mexican professionals improve their standard of living."

Other opponents question how engineers



Photos courtesy of Hoyt Hadley Callahan & Associates Architects

Work and reception areas of a building for which Romanian architects prepared contract documents (top and above).

outside of a geographic area can include local considerations and restrictions in their designs. In a discussion group on scaint.org (administered by the International Structural Engineers Association), one participant summed up the feelings of many engineers. He said, "Just pushing numbers around to fit a code does not make you an engineer. … I don't expect someone whose experience has been in California to have more than a vague theoretical understanding of dealing with the water tables, alleged soil (A.K.A. 'Louisiana gumbo'), or other issues in building in south Louisiana. … I wouldn't attempt to sit down today and independently draw up detailed plans for India — I have no clue as to their fabrication/contractor standards and procedures."

> "When we arrive in the morning, the engineering is complete; it is reviewed, checked and stamped by a licensed engineer, and delivered to our clients."

Who's doing what

Firms are utilizing foreign labor in many different ways. Some of the innovations are described below.

Residences, precast parking lots, and retaining walls — Consulting Engineers, Corp. (CEC), based in Reston, Va., has developed a unique way of quickly delivering their clients residential, precast parking garage, and retaining wall designs. For example, I gave the firm a problem, and the detailed design, drawings, and calculations for an 11-foot, two-inch retaining wall were faxed to me in 30 minutes.

The company has spent millions of dollars developing software that does most of their work for them. According to Jeff Foster, director of sales and marketing, "Every load, code, weight, and value has been calculated into every conceivable structure so that our engineers can do what used to take hours in seconds on a user-friendly Windows screen you could teach an intern engineer to operate." In total, CEC has developed software to complete over 300 automated engineering calculations.

Most of the software development and engineering calculations are completed in Delhi and Pune, India. According to Foster, "Our work is downloaded into zip files during the day and sent out in a 'huge shipment' as we are leaving the office. When we arrive in the morning, the engineering is complete; it is reviewed, checked, and stamped by a licensed engineer, and delivered to our clients."

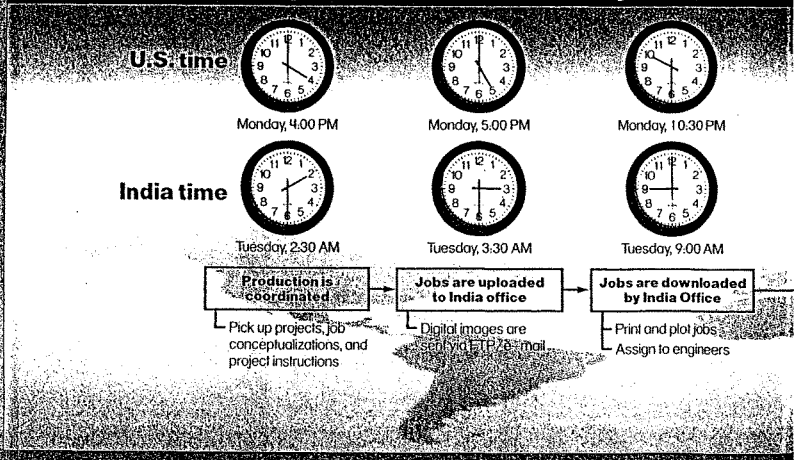
The firm was established in 1986 by Raj Jalla, P.E. CEC's president. Foster said CEC has been outsourcing work since the days before the Internet; the company used to correspond through fax and Federal Express. "What we have today is a completely mature and stable platform by which we're doing this outsourcing," Foster said. "We have [Indian] engineers who, in some cases, have been with us for five years." Many engineers have worked exclusively on U.S.-based engineering projects during their entire careers.

At present, the company does residential construction and retaining wall projects in Virginia, Maryland, Michigan, and Arizona. It also does precast parking garage projects throughout the entire United States and Canada. Jalla said his company is effective for three reasons:

1. The easy availability of qualified technical manpower in India ensures smooth function. No job is held up for want of technical manpower.

2. Transferring the job to India reduces the "gestation period" of the solutions to be delivered to the clients. Because of the time difference between the United States and India, U.S. clients receive solutions the next day, "giving the impression that CEC works 24 hours a day" (see below).

Consulting Engineering Corp.'s production assembly line schedule



3. The lowered operating expenses and overhead cost make the process economical, and that savings is passed on to clients.

In the future, CEC plans to expand its operations to California and Las Vegas in the West and Florida and North Carolina in the East. Subsequently, supporting branch offices will be opened in India.

For more information, contact CEC at (703) 481-2100.

Digital mapping — Synergy Software Systems (SSS), a 10-year-old company based in Secunderabad, India, helps firms convert paper maps, drawings, and plans into digital formats. According to Praveen Kumar, the chief executive, the firm can also convert data into "customized CAD, GIS, and facility management data integration solutions."

One recent example of work completed for a U.S. client is a data conversion project the firm did for the city of Loveland, Colo. Stephen Krajewski, a geologist and GIS specialist for the city of Loveland, said SSS was selected for the vectorization work through a competitive bidding process based on price and ability to complete the work.

The city had 50, E-sized (36-by-42-inch) paper drawings of a hydroelectric substation that were hand-drafted in 1982. Kumar said, through usage over the years, these drawings were folded, torn, taped, stained, faded, and had numerous hand-written revisions. The city sent us copies of the drawings, we scanned them and vectorized the drawings using inhouse hardware and software, and we delivered digital copies of the drawings in AutoCAD format." The conversion work was completed ahead of schedule and under budget.

Krajewski said SSS provided quality work at extremely reasonable rates. "We couldn't get that done here for a comparable amount," he said. Kumar said the company has experience in implementing GIS and remote sensing solutions in the fields of telecommunication, electric, water, mineral, land information system, sales and marketing, urban and town planning, and forest management. For more information, contact Kumar at synergy_software@usa.net.

A large structural firm — Frank Thigpen, P.E., vice president of Baton Rouge, La. operations for Jacobs Engineering, explained how his firm uses foreign labor. He said that many types of work combinations are used, "whether it's with our Indian office or offices in Europe or Mexico or different parts of the world." According to Thigpen, Jacobs tries to "find the best resources to fit a particular operation, so there's no standard way that work is done."

For a given project, "Jacobs has an electronic network around the world, and we move work to the best resource, to the most experienced resource, and also the one that's most cost-effective to the customer," he said. The "host country" usually leads the project. Detailing, on the other hand, is typically completed in a fabricator shop or in one of the firm's other offices.

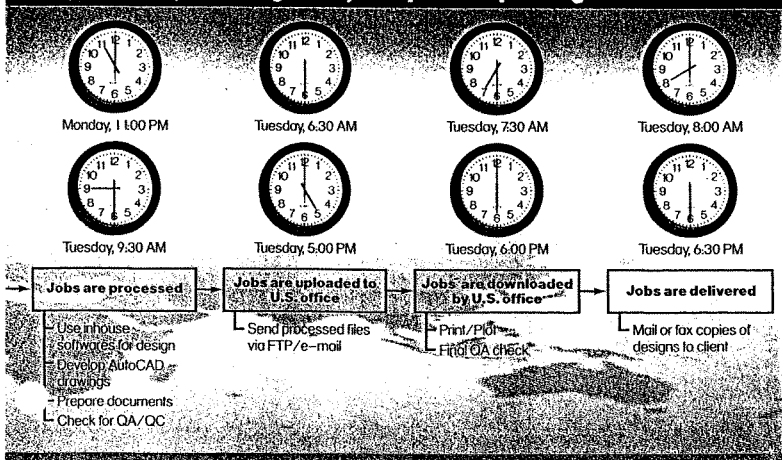
Structural engineering consulting — Syed A. Masroor, Ph.D., a consulting engineer based in Karachi, Pakistan, offers traditional structural engineering services to international clients. So far, he has supervised only local projects. He said that overseas clients have yet to request that Masroor supervise projects in other countries.

Masroor received a bachelor's degree from NED University at Karachi and his master's and Ph.D. from Iowa State University in Ames. He is not licensed outside of Pakistan.

Since 1997, Masroor has worked with one American, one British, one Malaysian, and one Singaporean civil engineering firm. He typically does designs and drawings, but he has also performed services such as bending schedules, shop drawings, and quantities.

His rates are vastly lower than those of the average U.S. engineering firm, but Masroor is not aware of the disparity. When asked how rates differ from the rates charged in the United States, Masroor's response was, "For a three-to-five-year engineer, we charge at $12 an hour.

for residences, retaining walls, and precast parking lots



The other side of the coin

The use of inexpensive foreign labor affects countries other than the United States. Mark Francois is a civil engineer with 21 years of experience. He is a director at Blake Beston Francois Ltd., a civil and structural engineering firm based in Trinidad that operates throughout the Caribbean.

Francois said that in the Caribbean, much engineering work is outsourced to firms in the United States, Canada, and the United Kingdom. In most cases, he said, clients receive "far inferior service" compared to the service they would have gotten from a top local consultancy." The reasons, he said, are as follows:

- Lack of experience with cost-effective, local building methods and materials.
- Applications of higher roof loads. In some cases, roof loads in the Caribbean were so heavy that Francois "can only assume that snow was considered in the designs.
- The use of inexperienced or semi-competent engineers. Francois said some firms believe they are "dealing with a third-world country that does not know better."
- Lack of knowledge about local conditions. For example, one engineering firm from Florida designed a project in St. Kitts (seismic zone 3) without considering seismic loads at all.
- Insufficient field investigation before the design is completed because of cost.

Francois has several horror stories to tell. One A/E firm from Florida allegedly works in Grenada for only 2.75 percent of building costs (contrasted with the 8 percent "typical" Caribbean engineers charge). Of course, the firm's clients got what they paid for. Recently, a client asked Francois to review one of the Florida firm's drawings, which he found "provided minimal structural information, not enough for a local contractor to build it."

"Worse," said Francois, "the roof construction was inappropriate and has to be changed because the proposed timber trusses are very expensive there. Again seismic detailing was absent [Grenada is in seismic zone 2, though many local engineers feel it should be considered in zone 3], and the shearwall support system is far more expensive in Grenada than beam-column framing. Based on the structure alone, the client would have saved if he paid a higher fee to a good local consultant."

However, Francois said there is a more grave concern than cost. He said a matter is now under investigation in St. Lucia where a serious failure occurred. "From investigations, the soil surveys [completed by a Canadian firm] appear inadequate," he said.

Francois said he's surprised that "U.S. firms would resort to offshore engineers for profit," especially considering recent advances in software that significantly reduce engineers' time on a project. He also said that U.S. firms can improve their overseas services by establishing joint ventures with technically-skilled local companies, "as opposed to firms that may be politically connected but lacking in competence and local knowledge." ■

For a draftsman, $7.50. I don't know how it compares with U.S. rates, but I am sure it is competitive."

Mastoor said that engineering principles are the same "whether you are in the United States or in Timbuktu." However, he also said, "The engineer of record will always bear the responsibility for design, whether the engineer does all the work, or lets a partner, a junior, a draftsman, a contract employee, or a remote employee do part of it for her [or him]."

To contact Mastoor, e-mail him at smasroot@gem.net.pk.

Architectural services — Architectural firms are also utilizing foreign labor. Walter Robbs Callahan & Pierce Architects (WRCP) is a charter member of TecUSA, a consortium of five professional services firms interested in expanding their markets internationally. The firm utilized a Romanian architecture firm to assist in preparing contract documents for the One Technology Place building, the anchor in a new research park in Winston-Salem, N.C.

The owner, WRCP, and the Romanian firm all benefited from the collaboration. For example, the Romanian architects learned more about American construction technology. By utilizing both American and Romanian labor, work was being completed around the clock, and WRCP was able to deliver the design quickly.

Conclusion

Writing this article was enlightening for a number of reasons. To help with my research, I posted messages on several discussion groups. The responses I received were quite interesting.

For instance, I literally received an anonymous reply posted by "X," containing just the name of a large engineering firm and a contact number. When I called the firm, the president told me that "X" was confused — the firm has never used foreign labor for engineering work, only for software design.

I also received tips that several other large firms use foreign labor to save clients money. In every instance, I called and spoke to an employee in public relations who believed that the firm would, in fact, be a good fit for the article. Yet in every instance, I received a call back hours later in which the same representative said that the company declined to participate in the article for vague reasons.

According to two employees, one large firm has utilized foreign engineers much more than is typical on at least one past project. These sources (who both wished to remain anonymous because they feared repercussions) said that to save one of their clients money, this firm required U.S. engineers to work as "field engineers" only. They collected information regarding a domestic factory design; this information was then shipped to the firm's office in India, where most of the engineering work was completed. "It was an attempt by [the client] to save engineering dollars," said one employee. "The bottom line is the charge-out rate in India was significantly lower than the U.S. rate."

Further, according to the other employee, some design work was completed in India and stamped here — not by licensed structural engineers, but by electrical engineers. A spokesman for the firm said he couldn't comment on how this project worked, as he had no knowledge of projects completed in states other than his own.

Many engineering firms, particularly large firms with overseas offices, may be regularly utilizing foreign labor for domestic projects. Though the companies are not doing anything illegal, they could be unwilling to reveal their business strategies to their competitors. Some may also be concerned about the negative way staff engineers may perceive their actions, especially given today's tight labor market.

The **CE News** editorial staff would like to hear your opinions about the issue of utilizing foreign labor. For instance, how fine is the line between smart business strategies and unethical behavior? Is it appropriate for firms to save money by outsourcing mapping work or simple designs to foreign firms? What about hiring foreign structural engineers as the lead designers of domestic projects? How important is it to hire a lead designer who understands local considerations and restrictions? How are your employers using foreign labor effectively?

Please send an e-mail with your thoughts to **editor@cenews.com**. ■

October 2001

Dear Design Professionals

A number of firms from the design and engineering community have contacted us to report recent or past requests for building plans that, in light of the attacks of September 11, 2001, appear unusual due to the structures identified in the requests or the type of information solicited. While most requests are likely to be routine and legitimate as in the past, it is appropriate to exercise reasonable caution and good judgment in reviewing each request before providing documents or plans.

The American Institute of Architects and the National Society of Professional Engineers, in conjunction with the U.S. General Services Administration (GSA), are coordinating with the Federal Bureau of Investigation (FBI) to provide design firms with information on this situation. The FBI is advising us to heighten our awareness and suggests that design professionals immediately report any suspicious requests to the appropriate local FBI field office and to the National Infrastructure Protection Center at FBI headquarters. Contact information for FBI field offices is available at *http://www.fbi.gov/contact/fo/fo.htm* and in local phone directories. The National Infrastructure Protection Center can be reached by fax (202-323-2078) or email tips@nipc@fbi.gov.

Click here to access a form that is available to assist you and your colleagues in tracking and reporting unusual requests. **Again, please note that all reports should be sent directly to your local FBI field office and to the National Infrastructure Protection Center.** If the report involves a GSA building or project, a copy of the report should be sent to the Criminal Investigation Division of the Federal Protective Service as detailed on the report form.

Thank you for your attention and for any assistance you can provide in circulating this letter and form to other design professionals.

Sincerely,

Paul E. Christolini
Deputy Commissioner, Public Buildings Service
General Services Administration

Norman L. Koonce, FAIA
Executive Vice President/CEO
The American Institute of Architects

Patrick J. Natale, PE, ENSPE
Executive Director
National Society of Professional Engineers

GENERAL SERVICES ADMINISTRATION
Washington, DC 20405

PBS 3490.1
March 8, 2002

PBS ORDER

SUBJECT: Document security for sensitive but unclassified paper and electronic building information

1. Purpose. This order sets forth the Public Buildings Service's (PBS's) policy on the dissemination of sensitive but unclassified (SBU) paper and electronic building information of General Services Administration's controlled space, including owned, leased, or delegated Federal facilities. A major goal of GSA and the Federal Government is the safety and security of people and facilities under the charge and control of GSA. This order outlines the PBS security procedures needed to reduce the risk that the material will be used for dangerous or illegal purposes.

2. Cancellation. PBS-IL-01-3 is canceled.

3. Objectives. In order to reduce the exposure to possible attacks or threats to GSA controlled space, there are two principal objectives of PBS's policy regarding sensitive but unclassified (SBU) building information. These are to:

a. Diminish the potential that sensitive information about the building in either paper or electronic form will be available for use by a person or persons with an interest in causing harm to persons or property.

b. Respect GSA's legitimate business and other needs to allow access to this information to those who have a need-to-know, such as Federal agencies housed in GSA controlled space, the professional design community, contractors, and states, cities, and towns where GSA has facilities.

4. History.

a. The physical protection of Federal employees, the visiting public, and facilities has always been a priority for GSA. Environmental, fire, security, and other safety concerns have influenced how GSA builds and procures space and has impacted our construction criteria. However, after the Alfred P. Murrah Federal Building bombing, GSA and other Government agencies have made a concerted review of GSA's construction and security criteria to find ways to prevent such an occurrence in the future.

b. There is rising apprehension that if building information is not restricted it could easily fall into the hands of terrorists or other criminal elements. In addition, there is particular

concern that, with Internet technology, individuals, including terrorists and criminals worldwide, could have easy access to such information and remain anonymous.

c. Counterbalancing legitimate security concerns is the reality that a "government of the people, by the people, and for the people" must be accessible to its citizens and able to perform its mission without excessive restrictions hampering competition. With certain limited exceptions, GSA is required by the Competition in Contracting Act to obtain full and open competition. Therefore, prospective offerors must have access to necessary information in competing for Government contracts. This includes interested vendors, contractors, subcontractors, manufacturers, and suppliers of our building materials, as well as providers of professional services such as building plans and security services or equipment. GSA must balance security with business requirements in a pragmatic way, without undue bureaucratic burdens on our regional offices, consultants, lessors, and contractors.

5. Application. This order applies to all SBU building information regarding PBS-controlled space or procurements to obtain PBS-controlled space, either Government owned or leased, and to all PBS employees in Central Office and the regions, and includes GSA space that is delegated to other Federal agencies. It also imposes requirements on Federal employees to ensure that authorized users, both Government and non-Government, are aware of and adhere to specific obligations with respect to SBU building information.

6. Related authorities. This order supports and supplements the implementation of GSA order, Safeguarding sensitive unclassified information (ADM 1800.3B); Instructional Letter CIO IL-99-1, Safeguarding Sensitive Unclassified Information; and the GSA Acquisition Manual (GSAM) (ADP P 2800.12B).

7. Responsibilities.

a. General. Because no policy can cover every circumstance, disseminators shall make every effort to apply the *principles* outlined in this order in those cases where circumstances require adaptation, by using good judgment, common sense, and reasonableness. The principles are:

- Only give the information to those who have a *need to know;*
- Keep records of who got the information; and
- Safeguard the information during use and destroy it properly after use.

This order describes the minimum effort required. In some cases, the disseminator should take additional precautions as circumstances dictate. It is the responsibility of those disseminating SBU building information to provide the first line of defense against misuse.

b. Assistant Regional Administrators (ARA's). PBS ARA's, or their designated Federal employee representatives (or in the case of delegated buildings, Agency officials), must ensure SBU building information is protected from unauthorized use. Federal Government employees who handle SBU building information shall have security training outlining the procedures in this order.

c. Federal Protective Service (FPS). The FPS at Central Office and in each GSA region must inform regional security personnel regarding the information contained herein. FPS, in coordination with other PBS offices, shall participate in PBS regional security training.

d. Office of the Chief Architect (PC). PC must inform the GSA regional offices responsible for managing SBU building information of the requirements contained herein. The OCA shall work with private sector architects, engineers, and contractors to ensure that these groups are aware of the requirements contained in this order, including:

(1) Labeling of information. All SBU building information, either in electronic or paper formats, shall have imprinted on ***each*** page of the information:

PROPERTY OF THE UNITED STATES GOVERNMENT
FOR OFFICIAL USE ONLY
Do not remove this notice
Properly destroy documents when no longer needed

(2) The following paragraph will be included on the ***cover*** page of the information (such as the cover page on the set of construction drawings and on the cover page of the specifications) and on the label of all magnetic media:

PROPERTY OF THE UNITED STATES GOVERNMENT
COPYING, DISSEMINATION, OR DISTRIBUTION OF THESE DRAWINGS, PLANS, OR SPECIFICATIONS TO UNAUTHORIZED USERS IS PROHIBITED
Do not remove this notice
Properly destroy documents when no longer needed

(3) The previous two statements shall be **prominently** labeled in bold type in a size appropriate for the document. On a set of construction drawings, for example, the statements should be in a minimum of 14 point bold type.

e. Office of General Counsel. The Office of General Counsel must provide legal advice concerning Freedom of Information Act (FOIA) requests pertaining to SBU building information.

f. Office of Customer Service (PB). PB must ensure that all GSA customers are aware of the requirements contained in this order.

g. Office of Realty Services (PE). PE must ensure that Leasing Contracting Officers (GS–1170) and Realty Specialists (GS–1170) are aware of the requirements contained in this order.

h. Office of Portfolio Management (PT). PT must notify client agency officials of those GSA buildings delegated to them of the requirements contained in this order.

i. Office of Business Operations (PX). PX must notify all Procurement Contracting Officers (GS–1102) and Property Management personnel of the requirements contained in this order.

j. Contracting Officers (CO). The CO's must post a synopsis of the work electronically to the Governmentwide Point of Entry (GPE), currently FedBizOpps (http://fedbizopps.gov/), for all procurements containing SBU building information. For those procurements where SBU building information, such as exhibits, associated plans, specifications, etc., cannot be made available electronically on the GPE, the CO's must provide a notification as required by the GSA Acquisition Manual (APD P 2800.12B), GSAM 504.570(d).

8. Type of Information for Document Security

a. Sensitive But Unclassified (SBU) building information. Includes but is not limited to paper and/or electronic documentation of the physical facility information listed below. Building designs (such as floorplans), construction plans and specifications, renovation/alteration plans, equipment plans and locations, building operating plans, information used for building service contracts and/or contract guard services, or any other information considered a security risk, for all GSA controlled facilities, shall be considered covered under this category. Specifically (but not exclusively), it includes:

(1) Location of secure functions in the facility such as judges' chambers and libraries, prisoner or judges' secure circulation paths (both vertical and horizontal), cell blocks, sally ports, judges' parking, security areas, and childcare, major computer processing areas or other client sensitive processing areas (such as major photo or computer labs, etc);

(2) Location of all utilities, such as heating, ventilation, air conditioning, information technology (IT) systems, location of air intake vents, water sources, gas lines, plumbing lines, building automation systems, power distribution systems, emergency generation equipment, uninterrupted power sources (UPS), security and fire alarm systems, routes and annunciation panels;

(3) Location and type of structural framing for the building and any information regarding structural analysis or building security and blast mitigation analysis and counter terrorism methods taken to protect the occupants and building; and

(4) Information regarding security systems or strategies of any kind (such as camera locations) or security guards (such as number and location).

b. Non-sensitive unclassified building information. Information regarding the building that may be made available for limited public dissemination under the following conditions:

(1) Building elevation or other drawings of new or existing buildings shall not show or label information defined under the SBU categories in 8.a., above.

(2) Interior photographs that are limited to publicly accessible space or have been cleared for publication by GSA or the agency responsible for the space.

(3) Conceptual space planning drawings with floor layouts may be made available for presentations to professional designers (architect/engineers, etc.), professional schools for educational purposes, community planning groups participating in the design of new Federal space, or professional print publications *if* specific SBU building information (structural columns, utilities, etc.) is not shown and judges' chambers, secure circulation routes, secure elevator locations, etc. are shown as generic space with no wall partitions (such as a block of unpartitioned space labeled "Judicial Space"). Generic concept (bubble) diagrams may be shown to convey information for a non-specific building.

NOTE: It is the responsibility of the disseminator to use good judgement and to apply the principle that *the more open the forum, the more generic/conceptual the information must be.*

(4) Detailed floor layout drawings of any kind for specific buildings shall not be made available over the public internet or in public presentations or print media, such as brochures, magazines, books, etc.

9. Reasonable care for dissemination of sensitive but unclassified (SBU) building information.

Those who are disseminating SBU building information (which includes flowdown dissemination by prime/general contractors, subcontractors, suppliers, architects/engineers, Federal Agencies, lessors, private sector planrooms, state and local governments, print shops/reprographic firms, etc.) must obtain a signed copy of the Document Security Notice (attached) by authorized users of SBU building information that they will exercise *reasonable care* when handling SBU building documents. "Reasonable care" is defined as:

a. Limiting dissemination to authorized users. Dissemination of information shall only be made upon determination that the recipient is *authorized* to receive it. The criterion to determine authorization is *need-to-know*. Those with a *need-to-know* are other Federal Government agencies (who shall make requests through their agency management), and non-Government entities that are specifically granted access for the conduct of business on behalf of or with GSA. This includes those necessary to do work at the request of the Government, such as architects and engineers, consultants, contractors, subcontractors, suppliers, planrooms, and others that the contractor deems necessary in order to submit an offer/bid or to complete the work or contract, as well as maintenance and repair contractors and equipment service contractors.

NOTE: It is the responsibility of the person or firm disseminating the information to assure that the recipient is an authorized user and to keep the Document Security Notice records of recipients.

Authorized users shall provide identification as set forth below:

(1) Valid identification for Federal Government users. Valid identification of authorized Government users receiving SBU building information shall be verification of Government employment.

(2) Valid identification for non-Government users. Authorized non-Government users shall provide valid identification to receive SBU building information. Valid identification shall be all items I through III, and including item IV, as necessary:

I. A copy of a valid business license or other documentation granted by the state or local jurisdiction to conduct business. The license at a minimum shall provide the name, address, phone number of the company, state of incorporation, and the name of the individual legally authorized to act for the company. The business must be of the type required to do the work. A general contractor's license may be substituted for the business license in states that issue such licenses. In the rare cases where a business license is not available from the jurisdiction, the information shall be provided and testified to by the submitter; **and**

II. Verification of a valid DUNS Number against the company name listed on the business license or certification. Verification may be obtained through http://www.fpdc.gov, or by calling Dun & Bradstreet at 703-807-5078 to set up an account; **and**

III. A Valid IRS Tax ID Number of the company requesting the information; **and, as necessary,**

IV. A Valid picture state driver's license shall be required of person(s) picking up SBU documents. Phone verification must be made to a previously validated authorized user that the individual(s) picking up the documentation is/are authorized to do so by the company obtaining the documents. SBU documents will not be released to any individual or firm who has not, either previously or at the time of pickup, supplied the required documentation as outlined in paragraphs I through III, above.

b. Record keeping. Those who disseminate SBU building information must require a signed Document Security Notice from those who receive the information. Records of the signed Document Security Notices shall be maintained by the disseminator pursuant to the GSA system of keeping long-term records and plans. At the completion of work, secondary and other disseminators shall be required to turn over their Document Security Notice dissemination records to GSA to be kept with the permanent files.

c. Retaining and destroying documents. The efforts required above shall continue throughout the entire term of contract and for whatever specific time thereafter as may be necessary. Necessary record copies for legal purposes (such as those retained by the architect, engineer, or contractor) must be safeguarded against unauthorized use for the term of retention. Documents no longer needed shall be destroyed (such as after contract award, after completion

of any appeals process, or completion of the work). Destruction shall be done by burning or shredding hardcopy, and/or physically destroying CD's, deleting and removing files from the electronic recycling bins, and removing material from computer hard drives using a permanent erase utility or similar software.

d. Notice of disposal. For all contracts using SBU building information, the contractor shall notify the GSA contracting officer that he and his subcontractors have properly disposed of the SBU building documents, with the exception of the contractor's record copy, at the time of Release of Claims to obtain final payment.

10. Miscellaneous.

a. State and local governments. In order to comply with local regulations, GSA must provide localities with documents to issue building permits and to approve code requirements. Public safety entities such as fire departments and utility departments require unlimited access on a need-to-know basis. These authorities must be informed at the time they receive the documents that the information requires restricted access from the general public. When these documents are retired to local archives, they should be stored in restricted access areas. *This order will not preclude the dissemination of information to those public safety entities.*

b. Electronic transfer and dissemination. Transfer and dissemination of SBU information beyond the GSA intranet (internet or extranet, modem, DSL, wireless, etc.) must use at least 128 bit symmetric key encryption following NIST Special Publication 800-21 *Guideline For Implementing Cryptography in the Federal Government.* All transfers must use standard commercial products (such as PGP and Secret Agent) with encryption algorithms that are at least 128 bit symmetric (3DES, AES, RC4, IDEA, etc.), and follow the instructions outlined in this order. Authorized users that use project extranets for electronic project management during design or after construction contract award to transfer SBU building information are responsible for verifying and certifying to the Government contracting officer that project extranets meet applicable physical and technical GSA security requirements as determined by the PBS Chief Information Officer (CIO). Access to the sites shall be password protected and access shall be granted only on a need-to-know basis. A record of those individuals who have had electronic access shall be maintained by the contracting officer or other disseminator in accordance with the GSA system of keeping long-term records.

c. Appropriate levels of security. GSA intends to meet project security requirements as defined by our client agencies. This order is meant to define the minimum security requirements of GSA for SBU building information. A client agency may define an individual project requiring additional security over that outlined in this order. Any information classified for national security purposes shall be handled according to the DOD 5220.22-M National Industrial Security Program Operating Manual (NISPOM) and other appropriate national security directives.

d. Freedom of Information Act (FOIA) requests. Because of the sensitive nature of SBU building information from a security standpoint, it shall not be disclosed pursuant to a FOIA request without a thorough analysis of the security implications and any potentially applicable

exemptions under the FOIA. Any determination to disclose SBU building information pursuant to a FOIA request must be made by the PBS ARA or the PBS Deputy Commissioner, after consultation with the servicing legal office and the servicing FPS office.

e. Proprietary information owned by Architect/Engineers. All professional services consultants shall sign the Document Security Notice that documents containing SBU building information created under contract to the Federal Government shall be handled according to the procedures under this order.

f. Private sector planrooms. Numerous private sector businesses provide planrooms, which provide access to construction plans and specifications for bidding purposes as a service to construction contractors and subcontractors. Before receiving GSA SBU building information from any source for dissemination, the private sector planroom shall demonstrate to GSA that they can and will adhere to the procedures outlined in this order, and sign the Document Security Notice.

g. Reporting incidents of concern. Any concern of a significant security risk should be reported immediately to the FPS Megacenter or to the FPS Investigation Section at (202) 501-0793 and any other security agencies as deemed appropriate.

F J Moravec 3/8/02

F. JOSEPH MORAVEC
Commissioner
Public Buildings Service

Request for Construction Documents Exhibit _____
Attachment _____
Solicitation _____

DOCUMENT SECURITY
NOTICE TO PROSPECTIVE BIDDERS/OFFERORS

This solicitation includes Sensitive But Unclassified (SBU) building information. SBU documents provided under this solicitation are intended for use by authorized users only. In support of this requirement, GSA requires bidders/offerors to exercise reasonable care when handling documents relating to SBU building information per the solicitation.

REASONABLE CARE:

1. **Limiting dissemination to *authorized users*.** Dissemination of information shall only be made upon determination that the recipient is *authorized* to receive it. The criterion to determine authorization is *need-to-know*. Those with a *need-to-know* are those who are specifically granted access for the conduct of business on behalf of or with GSA. This includes all persons or firms necessary to do work at the request of the Government, such as architects and engineers, consultants, contractors, sub-contractors, suppliers, and others that the contractor deems necessary in order to submit an offer/bid or to complete the work or contract, as well as maintenance and repair contractors and equipment service contractors.

NOTE: **It is the responsibility of the person or firm disseminating the information to assure that the recipient is an authorized user and to keep records of recipients.**

Authorized users shall provide identification as set forth below:

Valid identification for non-Government users. Authorized non-Government users shall provide valid identification to receive SBU building information. The identification shall be presented and verified for each dissemination. Valid identification shall be all items (a) through (c), below, and including item (d), as necessary:

(a) **A copy of a valid business license or other documentation granted by the state or local jurisdiction to conduct business.** The license at a minimum shall provide the name, address, phone number of the company, state of incorporation, and the name of the individual legally authorized to act for the company. The business must be of the type required to do the work. A general contractor's license may be substituted for the business license in states that issue such licenses. In the rare cases where a business license is not available from the jurisdiction, the information shall be provided and testified to by the submitter; **and**

(b) **Verification of a valid DUNS Number** against the company name listed on the business license or certification. Verification may be obtained through http://www.fpdc.gov, or by calling Dun & Bradstreet at 703-807-5078 to set up an account; **and**

(c) **A Valid IRS Tax ID Number** of the company requesting the information; **and, as necessary,**

(d) **A Valid picture state driver's license** shall be required of person(s) picking up SBU documents. Phone verification must be made to a previously validated authorized user that the individual(s) picking up the documentation is authorized to do so by the company obtaining the documents. SBU documents will not be released to any individual or firm who has not, either previously or at the time of pickup, supplied the required documentation as outlined in paragraphs (a) through (c), above.

2. **Retaining and destroying documents.** The efforts required above shall continue throughout the entire term of the contract and for whatever specific time thereafter as may be necessary. Necessary record copies for legal purposes (such as those retained by the architect, engineer, or contractor) must be safeguarded against unauthorized

use for the term of retention. Documents no longer needed shall be destroyed (such as after contract award, after completion of any appeals process or completion of the work). Destruction shall be done by burning or shredding hardcopy, and/or physically destroying CD's, deleting and removing files from the electronic recycling bins, and removing material from computer hard drives using a permanent erase utility or similar software.

3. **Term of Effectiveness.** The efforts required above shall continue throughout the entire term of contract and for what specific time thereafter as may be necessary, as determined by the Government. Necessary record copies for legal purposes (such as those retained by the architect, engineer, or contractor) must be safeguarded against unauthorized use for the term of retention.

4. **Written agreement of disposal.** For all contracts using SBU building information, the contractor shall provide a written statement that he and his subcontractors have properly disposed of the SBU building documents, with the exception of the contractor's record copy, at the time of Release of Claims to obtain final payment. Documents no longer needed shall be destroyed (such as after contract award, after completion of any appeals process or completion of the work). Destruction shall be done by burning or shredding hardcopy, and/or physically destroying CDs, deleting and removing files from the electronic recycling bins, and removing material from computer hard drives using a permanent erase utility or similar software.

The recipient acknowledges the requirement to use **reasonable care**, as outlined above, to safeguard the documents and, if not awarded, the contract (and at the completion of any protest/appeal process) will make every reasonable and prudent effort to destroy or render useless all SBU information received during the solicitation.

I agree that I will abide by this agreement and will only disseminate Sensitive But Unclassified (SBU) building information to other authorized users under the conditions set forth above.

Signature:_____

Title:_____

Date:_____

Copy of business license attached

DUNS Number:_____

Verified: Yes No

IRS Tax ID Number_____

White-Collar Work A Booming U.S. Export

Specialized Jobs Farmed Out to China, Other Nations

By Peter S. Goodman
Washington Post Foreign Service

SHANGHAI

The architect leaned over the draft blueprint, contemplating how best to fit the staircase into the stairwell and still comply with local safety codes. A typical design job, except for one detail: The architect, Chen Chun, sat in a cubicle here in China, while her stairway was to be built in upstate New York at an office complex being erected for a Fortune 500 company. The "local" code she confronted applied to a place she had never been, on the other side of the world.

The most unusual thing about this long-distance arrangement was how utterly ordinary it has become—another day at the global offices of HLW International LLP, a New York-based architecture firm. Using the Internet to ship blueprints back and forth across the Pacific and two-way videoconferencing to simulate face-to-face meetings, HLW is increasingly handling the task of turning high-concept design into detailed plans by farming it out to associates in Shanghai for a fraction of the cost at home, effectively extending its workday to a 24-hour cycle.

Factory and assembly jobs have long been moving overseas from the United States; consumers are accustomed to having their basketball shoes stitched up in Indonesia or Vietnam and their electronics and automobiles roll off lines in Singapore, Malaysia and Mexico. But HLW's operations in Shanghai are an example of how technology is tying together more sophisticated pieces of the glob-

More White-Collar Work Being Shipped Overseas

CHINA, *From E1*

al production chain, allowing even highly skilled work that once seemed inextricably linked to a particular place to be shipped out to lower-cost lands.

The white-collar work is expanding beyond the customer-service call centers that many U.S. companies have moved to developing countries. In India, for example, radiologists now interpret CT scans for hospitals in the United States, and accountants assess risks on loan applications for homes halfway around the globe. U.S. architectural work is being farmed out to the Philippines, Poland and India, as well as China. Microsoft Corp. operates a sophisticated computer research center in Beijing. By 2015, according to a report by Forrester Research Inc., more than 3 million white-collar jobs and nearly $140 billion in wages will have shifted from the United States to other nations.

On a recent afternoon at HLW's Shanghai office, a white board in the conference room listed the projects the local architects were working on that day: a film studio complex for Warner Bros. in Los Angeles; an apartment building on East 96th Street in Manhattan; a laboratory for a pharmaceutical giant in New Jersey; the expansion of the clubhouse at the posh Shanghai Racquet Club; and a manufacturing plant for the elevator and escalator colossus Otis Elevator Co. in the Chinese city of Hangzhou.

Of the 36 architects who work in the Shanghai office, roughly half were assigned to projects underway in the United States.

When HLW opened its office here in 1996, it was interested in supporting design work it had already gained in Shanghai and not looking to handle work from the United States. Christopher Choa, who now serves as the director of the Shanghai office, was then immersed in the most ambitious project he has ever taken to completion: the Ciro's Tower, a 40-story, glass-encased rectangle that flares out arrestingly at the top, overlooking Shanghai's People's Park. It was the sort of building on which an ambitious architect can make a name for himself. Choa was traveling frequently across the Pacific as the design work went on. He needed local help.

But if that project was the focus, the horizons were expanding. Shanghai's skyline was adding new shapes seemingly by the week—cylinders of glass and steel topped off by domed observation decks, rocket-shaped towers. Across the Huangpu River in the Pudong district, an entirely new financial center was rising on what had been swampland. North of the famed Bund—a strip of colonial edifices lining the river—the city now plans to erect a complex of office towers and apartment blocks.

HLW was eager for a piece of all this, particularly Choa. A New Yorker, he relished an opportunity to work in a city with grandiose ambitions for overnight greatness.

"This is what America felt like at the turn of the 20th century," Choa said. "The North Bund will be on a 120-hectare parcel of prime urban land. The World Trade Center site will be less than a tenth of that. An architect in the States could wait their entire career for a shot at something like that. We regularly do projects that are on the borderline of architectural and urban design. You don't get those opportunities often."

Business conditions were also ripening. In the early 1990s, as Shanghai's building boom began, many developers here viewed design work as a cookie-cutter sort of operation, a simple matter of hiring someone to sit at a drafting table and copy something that was already standing somewhere else. In the United States and Europe, developers often lay out 3 or 4 percent of construction costs for design work from a top-shelf architectural firm. In China, low fees and minimal expectations for quality were the rule.

"You could be designing a public toilet building or a new hospital and the fee was the same—1 percent of construction costs," said J.C. Ru, a Shanghai-born architect who opened the office with Choa.

But as foreign investment continued to pour into China, chasing the potential lure of the world's most populous country, developers were increasingly keen on more sophisticated projects. Companies were putting up "trophy buildings" with their names up top. They were willing to pay international-standard fees for high-quality work.

Choa and Ru were gradually building a local staff that could compete for more design work. Even as the Asian financial crisis hit in 1997 and 1998 and many of their competitors left China, they continued to recruit graduates from the country's top architecture schools, paying a premium over the prevailing rate.

The trouble was that the work flow was uneven and unpredictable. "To do a large project here well, you need a critical mass," Choa said. "You need a lot of good people. But you can't just wait around for that project to take shape. We needed to have something for them to do."

Meanwhile, back in the United States, HLW's offices had more work than they could handle. The dot-com surge was at its height, nurturing a prodigious crop of science parks, office towers and expansions.

"We were so busy back in the States that we were having to work around the clock to meet deadlines," Choa said. "That's when we realized that we had an office that's exactly 12 hours out of sync with New York. We could finish work there for the day and hand it off to Shanghai and keep working 24 hours a day."

The cost savings of this approach were potentially dramatic. In New York, HLW typically must pay $100 to $120 an hour for a skilled architect. Here, the cost is a fraction of that, Choa said, though he declined to be more specific. "It's a lot less," he said.

The early years of this experiment saw no shortage of mishaps and miscommunication. Though English is the language of work at the HLW office here, many of the architects were shy about using this foreign tongue in addressing their colleagues overseas on the video links. The local architects were unfamiliar with the software and technical standards in use in the United States and not versed in the ways of thinking spatially that defined the New York office. Much training was needed. Work had to done, redone and redone again, eroding the savings of cost and time.

Then, there were technical problems. Staff here learned firsthand about the gap between the crisp world of global communications as glimpsed through high-tech television ads and the tedious realities of trying to persuade modems to talk to one another nicely across oceans.

These days, the kinks have mostly been worked out, Choa said. Clients don't seem to care that their structures in Los Angeles or New York have been designed in part in China. The local staff is up to the standard set at home.

"In some ways, they are better," Choa said. "They are highly motivated to do well, and in some ways they are even more fastidious."

When the technology boom went bust, slowing business, HLW laid off more than 20 people at its Los Angeles office. It added positions here.

As the sun dropped below the jagged skyline to the west on a recent evening, Chen prepared to ship her staircase design back to New York, where dawn was breaking. She checked to make sure her guardrails really did comply with the code.

"The detail of the railing was very difficult because the standards are very different," she said. "But the fact that it's far away makes no difference at all."

Congress of the United States
House of Representatives
108th Congress
Committee on Small Business

June 13, 2003

Hearing: Globalization and Outsourcing Overseas

Testimony of Christopher Kenton, President, Cymbic, Inc.

My name is Christopher Kenton. I'm president of the San Francisco marketing agency Cymbic. While I don't presume to speak for the small business community, I'm grateful for the opportunity as a small business owner to add my perspective to the debate on the outsourcing of white-collar jobs.

Over the past 15 years, Cymbic has provided strategic and tactical marketing services to more than 160 businesses, including startups, fortune 500s, and two startups that went on to become fortune 500s. Over the years we've employed more than 100 people, providing salaries and benefits far above the national average. We're proud to have seen a number of our employees go on to start small businesses of their own.

Only two years ago, Cymbic had grown to 35 employees, and earned more than $3 million in annual revenue. We had won nearly 200 awards for excellence in our industry, and we had been selected by the United States Department of Commerce for an exclusive program promoting domestic marketing capabilities in foreign markets.

In the past 2 years, Cymbic has lost 95% of its sales, and 90% of its workforce. We've lost our business offices and most of our office equipment. Our principles have only narrowly avoided both business and personal bankruptcy, though the company still carries a considerable burden of debt. As amazing as it may sound, we're in better shape than most of our competitors. According to some estimates, 90% of our competitors in the Bay Area are no longer in business. While that might be considered an opportunity in many industries, it is one of the factors that led to the collapse of our industry, as closing agencies flooded the market with cheap freelancers.

The most obvious factors that led to our industry's collapse include the recession that began in 2000, the tremendous impact of 9/11, and the subsequent war on terror. All of these forces combined to stall our client's businesses for more than 18 months. We were particularly hard hit because our specialty, marketing, is usually the first budget to be cut, and our clientele is mainly in the telecom and technology sectors, which have been asymmetrically ravaged by the economy.

If these were the only factors that led to our business troubles, I would expect that we could simply tie ourselves to the mast and wait out the storm. But there are other critical

issues that are transforming our business environment and, I believe, the economy, that make recovery far less axiomatic than it might otherwise be.

To sum it up concisely, the communications technology systems created in the 1990s may be the proverbial genie set free from the bottle. Few of us understood the true ramifications behind the marketing hype--the images of workers collaborating across the globe in real time---but the infrastructure we've created has truly diminished the barriers of time and distance. Businesses now have the infrastructure to utilize cheap sources of white-collar labor around the world, and with the recession as it is, they have the motivation to perfect the process.

The question before this committee today is what impact an unfettered system of overseas outsourcing might have on the future of our economy. I'm certainly no economist, but I'd like to tell you my own experience of outsourcing, and the impact it has had on my business.

My business literally came to a dead stop after 9/11. We'd already downsized about 50% during the preceding recession, but within six months of 9/11, we had to reduce our staff another 50% due to a complete lack of sales. By October of 2002, we were facing down bankruptcy and had to vacate our offices, unload most of our office equipment and lay off most of our remaining staff.

A number of the workers we laid off were computer programmers and designers who produced software applications and Web sites for our clients. During the dotcom boom, our employees made top salaries, in a number of cases exceeding $100k per year. With full medical and dental benefits, vacations and other perks, total compensation for all our employees averaged well over $60K per year. Although our remaining employees took a series of pay cuts and benefit reductions, in the end the total loss of sales doomed our workforce.

We have made heroic efforts to survive the effects of the economy, 9/11, and the war on terror. Each of our remaining employees has taken on multiple job responsibilities, while struggling to develop new capabilities to keep our service offering competitive. One of the many new service opportunities we identified was the capability of providing online market research surveys for our clients. To be sure, there are already a number of survey tools available online, but with our existing client base, we saw an opportunity to personalize the service and recapture some revenue that was going to other vendors.

The problem was the cost of development. With literally no capital available, we simply couldn't afford the project rates of domestic developers. Early estimates for our project were in the thousands of dollars. Through an online search we were able to find a programmer in Argentina willing to develop our software for under $200. While we defined the technical requirements and architecture of the software, our overseas developer did all of the programming. All project management was carried out via email and Internet presentations. Payment was arranged via the Web through an intermediary escrow service. We've never met our programmer—in fact, we've never even spoken on

the phone. The software is now in the final stages of development, and we'll be offering the service to our clients within the next six weeks.

Our project pales in comparison to the million-dollar outsourcing deals among large corporations, but it highlights a lesser-known trend of overseas outsourcing among small businesses. My concern today is that the cry for new regulations to ameliorate some of the negative economic effects of outsourcing among larger corporations will have unintended consequences for the thousands of small businesses like mine that leverage overseas development markets for opportunities that would otherwise not be open to us.

I'm aware of the complaints of many workers in the technology industry against outsourcing to foreign workers, and I personally know of some egregious abuses of the L1 and H1B visas. I strongly believe we should not allow the cynical exploitation of the immigration system for the production of cheap onshore labor, but I also believe we should not allow our trade policies to be exploited for preventing the patronage of offshore labor markets. While the intended effect of such policies is the protection of American jobs, I believe the unintended consequences will be a regulatory quagmire governed by special interests, a stifling of opportunities for small businesses, and an ineffective system for dealing with the ramifications of a rapidly globalizing economy.

As a technology advocate, I find it sadly ironic that many of the technology jobs being outsourced overseas today are the same jobs that created the very systems that enable outsourcing to succeed. But I think it's an even sadder illusion to believe that outsourcing to cheap labor overseas is where the trend will end. Software developers are already in the advanced stages of developing systems that will ultimately automate much of the programming done today, exploiting the cheapest labor source of all—computers.

Two of the fundamental trends of technology throughout history have been the elimination of distance and time, and the elimination of human effort. Every major step in the advancement of such technologies creates changes—and often upheaval—in our society and in our economy, and we're at a stage in which changes are accelerating rapidly. If we're going to enact policies to mitigate the effects, we might as well govern the creation of technology in the first place. After all, we're only beginning to recognize the upheaval caused by global real-time telecommunications. It would have been much simpler to have stalled the creation of those technologies—or at least prevented the sale of those technologies to foreign markets—than to try and clean up after the fact with trade regulations to prevent the loss of jobs.

In answer to the question about whether America will continue to lose white-collar jobs overseas, I think it's inevitable that the definition and mix of jobs that comprise the American economy will continue to change as our world changes with increasingly connected global communications and trade. Some see this as a conspiracy; I see it as an expected outcome of a world obsessed with technology and united by the pursuit of money. The question is: what can we do about it?

Since no one has a crystal ball, no one can say exactly how the system will evolve, though few hesitate to offer a doomsday scenario on one side of the debate or the other. However, since we don't know the future and we can't effectively manage rapidly changing symptoms, I believe we need act consistently according to a set of fundamental principles. That's where I believe the true debate lies.

Personally, while I do believe in a role for the government in many areas of regulatory policy, I think the creation of trade barriers to try to protect American jobs will be costly, problematic and ineffective. I'd rather see efforts geared toward leveling the playing field among competing nations. There are serious issues that make outsourcing unnaturally attractive, including the manipulation of currencies by foreign governments, the suppression of workers rights and the absence of environmental regulations. Although the gap between other nations and our own has created an opportunity for cheap labor today –with painful ramifications for many American workers—I believe that focusing our trade policy on eliminating those gaps provides the greatest benefit in the long run. I believe that approach is consistent with our role as a world leader, in this case leading other nations to a better standard of living, rather than simply focusing on protecting our own.

I think we also need to consider the relentlessly short-term focus so much of our economy hinges upon today. Businesses are increasingly pressed to make short-term decisions in order to prop up quarterly earnings—a phenomenon that rarely favors workers, or the long-term prospects of the company. Many of the outsourcing initiatives undertaken today are not well-considered programs to improve operational efficiency—they're hurried schemes to slash operational costs. And with insane logic, businesses and CEOs that undertake such initiatives are rewarded on Wall Street with improved stock prices. The consequences for failed initiatives can simply wait for a future quarter.

Finally, with the creation of any regulations, I think we need to explore the differences between large and small businesses, and how regulations may cause unintended consequences. Small businesses provide much of the energy in our economy, driving innovation, and pushing larger businesses to evolve. Small businesses like mine also play important roles in the success of larger businesses by providing critical support services and expertise. While I can see problems—and indeed some abuses—among large businesses pursuing ever lower costs and higher margins, I think any policies designed to mitigate those abuses should be examined for their impact on small businesses. While larger companies use reduced development costs in global labor markets to improve margins, small companies use the opportunity to innovate in ways that would otherwise require increasingly costly investment capital. If history is any guide, the next major innovation that creates new jobs and a spark in the economy will come from a small business, and it may be one that is able to innovate faster and more effectively by using the global communications infrastructure we've just created.

Testimony of Paul Almeida
President
Department for Professional Employees
American Federation of Labor and Congress of Industrial Organizations

Before the U.S. House of Representatives Committee on Small Business
On the Globalization of White Collar Jobs

June 18, 2003

Mr. Chairman, Congresswoman Velasquez, Members of the Committee, thank you for the opportunity to testify today on behalf of the Department for Professional Employees of the AFL-CIO on this extremely important and urgent topic.

We are very alarmed at the recent trend of outsourcing of white collar and information technology jobs. This trend, which is clearly accelerating, is affecting workers all over the country, at every income and education level. Technology companies are laying off American workers from high-paying desirable jobs while they add thousands of jobs overseas. Corporations are shifting jobs in call centers, accounting, engineering, computer, and financial services offshore, among others. Some local and state governments have even begun to outsource administrative jobs, which is an outrageous misuse of taxpayers' dollars.

Based on a survey of the world's 100 largest financial services firms, Deloitte Research found that these companies expect to shift $356 billion worth of operations and about two million jobs to low-wage countries over the next five years. Forrester Research Inc. predicts that American employers will move about 3.3 million white-collar service jobs and $136 billion in wages overseas in the next 15 years, up from $4 billion in 2000.

The use of cheaper foreign labor has already had a negative impact on U.S. wages in certain sectors. According to Sharon Marsh Roberts, chair of the government relations committee of the Independent Computer Consultants Association, outsourcing has forced down hourly rates by 10 percent to 40 percent for many U.S. computer consultants[1].

Outsourcing may also have a disproportionate impact on African Americans, who are already under-represented in high-tech fields, according to the Coalition for Fair Employment in Silicon Valley. From 1998 to 1999, black engineering employment in the Pacific states dropped 20%, according to the Bureau of Labor Statistics. And African-American-owned technology firms will lose opportunities to compete for government contracts if more of them go overseas.

If these trends continue to accelerate, we will see even more dramatic job loss and wage erosion affecting workers throughout the income scale. This will severely impact the

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[1] "Displaced U.S. Employees Frustrated, Angry At Information Technology Industry," Hartford Courant, January 6, 2003.

wages and job security of the American middle class, in addition to depriving state, local, and federal governments of tax revenues. Policymakers must recognize and acknowledge the severity of the problem and act quickly to stem the job loss.

Short-sighted corporate policy focused on saving a few bucks in the short run will have an enormous deleterious impact on the entire U.S. economy if not checked soon. A recent Powerpoint presentation by a Microsoft senior vice-president urged managers to "pick something to move offshore today" as part of a "short-term project list." The "long-term project list" included evaluating "the cost advantage of adding offshore talent."

When manufacturing jobs started moving offshore, we were told not to worry, that the U.S. comparative advantage was in services and high technology. We were assured that the new global division of labor was both natural and benign: we would keep the high-paying, high-skilled jobs, while the developing countries would do the actual work of making things. For decades, American workers were told to simply acquire more skills and education in order to succeed in the U.S. job market.

Now engineers with Ph.D.s and recent college graduates alike are hearing that they are too expensive, that their job can be done more cheaply abroad. Meanwhile, the U.S. trade picture is also shifting in ominous ways.

The merchandise trade deficit hit almost half a trillion dollars last year ($485 billion), an all-time record. While the goods trade deficit has been growing steadily since the early 1990s, our trade surplus in services has traditionally offset some of that growth. The U.S. trade surplus in services grew from $46 billion in 1991 to a peak of over $80 billion in 1999. The services surplus fell somewhat in 2000 and in 2001. However, in 2002, the services surplus plunged by almost $20 billion, to only $49 billion. This enormous single-year decline is largely due to growth in imports of private services, which almost certainly reflects the outsourcing that has already been taking place. In 2002, the U.S. surplus in advanced technology products also plummeted, shifting from a surplus of $4 billion to a deficit of $17 billion.

These negative shifts have contributed to a record high current account deficit, the broadest measure of international activity, which includes trade in goods and services as well as investment income flows. Federal Reserve Chairman Alan Greenspan has warned that at almost 5% of GDP, the current account deficit is dangerously high and unsustainable.

The outsourcing is not spurred by a lack of skills or education here in the United States. In June 2003, an estimated 1,286,000 Bachelor's degrees were conferred, along with 436,000 Master's, 80,400 First Professional, and 46,700 Doctoral degrees. In addition, 633,000 Associates degrees were projected. Degrees in all these categories are up substantially since the mid-1980s, as young people have heeded the advice given them to acquire more education.

All these factors taken together should be setting off alarm bells for Congress and other policymakers. If an advanced degree, years of experience, and excellent work habits are not enough to land a job, and the U.S. comparative advantage in services and high tech has seriously eroded, what does the future of work look like for the United States? If these cost-saving job shifts are taken to their logical extreme, even American corporations should be wondering where their future consumers will be located, and how they will buy the goods and services that are offered.

Just as the labor movement has fought hard for trade and tax policies that will help the U.S. manufacturing sector thrive and survive, we also need to take a close look at the policies that impact service-sector and information technology jobs.

First, we should make sure that our tax policies are consistent and coherent – at the national, state, and local levels. Many of the companies rushing to outsource jobs have received and continue to receive tax breaks negotiated on the assumption that they would support local job creation. We need to target tax relief to companies that support their own communities with decent jobs.

Second, we can and should ensure that government tax dollars are spent to support strong communities and jobs domestically. State legislatures in Connecticut, New Jersey, Maryland, Washington, and Missouri are all considering legislation that would ban the outsourcing of government contracts to foreign countries. We support this legislation and would recommend that Congress consider steps to strengthen the positive domestic employment impact of federal procurement as well.

The New Jersey legislation was spurred by news reports that a company contracted by the state of New Jersey to administer electronic benefits to welfare and food stamp recipients had contracted the jobs fielding phone inquiries to Bombay, India. There, English-speaking workers, some with fake "American" names answered service calls. Legislators pointed out the irony of using taxpayer dollars to send entry-level service jobs overseas to administer a program aimed at finding domestic entry-level service jobs for welfare recipients.

Third, we should support both more transparency and openness on the part of companies that are outsourcing and more research to understand better the scope of the problem. We have asked Congress to request a General Accounting Office (GAO) study into these trends and their impact on U.S. jobs.

State legislators in New Jersey have recently introduced a bill (State Assembly Bill No. 3529) that would regulate certain call center communications. The bill would require employees of inbound call centers to identify their name, their employer, and their location in phone calls or e-mail communications.

This seems like a pretty minimal requirement that ought not to be impossibly onerous. However, some of the affected companies are opposing the bill and arguing that it would

violate U.S. obligations under the World Trade Organization (WTO). Companies ought not to assume they can only do business if their customers are in the dark as to their operations. Customers have a right to know who is answering their call and where that person is located, just as they have a right to know the ingredients in a box of cereal. Furthermore, this legislation is entirely in compliance with our WTO obligations in this case. It treats foreign and domestic companies equally and simply requires truthful disclosure on the part of companies providing services to the U.S. market.

Finally, we need to reexamine our trade policies to make sure they are reflecting the concerns and interests of American workers, as well as U.S.-based corporations.

In conclusion, I'd like to thank the Committee for holding this hearing and for inviting me here to testify today. I look forward to working with you to craft effective policy responses to the very great challenges facing us in this area.

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FAX COVER

TO: House Committee on Small Business Staff

FAX: (202) 225-3587

FROM: John Leonard
Administrative Assistant to the Vice President

DATE: 6/18/03

PAGE(S) (incl. cover): 2

MESSAGE:

Following, please find the U.S. Chamber of Commerce letter to Chairman Manzullo regarding job outsourcing and related visa issues. We would ask that this letter be entered into the record for today's hearing. Theresa Cardinal Brown (Director, Immigration Policy) will be on hand during the hearing if you have any questions. Thank you.

John Leonard

CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA

R. BRUCE JOSTEN
EXECUTIVE VICE PRESIDENT
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June 18, 2003

The Honorable Donald Manzullo
Chairman
Committee on Small Business
U.S. House of Representatives
2361 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Manzullo:

On behalf of the United States Chamber of Commerce, I am writing to urge caution as your Committee begins examining the effects of the transition of jobs in an international economy, specifically technology and other white-collar jobs.

Outsourcing is a complicated business decision that usually involves many factors. In a downturned economy the pressure on businesses to cut costs, both for their own operations and by their customers, requires difficult choices. When companies are competing in an international market, the inability to effectively manage their workforce can mean the difference between gaining the edge and being put out of business. The result can mean even greater job losses in the long run.

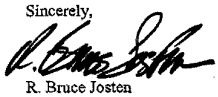
The use of certain categories of visas, such as the H-1B or the L-1, by multinational companies has been an effective means of maintaining that competitive edge. The visas allow companies to manage their global workforce in the most efficient ways, transferring knowledge, skills, management and leadership to the locations that can most benefit. These visas have been the 'grease' of international trade and investment for more than thirty years.

While we are aware of, and appreciate, your ongoing support for free trade, at a time when the United States is aggressively seeking to expand free trade agreements, it makes little sense to start creating new barriers.

We would urge you to carefully consider any changes to these programs that would further encourage multinational companies to look elsewhere for investment and trade. In the long run, expansion of international trade and investment in the United States is in the best interests of all.

We look forward to working with you and the Committee to address these difficult issues, and would ask that this letter be included in the hearing record.

Sincerely,



R. Bruce Josten