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Controversy Continues Over Outsourcing Report

Commerce Dept. 'Disses' Congressional Democrats

BY KEN JACOBSON

The Commerce Department has refused to provide Democratic members of Congress with information they requested concerning a controversial report on outsourcing of jobs in the high tech sector. In a letter to ranking minority member of the House Science Committee, the Commerce Department says it does not have to comply with the request due to provisions of the Freedom of Information Act (FOIA). But citing the FOIA as a means to deny information to members of Congress, as Commerce does, is rare and its wisdom may be questionable, according to lawyers familiar with the statute.

The outsourcing report, which carries a July 2004 date and the title "Six-Month Assessment of Workforce Globalization in Certain Knowledge-Based Industries," was made public in September 2005 in response to a Freedom of Information Act request filed by *Manufacturing & Technology News* (*MTN*, Oct. 12, 2005, p. 1). The report had been ordered in report language accompanying the Commerce Department's fiscal year 2004 appropriation requiring its Technology Administration to "conduct an assessment of the extent and implications of workforce globalization in knowledge-based industries."

The report's brevity as released — 12 pages — and the paucity of original research it contains have caused some to question the extent to which it represents the work actually carried out by the agency's analysts. The Bush administration political appointee at the Technology Administration responsible for the report has since left the department.

Rep. Bart Gordon (D-Tenn.), the Science Committee's ranking

(Continued on page four)

Specialty Metals Industry Is On Offense On Defense

BY RICHARD McCORMACK

The U.S. specialty metals industry has issued a stern warning to the U.S. government and the Department of Defense: create an industrial policy that encourages investment in domestic production now, or risk the loss of an essential industry that supplies advanced materials used in every weapon system in the American arsenal.

The Specialty Steel Industry of North America (SSINA) says the U.S. government must take "dramatic and comprehensive" actions aimed at creating a better investment climate in the United States. If it does not do so, then foreign countries offering a myriad of inducements and illegal subsidies will capture the production of super alloys, titanium, stainless steel, high-strength, and high-temperature metals.

"The U.S. could gradually lose its domestic specialty metals manufacturing base if U.S. manufacturers of specialty metals move production offshore in search of what they perceive to be better business opportunities and profits," says the Washington, D.C.-based trade group. "Were this to happen, not only would the U.S. lose its manufacturing base, but it would also lose its leading-edge position in specialty metals technology, along with its ability to develop new technology...In this

(Continued on page two)

Specialty Metals Industry Is On Offense...

(Continued from page one)

industry, our factories are our laboratories."

SSINA conducted a survey of its members and asked them to pinpoint the defense applications of their products. It found that the specialty metals industry can be easily overlooked because it is at the very bottom of the defense supply chain, yet it is "critical" to the nation's defense. Because the military market constitutes only 10 percent of industry sales, DOD is dependent upon the commercial success of the industry.

"We need to have a healthy core of business in order to make the products for the leading-edge products used for defense," says Jack Shilling, chairman of SSINA and chief technical officer for Allegheny Technologies Inc. "If foreign companies or governments sell products at prices that are unfair by U.S. laws that are either dumped into our market or are subsidized, we will fight that. We'll take anybody on a level playing field. We're not going to let somebody come here and dump products into the U.S." The success of the industry is being jeopardized by countries that cheat.

"Our argument is unique and should be a politically acceptable argument," says Shilling. "We're not asking for the government to go and build a specialty metals plant. We're not asking the government to build a wall around the United States and require multinational companies to make all of their investments in the U.S. A much better solution would be to create a level playing field for investment."

Unfortunately for the industry — and for the military — that playing field is not level, and is tilting every day more towards China. If the industry is severely weakened, it will be hard, perhaps impossible, to rebuild.

"It's not just another platitude, it's very true," says Shilling. As a Ph.D. engineer, "I came up through the R&D in the specialty metals area before I became a management executive running [a specialty metals company]. I worked there my whole life. I know this industry backwards and forwards. I can make this point: the investment decisions being made based on trade, costs and taxes worry me."

The industry feels it is important to make sure the Defense Department understands its strategic importance as a fourth- and fifth-tier supplier to the big defense contractors. The main purpose in preparing its "Specialty Metals and the National Defense" report "was to get DOD's support and we really have it now," says Shilling.

Gary Powell, Acting Deputy Undersecretary of Defense for Industrial Policy, was quoted by SSINA as saying: "There is no question that specialty metals are critical to national defense...and myriad defense programs would be negatively impacted by specialty metal supply disruptions."

Virtually the entire U.S. specialty metals industry is behind the SSINA defense industrial base initiative. "Every CEO I know in this industry believes it in their heart that the U.S. is engaged in a high-stakes poker game" with international competitors, says Shilling. "This isn't just, 'We're supporting Jack in Washington' They are asking me: 'Are we making any progress?' "

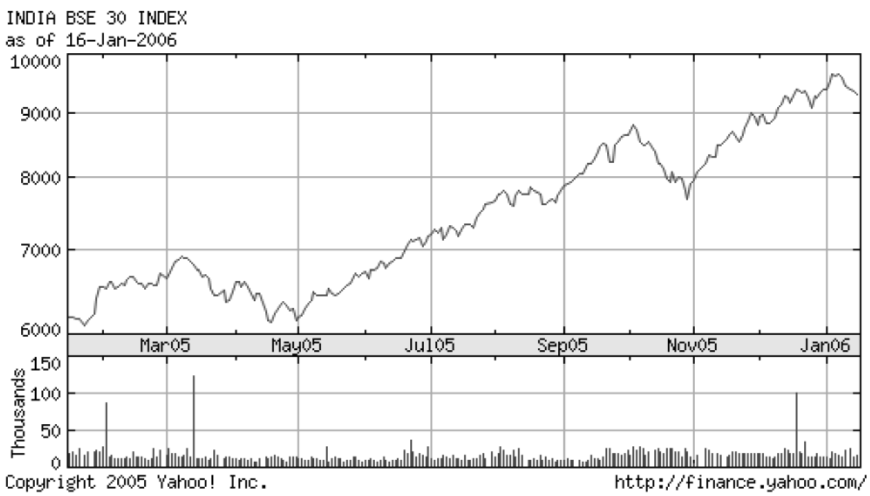
> *"Once we lose our manufacturing base we're dead."*

Now that it has provided DOD with a comprehensive look at its applications in defense products, the next step for the industry is to create and then lobby for the adoption of an agenda that encourages investment in the United States. It will outline what needs to be done in three areas: trade, costs and taxes in order to be competitive with unfair practices overseas.

"We're not asking for a bailout," says Shilling. "Our competitors have developed industrial strategies and U.S. multinationals are playing directly into them. All the garbage that you read about from free trade groups saying the U.S. anti-dumping laws are hurting the U.S. economy — they're nuts. Those people are crazy. They have self-serving interests. Once we lose our manufacturing base we're dead."

The report, "Specialty Metals and the National Defense," is located at http://www.ssina.com.

Money Flows To Growth: Bombay Stock Exchange



The Bombay Stock Exchange has had a good run over the past year. The index is up 37 percent over the past 52 weeks, from 6,096 to 9,690. Foreign investment in Indian equities topped $10 billion in 2005.

Toyota Has Another Record Year Of Sales

Toyota sold 10.4 percent more vehicles in the United States in 2005 than it did in 2004. The company had year-end sales of 2,260,296 vehicles, the 10th consecutive year of record sales. Camry was the best selling car in America, with sales of 431,703 units, up 1.4 percent from 2004. Toyota's Corolla brand sold 341,290 units, up 2.8 percent. The Prius hybrid vehicle had sales of 107,897 units, up 100.5 percent over 2004. The company's Lexus division sold 302,895 units, up 5.5 percent, keeping the brand as the best-selling luxury auto in the U.S. Toyota's light truck division sold 819,271 units, an increase of 1.8 percent over 2004. The recently introduced Highlander SUV hybrid, launched in June, had sales of 17,989 units. The Tundra full-sized pickup truck sold 126,529 units, up 13 percent over 2004.

Terrorists' New Target: Economic Interests

Terrorists are now intent on causing economic as well as political and social damage, according to a report from the Milken Institute. "They may be accomplishing their economic objective," says the study entitled "The Economic Impacts of Global Terrorism: From Munich to Bali." "Terrorism has had a large financial and economic impact — especially as terrorists have shifted their attacks from government to civilian targets. Economically speaking, terrorism may be winning."

The increased frequency and intensity of terrorist attacks "has a significantly negative effect on investments and stock market capitalization," says Glenn Yago, Director of Capital Studies at the Milken Institute.

Using data from the MIPT Terrorism Knowledge Base, researchers studied terrorist attacks in 149 countries from 1968 to 2004 and compared them with various financial market measurements, such as corporate investment, GDP and stock market valuations. During this time, there were 16,730 incidents resulting in more than 90,000 deaths and injuries. The pattern and intensity of attacks has shifted from government to civilian targets. In the 1970s, 41 percent of targets were governmental as opposed to only 2 percent since 2000. Private citizens and private property increased from 1 percent of the targets in 1970 to 30 percent since 2000.

"Overall, fatalities and injuries that were largely concentrated on governmental or military targets in the 1970s have overwhelmingly shifted to private, business and transportation targets," says the study. "As a result, resources are misdirected from more productive uses in targeted countries to weaken them financially, politically and militarily."

Israel, Lebanon, Jordan, Spain, Turkey, Russia, Indonesia and Greece are among the countries that experienced a significant drop in investment due to attacks. The report is located at http://www.milkeninstitute.org/pdf/econ_impact_terrorism.pdf.

DOD Faces Ballooning Medical Costs

The Department of Defense is going to be spending a lot more money in future years on operations and support, especially for health care and pharmaceuticals. Real medical spending is projected to increase by 80 percent, from $37 billion in 2006 to more than $66 billion in 2024, says the Congressional Budge Office.

Meanwhile, DOD's "investment" account — research and development and procurement of weapon systems — will not see any dramatic surge in spending. The account is projected to grow by 11 percent between 2006 and 2011, from $148 billion to $165 billion, and reaching a peak of $193 billion in 2014. After that, the CBO projects a gradual decline in spending on weapons and R&D to an average annual rate of $172 billion. The analysis entitled "Long-Term Implications of Current Defense Plans and Alternatives, Detailed Update for Fiscal Year 2006 "is located at http://www.cbo.gov/ftpdocs/70xx/doc7004/01-06-DPRDetailedUpdate.pdf.

Iraq War Fuels U.S. Mfg. Sector

The war in Iraq is helping to keep a large portion of the basic manufacturing enterprise in the country healthy, says Dave Frengel of Penn United Technology in Cabot, Penn. Metal benders, precision die and machine shops are in good shape, but that could change quickly. "If the war ends, you're going to see 2001 all over again," says Frengel. "The war is a big piece of what's keeping us busy."

A desert war is not easy on equipment. "One of the things DOD discovered is soldiers literally carry two extra barrels for their rifles because the bullets don't go straight due to sand," says Frengel. Barrels used in a desert environment last one-tenth as long due to harsh conditions, says Frengel.

The prevalence of sand is also limiting the life of power generators, diesel engines and drives. The Defense Department "has $300-million worth of rebuilds that they need right now and we're out there building them, sending them back and taking other ones out of the field, and we just keep going," says Frengle. Every piece of equipment in the theater — from tank tracks to jeep engines — has to go through the same rebuilding process.

The other aspect of the war keeping U.S. shops busy: the huge need for new ordinance, weapons, shells and ammo. "Right now military spending is way up and the military can't find enough people to do it in the world let alone in the U.S," says Frengel. "People making armor, whether it's ceramic, plastic or metal, are just going bonkers. When that stops and we go back to maintaining a peace-time Army, you're going to see 2001 all over again. You're going to see another one million to 1.5 million manufacturing jobs disappear on top of the 3 million jobs lost since 2001 because we're not really producing other items."

Commerce Says Bug Off..

(From page one)

member, was notified of the Commerce Department's decision not to provide the report's background information in a letter that was dated December 23, 2005, but first arrived at Gordon's office last week. With the House in recess, Gordon could not be reached for comment before *MTN* went to press.

The Commerce Department refusal, sent over the signature of Deputy Assistant Secretary of Commerce for Technology Policy Daniel Caprio, stated that "a thorough and exhaustive search" by TA personnel had "located 157 records responsive" to an October 11, 2005, request for information sent to Commerce Secretary Carlos Gutierrez by Gordon, Rep. Jerry Costello (D-Ill.), and Rep. David Wu (D-Ore.). [For the specifics of that request, please see box to the right.]

Those records, Caprio's letter states, "consist of internal e-mails between Government employees expressing comments and recommendations about the Assessment, drafts, and other predecisional, deliberative internal memoranda pertaining to the Assessment."

Citing the exemption in subsection (b)(5) of the FOIA (5 USC Sec. 552), commonly referred to as the "predecisional privilege" or "deliberative process privilege," the letter explains that in each case the record being "withheld" was "predecisional and antecedent to the adoption of an agency policy." This material, says the letter from Caprio, is "a direct part of the deliberative process in that it makes recommendations or expresses opinions on legal or policy matters."

The Commerce Department refusal to provide the congressmen with the information they requested brings two questions to the fore:

1. Was the department compliant with the FOIA in withholding in their entirety the drafts and associated documents they requested?

2. Was the Commerce Department acting properly in treating their oversight request under the FOIA in the first place?

Another question was raised by the e-mailed response of the department's Public Affairs Office to a query by *Manufacturing & Technology News* as to why the FOIA route was chosen. "We are not going to comment on a private letter to a Member of Congress." That question is: Why characterize as "private" a letter signed by a department officer acting in his official capacity that responds to an inquiry made by members of Congress acting in their official capacity?

The Technology Administration "could be at fault" in its blanket withholding of the records, says Roy Schotland of Georgetown University Law Center, a specialist in administrative law who is not involved in the matter. The content of these documents "can't all be predecisional" in nature, he says. Bureau officials may be obligated under the FOIA to disclose "the factual matters in the report even when the non-factual can be withheld."

Indeed, the Freedom of Information Act states: "Any reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt" under the deliberative process privilege or another of the eight other exemptions listed in the law.

(Continued on page five

What Democrats In Congress Sought...

A list of names — those of nine Technology Administration (TA) staff analysts described as having "prepared" its "Assessment of Workforce Globalization" — represents the only information provided in a recent communication from The Commerce Department's Technology Administration to Rep. Bart Gordon (D-Tenn.). TA compiled the list, it said in a letter dated December 23, 2005, to make up for the lack of "any one record containing all the names" of personnel who contributed to the assessment "or the number of hours [they] spent" working on it.

But TA said it was denying Gordon and two fellow minority members of the House Science Committee access to any of 157 actual records it had identified as "responsive" to the following questions, which the three had sent last October to Commerce Secretary Carlos Gutierrez:

1. "What were the number of employee hours involved in preparing the report and its subsequent review?

2. "Please identify the Technology Administration personnel who prepared the report.

3. "What was the vetting process for this report? Please provide specific names and offices of those involved in the review and editing of this report and a timeline for when each office signed off on the report through the final clearance of the report for release. This list should include any offices or individuals outside the [Commerce] Department that may have received the report as part of the broader vetting process or to seek outside advice on the report....

4. "In December 2004, two TA analysts made a presentation to the Association for Computing Machinery based on their work [that] is significantly more detailed and comprehensive than the final report you provided to us. *Indeed, the December 2004 presentation comes much closer to addressing the mandate originally proposed by Congress* [emphasis in original]. That presentation is also consistent with the type of analytical work typically done by the Technology Administration. We would like copies of the original report produced by the Technology Administration analysts as well as all subsequent revisions made by the Department and other Federal officials so that we can understand how the final report came to be scrubbed of all information or analysis that might be useful for sound decision-making by Congress."

The TA staff analysts listed by TA in an enclosure to its letter to Gordon were: Mark Boroush; David Brantley; Laureen Daly; Doug Deveraux; Karen Laney-Cummings; Carol Ann Meares; Sujata Millick; John Sargent; and Carl Shephard. TA's letter stated that it would "make available" to Gordon "staff analysts to discuss the Assessment."

Commerce Says Bug Off... (From page four)

In the Freedom of Information Act Guide posted on its Web site (www.usdoj.gov/oip/foi-act.htm), the Department of Justice advises Executive Branch agencies to "pay particularly close attention" to the segregability requirement so that they can "adequately demonstrate to [a] court that all reasonably segregable, nonexempt information — perhaps even including individual numbers contained in multiple-digit codes — was disclosed."

Even the Circuit Court opinion that Caprio's letter cited to corroborate the decision to withhold the material requested by Gordon and his colleagues, *Coastal States Gas Corp. v. Department of Energy*, states that a Supreme Court opinion, *EPA v. Mink*, has "established the principle that the [FOIA's deliberative process] privilege applies only to the 'opinion' or 'recommendatory' portion of the report, not to factual information which is contained in the document."

But Congress made no request that policies or actions be proposed in charging TA with conducting what it called an "assessment." There are no policy recommendations contained in the June 2004 report. It appears that only the first of three "purposes" for the deliberative process privilege named in the Coastal States Gas opinion cited in Caprio's letter might be relevant to it:

• "To assure that subordinates within an agency will feel free to provide the decisionmaker with their uninhibited opinions and recommendations without fear of later being subject to public ridicule or criticism;

• "To protect against premature disclosure of proposed policies before they have been finally formulated or adopted; and

• "To protect against confusing the issues and misleading the public by dissemination of documents suggesting reasons and rationales for a course of action which were not in fact the ultimate reasons for the agency's action."

Technology Administration analysts who contributed to the report made a December 2004 presentation to the Association for Computing Machinery on their research that was packed with statistical data. As such, it might be inferred that TA possesses a significant amount of relevant factual information that the Commerce Department might be obligated to disclose under the FOIA.

Question No. 2 is whether the department acted properly in treating the congressmen's request under the FOIA. This question, with a corollary: whether, even if acting properly, it was acting wisely — raises a "perennial issue" associated with "the intersection of practical politics and legal uncertainty," says one long-time observer of relations between the Executive and the Legislative branches.

The FOIA, in the language of its own subsection (d), "is not authority

(Continued on next page)

...And What They Got

United States Department of Commerce
Technology Administration
Washington, D.C. 20230

Dec. 23 [2005]

The Honorable Bart Gordon
U.S. House of Representatives
Washington, DC 20515

Dear Representative Gordon:

This letter is in response to your October 11 letter to Secretary Carlos Guiterrez pertaining to the document entitled Six-Month Assessment of Workforce Globalization In Certain Knowledge-Based Industries. As we indicated in our letter of November 21, we conducted a thorough and exhaustive search for records responsive to your request, pursuant to the Freedom of Information Act ("FOIA," found at 5 U.S.C. 552).

We located 157 records responsive to your request. The responsive records consist of internal e-mails between Government employees expressing comments and recommendations about the Assessments, drafts, and other predecisional, deliberative internal memoranda pertaining to the Assessment.

While we do not have any one record containing all the names of the Technology Administration (TA) personnel who prepared the Assessment, or the number of hours spent, we compiled a list of the staff analysts, and it is enclosed for your reference. We trust that this satisfies that portion of your request. TA will make available to you Office of Technology Policy Staff analysts to discuss the Assessment at your convenience.

The remaining records are being withheld pursuant to exemption (b)(5) of the FOIA (5 U.S.C. 552(b)(5)), in that they are predecisional and reflective of the deliberative process of the Commerce Department. Because each such record is "predecisional and antecedent to the adoption of an agency policy," and "a direct part of the deliberative process in that it makes recommendations or expresses opinions on legal or policy matters," they are being withheld under the FOIA. See *Coastal States Gas Corp. v. Department of Energy*, 617 F.2d at 866 (D.C. Cir. 1980). You have the right to appeal this denial of your FOIA request. Instructions on initiating an appeal are also enclosed. Thank you very much for your patience in this matter

Sincerely,

Daniel W. Caprio, Jr.
Deputy Assistant Secretary for Technology Policy

cc: The Honorable Jerry Costello
The Honorable David Wu

NAPA Seeks Link Between Offshore Outsourcing And Job Loss

A National Academy of Public Administration (NAPA) panel charged by Congress with making a $2-million review of offshoring's nature, causes, and impact on the U.S. (*MTN*, June 22, 2005, p. 5) has concluded that it must go where no statistician has gone before.

In producing the first of three projected reports, a 164-page document published earlier this month under the title "Off-shoring: An Elusive Phenomenon," the panel found itself stymied by two "critical data issues" it had expected to resolve at the outset:

• What "currently available data indicate about the extent of U.S. offshoring"; and

• "What additional data are needed" to enable NAPA to make a comprehensive assessment of its effect on the nation's well-being.

The panel's difficulties, indicated Kenneth Ryder, NAPA's director for the project, stem from the fact that none of the previous offshoring studies it identified had ventured into the realm of micro-level data. Specifically, none had attempted to link trade data compiled by the Commerce Department's Bureau of Economic Analysis and by U.S. industry with employment and wage data from the Bureau of Labor Statistics.

"Until you have fully utilized existing and available data, it's a little difficult to come to any judgment about the adequacy of those data" or about whether more data might be needed, Ryder told *Manufacturing & Technology News*.

In an attempt to remedy the problem, the panel has settled on illustrative industry sectors to examine and has embarked on an effort to interview U.S. companies competing in them about their strategic planning. Analyses based on these interviews, as well as on existing U.S. government and industry data, are to be featured in a second report, tentatively scheduled for publication this summer.

"To the extent that firms are engaging in offshoring, they're making individual decisions," Ryder explained. "In order to observe that event occurring, you've got to get down and look at the microdata."

Chosen were four business areas labeled as distinct industries under the North American Industrial Classification System: architectural, engineering and related services; computer system design; business support services; and pharmaceuticals.

This sample, the initial NAPA report states, emerged from selection criteria requiring that the industries studied be:

• "Significant in size and overall economic impact;

• "Potentially vulnerable to off-shoring, or at least perceived to be vulnerable from previous studies;

• "Sufficiently diverse to include alternative impacts that off-shoring

(Continued on page 10)

Congress Snubbed... *(From page five)*

to withhold information from Congress" — irrespective of the nine specific exemptions listed in subsection (b), of which the deliberative process privilege is one, that "authorize withholding of information or limit the availability of records to the public."

But the distinction between "Congress" and "the public" turns out to be less unambiguous than may appear. The act's "phrasing leaves somewhat unclear exactly which requests should be treated as special ones 'from Congress,' " says a 1984 Guidance from the Justice Department's Office of Information and Privacy cited in the current Freedom of Information Act Guide.

The guide takes the position that "individual Members of Congress possess merely the same rights of access as those guaranteed to 'any person' " under the FOIA. It quotes the 1984 Guidance to the effect that "'[e]ven where a FOIA request is made by a Member clearly acting in a completely official capacity, such a request does not properly trigger the special access rule of subsection ([d]) unless it is made by a committee or subcommittee chairman, or otherwise under the authority of a committee or subcommittee.' "

Even if the executive can make a case for treating a FOIA request from a member of Congress as it would a FOIA request from a member of the public — and one legal expert pointed out that Congress has in essence "acquiesced" in the agencies invoking the subsection (b) exemptions by not changing the statute subsequent to the 1984 Guidance — can agencies treat under the FOIA a request that members of Congress did not make under that statute?

"Can they do so? Yes. Do they do so? Yes," said Carl Stern, a media law specialist at George Washington University. He nonetheless called it "a rarity" for "agencies [to] transmute" an oversight request into a FOIA request. "It may happen if the request comes from an entity that an agency does not vibrate sympathetically with," says Stern.

Stern pronounced himself "not about to jump to conclusions" regarding TA's treatment of the request by Gordon and his two colleagues, of which he had no first-hand knowledge. It could simply have been "mishandled" by the Commerce Department, he speculated.

Still, Stern observed that TA's action could "suggest a lack of respect for Congress as a coequal institution. To use modern language, it's 'dissing' members of Congress."

The way individual members' oversight requests are handled is "all about agency discretion," said the observer of relations between Congress and the Executive. But as a rule, "you don't get [members] angry, because you never know what will happen" in the future. And "case law says you do what you can to fulfill a request — you don't just give them the finger, even if they're in the minority."

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Guest Editorial

The Economic State Of The Union

BY CHARLES McMILLION

The December jobs report confirms that since the bursting of the 1990s financial bubble the United States has faced the slowest job creation on records going back to 1939. Indeed, because jobs lost paid for more hours worked per week than did the newly created jobs, the country ended 2005 with fewer private-sector hours worked than it had in January 2001.

This five-year loss of private sector hours worked is the first on record for the private sector and the worst recorded for the entire labor force. Reduced hours worked also explains why measured productivity growth is stronger than average even with output growth far weaker than normal. Productivity is a measure of output per hours worked.

Private firms added only 958,000 jobs over the past five years while state and local governments added 1.1 million jobs (schools, health care, prisons) and the federal government reduced (postal) jobs, for total growth of only two million jobs for the entire U.S. economy.

For the first five-year period on record, the private sector has lost supervisory/managerial jobs. And as everyone worries about runaway health care costs, health care providers accounted for 1.4 million new private-sector jobs in the past five years. Excluding health care, the private sector has lost -467,000 jobs since January 2001. And this includes 894,000 new jobs in bars and restaurants.

One-in-six (-16.5 percent) manufacturing jobs were lost in the past five years, the worst losses since demobilization from World War II. Every manufacturing industry has lost jobs with the more capital intensive durable goods industries losing a slightly higher share of jobs than non-durable industries. The hardest hit industries were apparel (-46 percent), textile mills (-41 percent), communications equipment (-39 percent) and semiconductors (-37 percent).

The pattern that has emerged clearly over the past five years is that almost every industry that faces foreign outsourcing or import competition is losing jobs. Some industries that face global competition, most notably the auto industry, are partly protected by union contracts that now may be quickly losing their effectiveness. Job growth, although sluggish, now occurs almost exclusively in industries that cannot be outsourced and that do not face global imports — health care, education, construction/repair, credit services and local government.

This pattern is reflected in the trade data that show the United States accumulated global deficits of -$2.85 trillion over the past five years in all traded goods and services — the international "current accounts." U.S. economic growth was slower than world growth for the sixth consecutive year in 2005. Nevertheless, trade deficits — production shortfalls — have worsened sharply in recent years, reaching about 6.4 percent of GDP in 2005. This compares with a current account deficit equal to -3.4 percent of GDP in 1987, at the height of the "competitiveness" crisis.

The industry composition of U.S. trade deficits changed markedly in recent years. For the first time on record, the traditional U.S. surplus in manufactured Advanced Technology Products (ATP) was lost in 2002. Even with a likely temporary spurt in U.S. export sales of large (Boeing) commercial airliners, which are still classified as ATP, the 2005 U.S. deficit in ATP was larger than any previous surplus. In fact, beginning in 2004, the U.S. deficit in ATP began to exceed the entire U.S. surplus in Intellectual Property licensing and fees. That is, U.S. technology goods and services no longer offset any portion of the U.S. import bill for oil or autos or clothing; the U.S. is now a net importer of technology

(Continued on next page)

Will The Real China Trade Surplus Please Stand Up

China reported that its trade surplus with the world tripled last year to $102 billion, up from $32 billion the year before. But that number, reported by China's General Administration of Customs, "is phony," says the China Currency Coalition in Washington, D.C.

China's real global trade surplus last year was $435.5 billion, based on an analysis of trade data from 40 countries that account for more than 90 percent of trade with China, says the coalition. The Chinese data did not give a breakdown for imports and exports with the United States or other major trading partners, according to a report from the Associated Press.

The Chinese customs office said imports and exports with the United States totaled $211.6 billion. But the U.S. trade deficit with China last year is projected to be $202 billion, according to the U.S. Department of Commerce. Merging the two numbers, for every dollar of U.S. exports to China, the U.S. imports $22 worth of goods.

"There is a whole lot wrong with this picture, including China's penchant for publishing fictitious trade data," says the China Coalition.

China's GDP grew by 9.8 percent in 2005. U.S. GDP grew 4.1 percent in the third quarter of last year (following a 3.3 percent rise in the second quarter and 3.8 percent increase in the first quarter), yet the United States lost 50,000 manufacturing jobs in 2005.

Letter To The Editor

Alan Tonelson, Senior Fellow, U.S. Business & Industry Council

"Wanted: An Intellectually Honest Debate About Trade Policy"

National Association of Manufacturers Vice President Hank Cox's recent letter to *Manufacturing & Technology News* (December 22, 2005) on trade policy and outsourcing is noteworthy only for making clear how intellectually dishonest our national debate on these issues has been. It makes equally clear that the outsourcing multinational companies that dominate the leadership not only of NAM but most other major American business groups are mainly to blame, and that the selective release of information has been their favorite tactic.

Since the outsourcing debate was kicked off by the NAFTA controversy in the early 1990s, its substance has been understandably and rightly dominated by data. Supporters of NAFTA and similar trade agreements have used data to show that the economic benefits — mainly in terms of economic growth, job creation and wages — would outweigh the costs. Opponents of these deals have used the data to argue the reverse.

But this data fight has never been a fair one because the most important and revealing information has been monopolized by the outsourcing multinationals. Yes, the U.S. government tracks trade flows in great detail by product category, along with employment and wages. The data is gathered at the company level, but in order to protect business secrets, not released at that level.

Safeguarding proprietary, strategic business information is hardly a trivial concern. But precisely because of the rise of international production networks, which often span multiple countries, the gross export and import figures published by Washington can't possibly reveal the full impact of globalization on the U.S. economy.

In an era where parts and components of products trade as heavily as the finished goods themselves, the gross trade figures say little about where goods are finally consumed. Therefore, they shed comparably little light on whether exports are serving genuinely new markets for a country and its workers or whether they are simply increasing the foreign content and competitiveness of imports and have displaced domestic production.

Even the figures released by the Census Bureau on where multinational companies sell their foreign output are fatally flawed: They only track the first sale from a foreign factory. Intermediate goods, however, typically take several transactional trips before finding their final customer as part of a finished good.

The one exception to the inadequacy of the publicly available data is found at the macroeconomic level, where the record increase in America's trade and current account deficits is made crystal clear. Significantly, this is the aspect of the U.S. trade picture

(Continued on next page)

State Of Union... *(from preceding page)*

and intellectual property.

China now accounts for 25 percent of the U.S. current account deficit and for the entire technology deficit.

Effects from these massive structural changes have been masked by equally massive borrowing and asset sales. The gross federal deficit first passed $1 trillion in late 1981 after 200 years of world wars, many regional wars, a civil war, depression, recessions, runaway inflation, a war on poverty and more. Now, the Federal deficit is $8.1 trillion with $2.5 trillion of that added in just the past five years.

Median household income fell for a record fifth straight year in 2004 — the last data available. Yet, aided by recent tax-cuts, consumer spending on non-tradeable goods and services has kept GDP growth at seemingly healthy levels. But this spending comes from the total elimination of current household savings and the accumulation of unprecedented debt. Households spent more than their current incomes in 2005 for the first time since 1933. Indeed, in the fall of 2005, for the first time since 1934, the nation as a whole spent more than it earned as, along with household dis-savings, the government deficit was larger than all business savings. Income inequality is now the worst on record with the top 5 percent of households getting almost as much annual income as the bottom 60 percent.

The conventional wisdom is that households are now borrowing and spending like drunken sailors because the rising value of their homes are providing the "savings" for them. But Federal Reserve data show that much of the recent rise in home values have been offset by the very weak performance of stocks, money markets and other assets along with weak or declining current savings. As a result, the inflation adjusted rise in household net worth over the past five years is among the weakest on record.

Even with today's low-but-rising interest rates, households are already paying a record share of their disposable income to service debts. Since the bursting of the financial bubble, household debt has soared as a share of total assets and remained at record levels throughout the past five years.

Where is the economy headed? The most worrying indicator is that policy makers do not seem to understand just where the economy is right now.

— Charles W. McMillion, president and chief economist of MBG Information Services, is a past professor and associate director in the Johns Hopkins University policy institute.

(Detailed five-year employment charts associated with this story can be found at http://www.manufacturingnews.com/news/06/0119/JobsNumbers.pdf.)

Tonelson...

(Continued from page eight)

that is finally generating concern even throughout the economic policymaking establishment. This ruling class has long dismissed these deficits as an important measure of anything, but seems to understand ballooning net debt levels quite well.

But even though the government does not publish the data that's really needed to assess the impact of trade policy on the U.S. economy, a bedrock truth about the trade policy debate should never be forgotten: The multinationals themselves have all the answers. They know exactly how much production they have sent overseas versus how much they have kept in the United States. They know exactly how many foreign workers they have hired to replace U.S. workers, and how much each group of workers gets paid. And if they make intermediate goods, they know the main markets for the final products. Any business needs to know this information to be profitable.

If the companies opened their books, the biggest questions about trade policy's impact could be answered conclusively. But they don't volunteer the information, and the government respects their wishes, asks for little of it, and releases even less.

It's bad enough that anyone genuinely curious about the economic impact of trade policy must pore over not only the official data but the mainstream press and the trade press in hopes of finding revealing nuggets that the multinationals from time to time let slip — often in announcements designed to impress Wall Street with their cost-cutting or to impress foreign countries with their contributions to those economies. What's worse is that the multinationals routinely release only information that paints a positive picture. Cox's letter to *Manufacturing & Technology News* is only the latest example.

According to Cox, although Emerson "sources some $900 million in products a year in China, it also sells $1 billion worth of products a year in China — one of the few bright spots on the China trade front." Yet despite his reference to "trade," these figures cannot possibly refer to Emerson's exports from the United States to China. If they did, that would mean that a single company accounts for about 3 percent of America's total annual goods exports to the People's Republic these days. Alternatively put, Emerson's exports to China alone would equal about one-third of the total for American aircraft manufactures and nearly one-sixth of the total for all U.S. producers of computer products, electronic products, electrical equipment, appliances and components.

Instead, what Cox is talking about surely is something completely different — and largely separate from the fortunes of the domestic economy. He's no doubt talking about Emerson's sales to China from all of its worldwide factories — many of which, academic researchers have determined, increasingly are located outside the United States — and, by the same token, the total purchases from China of these far-flung Emerson facilities. Moreover, consistent with Emerson's substantial business in intermediate goods, even many of its genuine U.S. exports to China are parts and components of various kinds that are put into final electronics products in China and shipped back to the United States for final sale. Since many of these final products were once made in the United States, it's difficult to see how Emerson's business model boosts either U.S. economic output on net (since imports detract from output) or living standards.

Of course, there's no real need for any guesswork whatever. If Cox really wanted to describe Emerson's impact on American economic welfare — and more important, how it's been changing — he would have asked the company for its annual U.S. export and import totals going back 10 or 15 years, as well as for the annual figures on the share of its output made in America and made abroad. Since he emphasized China, Cox also could have asked Emerson for some China-specific numbers along these lines.

And for the coup de grace, Cox could ask all members of the National Association of Manufacturers for similar figures. But the last thing he and the organization want to do is open Multinational America's books. For surely they would show that their outsourcing has turned most of these companies into super-importers, not super-exporters, and therefore drags on U.S. welfare.

To be sure, such transparency would divulge valuable business secrets (as well as create a public relations nightmare). But the U.S. government could easily resolve the first problem: Require every multinational company doing business in America, whether U.S.- or foreign-owned, to open its books, too. Then this proprietary information would lose all its strategic value.

NAM and the rest of the multinational business community clearly have the lobbying clout to change U.S. corporate data policy. But unless they use this influence, their real aims in debating globalization will be all too clear — not to educate the public and policymakers about a legitimate perspective and promote the national economic interest, but simply to spread self-serving falsehoods.

Europe Enters GPS Marketplace

Europe is officially entering the global positioning systems (GPS) business. The continent successfully launched its first GPS satellite on December 28 from Baikonur, Kazakhstan, atop a Soyuz-Fregat launch vehicle. The launch "is the proof that Europe can deliver ambitious projects to the benefit of its citizens and companies," said EU Transport Commissioner Jacques Barrot. Unlike the GPS systems run by the United States and Russia, the proposed 30-satellite European system, called Galileo, is designed specifically for civil use. The EU says its system will provide accuracy up to one meter, unlike the U.S. system which "can be ten meters or so out in terms of accuracy." The U.S. system can also be switched off at the request of the President, the EU notes. "Indeed, in 2004 President George Bush ordered that the satellites be temporarily disabled during national crises in order to prevent terrorists from using navigational technology." For more information on Galileo, visit http://europa.eu.int/comm/dgs/energy_transport/galileo.

GAO: USTR Lacks System To Institutionalize Memory

The Office of the United States Trade Representative does little to train the next generation of trade negotiators, according to the Government Accountability Office (GAO). "Although a key element of strategic human capital leadership principles is the use of succession planning to ensure a smooth transition of knowledge from incumbents to successors to strengthen organizational capacity, USTR does not conduct formal succession planning," says the GAO. "Our analysis of USTR's human capital data found substantial risk of future leadership and knowledge loss due to retirement."

Five of the agency's top 22 senior executives are currently eligible to retire, with another four eligible to retire within five years or less, "for a total of 41 percent" of USTR's senior officers. Other key personnel are in positions that have high turnover.

Moreover, the USTR's management structure relies on personnel and resources from other federal agencies. As a result, USTR "does not have a method to account for changes in other agencies' resources that might impact its ability to achieve its mission," says GAO.

The White House cabinet-level agency has also focused most of its human resources on short-term trade negotiations and "has not conducted ongoing parallel efforts to analyze longer-term workforce needs," says the GAO. "USTR does not demonstrate a commitment to managing its human capital strategically," despite the workload associated with the growing number and complexity of trade agreements, a new round of multinational trade negotiations in the World Trade Organization, and monitoring of agreements already signed.

The 44-page GAO report, "International Trade: USTR Would Benefit from Greater Use of Strategic Human Capital Management Principles" (GAO-06-167), is located at http://www.gao.gov /new.items/d06167.pdf.

Nanotechnology Needs To Avoid A Stillbirth

There needs to be a "new approach to nanotechnology oversight," otherwise the fledgling industry faces stagnation, says the Woodrow Wilson International Center for Scholars. "Better and more aggressive oversight and new resources are needed to manage the potential adverse effects of nanotechnology and promote its continued development," says the center in a report entitled "Managing the Effects of Nanotechnology."

The report, written by Terry Davies, former assistant administrator of the EPA during the first Bush administration, says business and government must begin working together now to put in place an effective regulatory framework that will help the technology reach its full potential. The Food and Drug Administration has a decent regulatory structure in place to assess the impact of nanotechnology in the areas of drugs and biomedical devices, "but most of the existing applicable programs are seriously flawed, lack resources and require new thinking and funding," says the report.

Industry will benefit from a structure that allows for open communication of risks, otherwise the public could be scared off. "There needs to be more in-depth public policy analysis that is informed by an understanding of the risks posed by nano-technologies and how products are moving from laboratories to factories and into the marketplace," says David Rejeski, director of the Project on Emerging Nanotechnologies, a joint initiative of the Wilson Center and the Pew Charitable Trusts. The report is located at http://www.nanotechproject.org/.

Outsourcing Study... *(From page six)*

may have;

• "Growing or hav[ing] substantial future growth potential; [and]

• "Well integrated into the economy with potential spill-over effects on other sectors (e.g., a significant research and development component)."

Two other matters the panel had hoped to settle by now — offshoring's extent, and "a preferred methodology for assessing [its] scale, scope, and impacts" — remain up in the air owing to "substantial differences" found among prior studies, the report says. These differences, it specifies, include "data used, periods covered, analytic methodologies employed, and estimates of employment and other effects from off-shoring."

"We're hoping that evidence will be obtained by working with the microdata, so that we can at least begin to address some of the consequences of offshoring," Ryder said.

He cautioned that because NAPA investigators "haven't seen a lot of research that's used microdata on this" — and the work they have seen focuses on data from the UK and France, not the U.S. — we really don't know how successful we're going to be."

An issue on which the first report did come to a confident conclusion was how the terms outsourcing, off-shoring and off-shore outsourcing should be defined. This it arrived at via both a thorough examination of the terms' varying uses in existing studies and a painstaking analysis that reveals the assumptions sometimes hiding behind them.

Found in the report's Chapter 3, this analysis is highly enlightening but so intricate as to rule out presentation here of a meaningful summary — without which the import of NAPA's own, spare definitions of the three terms would be difficult to capture. (The report itself is available at www.napawash.org/Pubs/Off-ShoringJan06.pdf.)

A final report by the NAPA panel, targeted for release this fall, is to be a foray into the broader policy implications of offshoring. It is to focus on the factors accounting for the phenomenon as well as on its impact, not only on the U.S. economy generally, but also on the nation's workers and educational system.

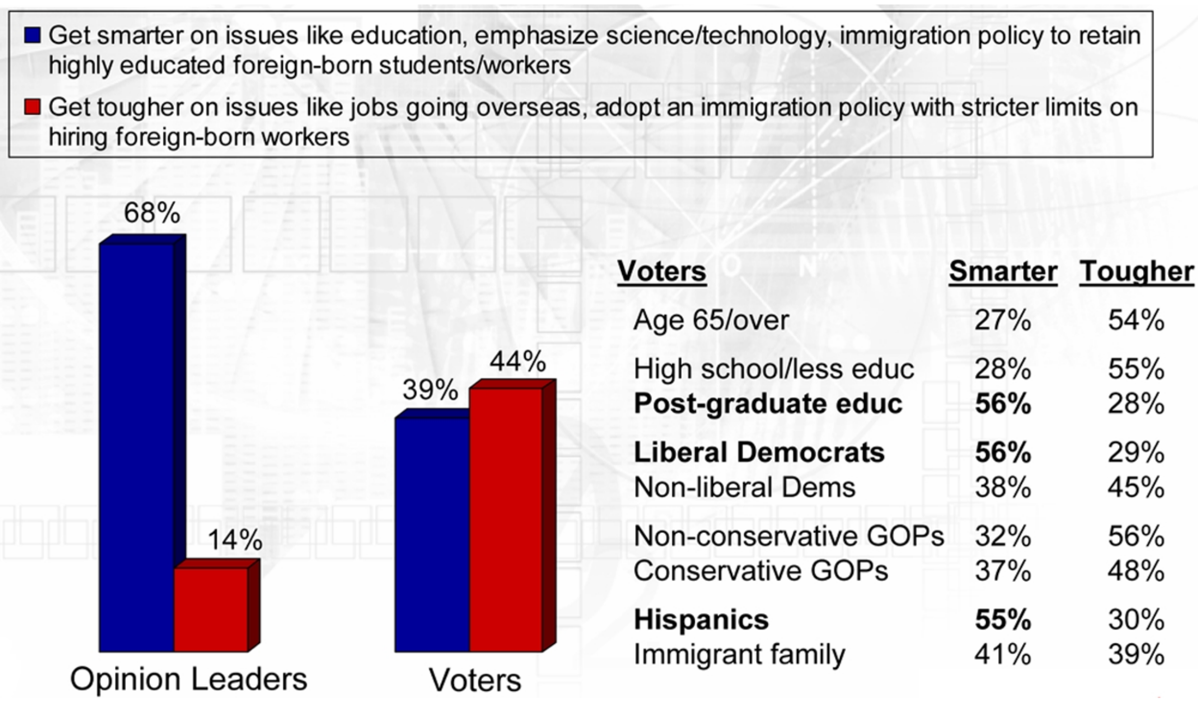
Americans Surveyed Say China Will Surpass America

A majority of Americans believe the United States faces a "competitiveness crisis" and that China will become the world's strongest economy in 20 to 30 years, according to a new Business Roundtable survey conducted over the past four months. "This is a significant shift from 1997 when only 6 percent of the American public felt China would be atop the world economy in the future," says the Business Roundtable.

When asked which country is the strongest economic power today, 67 percent of opinion leaders and 44 percent of voters said the United States; 15 percent of opinion leaders and 33 percent of voters said China; 8 percent of opinion leaders and 14 percent of voters said Japan, according to the Business Roundtable. "When asked which country would be the strongest economic power in 20 to 30 years: China (39 percent opinion leaders, 45 percent voters); U.S. (26 percent opinion leaders, 32 percent voters); India (9 percent opinion leaders, 4 percent voters)."

The survey found strong support for improving U.S. capabilities in math, science and technology and that doing so "deserves a prominent place on the national agenda." Despite this support, "there is less awareness of the need to increase funding for basic research and there are divergent views on increasing the pipeline of foreign talent as a critical element to address the talent gap in the U.S.," says the Business Roundtable. "Even though Americans believe we must increase the number of workers with a background in science and math or it will hurt our ability to compete, parents are overwhelmingly not willing to persuade their children to pursue careers in those fields." To view the survey results, go to http://www.businessroundtable.org/pdf/20060112Two-pager.pdf. To view a presentation of the survey, go to http://www.businessroundtable.org/pdf/20060112Research%20Presentation.pdf.

Disparity On Best Strategy For Competing In A Global Economy



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Recent Reports, Resources, Analyses

Workplace Injuries and Illnesses, the annual report from the Bureau of Labor Statistics, says 4.3-million nonfatal injuries and illnesses were reported by the private sector in 2004, down from 4.4 million in 2003. There were 4.8 cases per 100 full-time workers, a decline from five per 100 full-time workers in 2003. More than one-in-five injury and illnesses cases reported in private industry occurred in the manufacturing sector, even though manufacturing accounts for less than 14 percent of private-sector employment. "The incidence rate in 2004 for this industry sector, 6.6 cases per 100 full-time workers, was significantly higher than that of overall private industry," says BLS. "However, similar to private industry, the rate of total recordable cases of injuries and illnesses declined by 0.2 cases per 100 full-time workers in 2004, down to 6.6 from 6.8 a year earlier." The manufacturing industries reporting the most number of cases were transportation equipment manufacturing (151,500), food manufacturing (122,300), and fabricated metal product manufacturing (119,900). The report is located at ftp://ftp.bls.gov/pub/news.release/osh.txt.

Decent Work — Safe Work, a study from the United Nation's International Labor Office (ILO), says at least 2.2 million people die every year in work-related accidents worldwide. But that figure might be "vastly underestimated due to poor reporting and different recording criteria from country to country," says the UN. "The sad truth is that in some parts of the world many workers will probably die for lack of an adequate safety culture," says Jukka Takala, director of the ILO. "This is a heavy price for uncontrolled development. We must act swiftly to reverse these trends." There were more than 450,000 work-related deaths in China, compared with 5,915 in the United States. The report is located at http://www.ilo.org/public/english/protection/safework/wdgongrs17/intrep.pdf.

China's Great Leap Forward, High Technology and Military Power in the Next Half Century from the Hudson Institute, says the United States has to prepare for a "war of complex technologies that others may be planning to fight that requires us to engage in ongoing transformation and modernization." The 112-page report is located at http://www.hudson.org/files/publications/China_Great_Leap_Forward.pdf.

The U.S. Patent and Trademark Office 2005 Performance and Accountability Report says there were a record number of patent and trademark applications in fiscal year 2005. The agency received 406,302 applications for patents and 323,501 applications for trademark registrations. It granted 165,485 patents, including 151,079 for inventions, 13,395 for design, and 816 for new plants. U.S. inventors received 85,238 patents, with California residents having the highest share (23 percent or 19,928 patents), followed by New York (7 percent, 5,631), Texas (7 percent, 5,660 patents), Michigan (5 percent, 3,907 patents) and Massachusetts (4 percent, 3,443 patents). The report is located at http://www.uspto.gov/web/offices/com/annual/2005/2005annualreport.pdf.

The Triumph of India's Market Reforms: The Record of the 1980s and 1990s, from the Cato Institute, describes India's impressive record of economic growth since reforms were put in place in 1991. Other developing countries can learn a lot from what India has done, says report author Arvind Panagariya, professor of Indian political economy and professor of economics at Columbia University. For a copy of the report (policy analysis 554), go to http://www.cato.org/pub_display.php?pub_id=5155.

Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future from the National Academies can be read online at http://www.nap.edu/books /0309100399/html.

2005 Report To Congress of the U.S.-China Economic and Security Review Commission is located at http://www.uscc.gov.

The Emerging Chinese Advanced Technology Superstate, a 237-page book from the Manufacturers Alliance/MAPI, can be ordered by calling 703-647-5139 or visiting http://www.mapi.net.

Tapping America's Potential from the Business Roundtable is available online at http://www.businessroundtable.org/pdf/20050803001TAPfinalnb.pdf.

The Profit Squeeze for U.S. Manufacturers, from the National Association of Manufacturers, is located at http://www.nam.org/s_nam /bin.asp?CID=201715&DID=235347&DOC=FILE.PDF.

Report of Survey Conducted at Northrop Grumman Electronic Systems, Baltimore, Md., from the Best Manufacturing Practices Center for Excellence, outlines dozens of best practices at the facility that employs 7,200 workers. A free copy of the 39-page report can be downloaded at http://www.bmpcoe.org.

Outsourcing America: What's Behind Our National Crisis and How We Can Reclaim American Jobs, a 256-page book by Ron Hira and Anil Hira, is available in bookstores or on Amazon and is published by the American Management Association for $22.

Fourth Report to the Leaders on the U.S.-Japan Regulatory Reform and Competition Policy Initiative, from the United States Trade Representative, says Japan still has a long way to go to reform its overly regulated markets. But the country is making progress in virtually ever sector of its economy including telecommunications, information technologies, energy, medical devices, pharmaceuticals and financial services. Japan is continuing to reform its legal system, commercial law, government procurement policies and distribution system. The report is located at http://www.ustr.gov/assets/Document_Library/Fact_Sheets/2005/asset_upload_file694_8293.pdf.

(Continued on next page)

Reports...(Continued from page 12)

Activating Knowledge from the United Nations University, Maastricht, says the biggest challenging facing the European continent is creating policies that activate research, innovation, knowledge diffusion, education and training. Dependence upon knowledge is now essential for the success of every aspect of modern Europe: agriculture, industry, health, education, transportation, finance, wholesale, retail and government administration. Yet EU countries spend only 1.2 percent of total GDP on higher education compared to 2.6 percent of GDP in the United States.

"Not surprisingly, the large majority of European universities find themselves in a sometimes dramatically under-funded position, with poor teaching and research facilities and a continuous emigration of their biggest talents," says the report. "In short, knowledge investment in human capital does not have any of the growth features we had promised our citizens it would have."

The most successful European countries — Finland, Sweden and Denmark "have performed the best in terms of knowledge investment," says the 16-page study, available for download at http://www.fco.gov.uk/Files/kfile/Soete-final.pdf.

Increase in U.S. Industrial R&D Expenditures Reported for 2003 Make Up for Earlier Decline, from the National Science Foundation, says companies performed $204 billion in R&D in 2003, compared with $194 billion in 2002. The 5.2 percent increase, followed a decrease of 4 percent ($8 billion) in 2002. "The increase for 2003 resumed the long-term trend: annual increases in inflation-adjusted expenditures were reported for all but nine years since the survey's inception in 1953," says the report. The manufacturing sector — 14 percent of the U.S. GDP — accounted for 59 percent of all private-sector R&D expenditures at $108 billion. The five-page NSF report (NSF06-305) is located at http://www.nsf.gov/statistcs/.

Federal Support for R&D Projected At $110 billion for FY 2005, a report from the National Science Foundation, says the amount represents an increase of 3.5 percent (1.4 percent in inflation-adjusted 2000 dollars) over 2004, and a 1.5 percent decrease in "constant 2000 dollars." The six-page report (NSF06-300) is located at http://www.nsf.gov/statistcs.

Science in NASA's Vision for Space Exploration, from the National Research Council's Committee on the Scientific Context for Space Exploration, 37 pages, is available at http://books.nap.edu/catalog/11225.html.

The Annual Report on Research and Technological Development Activities of the European Union in 2004 says that almost 16,000 proposals were received under the Sixth Framework Program involving more than 84,400 participants. The EU awarded grants to 2,000 of these proposals, involving 13,700 participants.

Among the EU's accomplishments for the year in science were the creation of a new European strategy for nanotechnology; implementing the second phase of the Global Monitoring for Environment and Security initiative; the launch of a preparatory project for security research; and the publication of broad plans for basic research.

"Despite these achievements, the report notes that not enough progress has been made in terms of the Barcelona objective of increasing research investment to 3 percent of GDP by 2010," says the EU. "The current annual growth rate in research intensity of 0.7 per cent is not sufficient, and if this trend remains unchanged, research intensity will reach only 2.2 percent in 2010."

The report is located at http://europa.eu.int/comm/research/reports/2005/index_en.html.

2005 R&D Scoreboard published by the UK Department of Trade and Industry finds that the "United States is proving stronger than Europe and the Asia-Pacific region in terms of increases in overall sales growth, profitability and R&D levels." The United States continues to be strong in areas related to innovation, despite recent reports to the contrary, says the Dept. of Trade and Industry in its R&D ranking of 1,000 global and 750 UK companies.

"Only those companies that constantly seek to improve and innovate will be in a position to grasp the major opportunities that increasing globalization offers, while research will play a crucial role for many in keeping existing markets and growing new ones," says the report. "The aim of this annual R&D scoreboard is to give UK firms and investment institutions an insight into the R&D activities and capital investment of the best global companies, and to highlight the benefits of R&D to companies, investors and business organizations."

The UK has 54 companies in the global 1,000, the fourth largest total after the U.S., Japan and Germany. The report says there are proven links between R&D investment and national prosperity, and also between R&D intensity and company performance: value added, sales growth and market capitalization.

According to the study, developed economies face two challenges in R&D: continuing to compete in markets where R&D is already important; and using R&D to gain an advantage in sectors that currently do relatively little innovation. In established sectors, companies from South Korea and Taiwan are already becoming major R&D investors. South Korea is now the eighth largest country in terms of R&D intensity in the global 1,000 list, with its companies having increased R&D investments by 40 percent over the previous year.

To download the 2005 R&D Scoreboard, go to http://www.innovation.gov.uk/rd_scoreboard/index.asp.

Real Science, a report by the UK National Endowment for Science, Technology and the Arts, calls for a more hands-on approach to science teaching in schools, warning that experiments are being squeezed out due to health and safety concerns. It is located at http://www. nesta.org.uk/insidenesta/research_scienceeducation.html.

The Future of the Global Positioning System from the Defense Science Board says the Air Force plan to maintain only 24 satellites in the nation's global positioning system "involves a significant risk" in the system's viability. The Air Force should create and

(Continued on next page)

Reports... Continued from page 13)

maintain a 30-satellite system that "not only increases the robustness but is essential to improving GPS performance in the ground warfare environment, where urban and mountainous terrain masks some of the satellite signals," says the report. The GPS is suffering from "intractable" operational development and jamming problems, both of which need to be addressed. For a copy of the 109-page report, go to: http://www.acq.osd.mil/dsb/ reports/2005-10-GPS_Report_Final.pdf.

Instituting Stability Operations Within DOD, from the Defense Science Board, 66 pages, is located at http://www.acq.osd.mil/dsb/reports/2005-09-Stability_Final.pdf.

Aerial Targets, from the Defense Science Board, says DOD is "projected to run out of the inventory of our single full-scale target, the qF-4, a drone version of the F-4 aircraft, in about 2011. A decision on a replacement aircraft is needed soon to avoid a gap in full-scale target availability." The 66-page report is located at http://www.acq.osd.mil/dsb/reports/2005-10-AerialTarget_Final.pdf.

Management Oversight in Acquisition Organizations, from the Defense Science Board, finds that "no amount of rules, processes and/or legislation can prevent illegal or unethical behavior by a determined individual" such as Darleen Druyun, former Principal Deputy Assistant Secretary. But there are things that can be done to reduce the risk of unethical behavior by acquisition officials. The Undersecretary of Defense for Acquisition, Technology and Logistics can develop written documentation of the source selection recommendations by all team members, provide effective feedback to all bidders and provide "additional avenues for voicing concerns; e.g., ombudsmen and ethics officers." The 44-page report is located at http://www.acq.osd.mil/dsb/ reports/2005-03-MOAO_Report_Final.pdf.

High Performance Microchip Supply says the rate of migration of high-technology capability to foreign countries "is alarming because of the strategic significance this technology has on the U.S. economy and the ability of the United States to maintain a technological advantage in the Department of Defense, government, commercial and industrial sectors. Assured supply of trusted microelectronics components for defense systems use requires actions well beyond the scope and magnitude of those that can be mounted by a single defense supplier or by the entire defense contractor base. Addressing these problems is a uniquely government function. Urgent action is recommended...The nation's security and economic well being demands it." The 118-page report from the Defense Science Board is located at http://www.acq.osd.mil/dsb/reports/2005-02-HPMS_Report_Final.pdf.

Computational Science: Ensuring America's Competitiveness, a report from the President's Information Technology Advisory Committee, says the federal government "should commission a fast-track study to recommend changes and innovations in federal R&D roles and portfolios that will more effectively support advances in computational science, remove organizational silos and address the need for innovative, multidisciplinary approaches to R&D." Planning and coordination for computational sciences R&D is characterized by a "short-term orientation, limited strategic planning and low levels of cooperation among the participants," says the report, which can be found at http://wwww.nitrd.gov/pubs/.

Munitions System Reliability, from the Defense Science Board, 81 pages, is located at http://www.acq.osd.mil/dsb/ reports/2005-09-MSR_Report%20_Final.pdf.

Electric Power Annual says electricity generation and sales rose for the third straight year to record levels in 2004, growing by 2.3 percent, according to the report from the Energy Information Administration. Net additions to generating capacity also grew for the sixth year in a row, also setting a record, with 94 percent of the new capacity coming from natural gas units.

The average retail price of electricity also rose to a record level, increasing by 2.7 percent in 2004. Contributing to this were the record prices of coal and natural gas delivered to electric generating plants, says EIA.

Coal-fired capacity accounted for nearly 33 percent of the U.S. electric generating capacity. Last year, 553 megawatts of new coal-fired generators started commercial operation, while approximately 543 megawatts of coal-fired capacity was retired from service. Natural gas and dual-fired capacity together accounted for 41 percent of the total generating capacity. Over 15,300 megawatts of new natural gas-fired capacity and 4,776 megawatts of new dual-fired capacity were added during 2004, while 5,974 megawatts natural gas and dual-fired were retired. Nuclear accounted for a 10-percent share of capacity, while the combination of conventional hydroelectric and other renewables also accounted for 10 percent of the total. The report is located at http://www.eia.doe.gov/cneaf/electricity/epa/epa_sum.html.

The Annual Coal Report from the Energy Information Administration finds the price of coal rose steadily in 2005. The price-per-short-ton for the electric utility industry increased by 5.7 percent, while the increase was 3.9 percent for independent power producers. Coking coal prices increased by 21.5 percent, even through consumption dropped by 2.4 percent. The price for the industrial sector increased by 13.2 percent in 2004, even through demand declined by 1.1 percent. Coal production increased by 3.8 percent or 40 million short tons to end the year at 1,112 million short tons. Coal consumption increased in the electric power sector by 1.1 percent. U.S. coal exports rose for the second consecutive year in 2004, while coal imports increased to record levels. The study is located at http://www.eia.doe.gov /cneaf/coal/page/acr/acr_sum.html.

Big Box Mart, an Internet comedy video from JibJab, is a commentary on the loss of manufacturing jobs due to cheap imports and the rise of big box retailers: http://www.jibjab.com/Movies/MoviePlayer.aspx?contentid =122&adp=1.