

# MANUFACTURING A BETTER FUTURE FOR AMERICA



EDITED BY RICHARD McCORMACK

This is an excerpted version of the  
335-page book available through  
Amazon.com and other booksellers.

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*Alliance for American Manufacturing*

## **BOOK SUMMARY**

There has never been a more critical time to rebuild the foundation of America's economy. President Obama and Federal Reserve Chairman Ben Bernanke have both stressed the need to produce goods in America again. Doing so would create more jobs, reduce harmful global imbalances, and strengthen our economy. But it's easier said than done. Manufacturing in America is in serious decline, with 40,000 factory closures and more than 4 million jobs lost over the last decade alone. How do we revitalize manufacturing? The Alliance for American Manufacturing — an innovative partnership of the United Steelworkers union and leading U.S. manufacturers—asked some of the brightest minds in America for their ideas. *Manufacturing a Better Future for America* details the challenges and opportunities we face at this critical time: trade policy, skills and training, research and development, national security, supply chains, new technology, and globalization. If you want to better understand the sector that is vital to America's economic renewal, you must read this book.

## **LIST OF AUTHORS/CHAPTERS:**

Chapter One, by Richard McCormack, “The Plight of American Manufacturing.” Richard McCormack is editor and publisher of ‘Manufacturing & Technology News,’ a publication he created in 1994.

Chapter Two, by Clyde Prestowitz and Kate Heidinger, “U.S. Trade Policy.” Clyde Prestowitz is founder and president of the Economic Strategy Institute in Washington, DC, and served as counselor to the Secretary of Commerce in the Reagan Administration. Kate Heidinger is research assistant at the Economic Strategy Institute, where she specializes in economic and social policy, economic development, poverty and inequality.

Chapter Three, by Peter Navarro, “Foreign Incentives for Manufacturing.” Peter Navarro is business professor at the Merage School of Business at the University of California, Irvine, and the author of the bestselling book ‘The Coming China Wars.’

Chapter Four, by Ron Hira, “Offshore Outsourcing.” Ron Hira is assistant professor of public policy at Rochester Institute of Technology.

Chapter Five, by John Russo and Sherry Linkon, “Deindustrialization.” John Russo is the coordinator of the Labor Studies Program in the Williamson College of Business Administration at Youngstown State University and is also a founder and co-director of the YSU Center for Working-Class Studies. Sherry Lee Linkon is a professor of English and American studies and co-director of the Center for Working-Class Studies at Youngstown State University.

Chapter Six, by James Jacobs, “Workforce Training.” James Jacobs is president of the Macomb Community College in Warren, Michigan.

Chapter Seven, by Michael Webber, “Defense Industrial Base.” Michael Webber is assistant professor of mechanical engineering at the University of Texas at Austin.

Chapter Eight, by Irene Petrick, “Global Supply Chain.” Irene Petrick is professor of practice and director of the Enterprise Informatics and Integration Center at Pennsylvania State University.

Chapter Nine, by David Bourne, “Manufacturing Technology.” David Bourne is senior systems scientist at the Robotics Institute at Carnegie Mellon University’s Center for Integrated Manufacturing Decision Systems.

## **Praise for Manufacturing a Better Future for America**

*"Getting trade policy right will be an important battle for 21st Century America. We've seen the ongoing erosion of our manufacturing base and the millions of good-paying jobs that have been lost. We can't continue down this path. I'm gratified to see 'Manufacturing a Better Future for America' tackle these weighty issues head-on, and I congratulate the authors on their good work."*

**-Richard "Dick" Gephardt**  
Former Majority Leader, U.S. House of Representatives

*"At a time when U.S. manufacturing jobs are disappearing and the United States is losing both its competitive standing and industrial base, it's important to find both positive discussion and clear-cut goals to help restore U.S. industry. 'Manufacturing a Better Future for America' provides both-- an insightful discussion of the state of 21st Century U.S. manufacturing and the need to strengthen the manufacturing sector to meet new challenges."*

**-Harley Shaiken**  
Director, Center for Latin American Studies  
and noted expert on global economic integration

*"The authors of 'Manufacturing a Better Future for America' thoroughly explode the myth - all too prevalent in Washington these days - that there can be an economic recovery of any consequence without a strategy for revitalizing American manufacturing."*

**-Nicholas von Hoffman**  
Author of "Capitalist Fools" and soon-to-be-published  
"Mastermind: Saul Alinsky, Barack Obama and Popular Democracy."

*"'Manufacturing a Better Future for America' is quite simply the best thing I have ever read on the folly of letting America's manufacturing base be destroyed. But there is still time to reverse course if our leaders read this wise and urgent book."*

**-Robert Kuttner**  
Co-Editor, *The American Prospect*

## **CONTACT AAM**

Manufacturing a Better Future for America' is available at [www.americanmanufacturing.org](http://www.americanmanufacturing.org). To contact AAM, send an email to [info@aamfg.org](mailto:info@aamfg.org). You can also join the manufacturing discussion by leaving a comment at [www.manufacturethis.org](http://www.manufacturethis.org).

# **1. The Plight of American Manufacturing**

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**Richard McCormack**  
***Manufacturing & Technology News***

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“As London is the market of England, to which the best of all things find their way, so Rome was the market of the Mediterranean world; but there was this difference between the two, that in Rome the articles were not paid for. Money, indeed, might be given, but it was money which had not been earned, and which therefore would come to its end at last.

“Rome lived upon its principal till ruin stared it in the face.

“Industry is the only true source of wealth, and there was no industry in Rome.

“By day the Ostia road was crowded with carts and muleteers, carrying to the great city the silks and spices of the East, the marble of Asia Minor, the timber of the Atlas, the grain of Africa and Egypt; and the carts brought nothing out but loads of dung. That was their return cargo.

“London turns dirt into gold. Rome turned gold into dirt.

“And how, it may be asked, was the money spent? The answer is not difficult to give. Rome kept open house. It gave a dinner party every day; the emperor and his favorites dined upon nightingales and flamingo tongues, on oysters from Britain, and on fishes from the Black Sea; the guards received their rations; and bacon, wine, oil and loaves were served out gratis to the people.

“Sometimes entertainment was given in which a collection of animals as costly as that in Regent’s Park was killed for the amusement of the people. Constantine transferred the capital to Constantinople; and now two dinners were given every day. Egypt found the bread for one, and Africa found it for the other. The governors became satraps, the peasantry became serfs, the merchants and land owners were robbed and ruined, the empire stopped payment, the legions of the frontier

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## The Plight of American Manufacturing

marched on the metropolis, the dikes were deserted, and then came the deluge.”

— *“The Martyrdom of Man,”* by Winwood Reade, 1872

Long before the collapse of the U.S. investment banking system in late 2008, once-dominant and important U.S. industries like semiconductors, machine tools, printed circuit boards, consumer electronics, auto parts, appliances, furniture, clothing, telecommunications equipment, home furnishing and many others suffered their own economic collapse, sputtering anemically in a global economic system that continues to be stacked against U.S.-based producers.

Many of the executives in these industries along with their workers have raised alarms, issued reports, testified before Congress and held press conferences about the plight of their U.S. manufacturing assets and the potential for widespread economic adversity. They warned repeatedly that without industry generating good jobs, wealth and the funding needed for research and development, that the United States risked an economic collapse. The federal government ignored them at every turn, and it did so at its peril. With a severely weakened industrial base — one of the only sectors of the economy that creates wealth — the U.S. financial system suffered a historic meltdown.

With the U.S. government plunging deeper into debt by trillions of dollars, it now becomes imperative for the United States to ensure that the industrial sector regains its strength and that the nation becomes an exporting juggernaut. In order to avert a slide into economic depression, the United States will have to stop going deeper into debt to pay off its bad debts. The country must restart its industrial engine and produce products that Americans need to buy and the world demands. If this does not happen, a federal government bankruptcy could dwarf the financial industry collapse of 2008. The solution to the problem no longer entails Americans to “go shopping more.”<sup>1</sup>

Free trade economists, retailers, Wall Street mavericks who relentlessly pressured companies to move their production offshore to make a few more pennies per share, shipping companies, foreign producers, foreign countries, newspapers dependent on retailers for their ad revenue, multinational companies and all of their lawyers, lobbyists and think tanks in Washington, and most members of Congress supported by all of these interests have been in control of the economic agenda for the past 30 years. They have successfully argued that it is not necessary

for the United States to maintain a strong, vibrant industrial base, because it is cheaper to buy goods from developing countries that have distinct economic advantages.

The mindset among America's economic elite — that the country does not need an industrial base — has put the country and the world economy in a ditch.

The chief economist at the National Institute of Standards and Technology, Greg Tasse, has labeled these people "Apostles of Denial."<sup>2</sup> They are the "single largest barrier" to the adoption of policy changes needed to provide for long-term economic stability and growth, he writes in a courageous book, *The Technology Imperative*. "Apostles of Denial will point to coincident indicators as evidence that the U.S. economy is, in fact, quite healthy," when in fact it is not.

The Apostles of Denial are "befuddling" the debate over the need for the federal government to actively defend the industrial interests of the country, nurture an environment that encourages investment in plant, equipment and workers, and fund the development of the next generation of technologies that create entirely new industries, wealth and jobs. These interests have successfully fought against any type of industrially oriented policy initiatives by citing the old stooges of "corporate welfare," "picking winners and losers" and "protectionism."

Yet they have put the United States government in the position of having to bail out the free market losers: mortgage companies and investment banking firms that issued bad debt, versus making investments in technology and pro-growth economic policies that result in the domestic manufacture of products that create high-paying jobs.

It wasn't long ago that the Soviet Empire collapsed, not because it couldn't produce nuclear warheads, but because it couldn't produce a loaf of bread. Today, the United States can produce a stealth bomber, but it can't produce a pair of shoes. The United States government and its military strategic thinkers have forgotten a basic ancient military principle: Without industry a country cannot maintain an army.

Manufacturers warned of the financial collapse that occurred in 2008 starting in 2002 after more than two years of sustained job losses and outsourcing of important production capabilities. But their voices have been outnumbered by the Apostles of Denial, who downplayed key economic facts such as the growing and massive asymmetrical U.S. trade imbalance in the important advanced technology sector. "To the degree that the decline in competitiveness is recognized, refusal to act is ram-

pant” — blocked by interests that promote the movement of jobs and factories overseas, Tasseey writes.

Two years before the crash of the U.S. financial system, President Bush’s top economic team held a weekend of meetings in Camp David. Afterwards, Office of Management and Budget Director Rob Portman appeared before the media, saying there were no real problems with the U.S. economy. Instead, the problem was that the Bush administration was doing a poor job of “communicating the strength of the economy and its pro-growth economic policies” to the American public. Edward Lazear, chairman of President Bush’s Council of Economic Advisors, told reporters that there were plenty of positive economic indicators that were not being appreciated by the American public. Americans were spending a lot of money and investment in real estate was strong. But neither of the men mentioned anything about ballooning consumer debt, mortgage debt, massive trade deficits and federal budget deficits. “If we look at consumer behavior rather than the response to polls, the behavior is consistent with a strong economy,” said Lazear.

Former Commerce Secretary Carlos Gutierrez often claimed that the real economic problem facing the United States was the “popular coverage of media in its use of spreading anxiety for political gain.” In November 2005, he told the Woodrow Wilson Center that “if you follow popular coverage, you would think that, as a country, America has peaked, but I would suggest that policy choices should not be dictated by fear.” But fear is exactly what “dictated” the policy choices that were made during the great American government takeover of the U.S. financial system in 2008. “Without immediate action by Congress, America could slip into a financial panic and a distressing scenario would unfold,” President Bush told the nation in a televised speech on September 24, 2008. “More banks could fail. The stock market would drop more. The value of your home could plummet. Foreclosures would rise dramatically. Millions of Americans could lose their jobs. Fellow citizens, we must not let this happen.”

It happened.

The collective denial by America’s economic elite of the need for an industrial base has led the country to a precipice. Domestic manufacturers and producers have grown increasingly frustrated with economists who for decades have rationalized manufacturing job losses as being good for the economy. Manufacturers argue that the federal agencies, the administration and Congress — Republicans and Democrats alike — have been negligent in their stewardship of the economy. The United States is not generating enough wealth to pay its mounting and massive



debts. Cheap imports made in unsafe, low-wage factories overseas are not improving the fortunes of America's least fortunate, much less its middle class. The U.S. trade deficit in 2008 stood at \$700 billion — or about \$2,000 for every American. That is \$8,000 for a family of four, far greater than the \$2,000 in savings importers and retailers claim a family saves from the lower costs of imported products. And the \$8,000 per year debt does not include the interest that must be paid over the long run.

Without a healthy industrial base, workers are no longer making a livable wage needed to maintain payments on assets like homes and they cannot afford basic necessities like energy, food, education and health care. In 2008, only 6.5 million people out of a population of 305 million Americans purchased a new vehicle from a U.S. automobile company. Total auto sales in 2008 dropped by 18 percent to 13.2 million units. In 2009, sales are projected to be 9 million, down from 17 million in 2006.

Even more alarming is the fact that without an industrial base, an increase in consumer demand, which historically pulled the country out of recession, will not put Americans back to work. Any additional consumer spending will only help workers making products overseas. This represents a fundamental break from previous recessions and has led many in the manufacturing sector to fear the growing likelihood of a sustained downturn.

Without an industrial base, the country ran out of money to fix an infrastructure that was rapidly deteriorating, with bridges and levies falling to the mighty Mississippi River. Without an industrial base, major American cities like Detroit and New Orleans lay in ruins. Without an industrial base, California's economy has gone bust. Literally thousands of other American communities have lost their local factories and are decrepit. In 2008, the largest public works project on the entire East Coast of the United States was a bridge over the Potomac River between Virginia and Maryland on Interstate 95. Even the federal Highway Trust Fund is insolvent.

Alexander Hamilton, America's first treasury secretary, understood that the United States would become a world power by focusing government resources on creating a robust and dynamic manufacturing enterprise. His "Plan for American Manufactures," written in 1791, argued for the development of an industrial economy over an agrarian economy favored by Thomas Jefferson, and it remains valid to this day.

Without an industrial base, it was only a matter of time before the contagion in manufacturing hit the financial, construction, housing and retail sectors. At some point, the contagion will reach the country's largest employers: state, local and federal governments.

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## The Plight of American Manufacturing

Those who work in the U.S. manufacturing sector — those who own companies that produce goods — know that without Americans making products, there will not be enough wealth to support the retirement and staggering health costs of the largest generation in the history of the nation.

The United States is broke. It is broke because it has stopped producing what it consumes. The Apostles of Denial would have Americans believing otherwise, arguing that the colossal trade deficit — which in 2006 rose above 6 percent of U.S. GDP — is not an indicator of U.S. economic weakness, but of its economic strength.<sup>3</sup>

The financial collapse that was shocking the country in the latter part of 2008 was long ago predicted by manufacturers. Ernest Preeg, senior fellow at the Manufacturers Alliance/MAPI in Washington, D.C., wrote in 2006 that the trade imbalance was “like a gallows” hanging over the American economy and that “sooner rather than later the markets will trigger the inevitable adjustment, with what will almost certainly be more grim financial reaping.”

Millions of people who are no longer working in industries that are disappearing from America’s shores have already faced the “gallows.” The furniture industry lost at least 60 percent of its production capacity in the United States from 2000 to 2008 with the closure of 270 major factories during that period. Imports of wood furniture accounted for almost 70 percent of the U.S. market in 2008, up from 38 percent in 2000.<sup>4</sup>

The printed circuit board industry shrunk from \$11 billion in 2000 to \$4 billion in 2007, a period during which the industry was growing globally.<sup>5</sup> U.S. printed circuit board manufacturers accounted for less than 8 percent of global production in 2007, down from 26 percent in 2000, yet printed circuit boards are used in tens of thousands of different products. Without a printed circuit board industry, a country cannot expect to have an industrial foundation for high-tech innovation.

The U.S. steel industry produced 91.5 million tons of steel in 2008, down from the 97.4 million tons it produced in 1999. By comparison, China’s steel industry produced 500 million tons in 2008, more than five times the amount of U.S. producers and up from the 124 million tons it produce in 1999.<sup>6</sup>

What about the promise of the solar industry? There was only one American company (First Solar) among the top 10 worldwide in photovoltaic cell production in 2007. Among the top 20 global photovoltaic manufacturers, there were only two American-owned companies, and they account for less than 10 percent of global output.<sup>7</sup>

The wind energy industry? There is only one U.S. company (General Electric) ranked among the 10 largest in the world. GE's worldwide market share in 2007 was 16 percent.<sup>8</sup>

In the total global production of automobiles, General Motors, Chrysler and Ford accounted for 18.6 million of the 72 million autos produced worldwide in 2007, and their market share continues to decline.

The U.S. machine tool industry — the backbone of an industrial economy — produced \$3.6 billion in equipment in 2007, less than 5 percent of global output of \$71 billion.<sup>9</sup> Worse, U.S. machine tool consumption in 2007 was \$6 billion, or only 40 percent of the consumption in China. Since 1998, U.S. machine tool consumption has fallen by 30 percent. Chinese consumption has increased by 700 percent, from \$2.2 billion to \$15.4 billion in 2007.

Dozens of other industries are nearly gone from U.S. shores. U.S. producers of luggage account for 1 percent of the American market, but virtually every American owns luggage. "There is no commercially viable domestic production of travel goods," according to the International Trade Commission.<sup>10</sup>

U.S.-based production of high-performance outerwear used by skiers, hikers, mountain climbers, bikers, policemen and military personnel accounts for less than 1.6 percent of all of the outerwear sold to the 306 million Americans. "There is no commercially viable domestic production of performance outerwear jackets or pants," according to another ITC study.<sup>11</sup>

Do you need ceramic tile for a new kitchen floor? There is one major American manufacturer that remains: Summitville Tile of Summitville, Ohio. Company president David Johnson says the industry has been "virtually wiped out" by international competitors and adds: "The industry is just about finished."<sup>12</sup>

Worldwide in 2008, there were 80 major chemical plants costing more than \$1 billion either on the drawing boards or being constructed. None of them were being built in the United States.<sup>13</sup>

In 2007, only 2 percent of all new semiconductor fabrication plants (fabs) under construction in the world were located in the United States. Thirty percent of new fabs were being built in China, 25 percent in Taiwan and 22 percent in South Korea, according to Semiconductor Equipment Materials International (SEMI). In 2007, the United States produced 17 percent of the world output of semiconductors, a number that has been declining since 1995, when the U.S. accounted for 25 percent of global output.<sup>14</sup>

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## The Plight of American Manufacturing

There were 1.2 billion cell phones sold throughout the world in 2008, none of which were manufactured in the United States.<sup>15</sup> American companies held only 9.5 percent of the global market for cell phones. Motorola held 8.4 percent of the global market in 2008, but that figure sunk to only 6 percent in the first quarter of 2009 (a 46 percent decline from the same quarter in 2008). Apple held 1.1 percent of the global market for cell phones in 2008.

The same story is true for high-definition televisions, toys, sporting goods, apparel and shoes — industries that have shed hundreds of thousands of American workers. Even the hard candy industry has moved most of its production outside the United States.<sup>16</sup>

The United States lost world dominance in high tech exports in 2004, when China exported \$180-billion worth of information and communications technology products compared to U.S. exports of \$149 billion, according to the Organization for Economic Cooperation and Development (OECD). Total U.S. imports of goods in 2007 was \$1.8 trillion, or 18 percent of U.S. GDP. Total U.S. industrial production was \$1.3 trillion, or 12 percent of U.S. GDP. The United States imports far more goods than it produces. Said Brian Halla, CEO of National Semiconductor: “There is a gold rush taking place in China. It’s a major opportunity, and it’s a major threat if we blow it. And we are blowing it — big time. The great American dream appears to be moving to Shanghai.”<sup>17</sup>

The United States still makes products, but mostly in areas subject to strict government regulations and that receive heavy federal R&D investment like pharmaceuticals, medical equipment and military weaponry; or they are consumables, like diapers and processed foods; or they are large pieces of capital equipment. The United States even imports 83 percent of the fish it consumes, most of which is farm-raised in China. In 2007, the United States ran a trade deficit in seafood of \$9.1 billion.<sup>18</sup>

America’s domestic manufacturers know that the financial crisis gripping Wall Street in 2008 was the result of the loss of U.S. industry as much as it was the meltdown of the residential real estate market. For those who were once engaged in the production of thousands of consumer goods like blenders, coffee makers, air conditioners, golf clubs, laptops and desktops the notion that the financial crisis was caused by bad mortgages is laughable. In a few short years, the United States stopped producing what it was consuming, sending trillions of its hard-earned dollars to foreign countries. In its quest for greater corporate

profits, Wall Street helped fuel the growth of outsourcing, which in turn led to its own demise. All of America's money went to oil producers and to countries that targeted America's most robust industrial sectors and whose economies were built upon exports.

An economic crisis was gripping American manufacturers long before it took hold of Wall Street. Need proof? Drive around Michigan, Ohio, upstate New York, Indiana or through portions of the Carolinas. Manufacturing is the engine of economic growth, not financial wizardry, a fact repeated every day by manufacturing company executives desperate to get their story told.

Dan DiMicco, president and CEO of Nucor, one of the most respected companies in the United States, says that the current system of globalization is "unsustainable," and that the United States is "giving its future away. The damage that we are doing to our future cannot be reversed by the present thrust of opening markets." DiMicco cannot believe what he is seeing among U.S. policymakers: an unwillingness to accept the fact that the U.S. economy is on life support, a blind trust in "free trade" principles and a government that refuses to listen to its own major employers.

"Time is not on our side and by allowing the continuing erosion of this country's manufacturing sector they are selling our future," DiMicco says. America's infatuation with "every-day low prices is costing the country more than \$2 billion a day. It is time to stop this madness. We kowtow to special interests. We play geopolitics. We are a slave to a discredited free-trade theory in the face of reality. We lack the will to change. In short, we have lost our minds."<sup>19</sup>

We really haven't, counters the United States-China Business Council, a trade group of U.S. companies that have opened shop in China. Trade with China is boosting American wealth, the U.S.-China Business Council argues repeatedly in Washington, D.C. In 2006, the council predicted the loss of an additional 500,000 U.S. manufacturing jobs by 2010 due to additional production in China. No problem, the council said, because this "structural shift" will result in the gain of 500,000 service-sector jobs. "While this structural shift displaces some workers in manufacturing sectors and thus represents a real cost to workers in those sectors, the economy as a whole will benefit from permanent output and price effects of increased trade with China," according to the pro-China business group. "The overall impact should be a continuing and increasing positive boost to U.S. output, productivity, employment and real wages."<sup>20</sup>

The “Apostles of Denial” are in some unexpected places. The Council on Competitiveness issued a report in November 2006 arguing that the United States was the world’s most innovative nation and that there was little reason to believe otherwise. Harvard economist Michael Porter led the council’s charge by stating: “We have to stop this notion of believing that manufacturing is essential.” Such thinking is a “real problem,” he said upon the release of the council’s “Innovation Index.” Porter then argued that the trade deficit is not an accurate reflection of the competitiveness of the American economy. An \$800-billion trade deficit “is not that big by international standards,” he said. “It’s not epic.” When addressing growing wage inequality in the United States, Porter rationalized it by saying: “What you misunderstand is that it has gone up pretty much everywhere. This is not a unique American phenomena.”

A few years prior to the Council on Competitiveness’s “Innovation Index,” its president, Deborah Wince-Smith, said that the United States did not have a competitiveness problem, even though many of America’s most important industrial sectors were shedding hundreds of thousands of jobs every month. Competitiveness cannot be measured by “economic growth, but by productivity,” she said. “Productivity is the real long-term measure of competitiveness and we are doing very well.” When asked, “Is there as much alarm today as there was when [Hewlett Packard CEO] John Young started the council in 1986?” Wince-Smith replied: “Absolutely not.”

As the manufacturing sector was spiraling down from 2001 through 2008, there was no bailout for U.S. manufacturers — as there had been for the financiers who killed America’s manufacturing sector — nor were manufacturers asking for one. U.S. domestic producers were not advocating “protectionism.” They were not interested in class warfare. They want the big multinational companies to be headquartered in the United States, produce in the United States and export from the United States. What domestic manufacturers want is for the United States government to craft economic policies that favor investment in the United States. They want the United States to abandon the economic policies that favor geopolitical global interests that have no regard for the economic health of the United States and its millions of taxpayers and retirees.

“We need a modern-day Paul Revere,” says Brian O’Shaughnessy, chairman of Revere Copper Products, the oldest industrial company in the United States. “When Paul Revere tried to rouse the countryside with his wake-up call, what did the people do?” O’Shaughnessy asks.

“They certainly didn’t go back to sleep. We all need to wake up and understand the forces of foreign economic mercantilism that are waging an economic war against us.”

It is a war that many American manufacturing executives and their workers say the United States has lost. One only needed to watch the opening ceremony at the 2008 Summer Olympic Games in Beijing to know the destination of hundreds of billions of U.S. dollars. By late 2008, the U.S. trade deficit with China was running at close to \$1 billion per day, amounting to more than \$90 per month (or more than \$1,100 a year) for every American.

The flood of cheap goods from China is not even helping the U.S. retail industry. Long before the September 2008 financial market crash, hundreds of retail stores announced closures, according to William Engdahl, contributing editor at the Centre for Research on Globalization.<sup>21</sup> By mid-2008, Ann Taylor announced plans to close 177 stores; Eddie Bauer closed at least 27 stores; Mattress Discounters announced it was bankrupt; women’s retailer Cache closed up to 23 stores; Talbots closed all 78 of its kids’ and men’s stores and another 22 stores; Gap closed 85 stores; Foot Locker closed 140 stores; Levitz closed all 76 of its stores and went out of business; Disney announced plans to close up to 98 stores. Home Depot closed 15 stores; CompUSA closed for good; Macy’s closed nine stores. Pep Boys closed 33 stores; Sprint shut down 125 retail locations; Ethan Allen Interiors said it planned to close up to 300 stores; and Bombay Company closed all 384 of its U.S. stores. “For anyone familiar with American shopping malls and retailing, this represents a staggering part of the daily economic life of the nation,” noted Engdahl.

That’s a big list, but not nearly as big as the list of approximately 40,000 U.S. manufacturing plants that have closed during the seven years ending in 2008. From 2001 to 2007, the U.S. economy was sustained by the housing and finance sector bubbles, not on real wealth. But starting in 2008, a new bubble began to inflate: federal spending, which in 2008 — in one year alone — increased by 25 percent or by \$731 billion to \$3.6 trillion.<sup>22</sup> Federal spending is accelerating even faster with President Obama’s push for a massive economic stimulus.

But without a robust revival of the U.S. manufacturing sector, it is virtually guaranteed that the country will not sustain an economic recovery. Combined with lower tax revenues, the Congressional Budget Office is projecting a 2010 federal deficit of \$1.825 trillion in 2009. That after the federal budget deficit almost tripled in 2008 to \$459 billion, up from “only” \$161 billion in 2007. The evidence is now irrefutable: the United States cannot sustain itself with a finance- or service-based econ-

omy. Manufacturing is the only way of assuring a better future for America.

The United States is not losing old, inefficient industries that produce obsolete products for which there is no more demand, such as “buggy-whips” — many economists’ favorite line. There is still demand for televisions, consumer electronics, computers, furniture, socks and bicycles. The industries that are leaving the United States are still producing products that are in demand. Perhaps worse, however, is that as industries leave the United States, the research they support goes with them, as well as the R&D knowledge that is funded by the federal government.

The solar industry is a good example. U.S. taxpayers have poured hundreds of millions of dollars into the development of photovoltaic power systems, yet there is only one U.S. company among the world’s leading producers. The same is true with nanotechnology. Without much of an industry left, the benefits of the \$1-billion-a-year federal National Nanotechnology Initiative will not benefit American workers and taxpayers because the real money will be made by companies and countries that manufacture products containing nanotechnologies. Any revitalization of the U.S. manufacturing base through nanotechnology will be limited to “low-volume, pilot-scale manufacturing,” according to Matthew Nordan, president of Lux Research Inc.<sup>23</sup> Low-volume manufacturing will not generate the millions of jobs needed in the United States.

The companies that survived the 1990s adopted best practices like lean, Six Sigma, ISO 9000 and the Baldrige Quality Award and Shingo Prize criteria. They re-engineered, right-sized and used total quality management to become agile enterprises. If they did not adopt efficient production techniques, then they didn’t survive past the year 2001. These companies did not lose their competitiveness. They could compete with each other. But they could not compete against other countries — foreign governments that not only targeted specific industries but also specific companies. There is no way for U.S. industry to compete with offshore producers that are owned and subsidized by foreign governments.

The American steel industry produces one ton of steel using 15 man-hours. A comparable ton of steel in China is produced with 110 man-hours, and Chinese companies produce three times the amount of carbon emissions per ton of steel. The U.S. steel industry has not lost its competitiveness. It is an industry that has to compete against govern-



ment-funded companies whose production is subsidized, and that are allowed to pollute and operate unsafe factories.

The least of American companies' worries is competing with low-wage labor. The labor cost in a coil of steel produced in the United States is less than the freight cost of a steel coil imported from China, according to Nucor CEO Dan DiMicco. Foreign producers receive subsidies, tax abatements, free buildings, free energy. They do not pay taxes. They don't have to pay Social Security, workman's comp, disability or health care. They don't have to match a 401(k) contribution. They are able to avoid more than 100 years of government regulations put on American businesses. OSHA does not exist in most developing nations. They use electricity that would never be allowed to be generated in the United States due to lack of pollution controls. The U.S. Environmental Protection Agency employs 17,000 workers. China's State Environmental Protection Administration employs only 300.<sup>24</sup>

The day after the Virginia Tech massacre occurred on April 16, 2007, a news item ran in *Asia Times* with the headline: "Molten Steel Kills 32 Chinese Workers." The Virginia Tech massacre also took the lives of 32 individuals. Yet had the molten steel accident occurred in the United States, Americans would have been horrified by the working conditions at a U.S. steel factory.

On April 17, at the Qinghe Special Steel Corp. in Liaoning province in China, a 30-ton ladle of steel sheared off from the blast furnace, spilling 2,732-degree F. white-hot liquid metal onto the factory floor. The molten steel spread into a nearby room where workers were gathering for a shift change, engulfing them. "They are going to have to identify the bodies through DNA testing because the victims were burnt beyond recognition," according to a report in the *Asia Times*. In an account of the accident in *Asia News*, it noted that the previous day a plant producing "triple super phosphate" in Xiaozhaiba, Guizhou, "leaked a huge amount of sulfur dioxide." The colorless gas drifted into the nearby village, "but no one warned the population" and 300 people had to be hospitalized. "Also on Monday, 47 coal miners were trapped in three mines. Two other men were trapped when the illegal mine in which they were working collapsed in the city of Jixi, Heilongjiang. In the first three months of 2007, 661 miners died in industrial accidents, according to official sources."

The United States government has been trying to revive the economy since 2001, using two rounds of trillion-dollar tax cuts, reduced interest rates and tax rebate checks sent directly to millions of taxpayers.

But without incentives for the manufacturing sector, those economic revival efforts have failed.

In 2004, Congress allowed U.S. companies to repatriate the profits they earned overseas. It was called the American Jobs Creation Act of 2004. As the Bureau of Labor Statistics describes, during the period in which the major provisions of the bill were implemented, the Jobs Act did not create a single new production job in the United States. From 2006 through 2007, manufacturers shed 433,000 U.S. jobs, according to the BLS.

Jobs should have been proliferating in the U.S. economy, due to a surge of government and consumer spending underwritten by the housing bubble. From 2001 until 2007, the United States government and households added \$10.5 trillion to their debt burden, notes Charles McMillion, chief economist at MBG Information Services. Over that same period, U.S. GDP increased by a mere \$4 trillion.

Total combined debt of households (\$14.4 trillion) and the federal government (\$9.2 trillion) was 168 percent of GDP at the end of 2007. “Yet, this record-shattering explosion of debt stimulus created the weakest seven-year job growth (4.4 percent) and one of the weakest periods of real GDP growth (18.1 percent) since the Depression,” according to McMillion. There were less than 6 million new jobs created between 2001 and 2007 — at \$1.8 million of debt per job.

Also over that period, the government put a massive stimulus into the economy through federal spending on the wars in Iraq and Afghanistan (\$900 billion between 2002 and 2008). Those conflicts are keeping a substantial portion of the basic manufacturing sector in the United States afloat. A desert war is not easy on equipment. Sand reduces the life span of military equipment, power generators, diesel engines and mechanical drives by a factor of 10. Equipment operating in a desert must be rebuilt by companies in the United States. When the Iraq war ends “you’re going to see a repeat of the 2001 downturn all over again,” says David Fregel of Penn United Technology in Cabot, Penn. The wars in Iraq and Afghanistan are keeping hundreds of industrial shops busy rebuilding and replacing equipment and producing new ordinance, weapons, shells and ammo. Companies making armor are busier than ever.

Despite the surge of war spending, the U.S. manufacturing sector continues to shed hundreds of thousands of jobs and when the wars end “and we go back to maintaining a peace-time Army, you’re going to see another one-million to 1.5-million manufacturing jobs disappear on top

of the five million jobs lost since 2001, because we're not really producing other items," Frengel says.

In early 2008, the U.S. government decided that a direct stimulus of \$152 billion would help revive the economy. The windfall may have helped the makers of flat panel televisions and iPhones in China or Middle Eastern petroleum producers selling oil for \$147 a barrel, but the stimulus did not revive American manufacturing or create jobs. During the three-month peak of the disbursement of stimulus rebate checks between May and July 2008, the economy shed 162,000 jobs, including 52,000 in the retail sector, 94,000 in manufacturing and 99,000 in construction.

Most American business owners know that the 2008 stimulus rebate checks did not work. Seventy-eight percent of small-business owners said the economic stimulus checks were "useless," according to a July 2008 poll of 400 small company owners taken by Suffolk University for American Management Services. Seventy-two percent of these small business owners said the government was "bailing out Wall Street and big business," while 86 percent said the U.S. government is doing either "nothing" or "little" to help other businesses.

The federal executive branch along with the U.S. Congress has ignored the collapse of American manufacturing. During the early years of the Bush administration, Grant Aldonas, head of the Commerce Department's International Trade Administration, traveled the country listening to manufacturers and their ideas of how federal policies should be amended to make the United States an attractive place to invest and make products. At every stop around the country, manufacturing company owners blistered Aldonas, pleading with him and his subordinates to defend them against foreign governments targeting their operations. Manufacturers were neither acting as "protectionist," nor were they left-wing liberals. As conservative business owners, they were asking that the federal government uphold the trade laws that were already on the books.

The Aldonas manufacturing road show came to Washington, D.C., in late 2002. But Aldonas didn't show up for the event. Undersecretary of Commerce Sam Bodman, the department's second-highest ranking official, was scheduled to spend the day with manufacturing leaders at the meeting titled "Made in America 2020: The Future Face of Manufacturing." But Bodman didn't arrive until late in the afternoon, while Bush's lower-level political appointees kept making excuses, and speaking for how Bodman considered manufacturing to be one of the government's top priorities. When Bodman finally arrived, he listened to manufacturers discuss how the federal government needed to change

its approach to industry, lest more manufacturing disappear from American soil. Tim Timken, chairman of the Timken Co. of Canton, Ohio, told Bodman that “government at all levels affects what happens in business in total and manufacturing in particular. Basically, the issue for government is to decide what it is doing that hurts U.S. manufacturing and what it could do to help U.S. manufacturing.”

At the very end of the event late in the afternoon, it was time for Bodman to hold forth.

He told the manufacturers that the government wasn’t going to do anything.

“A lot of what I hear you all asking — we need a leader, we need somebody to take a position and do things — that runs counter to the way the town works and you need to know that,” Bodman told the executives, according to a transcript of the meeting. “There was a comment concerning a vision for manufacturing within the government. I will tell you it is very hard for this government to have a vision on anything. We are totally stove-piped and we live within these compartments. This is not by way of a complaint. This is not by way of an excuse. It is by way of a fact.”

Bodman told the manufacturers that the Bush administration was “hopeful and optimistic” that there would be a turnaround in the manufacturing sector due to the huge infusion of money into the economy from the Bush tax cuts. “One way or another, before we get anything profound done at our end, we are going to see what happens and to the extent that the economy recovers, employment recovers,” Bodman told the invited group of executives at the event that excluded the press. “It will be quite interesting to see what happens in the manufacturing sector and get some measure of that.”

The final “measure” was that the manufacturing sector never recovered. The tax cuts did not turn the manufacturing employment situation around. They did not stop companies from shifting large portions of their production offshore. They did not stop Wall Street and the American economy from suffering a massive collapse in late 2008.

Bodman also had some disparaging words to say about the Commerce Department as a place that would represent the interest of those involved in American commerce. “The measure of one’s manhood or womanhood in this town is one’s budget size,” he said. “We [employ] a lot of people here but we have a \$5-billion budget. That sounds like a lot. It’s peanuts in this town. I will tell you the inherent authority of this department within government is modest. That’s not a complaint. That’s not an excuse. It is a fact.”

Believing that his comments were confined to the room and would never be exposed or broadcast, Bodman further confided, according to the government transcript provided through a Freedom of Information Act request: “Everybody in this town tries and works very hard at being nice to everybody else at all times almost at all cost and the reason for it is nobody knows who they will end up working for next month. That’s just a fact. It’s not a complaint. It’s not an excuse. It’s a fact.”

Bodman must have been working “very hard at being nice” to somebody, because it wasn’t long after his statement that he left the “peanut” agency called the Commerce Department for a deputy secretary post in the far more important Department of Treasury, during a time in which the agency did not provide any oversight of the rampageous financial sector. It was another year before his “being nice to everybody else” helped him secure an even nicer job as Secretary of Energy, a position that made him a member of the president’s Cabinet. During his tenure at the Energy Department, starting in February 2005 when the price of oil was \$41 per barrel, Bodman served during history’s largest run-up of oil prices, further undermining the U.S. economy.

Unfortunately for many domestic manufacturers, the rules of modern capitalism are created by governments. As Bruce Scott of Harvard Business School explains: “Legislative markets create the framework within which firms operate and underpin economic markets that can be tilted to favor capital versus labor or the reverse; producers versus consumers, or lenders versus creditors.” The idea that capitalism has evolved through a “benign set of circumstances where parties voluntarily come together to achieve mutually beneficial transactions may be an adequate description of commerce at a roadside fruit and vegetable stand or a flea market, but not for much of the transactional activity of a modern economy.”<sup>25</sup>

Countries, not private companies, determine the basis for competitive advantage, notes Gregory Tassef of NIST. “Because this principle is not yet accepted in the United States, studying, understanding and formulating strategies and policies to address long-term needs of a large, technology-based economy are being shortchanged.”

If anyone knows this best, it’s the people who work in the economic development offices of state governments. In the global battle to attract industry and jobs, the states are at a big disadvantage against nations that are investing substantial resources to attract and nourish strategic industries that create thousands of good jobs. The traditional model of

economic development has states competing with each other for companies to locate in their jurisdictions. That model has changed. Now it is states versus foreign governments, and the American states are losing. The U.S. federal government has opted out of the international competition to attract industry and jobs, leaving that task up to the states, which do not have the resources to compete with foreign governments.

A key facet of economic development is the creation of science and technology research parks that foster the development of industrial clusters of competing and complimentary firms. China and other countries in Asia are rapidly increasing their investment in these parks. “New entrants into the research park market such as China are developing research parks on such a huge scale that they are changing the market dramatically,” says Rick Weddle, president and CEO of the Research Triangle Foundation of North Carolina, which operates the world-famous Research Triangle Park.<sup>26</sup>

“China has taken our model to the nth degree and has expanded dramatically on it, leapfrogging” the United States with massive investments in high-tech research and production zones, Weddle says. “Research Triangle Park and U.S. research parks have much to learn from the Chinese and what it will take to compete in the future: scale, nimbleness, speed-to-market and flexibility to attract talent and recruit expatriates to return.”

Weddle notes that the university research system in the United States may no longer win the battle for technological superiority and future prosperity. “It would be advantageous if we had more tools in our toolbox to be able to compete,” Weddle says. “All of us at the local and regional and state level need all the help we can get from the federal government.”

As described in Chapter 3, China’s economic development officials employ a variety of incentives to entice industry to locate their R&D and production in their country. Data compiled by IBM’s Global Investment Location Database show that these incentives are working, with China and India far surpassing every country in the world for inward investment for major R&D projects and factories.<sup>27</sup>

According to Weddle, who runs the revered 2,500-acre Research Triangle Park for its 157 tenants, the United States has not even yet joined the debate over national economic development policies aimed at creating jobs and industries. Policymakers at the national level can’t get beyond the vapid “industrial policy” debate. But at the regional and local level, there is a hearty embrace of industrial policy. Research Triangle Park was created in the 1950s based on the state of North Car-

olina's decision to pick chemistry as an industrial technology worth pursuing for long-term economic growth. In 1984, it added biotechnology, and continued making strategic investments in local universities.

Huge economic benefits have been generated from those investments in "picking winners and losers" — in this case winners, and Research Triangle Park has the fifth-largest concentration of life science economic activity in the United States.

"What we've done in 50 years at Research Triangle Park, China is doing in 15 years and is replicating that now and even shortening these time horizons to five to seven to eight years in some of their smaller" economic development parks, says Weddle. "We toured a research park in Suzhou that is a joint venture between the Chinese government and Singapore. We wouldn't even think about that. They partner up in ways that we wouldn't even think about or we might have issues or get all caught up in our knickers worrying about how it works out."

As a result of these investments, China surpassed the United States as the world's largest export nation in 2004.<sup>28</sup> Only five years earlier, the United States exported double the amount China did. "This dramatic reversal together with the increasingly high-tech orientation of Chinese exports poses a serious challenge to U.S. export competitiveness and long-standing leadership in technology innovation," says Ernest Preeg of the Manufacturers Alliance/MAPI.<sup>29</sup>

## **The Voice of Manufacturing**

Among the most important economic voices in American society are those belonging to thousands of domestic manufacturing company owners and managers. These people employ millions of workers. They pay them livable wages and provide benefits. These manufacturing companies support local communities throughout the country — particularly in rural areas — and sell their products, parts and components to large industrial companies throughout the country.

They are struggling to stay alive, not because their processes are old, or because their products are no longer in demand. These companies are struggling mainly because their large customers have left the United States for cheap and protected markets overseas. The owners and managers of these once-vibrant companies are voiceless in the mainstream press, which has been usurped by the power of the retailers and multinational companies that provide the bulk of advertising dollars for almost all of America's newspapers and television outlets. These domestic

manufacturing business owners and executives are among the most anxious people on the planet.

U.S. demand for manufactured goods has increased by 400 percent since 1980, says Revere Copper CEO Brian O'Shaughnessy.<sup>30</sup> But U.S. production of those goods increased by 40 percent. "Without foreign government trade cheating, U.S. production would have been far greater. Revere Copper's exports and domestic sales would have grown very large indeed," he says. Like thousands of other U.S. manufacturers, Revere lost 30 percent of its U.S. customers from 2000 to 2007, due to large companies shutting down or moving their production offshore. Former customers that have closed their U.S. production include Carrier, Oneida, General Electric, Smith Corona, Ethan Allen and Chicago Pneumatic.

America's oldest industry is also on the verge of extinction. The glassware industry is down to one remaining large American producer of glassware: Libbey Glass Inc. of Toledo, Ohio. The reason: "foreign companies are supported by their governments," says Libbey CEO John Meier.

During his 37-year career with Libbey, Meier has seen every single major U.S. competitor either go out of business, end up in Chapter 11 or go up for sale.<sup>31</sup> Corning Consumer Products, called World Kitchen, has gone through Chapter 11; Oneida is in Chapter 11; Anchor Hocking is in Chapter 11; Wheaton Glass has gone through Chapter 7 "shut down and gone," says Meier. Federal Glass is in Chapter 7 "shut down and gone." And Indiana Glass is up for sale. "Talk about an industry facing a challenge," he says.

The problem facing the industry is simple: unfair trade — "not the ideology of free trade but the reality of trade," Meier says. "The reality of trade today is far different than that described by the theorists. Comparative advantage may exist for basic commodities, but in today's world where transportation speeds products to marketplaces all over the globe, where capital flows freely to the place where it can gain the highest return, where technology can be applied in virtually any environment, competition is not governed by theories in textbooks, but by profits and national interests."

Libbey is determined to compete. The company invested \$183 million in capital upgrades between 2002 and 2006, or 7.7 percent of total sales. But those investments may be for naught, given that the United States government is allowing foreign governments "to get away with subsidizing their producers and not enforcing the laws while turning to the remaining producers in the United States and saying: 'We need to



make it easier for more imports to flood our markets,' ” Meier says. “Effectively, many of us would tell you we have an eight-lane highway coming into Peoria, only to face a dirt road back to Rio, Jakarta or Istanbul.”

This group of American businessmen believes the U.S. government has stopped representing the interests of American-owned and American-based companies and the workers they employ. Dozens of manufacturing company owners have marched to Washington, D.C., over the past seven years, angrily telling their story of toil and tragedy that has come as a result of the U.S. federal government’s drive against the manufacturers. They have been derided as being “protectionists” and “whiners” and not winners — as people who represent industries that are no longer needed in America. More than anything else, they have been ignored.

“The U.S. government’s policy is creating millions of jobs all right, but it is creating them in the People’s Republic of China and Vietnam at the expense of hardworking Americans here at home,” says James Copland, chairman of Copland Industries/Copland Fabrics of Burlington, N.C.<sup>32</sup> Copland believes the U.S. government’s policy toward manufacturing has led to an economic crisis “unprecedented since the Great Depression.” Deeply flawed U.S. trade policy toward domestic manufacturing “is the single-most important root cause of the illness.”

In repeating a theme common among U.S. manufacturing company CEOs, Copland says the U.S. government bears responsibility for destroying the American dream. “Our constitutional preamble says ‘a government of the people, by the people and for the people.’ We have forgotten about the words ‘for the people.’ ” Copland is no lefty heretic or revolutionary, but a corporate CEO who employs hundreds of American workers.

The unwillingness of the U.S. government to defend manufacturers from unfair currency manipulation, from foreign value-added tax rebates, from companies that are manufacturing products that would be illegally produced in the United States and selling them for below the cost of raw materials has put millions of American lives into economic turmoil. “Their jobs are being moved overseas and they can’t get other jobs,” Copland says. “Don’t think there are high-tech jobs available for those folks, because there aren’t. They are being shipped to China and India, too. People are angry now and when they connect the dots — and they are going to connect them — they are going to know where to focus their anger.”

Manufacturing company owners and employers have to deal with the harrowing loss of people’s livelihoods. When Moosehead Furniture

closed its factory in Maine in 2007, the largest privately owned furniture company in New England had to lay off 126 employees. The company made cane chairs, but it could not compete against imports from China. Closing the company's plant "was a blow to the heart," according to a report in the *Bangor Daily News* in a story that has been repeated thousands of times throughout the country.

The 60-year-old company was producing chairs with labor that cost \$11 per hour, versus its Chinese competitors who were paying workers 20 cents per hour. Moosehead Furniture's monthly health care bill was half the price of the cost of its wood, and amounted to an extra payroll per month. A fully-loaded container of chairs from China carried \$7,000 worth of product. Shipping costs from China total about \$4,000 per container. A similar container filled with Moosehead chairs held \$55,000 worth of product produced in the United States. There was no way for the company to compete.

"I grew up in this community," says company President John Wentworth. "The people I laid off are the people I went to school with and their parents. We had two plants in this town of 600 people. You have to look at those people in the face. They've been here for 20, 30 years. Rural America is slipping away and it won't come back."

It is a common refrain: that employees have nothing to do with the circumstance leading to a company's demise. "We regret the hardship this will cause the affected employees and we appreciate the dedicated and energetic service these employees have shown the company," said Furniture Brands CEO Mickey Holliman when the company announced in 2007 that it would close plants in Missouri and North Carolina and eliminate 450 jobs. When Radford Co. closed its plant that manufactured doors and windows in Oshkosh, Wis., company President Michael Walsh said it was "the worst day of my life. We have the greatest employees and so many of them have been here for so long that it made the announcement even more difficult." Radford Co. had been in business since 1871. Walsh thought 1982 was the worst year he would ever have to experience, but 2008 proved to be far worse. "I will take '82 over this anytime," he said.

O'Shaughnessy of Revere Copper says the game is stacked against American producers. The evidence is abundantly clear and it is stunning: American companies are paying for the health care costs of foreign rivals. Foreign countries use value added taxes (VAT) as their primary source of government revenue. These taxes are rebated to exporters in overseas countries and are a "legal form of tariffs approved by the World Trade Organization," according to O'Shaughnessy. Such taxes "discriminate in

favor of domestic production of goods and services” compared to the U.S. system, which “taxes domestic jobs out of existence through payroll and other taxes on any entity that provides a job.”

Value-added taxes are in place in 139 countries. There is only one industrialized country in the world that does not have a value-added tax: the United States. Foreign governments rebate the tax to companies when they export products, or to tourists when they travel back to their home country. Value-added taxes are being used as an enticement to U.S. manufacturers to shift production offshore. “One province in India boasts of a VAT that is over 50 percent in promoting itself as a prime location,” writes O’Shaughnessy in a PowerPoint presentation on his company’s Web site.<sup>33</sup>

When a product made in the United States is exported, the foreign country collects a value-added tax on that product. That money is then used to fund that country’s nationalized health care system. U.S. companies are subsidizing foreign health care systems. With socialized health care systems, foreign companies don’t have to pay the health care costs of their workers, unlike American companies. “We pay for their health care costs!” O’Shaughnessy says.

Germany raised its VAT rate to 19 percent effective January 1, 2007, which means that when a product worth \$100 is shipped from the United States to Germany, it sells for \$119 in Germany, whereas a \$100 product shipped from Germany to the United States is sold for \$81. It is virtually impossible for American companies to overcome such a differential.

Implementing a border-adjustable tax (a VAT) in the United States would increase skilled jobs, wages, the balance of trade, the standard of living and national security, O’Shaughnessy argues. But there is opposition to its adoption from foreign producers, importers, multinational corporations and their trade associations, foreign governments, U.S. politicians who are supported by those organizations and “naked free traders,” O’Shaughnessy writes.

## **A New Debate Over Global Corporate Interests**

The unprecedented power and changing motivations of multinational corporations is worrying a lot of people, including Ralph Gomory, president-officio of the Alfred P. Sloan Foundation and the 15-year director of research at IBM Corp. Gomory states bluntly: “What is good for America’s global corporations is no longer necessarily good for the

American economy. Globalization leaves most Americans as losers not winners. We must change this situation.”<sup>34</sup>

Gomory, a brilliant mathematician and soft-spoken sage, describes the current economic situation in a grand historical context: A fundamental societal change has taken place. Most economists have not yet recognized it. Over the past century and a half, Americans moved from being virtually self-sufficient (by working on family farms and in craft shops) to working for large companies that mass-produce the nation’s food supply and complex products (such as automobiles) that cannot be made by small groups or individuals. Americans became dependent on large-scale organizations for their livelihoods.

“The fundamental social role of corporations is to enable people to participate in the production of the goods and services that are consumed in the modern world; the corporation enables them to earn a share of the value produced for themselves and their family,” says Gomory. But over the past two decades, there has been a shift in corporate motivation away from social responsibility “towards emphasizing profits above everything else, which has had a deleterious effect on millions of people that is now being accelerated through globalization,” he says. “What is good for America’s global corporations is no longer necessarily good for the American economy.” The economic system of individuals depending on the corporation for their livelihoods is collapsing, and the implications are profound.

America’s largest global corporations are no longer responsible to employees, the communities in which they operate and to the nation. They abandoned these attributes in the 1980s when their focus on profits meant that “all other values are being sacrificed,” Gomory says. “People in our government still are treating companies as if they represent the country, and they do not. The country and the companies are going off in two different directions. That is something that most people feel intuitively.”

Transferring production offshore is not free trade, Gomory notes. “But if you want to do anything about the transfer of capabilities, you’re labeled as interfering with free trade. Americans have been told that the shift in production is inevitable and that it will only impact those workers involved in non-competitive industries. We are assured that it is bound to make us richer in the long run after the pain of change has been absorbed. There is no basis for these claims. The people of this country should not count on some long-range outcome that must inevitably make up for the present pain. That day may never come.”

Even Lawrence Summers, President Obama’s chief economic ad-

viser and an architect of the current international trading system as President Bill Clinton's Treasury Secretary, seems to agree with this growing sentiment. "The growth in the global economy encourages the development of stateless elites whose allegiance is to global economic success and their own prosperity rather than the interests of the nation where they are headquartered," he wrote in 2008.<sup>35</sup>

The true "protectionists," domestic manufacturers argue, are those companies that have set up operations in the "protectionist" havens of developing countries and then lobby policymakers in the United States to "protect" their investments made in those countries. The real "protectionists" are the those who claim to be "free traders."

The multinational companies and their Washington lobbying representatives say they are misunderstood, that the American populace is listening to the wrong people with regard to the impacts of globalization. These companies have failed to articulate "a win-win situation" associated with the current trade regime, said John Engler, president of the National Association of Manufacturers at a May 2008 conference in Chicago sponsored by then Commerce Secretary Carlos Gutierrez.<sup>36</sup> This has led to the "conundrum we find ourselves in — that the data is good but consensus behind trade has evaporated. How do we get the story told?" Engler asked Caterpillar CEO James Owens, who replied: "That's a mystifying thing to me. Trade has been demagogued in the political arena to a very disconcerting extent of late." Owens then labeled those who have been active in the "fair" or "smart" trade camp as being "protectionist," and said that if the United States becomes protectionist "it will be one of the most tragic political mistakes in our history, at least since the 1930s."

Both sides of the trade divide blame the politicians. For managers and workers who are on the losing end of the trade game, the politicians — both Democrats and Republicans — are in the pockets of the wealthy interests. They will do anything for campaign contributions. Those campaign contributions come from the big companies that, until 2008, were more profitable than ever in history.

The multinational companies see it in reverse. Politicians know how important free trade is to the economic prosperity of the country, but they "are essentially playing for votes," says Caterpillar CEO Owens. "As a business leader who spends a fair bit of time talking to people in Washington and trying to encourage [politicians] to support global competitiveness and international engagement, I can tell you a lot of congressmen and senators say, 'I understand but the people back home,

the people voting for me, are vehemently opposed to trade. It's a hard sell back home.' ”

Proponents of the current “free trade” policy say that the average American family is benefiting from cheap goods produced overseas. “It's more choice in consumer variety. It's good jobs at good wages,” says Matthew Slaughter, a member of President Bush's Council on Economic Advisors from 2005 to 2007 and now a professor of international economics at Dartmouth University's Tuck School of Business. “For families supported by those companies, they have higher paychecks.”

### **The U.S. Government Sides With Foreign Firms**

The U.S. government trade operation presents its own challenges for American manufacturers and their workers. When Vaughn-Bassett Furniture Co. joined with 31 U.S. bedroom furniture manufacturers and five labor unions to take legal action against Chinese furniture producers and exporters, the group hired the Washington law firm of King & Spalding. The law firm filed a case with the International Trade Commission (ITC) on its clients' behalf arguing that China was unfairly dumping furniture into the U.S. market. China's share of U.S. imports of bedroom furniture had increased from 26 percent in 2001 to more than 50 percent in 2003. The U.S. industry was forced to close dozens of factories and lay off more than 35,000 craftsmen, according to Vaughn-Bassett Furniture CEO John Bassett.<sup>37</sup>

Little did the domestic furniture manufacturing companies expect what happened next. American importers of Chinese furniture along with Chinese producers hired 21 different law firms to oppose their petition. “There was one on our side and 21 on their side,” Bassett says.

The U.S. furniture manufacturers created a “Committee for Legal Trade.” Its first task was to determine how they could protect themselves from the Chinese imports. It did not know anything about U.S. antidumping laws. “I've read that the government spent millions of dollars to promote the new \$20 bill,” says Bassett. “I know how to use a \$20 bill, but I wish the government had done more to make me and other manufacturers aware of our rights under our trade laws. We did not learn about this potential remedy until it was almost too late.”

The Commerce Department had too few people to investigate the thousands of Chinese producers and hundreds of Chinese exporters of bedroom furniture, according to Bassett. The Commerce Department only selected seven Chinese companies to prosecute. “It did not even se-

lect the companies that we thought were the worst dumpers.” The ITC ruled in favor of the American petitioners in January 2005, but by then it was too late for most American producers and tens of thousands of workers.

One of the most egregious examples of how the United States government refused to represent the interests of U.S. manufacturers and workers is the case of McWane Inc. of Birmingham, Ala. McWane is the country’s largest provider of waterworks fittings with 7,000 employees. Thousands of residential subdivisions have installed McWane water piping systems. The company brought a case before the ITC under a special provision that was created to deal with Chinese dumping of imports into the United States — the so-called “Section 421” special China Safeguard Investigation provision from the Trade Act of 1974, which was included in the WTO charter. McWane spent \$1.5 million presenting its case to the ITC, which concurred with a 5-0 ruling in favor of McWane, determining that China was dumping products into the U.S. market. As is required by the legislation creating the “421” provision, the decision had to be approved by President Bush.

President Bush sided with the Chinese. “I find that the import relief would have an adverse impact on the United States economy clearly greater than the benefits of such action,” Bush wrote in his memorandum denying relief, to the amazement of the U.S. trade enforcement legal community and McWane. Bush vetoed every affirmative 421 case that reached his desk on similar grounds. Knowing they would be vetoed by the president even if approved by the ITC, companies stopped filing 421 petitions.

So what did McWane do as a result of Bush’s decision to side with China? “We have been forced to build facilities in China and import that product back into the United States because of governmental inaction here and the lack of any kind of protection for the investments we have made here to comply with U.S. environmental and safety laws and regulations,” says David Green, executive vice president of McWane. “There has been an absolute surge of imports from China and it’s gotten worse.”

After the Bush decision, the company started reducing production at its ductile iron water works fittings plants in Alabama, Texas and Ohio. But it’s not clear that consumers benefited from Bush’s decision, as he said they would.

“You have one of our products per house in a subdivision — one fitting — and the consumer pays the same price because the only thing that happens is the contractor puts the savings in his back pocket,” says Green. In fact, foreign imports might cost consumers money, given prob-

lems with quality, regulatory compliance and products being made overseas without there being any environmental controls.

A week after Bush decided against the ITC's recommendation in the McWane case, Green and his boss left for a tour of foundries in India and China. They found the conditions to be "atrocious," Green says. "It's common knowledge but nobody wants to pay attention to it: environmentally, it's putrid."

In India, foundry workers don't wear shoes, socks, headgear, ear plugs or eye protection. They wear nothing other than flimsy boxer shorts, squatting on the floor next to burning-hot furnaces.

The next stop was China. "There are no U.S. environmental regulations in China," Green says. If there are any regulations, there is no enforcement whatsoever. "If you took a U.S.-regulated, compliant facility and put it in China, there is no way you could be competitive with all the other Chinese manufacturers," he says. If McWane has to invest hundreds of millions dollars in technology to meet EPA guidelines for new foundries in the United States "then there ought to be some support" for having to do so, says Green, because there is not a single foundry in China that has to comply.

There are thousands of foundries in China that use 40-foot-tall cupolas to light industrial-grade coke, none of which have pollution collection devices at the top of the stack. Black smoke belches out, creating a plume that stretches across the Pacific Ocean.

The Chinese aren't as efficient, either. At McWane's U.S. plants, it takes 15 man-hours-per-ton to produce ductile fittings, whereas in China, it takes 150-man-hours-per-ton. Moreover, there are no standards regulating arsenic in the coking coal used to make pipes and components that carry fresh water, nor do the Chinese have certifiable radiation testing systems. The Chinese have also been found to be using asbestos to coat pipes and fittings in an attempt to minimize leakage.

Like thousands of other U.S. producers, Green says the U.S. government's unwillingness to enforce trade laws has resulted in a potentially catastrophic loss of U.S. industrial capability and wealth. He points to BLS data that show that only 400,000 new jobs between 1998 and 2007 were created for men that paid more than the median wage.

"There is such a thing as cutting your arm," says Green. "You can cut into the skin. You can cut into the fat. You can cut into the muscle and then you can cut through the bone. At this time, we're cutting into the bone. It's not that we're inefficient. That has nothing to do with it. It's because you're competing against a currency that is 40 percent undervalued, an unlimited amount of labor and lax regulatory control."



In the ductile fittings 421 case, President Bush's decision was "totally at odds with the facts," notes Paul Rosenthal, an attorney who is with the firm of Collier Shannon & Scott which represents the industry. "There has to be the political will to enforce these laws and I can say that there has been a bipartisan reluctance to enforce them. The biggest failure is the failure of the [U.S. government] to use our 421 statute to protect American manufacturing industries. That is not a failure of the law, but a failure of the political will to apply the law and stand up to the Chinese."

Other companies had a similar experience with the 421 provision. M&B Metal Products Co. took a case against China to the ITC claiming that China was dumping metal dry-cleaning hangers onto the U.S. market. The ITC voted 5-0 in favor of the U.S. industry and its unanimous injury determination was sent to the USTR. The Bush administration "caved in to unremitting pressure from the Chinese government," says M&B Metal Products Co. President Milton Magnus. The Chinese representative from China's Ministry of Commerce, Liu Danyang, repeatedly threatened that the imposition of a remedy in the hanger case would damage U.S.- China relations. "Danyang insisted that if President Bush granted relief to an injured U.S. industry it would result in 'unavoidable negative effects on the broader bilateral relationship,'" Magnus says. "I underscore that the decision in this case will not and cannot be viewed in isolation. This message was heard loud and clear because the president announced that no relief would be provided. The administration let China off the hook. It allowed them to continue operating with complete disregard for the normal functioning of open markets and contrary to U.S. law. The administration sent a clear message that the president's speeches about the importance of American business and jobs creation were nothing more than political rhetoric and that Chinese — not American — interests are uppermost to those who are advising the president on the provisions of the law."

Ward Manufacturing, a company that makes malleable and non-malleable iron pipe fittings was involved in two ITC cases involving China. It wasn't pretty. The Commerce Department "just plain allowed Chinese founders to lie to them about their factory input quantities," says company vice president Thomas Gleason. The largest foundry in China, JMC, told the Commerce Department that it did not keep track of the actual weight of the charges fed into the cupola each day. "I have been in the foundry business for over 30 years and I know of no foundry in the world that can make this claim with a straight face," says Gleason. "It is, simply put, a bold-faced lie. Even the ancient Egyptians who first started foundry production kept track of the inputs."

## WTO Rulings

Beyond the 421 issue, the United States has not fared well in the World Trade Organization, either. The United States has lost the vast majority of trade cases brought against it by other nations, even though the United States is running the largest trade deficits in history. Through 2007, the WTO ruled against the United States in 40 of 47 cases. The United States lost an additional 30 of 33 WTO cases brought against it in the trade remedies area. That number is “astounding,” says Robert Lighthizer, a partner in charge of the international trade group at the law firm of Skadden Arps Slate Meagher & Flom.<sup>38</sup> The United States “has suffered disproportionately from the problems with the WTO dispute settlement system, having been named as defendant in far more cases than any other WTO members.”

Some of the cases lost by the United States required major changes of U.S. laws and administrative rules. “Rogue WTO panel and Appellate Body decisions have consistently exceeded their mandate by inventing new legal obligations that were never agreed to by the United States,” says Lighthizer. “As a result of this judicial activism, our trading partners have been able to achieve through litigation what they could never achieve through negotiation. The consequent loss of sovereignty for the United States in its ability to enact and enforce laws for the benefit of the American people has been staggering. The WTO has increasingly seen fit to sit in judgment of sovereign acts running the gamut from U.S. tax policy to environmental measures to public morals.”

In the trade remedies area, in which the U.S. government proposes duties provided to industries materially hurt by unfairly dumped imports, the U.S. has lost almost every case brought against it. The United States has been shut down on the Commerce Department’s use of “zeroing” to calculate a company’s dumping margin. The Bush administration called that WTO ruling “devoid of legal merit.” The WTO has ruled against the United States in its use of the “Byrd Amendment” to distribute duties directly to the American companies impacted by dumping.

“I am not alone in this stark assessment of the WTO dispute settlement system,” says Lighthizer, a former USTR deputy with the rank of ambassador during the Reagan administration. “Even ardent supporters of the WTO and legal experts hostile to the trade remedy laws have expressed amazement at the level to which WTO panels and the Appellate Body are creating new WTO obligations out of whole cloth. The threat

that this poses to the trade remedy laws and, in fact, the entire world trading system, is immeasurable.”

The U.S. federal government has not helped U.S. industry much in its fight against illegal trade, either. The Import Administration at the Commerce Department has seen its budget cut by appropriators in Congress. The agency, which pursues trade remedies for adversely impacted U.S. industries, had a budget in 2007 of \$60 million, down from \$68 million in 2004, a decline of 12 percent. The number of employees at the Import Administration fell from 388 in 2005 to 319 in 2007, a decline of 18 percent, according to Lighthizer. “In my view, cutting funding for trade enforcement is exactly the wrong policy at a time when we are facing increasing challenges from unfair trade.”

### **China’s Entry Into the WTO**

Domestic manufacturers marvel at how the U.S. government and backers of China’s entry into the WTO sold the country on the idea. The conclusion: Americans were duped.

The United States public has been told repeatedly that unfettered free trade with China would lead to a new era of Chinese political freedom. But this has not occurred, and the argument has led to the creation of policies based upon a “wrong paradigm,” says James Mann of the Johns Hopkins School of Advanced International Studies.<sup>39</sup>

American policy toward China requires public support, and the way to maintain that public support “is to claim that this will serve the purpose of changing China’s political system,” Mann says. “Since 1989, virtually every change in U.S. policy toward China has been justified to the American public on the basis that it would help to open up China’s political system.”

The argument was used by President Clinton to convince Congress to pass trade liberalization with China and by President George W. Bush to support China’s entry into the WTO. Congressional leaders used it to justify their vote in favor of those initiatives.

Liberalization of trade has not changed the way China’s Communist Party rules the country. There are no political opposition parties in China. Censorship of the press and the Internet endure. There are no free elections. “The argument that the Chinese system is changing seeks to divert attention to smaller realities and away from larger ones,” says Mann. “This paradigm of a China that is destined for political change has deep roots in American policy over the past 35 years.”

When pushing the permanent normal trade relations (PNTR) legislation, President Clinton said that economic changes in China will “increase the spirit of liberty over time. I just think it’s inevitable, just as inevitably the Berlin Wall fell.”

In the 2000 congressional debate over PNTR with China, dozens of members of Congress argued that China would reform its human rights and trade practices.

The legislation (HR-4444) passed the House by a vote of 237 to 197 and the Senate by 83 to 15, and set the stage for China’s entry into the World Trade Organization on December 11, 2001. President Clinton signed the legislation on October 10, 2000, claiming that “this is a great day for the United States.” At the signing ceremony, he said that PNTR with China “is a good economic deal for America. It will increase our exports and, over the long run, will strengthen our economic position in the world.”

He further stated that open markets would accelerate the information revolution in China, “giving more people more access to more sources of knowledge, which will strengthen those in China who fight for decent labor standards, a cleaner environment, human rights and the rule of law.” Ten years later, there are 50,000 Chinese censors scrubbing the Internet every day for open debate or information flow. The Chinese government did not even allow the broadcast of President Barack Obama’s inauguration speech.

Dozens of lawmakers echoed Clinton’s claims of American economic growth and Chinese political reform.

Rep. David Dreier (R-Calif.) said the China PNTR vote would be a “win-win for America’s workers, America’s first-class businesses and the very important goal of promoting American values. They are opening their markets to American exporters, which means good jobs across the United States. It is good for national security and it is good for American values. This bill is key to spreading the Internet across China. That is all great.”

Rep. Thomas Ewing (D-Ill.) said a “vote for PNTR is a vote for development of the Internet.”

Rep. Deborah Pryce (R-Ohio) said a vote for PNTR “will assist the pro-reform elements in Chinese society. We must take the battle of freedom versus tyranny to the Chinese people.”

Sen. Patty Murray (D-Wash.) said that if Congress did not grant PNTR “it will make it harder for us to promote change there and damage America’s workers and industries.”

Sen. Frank Lautenberg (D-N.J.) said that through China's WTO accession "we will be able to hold China accountable for its trade commitments through the WTO's transparent, rules-based dispute settlement mechanisms."

Sen. Joe Biden (D-Del.), now the vice president, voted in favor of PNTR, claiming that China would no longer "support Communist insurgents in half a dozen African and East Asian countries."

Sen. John McCain (R-Ariz.) said PNTR would "ensure that the conflict between economic growth and political repression is resolved in the direction of liberalization."

Sen. Herbert Kohl (D-Wis.) claimed that members of the WTO "will not let themselves be taken advantage of in trade matters."

Kenneth Lieberthal, special adviser to President Clinton and senior director for Asia affairs at the National Security Council, said at the time of China's entry into the World Trade Organization: "Let's be clear as to why a [U.S.] trade deficit might decrease in the short term. China exports far more to the U.S. than it imports [from] the U.S....It will not grow as much as it would have grown without this agreement and, over time, clearly it will shrink with this agreement."<sup>40</sup>

Since the passage of PNTR, the U.S. trade deficit with China has increased from \$83 billion in 2000 to \$266 billion in 2008.

The chief U.S. trade negotiator who paved the way for China's entry into the World Trade Organization now says the deal has not worked as originally intended. Robert Cassidy, former assistant United States Trade Representative for China, was the lead negotiator for the U.S.- China Market Access Agreement in 1999. Cassidy assumed that China's entry into the WTO would subject it to international laws governing trade. There were predictions that trade with China would increase U.S. exports and American jobs; that the trade deficit with China would improve; and that the industry-specific "421" safeguard mechanism would be administered by the next president. Those safeguards were intended to hold China's government accountable for unfair advantages and subsidies it provided Chinese producers.

But Cassidy never predicted that China would manipulate its currency in a manner that has radically distorted trade between the two nations, nor did he envision that the Bush administration would not enforce the "421" China safeguard. In the meantime, China's unfair trade practices and U.S. multinational corporations' support of them have inflicted heavy damage on the U.S. economy. The trade deficit with China has doubled every five years. "I have looked at the statistics and I

just question: What is happening and why did this occur?” Cassidy asks. “This is a huge problem. I don’t think anybody expected what happened to happen.”

### **American Workers Are Expendible**

Traditional economic theorists argue that the current system of trade is good for American workers. “Economic theory tells us that when trade liberalization occurs, the gains of the gainers exceed the losses of the losers and the country as a whole ends up better off,” says Robert Thompson, a visiting scholar at the Federal Reserve Bank of Chicago and a professor of economics at the University of Illinois at Champaign-Urbana. Like many other economists, Thompson says Americans are under a false assumption that millions of jobs are moving offshore. Some jobs have shifted, but not millions. “The problem is not nearly as large as it appears in the media,” Thompson says.<sup>41</sup> By providing compensation to the “relatively few” people who have lost their jobs to production shifts offshore, the United States will “still end up with a net gain.”

Free trade proponents often promote the federal Trade Adjustment Assistance (TAA) program that was created to help manufacturing workers displaced by foreign imports. But the Labor Department has routinely denied benefits to workers who have been laid off, and the entire TAA system “is fundamentally broken,” according to a 2007 ruling by the United States Court of International Trade. The court found that “there is something fundamentally wrong with the administration of the nation’s trade adjustment assistance programs.” The Labor Department does not represent the interests of labor, but of employers, according to the judgment in the case, “Former Employees of BMC Software v. the United States Secretary of Labor.”<sup>42</sup>

“Trade adjustment assistance programs historically have been — and today continue to be — touted as the *quid pro quo* for U.S. national policies of free trade,” according to the first sentence in the ruling in the case. But the Labor Department’s “reprehensible” mishandling of the program “has put that *quid pro quo* in jeopardy.”

In dozens of cases, the Department of Labor was cited as being negligent in all aspects of its administration of the TAA program. The way in which the agency is ignoring information provided to it from workers “as well as its pattern of turning a blind eye to obvious inconsistencies and discrepancies in the record before it — is beginning to verge on contempt for administrative and judicial process and does a grave disservice

to the hardworking men and women of this country,” writes Judge Delissa Ridgway in her 85-page ruling.

Attorney Frank Morgan of White & Case LLP has represented workers in TAA cases before the U.S. Court of International Trade. He says that from 2002 to 2005 approximately 45 TAA cases were litigated and in all but four the Department of Labor was required to certify workers that it had previously denied benefits. “That is shocking and it shows that Labor is not fulfilling the responsibilities that Congress entrusted to it.”<sup>43</sup>

The Department of Labor rarely considered information associated with job losses provided to it from newly unemployed workers, instead relying almost exclusively on claims from employers that workers’ jobs were not shifted overseas or that the workers themselves were not producing “products” that would enable them to be covered by the statute.

Ridgway’s ruling is a condemnation of a program that free trade advocates have used to justify the past 20 years of trade policies promoted by corporations, think tanks, presidents and Congress. “The very purpose of the TAA program is to provide retraining and other employment assistance to U.S. workers whose jobs have been sacrificed — in the national interest and for the greater good of the country — on the altar of free trade,” she writes. “As one scholar [professor Robert LaLonde of the University of Chicago] recently put it, ‘Trade is a little bit like war...Fighting World War II [was] a good thing. It [was] good for the world, and...good for the United States. But for the people who got killed, it was clearly bad. That’s what trade is like.’ ”

The analogy “is an apt one,” according to the ruling against the Labor Department. “Much as Congress has charged the U.S. Department of Veterans Affairs with caring for those who have risked life and limb for our freedom, so too Congress has entrusted the Labor Department the responsibility for providing training and other re-employment assistance to those who have paid for our place in the global economy with their jobs.”

In reviewing the case brought against the government by former workers of BMC Software of Houston, Judge Ridgway cited dozens of cases — like the one she was hearing — in which the Department of Labor denied benefits after having done little investigation of the circumstances surrounding the layoffs. “This case is troubling enough viewed in isolation,” she writes on page 55 of her decision. “But it is even more disturbing when it is viewed in the context of other TAA cases appealed to the court in recent years.”

Others note that the lack of effective programs aimed at ameliorating the economic burdens of trade on workers, companies and communities could easily derail the free trade movement. The costs of globalization are being exacerbated by the “lack of a national comprehensive strategy to deal with economic disruptions,” according to Howard Rosen, a visiting fellow at the Peterson Institute for International Economics and executive director of the Trade Adjustment Assistance Coalition. “In place of a national strategy, there is a collection of ad hoc, out-of-date and inadequate programs that provide too little assistance too late to those in need.” The result has been a “significant” political backlash that may result in lower economic growth.<sup>44</sup>

Millions of Americans have been impacted by the loss of jobs due to trade. The TAA program alone has provided assistance to 25 million workers since it was first established in 1962, yet the program helps only a minority of workers displaced by foreign production. “Only 10 percent of the estimated group of potentially eligible workers receive assistance,” notes Rosen.

### **China and the U.S. Treasury Department**

The Treasury Department for years has favored Chinese economic interests over those of American manufacturers. In the report it prepares for Congress every six months on exchange rates, it has refused to designate China as purposefully manipulating its currency.<sup>45</sup> To help buttress its finding, Treasury used trade data from China, and not from the U.S. Department of Commerce.

One of the key attributes of a country that manipulates its currency is its current account surplus. A country that has undervalued its currency so its products are cheaper in world markets increases its own trade surpluses.

The China Currency Coalition in Washington conducted an analysis of the currency report and was “absolutely bewildered” by Treasury’s exclusive use of Chinese government trade data, calling the practice “demonstrably wrong.” By looking at trade figures from 40 of China’s largest trading partners, the China Currency Coalition found that China’s global trade surplus was \$376 billion in 2005. China’s government reported a surplus of \$149 billion. The U.S. Treasury Department used the \$149-billion figure.

“The frustrating thing about this is that both Treasury and the International Monetary Fund appear to making very important policy de-



cisions based upon the wrong numbers,” said China Currency Coalition director David Hartquist. “We would never stand for that within the United States government.”

Even Fed Chairman Ben Bernanke noted in the written version of a prepared speech he gave in China in late 2006 that China’s manipulation of its currency was an “effective subsidy,” an expression he used twice in his written speech but failed to mention in the spoken version to the Chinese leadership.<sup>46</sup> He said: “Reducing the implicit subsidy to exports could increase long-term financial stability as well.” He meant the financial stability of China, not of the United States, which shortly thereafter suffered a financial system collapse. Bernanke also said that “substantial experience has shown that modern economies, including those in early stages of development, are too complex to be managed effectively on a centralized basis.” Again, that was before the U.S. government took control of Freddie Mac and Fannie Mae and “centralized” virtually the entire U.S. investment banking sector.

Also at that event, Bernanke felt compelled to criticize China’s investment strategy: “China’s economic growth owes much to the extraordinary share of GDP that is devoted to investment in new capital, such as factories, equipment and office buildings, which is partly financed by a very large amount of business saving. However, the rapid pace of investment growth raises concerns about whether new capital is being deployed in the most productive ways” — unlike in the United States, where capital was being deployed in a housing bubble and in what later would become known as “toxic paper.”

### **Does the United States Still Lead in Technology?**

China’s meteoric rise has sparked little reaction from U.S. economic policymakers. But evidence of China’s growing economic prowess based upon the success of a clearly articulated industrial policy is becoming overwhelming. The Georgia Institute of Technology’s biannual “High-Tech Indicators” study found that China improved its technological standing by 9 points over the period of 2005 to 2007, thrusting that nation above the United States in technological capability for the first time since Georgia Tech started keeping score two decades ago.<sup>47</sup>

In Georgia Tech’s scale of one to 100, China’s technological standing rose to 82.8 in 2007, compared to the United States at 76.1. The United States peaked at 95.4 in 1999. China has increased from 22.5 in 1996 to 82.8 in 2007. “The message speaks out pretty loudly,” says Alan Porter,

co-director of Georgia Tech's Technology Policy and Assessment Center, which produces the benchmark. "I think the prospects are pretty scary."

The survey indicates that the United States does not even hold the number two position in global technology capability. "If the increasingly integrated European Union were considered one entity instead of 27 separate countries, it would surpass the United States," says the Georgia Tech indicator report. South Korea, Singapore, Taiwan, Brazil, India and Chile are all increasing their technological capabilities, while the U.S. position degrades.

The surge of China past the United States as the global technology powerhouse should have been a "Sputnik" moment, says Georgia Tech's Porter. But federal officials and politicians were silent.

When the survey was produced in early 2008, the economy was headed into a downturn and both political parties were "jumping all over each other for the instant fix — the tax rebate," Porter observed. " 'Problem is all solved. Congratulations!' Wow. Long term, there are things that are not amenable to that solution."

Dozens of countries outside of the United States are pumping resources into leading-edge research and development. They are providing companies with rich incentives to locate there. "So what is our big advantage?" Porter asks. "What scares me is China is getting better at marrying research to their low-cost production processes. When you put those together with our buzzword of innovation, China is big, they're tough and cheap. Again, where is our edge?"

In a study released in the summer of 2008, KPMG predicted that China will overtake the United States as the world's largest recipient of corporate investment within five years "and should become the most influential country in IT and telecom, industrial products and mining." It based this finding on a survey of corporate investment executives working for 311 of the largest multinational companies and in 10 private equity and sovereign wealth funds. The United States was in last place among countries in the measurement of change in percentage of corporate plans for investment between 2008 and 2014, with a 4.5-percent drop, as compared to China leading the world with a 7 percent gain.<sup>48</sup>

## **A Look at American Imports and Exports**

Exports are an important indicator of America's industrial decline. In its annual analysis of trade, the Port Import Export Reporting Service (PIERS), published by the *Journal of Commerce*, noted in May 2008 that

more than two-thirds of the top U.S. exporting companies via ocean container were selling junk — scrap paper and scrap metal — and bulk agricultural and chemical commodities.<sup>49</sup> Of the top 100 U.S. exporters via container, about 20 exported scrap paper; 20 exported bulk food or feedstock, 15 shipped bulk chemicals and seven exported scrap metals. These are products more typically exported by Third World nations.

The largest U.S. exporter via ocean container was not even an American company, but Chinese: American Chung Nam, which exported 211,300 containers of waste paper to its Chinese sister company, Nine Dragons Paper Industries.

Weyerhaeuser was America's second largest exporting company via ocean container in 2007, shipping 165,800 containers filled with paper. Most all of this paper is remanufactured into cardboard to pack valuable manufactured goods for shipment back to the United States. Like the millions of products headed to American shores, it is cheaper to manufacture cardboard in China than it is in the United States.

Only one of the top 20 U.S. exporters via ocean container — Procter & Gamble — could be considered a U.S.-based product manufacturer.

Few of America's top corporate giants were shipping manufactured goods via containers to overseas markets. General Electric was ranked only in the 23rd position in 2007 among American exporters, shipping 41,200 containers. But GE imported three times that amount — 112,900 containers — and was ranked in 11th place among importers.

Caterpillar, which is one of America's most successful international companies, was in 27th place among exporters (shipping 37,300 containers), behind 12 wastepaper exporters, according to PIERS. General Motors ranked in 68th place, selling little overseas from its U.S. factories; and Deere & Co. ranked in 77th place. The only other U.S. manufacturing company on the container-exporting list was Whirlpool, which was ranked 83rd.

Imports into the United States via container ships are another matter. The largest importer in 2007 was Wal-Mart. The world's largest company (with sales in 2007 of \$374.5 billion), imported 720,000 containers of products from overseas markets, followed by Target (435,000 containers), Home Depot (365,300 containers) and Sears, which owns K-Mart (at 248,600 containers). The combined imports of these four retail companies (1,768,900 containers) equaled the exports of containers for the top 21 U.S. exporting companies, again, the majority of which sold paper.

At least 35 of the top 100 importers of containers into the United States in 2007 were retail companies selling manufactured consumer goods. The majority of other importers were high-tech manufacturing

companies selling their goods to U.S. distributors and retailers. These well-known companies include, LG Group (130,000 containers), Philips (127,200 containers), Canon (66,400 containers), Nike (62,700 containers), Toyota (58,800 containers), Samsung (50,800 containers), Sony (46,900 containers), Panasonic (43,300 containers), Michelin (38,700 containers), Hewlett Packard (29,700 containers), Sharp (24,100 containers), Toshiba (17,900 containers), and many more brand name companies.

Dell Computer, which does not show up on the PIERS data, says that it imported \$18 billion in parts and components from China in 2007. The company, with revenues of \$61 billion in 2007, expected its Chinese import bill to reach \$23 billion in 2008. Those purchases will add more than \$50 billion to China's gross domestic product "and support more than two million jobs," said the company in a press release issued in Hong Kong in March 2008.

Cisco Systems, another important United States technology company, manufactures the majority of its products overseas. In 2004, Cisco CEO John Chambers said: "What we're trying to do is outline an entire strategy of becoming a Chinese company."

Other corporate chieftains believe that their futures reside overseas. General Electric Chairman Jeffrey Immelt claimed in late 2007 that a downturn in the U.S. economy would not hurt General Electric because GE's business outside the United States is "very robust and very strong."<sup>50</sup> General Electric had positioned itself to become less dependent on U.S. consumers. "What I'm about to say might be good news or it might be bad news: The world has never been more independent from the U.S. economy," he told Charlie Rose and a national PBS audience. "If the U.S. economy goes into recession, the rest of the world is going to feel it, but in my business life, I've never seen as much sense that there are other economies around the world that can absorb the growth."

Immelt made that statement on the Charlie Rose Show, November 7, 2007, when his company's stock was trading at \$39 per share. By March 2009, after the U.S. financial system collapse and a year into the U.S. recession, his company's stock sunk to \$7 per share. Little did Immelt realize that his fortunes were tied directly to the U.S. economy.

## **The "Gathering Storm" Has Arrived**

Important scientific groups in the United States have warned repeatedly over the past five years that if the country loses its production

capability, then research, development, engineering and design will quickly follow. “The proximity of research, development and manufacturing is very important to leading-edge manufacturers,” according to a report from President Bush’s Council of Advisors on Science and Technology (PCAST).<sup>51</sup> “The continuing shift of manufacturing to lower-cost regions and especially to China is beginning to pull high-end design and R&D capabilities out of the United States.”

That study, chaired by George Scalise, president of the Semiconductor Industry Association, included the participation of Gordon Moore, former chairman of Intel and creator of the famous “Moore’s Law.” It was never publicized by the White House Office of Science and Technology Policy, which did not issue a press release about the report’s completion, nor did it post the report immediately to the PCAST Web site.

Like similar reports outlining the trends of deindustrialization of the country’s most important and strategic industries, it was ignored. It called for swift and decisive action on behalf of the government to counter the advantages provided to industry by Asian countries. PCAST recommended that the U.S. federal government create a new “Bell Labs” type of organization to pursue industrial research and development and be able to quickly transfer technology and people into a corporate type of environment. It never materialized.

PCAST recommended that the R&D tax credit be made permanent. It hasn’t been. It recommended that President Bush form a task force to assess foreign tax programs “and their impact on investment practices, and report back on how the United States should appropriately respond.” No such task force was created, although the Treasury Department did produce a report in late 2007 that recommended lower corporate tax rates and a new type of “business activity tax.” That proposal, “Approaches to Improve the Competitiveness of the U.S. Business Tax System for the 21st Century,” failed to generate any legislative response.<sup>52</sup>

PCAST’s thesis — that if manufacturing leaves the country, research and development and design will follow — is playing out in the automotive industry. Former assistant secretary of the Treasury Department in the Reagan administration, Paul Craig Roberts, notes that the August 2008 issue of *Automobile* magazine reports that Chrysler closed its Pacific Advanced Product Design Center in California. Other automotive design studios in Southern California have been closed by Italdesign, ASC, Porsche, Nissan and Volvo. General Motors has only three of its original 11 design studios remaining in the United States.

Advanced automotive design studios “are popping up like rabbits in China,” notes Eric Noble, president of The Car Lab, an automotive consultancy. Writes Paul Craig Roberts: “The idea is nonsensical that the United States can remain the font of research, innovation, design and engineering while the country ceases to make things. Research and product development invariably follow manufacturing.”

One other important U.S. report that should have mobilized the government was released in 2006 by the National Academies of Sciences entitled “Rising Above The Gathering Storm.” The storm arrived, but Congress did not rise above it.

The academies proposed that federal funding for basic research in the physical sciences and engineering, which had dropped in real terms over the previous 20 years, be doubled. Five senators hosted an overflowing press conference and promised fresh funds for the National Science Foundation, the Department of Energy and the National Institute of Standards and Technology. “Gathering Storm” author Norm Augustine, former CEO of Lockheed Martin, told the assembled press corps: “The stars are aligned to do something now and so far we have far exceeded what I expected in terms of a [political] reaction.”

The senators introduced the “Protecting America’s Competitive Edge Act.” President Bush submitted the American Competitiveness Initiative (ACI). Congress eventually passed an “authorization” bill called the Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Sciences — the COMPETES Act. President Bush signed the bill on August 7, 2007.

Then it was time to fund the program through an appropriations bill. And that’s when everything fell apart. Congress could not get its budget act together for fiscal year 2008, so just before heading off for Christmas recess in December 2007, it rushed through one of its colossal “omnibus” appropriations bills called the Consolidated Appropriations Act (HR-2764) for fiscal year 2008. Within the \$515.7-billion spending bill, the physical sciences received a monumental shaft. All of the political talk about competitiveness meant nothing.

NIST’s laboratories received a budget of \$440 million, an increase of 1.4 percent, far less than the 11 percent increase authorized in the COMPETES Act. DOE’s budget for research received a 2.6 percent boost to \$4 billion, \$500 million below the authorization. The National Science Foundation’s budget went up by 2.5 percent, to \$5.9 billion — about the amount spent by the Pentagon in two days and equal to about two-and-a-half days of the U.S. trade deficit. The increase was far below the level

of inflation and the final figure was substantially less than the \$6.6 billion “authorized” for NSF in the COMPETES Act.

Congress couldn’t find a few extra dollars to fund basic research, but it fully funded the \$191-million “abstinence” sexual education program, along with 11,900 pork barrel projects. NIST received \$51 million of earmarks tucked into its budget for construction projects in Alabama and Mississippi that had nothing to do with industrial measurement technology. Alabama and Mississippi are the home states of two Senate members — Richard Shelby (R-Ala.) and Thad Cochran (R-Miss.) — who sit on the NIST appropriations committee.

The importance of basic research to the future prosperity of a nation is well understood, but the United States seems to have forgotten what made it great. In the 1990s, there was plenty of technology and research waiting to be commercialized, leading to a revolution in the deployment of digital technology. Now, there is nothing left in the cupboard: the United States has eaten its seed corn.

When the Defense Advanced Research Projects Agency (DARPA) teamed up with industry to create the National Electronics Manufacturing Initiative in the early 1990s, “the thought was that there was a lot of research but we didn’t have the investment and the focus to turn this into volume [production],” explains Jim McElroy, executive director and CEO of the Herndon, Va.-based research group. “Now we’ve come full circle. Now people are beginning to say, ‘We don’t have enough research results on the shelf to pull from to create the next big wave of growth for the industry.’ Where does the next wave of investment have to occur so that we can continue to come up with great new products?”

Since the commercial breakthrough of the Internet in the 1990s, there haven’t been any other major technologies that have led to the creation of multibillion-dollar industries.

Even the National Science Board, which oversees the operation of the National Science Foundation, took the unusual step of publishing its own public letter of concern in the 2008 “Science and Technology Indicators” report.<sup>53</sup> It noted that federal support for academic R&D began falling in 2005 for the first time in a quarter of a century. That decline, along with the rapid rise of foreign investment in science, technology and engineering, has “severe implications for the future of U.S. competitiveness in international markets and the future existence of highly skilled jobs at home,” wrote the board. Negative trends in U.S. support for research along with the shift of high-tech manufacturing and research overseas requires “serious national attention,” wrote the National Science Board. A decline in research publications by industry authors in

peer-reviewed journals “suggest a de-emphasis by U.S. industry on expanding the foundations of basic scientific knowledge. The potential impacts of persistent negative trends in R&D support on the U.S. economy and jobs are indeed troubling.”

Numerous industries are beginning to suffer the consequences of paltry investment in innovation. The National Academies of Sciences found that the U.S. lead in telecommunications technology “is now at risk because of the recent decline in domestic support for long-term fundamental telecommunications research.” The National Academies said the United States can no longer afford research because it has lost its ability to compete in commodity products. U.S. telecommunications equipment vendors are doing most of their research outside of the country. The academies called for the creation of a new federal research organization called the Advanced Telecommunications Research Activity, but it was never considered in a Congress that failed to address the long-term viability of the United States economy.

In the area of energy research, the Government Accountability Office has found that federal spending declined by 85 percent between 1978 and 2005, despite repeated calls for energy independence. In real terms, funding for energy R&D dropped from \$5.5 billion in 1978 to \$793 million in 2005. The energy R&D budget has been “subject to growing congressional earmarks in recent years,” said the GAO.<sup>54</sup>

In the area of aeronautics research, investment has been dropping for decades. In 2008, NASA’s aeronautics budget stood at \$512 million, down from \$594 million in 2007. The Bush administration request for 2009: \$446 million. That would be less than half of what the U.S. spent on aeronautics research in 2004, when NASA had \$1.057 billion. The budget cuts in aeronautics R&D are “a travesty,” says Clayton Jones, chairman, president and CEO of Rockwell Collins. The lack of funding puts the United States aircraft manufacturing industry “on a glide path to irrelevance,” according to the National Academies of Sciences.<sup>55</sup>

The United States has virtually stopped funding the development of “applied” technologies that could have substantial economic and commercial impact, due to the debate over “industrial policy.” The debate is driven by economic ideologues who consistently and successfully argue that the government should not be in the business of picking winners and losers.

The “picking winners and losers” argument used successfully against government funding is a “profoundly misleading metaphor,” says Michael Borrus, general partner of the venture capital firm X/Seed Capital in Menlo Park, Calif. Using the expression substitutes “sloga-



neering for a thorough understanding of how risky early-stage technology innovation actually works,” he says.<sup>56</sup> “No investor, neither public nor private, picks winners and losers. Ultimately, it’s the market that picks winners and losers.”

Decades ago, the U.S. government played an essential role in creating massive new industries that currently generate most of the country’s wealth. Federal investment has been responsible for the creation of the Internet, semiconductors, atomic energy, genetic engineering, aviation, global positioning, advanced and lightweight alloys, computer graphics, CAD software programs and many other breakthroughs. “The history of today’s economy demonstrates that...government activism has been indispensable to the growth of many of our most prosperous industries and well-paying jobs in the United States,” says Borrus.

For two decades, there was only one program within the federal government aimed at assuring the widespread development and commercialization of industrial technology. NIST’s Advanced Technology Program (ATP) limped along for two decades after being created in the late 1980s. It was finally killed by the Bush administration and Congress in 2007. This despite the fact that the contracts awarded by the program were not decided by politicians and that the government only provided a portion of the funding. There was not a single pork barrel ATP award.

ATP more than paid for itself. Just one \$5.5-million grant awarded in 1992 to a consortium that included Seagate Corp. led to the creation of the small disk drive industry which, in turn, led to the explosion of hand-held consumer electronic devices that can hold 40 gigabytes or more of music, TV shows, movies and photos.

“This program was highly successful, no question about it,” says Mark Kryder, chief technology officer of Seagate, the world’s largest manufacturer of disk drives. NIST and the disk drive industry both provided funding to the National Storage Industry Consortium, which included university scientists. The results made possible the iPod, iPhone, TiVo and the Xbox; all from a \$5.5-million U.S. government investment.

Seagate is the only American company making these drives. “The real question is, does the United States want to continue to be a player in the disk drive industry or rely on Asia?” Kryder asks. The federal government answered his question. It killed ATP.

Other U.S. high-tech industries are on the ropes. The optoelectronics industry produces light-emitting diodes, optical switches, a new generation of flat-screen televisions, solar photovoltaics and optical sensors that are being deployed to monitor thousands of mechanical and industrial systems. The technology will radically reduce energy use. An organic

light-emitting diode television set, for instance, uses about 60 watts of electricity, as compared to current plasma and LCD screens, which use 650 watts.

The markets for these optical electronic systems are “large and underpin the world economy and sustainability,” says Michael Leiby, president and CEO of the Optoelectronics Industry Development Association (OIDA) in Washington, D.C. But the bullish economic prospects for the industry will not accrue to the United States because almost all of the manufacturing capacity for optoelectronics products is being installed overseas.

“Right now, whatever is coming out of research in the photonics industry is ending up outside of the country because of the trend among all the major players in photonics to ship everything offshore,” says Leiby. “It’s a negative trend.”

The optoelectronics R&D infrastructure in the United States “has been decimated,” adds Leiby. “I’m really scared because the government has not invested in the future and, without being political, it’s the hope that they are going to realize that unless they do something soon, the country will lose a lot of this technology. The federal government puts some money into various aspects of photonics R&D, but I would say that is at least 1/10th if not 1/20th or 1/30th of the scale it should be.”

The traditional mechanisms by which technology has been commercialized in the United States are no longer working. Given the surge of foreign investment in new technologies and the funding of commercialization efforts overseas, “the current model featuring small companies and venture capital investors is now under stress,” according to Todd Hylton, director of the Center for Advanced Materials and Nanotechnology at Science Applications International Corp. (SAIC).<sup>57</sup>

In the traditional commercialization model, small or startup companies invest in promising technologies emerging from research labs. Larger companies then step in and provide late-stage product development funding and market access. But over the past two decades, there has been an “inexorable displacement” of the technology industry from the United States, says Hylton. Virtually all of the newest semiconductor and display manufacturing capacity is located offshore, and that will hold true with nanotechnology, which will require long-term, patient financing before new products begin to transform virtually every industry.

U.S. companies don’t invest in technologies that are more than two years on the horizon. Venture capitalists don’t fund products that are more than five years out. Companies wanting to invest see that most of the infrastructure to manufacture prototypes is located offshore.

A new generation of public/private partnerships dedicated to technology transition and involving large groups of research institutions, consortia of small and large technology companies and public economic development organizations nationwide need to start working together to avert the wholesale loss of technology and industrial leadership. Hylton says technology transition organizations need to be created in virtually every industrial sector: energy conversion, solar, energy storage (batteries, hydrogen), agriculture, medical diagnostics and devices, high-speed electronics, flexible electronics and high-strength materials.

Other essential industrial infrastructure maintained by the U.S. government is under stress. In an assessment of the United States measurement system, a team of 700 experts from the National Institute of Standards and Technology found that there were more than 700 “measurement-related barriers to technological innovation” in the United States that needed to be addressed in order for the country to “maintain its position as a global leader.”<sup>58</sup> The U.S. measurement system is at a “defining moment,” according to the group’s 2008 “Assessment of the United States Measurement System.”

It noted that Japan made the improvement of its measurement system “a strategic priority” in its science and technology plan for the years 2006 to 2010. China is proposing that its state-sponsored nanotechnology standards be adopted worldwide. The European Union is instituting “demanding requirements for assuring the accuracy of measurements used to manufacture certain types of medical equipment and other high-technology products.”

As this is occurring, the United States measurement system is being starved of funds, even though a vast array of industries depend on a new generation of highly precise measuring equipment, from quantum computing, to advanced energy systems like hydrogen fuel cells, biotechnology, nanotechnology, medical devices, drug delivery systems, environmental protection, information technology, automotive and the blossoming field of “additive” manufacturing.

Individual companies in the United States cannot afford to invest in the development of advanced, highly accurate and expensive molecular measurement devices.

Stanley Williams, senior fellow at Hewlett-Packard and founding director of the company’s Quantum Science Research Group in Palo Alto, Calif., says the United States is on the cusp of losing its ability to innovate.<sup>59</sup> In the last century, U.S. inventions of the telephone, light bulb, radio, vacuum tube, and the integrated circuit, among others, led to the

creation of massive industries that employed millions of Americans, improved lives and provided tax revenue for the federal government. But toward the end of the last century, “we started to become complacent and neglectful,” Williams says. “Our wonderful goose was slowly being starved, and the consequences of that were alarming indeed.”

If investment is not restored in the physical sciences and engineering infrastructure of the country “the cost of failure is too grim to contemplate,” Williams says. “We must do this before we lose an entire generation of American scientists and engineers and become completely reliant on other countries for our technology.”

### **U.S. Industry Has Given Up on the Government**

U.S. industry has gotten tired of dealing with the federal government’s R&D programs. Evidence of industry’s lack of interest became clear during the August 18-19, 2008, “National Science and Technology Summit” sponsored by the White House Office of Science and Technology Policy. The event, held in Oak Ridge, Tenn., was intended to examine the health and direction of the U.S. science and technology enterprise. Excluding the speakers who were invited from the private sector and the two who worked for government contractors, of the 250 people attending the conference, only two people came from U.S.-based industrial companies. There were more people attending the event from the Chinese embassy (three) than there were from major American companies. The vast majority of attendees worked for the federal government. Yet the whole idea of the conference was to provide a “direction forward for American competitiveness.”

Hewlett-Packard, one of the world’s largest electronics companies, sent a speaker to the White House-sponsored event. Wayne Johnson, director of worldwide strategic university customer relations at HP, gave the feds a tongue-lashing. He said it is senseless for the government to be funding R&D if the benefits of that research leak offshore to foreign corporations. “This is further complicated by the fact that we in the U.S. find ourselves in competition not only with individuals, companies and private institutions, but also with governments and mixed government-private collaborations,” he said.

Susan Butts, senior director of external science and technology programs at Dow Chemical, said the federal government can fund all the R&D it wants, but if the United States innovation system discourages an invention from being manufactured in the United States, then American

industry will not generate the taxes “that fund the federal investment in the research.”

It is obvious that the United States no longer values robust investments in research. Congress allowed the R&D tax credit to expire at the end of 2007, taking until late 2008 to extend it. Congress has never made the R&D tax credit permanent. This might have been fine during an era when the United States dominated virtually every field of research, but globalization has changed the equation.

The U.S. R&D tax credit was once the world’s most generous. Now it’s worse than those offered by 17 other nations. The U.S. credit applies only to the increase in R&D investment a company makes year-over-year. Most other countries offer a credit for a company’s entire R&D investment. U.S. companies can simply leave the United States to conduct research where there are better tax benefits.<sup>60</sup>

It is difficult to name one high-tech company that has been created in the United States over the past 10 years. The last batch of innovative American firms came to prominence in the mid-1990s: Amazon.com, e-Bay, Yahoo and Google. The only new companies that Americans might have heard about in the past eight years are foreign firms: Lenovo and Tata. China’s Lenovo became famous when it purchased the personal computer assets of IBM and tried unsuccessfully to sell thousands of Chinese-made computers to the State Department. Tata bought Jaguar and Land Rover from Ford, and it runs a big IT outsourcing operation in India. These two companies have risen by buying the assets of American companies.

Thirty-five Chinese companies were on the Fortune Global 500 list of 2008, up from 24 in 2007, and “the best-ever showing by Chinese companies in the ranking,” according to *China Daily*. U.S. companies are headed in the opposite direction. There were 153 American companies on the list in 2008, nine fewer than in 2007, “the worst showing in 10 years,” added Reuters. Nike, Gap and Bear Stearns, which was acquired by JP Morgan, all disappeared from the list. The *Financial Times*’ list of the world’s top 500 companies included 50 companies from China, Russia and India “against hardly any presence a decade ago,” the publication said in its June 27, 2008, edition.

### **Competing With China’s Labor Costs**

It will not be easy for American manufacturers to compete with Chinese labor, even as labor costs in China continue to increase. Chinese

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## The Plight of American Manufacturing

workers remain among the lowest paid in the world, according to Judith Banister in a study conducted for the Bureau of Labor Statistics.<sup>61</sup>

The average total compensation for 104.6 million Chinese manufacturing workers was 72 cents per hour in 2004, or \$134 per month (\$1,608 per year). That means the average Chinese worker's total compensation is 3.15 percent of the average U.S. manufacturing worker's hourly compensation of \$22.87.

There were 56.67 million Chinese manufacturing employees working for large enterprises in 2004. Their average annual compensation was \$2,179, or about 98 cents per hour.

You don't want to be one of the 24.1 million Chinese working for a small manufacturing company. Their total average hourly compensation was only 49 cents per hour — or a lowly \$91 per month (\$1,097 a year). Self-employed manufacturing workers had total compensation of only 34 cents per hour — or a measly \$766 a year.

These hourly figures, compiled from China's First Economic Census of 2004 and analyzed by Banister, who later became director of global demographics at The Conference Board, include all of the costs of an employee including income, benefits and cash in kind. Total compensation also includes wages for piece work, bonuses, allowances, overtime pay and pay for dangerous or challenging duties. "It includes subsidies of all kinds: housing and transport provided workers, meals given to them, the value of income tax and social insurance payments deducted from wages and remitted to the government on behalf of all the employees," according to Banister.

Health care is picked up by the government, and other forms of compensation including workman's comp, disability insurance, retirement accounts and pensions — if they exist at all — are also not carried by Chinese employers, as they are in the United States. "Pensions and medical insurance systems paid into by employers and employees essentially do not exist in China outside of cities today," according to an earlier BLS report on the subject.<sup>62</sup>

On a purchasing power parity basis, the average take-home pay for a Chinese manufacturing employee is enough to purchase goods and services "that give the worker and family a living standard equivalent to annual take-home pay of about \$5,369 in the United States," according to Banister.

For years, as the U.S. economy shed tens of thousands of manufacturing jobs per month, U.S. economists were rationalizing the loss by stating that China was losing manufacturing jobs as well. This was not true. In a paper that became widely quoted by free trade rationalists,

The Conference Board in 2004 stated that there were 83 million manufacturing workers in China in 2002, down from 98 million in 1995. The authors equated job loss in China with job loss in America.<sup>63</sup>

“A lot of Chinese companies are introducing the same technology and methodologies that are being used in the United States so their demand for labor is falling really fast,” said Conference Board economist Matthew Spiegelman. The report stated that “China is losing many more manufacturing jobs than the developed world (including the United States) — and in many of the same industries where the developed world has seen the greatest declines.”

But research funded by the Bureau of Labor Statistics in 2004 found the 83 million number to be way off the mark — by 18 million workers — a figure that is far higher than the total number of manufacturing employees in the United States. Yet the 83 million number was used throughout the policy community in Washington as an argument against the need for policies aimed at stemming outsourcing of jobs in the U.S. industrial sector.

If job loss in manufacturing was occurring in China, which was increasing production by staggering amounts at the time, then it was inevitable that hundreds of thousands of Americans would be losing their manufacturing jobs, too, argued dozens of Washington economists using data from The Conference Board’s report.

Unlike in the United States, the number of people working in the manufacturing sector in China was increasing through 2007. Manufacturing employment in China peaked in 1996 at 126 million but then dropped to 101 million in 2002, due to the privatization of Chinese enterprises and increases in labor productivity. But starting in 2002, it began to steadily increase, as more foreign companies invested in new production, as exports increased and as China’s GDP continued its surge above 10 percent per year.

“By 2004, China’s average manufacturing employment had increased once again to 104.5 million, and by year-end 2005, the total had reached 110.6 million,” according to Banister.

The number of manufacturing employees in China might be even higher than that. There are millions of Chinese who work in agriculture during the planting and harvest seasons and work in regional factories the remainder of the year. “The population census tends to over-classify people in agriculture and under-classify them in the other sectors of the economy,” Banister says. This is a worldwide problem with data in developing nations, but “I don’t think it really means a whole lot because you’ve already got massively the highest manufacturing numbers on the

planet by orders of magnitude than any other country. There is no point in getting hung up over whether it's a slight under estimate or over estimate, no point."

China's manufacturing employment is far greater than all of the manufacturing workers in the G-8 combined.

Many of the manufacturing jobs gained in China came at the expense of those in the United States, according to the Economic Policy Institute in a July 2008 report "The China Trade Toll."<sup>64</sup> EPI estimates that 2.3 million U.S. jobs were lost due to the U.S. trade deficit with China between 2001 and 2007, including 366,000 jobs in 2007. Most of the displaced U.S. manufacturing workers who did manage to find new jobs lost an average of \$8,146 in wages in 2007, worth \$19.4 billion. Thirty-one percent of American manufacturing workers losing jobs due to China's surge had college degrees. "Growing China trade deficits have contributed to the loss of 200,000 scientist and engineering jobs within the manufacturing sector," the study says. "Growth in the China trade deficit has eliminated 561,000 jobs in computer and electronic products alone since 2001."

Manufacturing jobs remain among the most coveted among Americans. When Toyota announced it was going to open a new manufacturing plant in San Antonio, Texas, and hire 2,000 new workers, it was inundated: 63,000 people applied for jobs. It was easier to get into Harvard University (20,000 applicants for a freshman class of 1,600), than it was to get a job with Toyota. Toyota was expecting 100,000 applicants for its San Antonio plant and received 15,000 applicants the first day it opened the process, which it had to shut down after two weeks. Had it continued accepting job applications, Toyota projected that it would have received 200,000 applications.

### **The Department of Defense's Response To Globalization of Manufacturing Supply Chains**

The Pentagon is growing increasingly worried about the shift of production capacity offshore, the rise of global supply chains and the movement of research and development to countries that are considered to be potential adversaries.

Those working deep in the military complex — the contracting officers having to deal with companies using counterfeit components or who can't find American companies to manufacture worn-out parts — are especially worried about the health of the U.S. industrial base.



These defense contracting officials view the Pentagon's response to global economic challenges as being inadequate to the crisis at hand. Even more alarming is the demise of the American automobile industry and its impact on the defense industrial base, let alone the loss of a huge tax revenue stream that is necessary to maintain a strong military with more than 700 bases worldwide.

As a stop-gap measure, the Pentagon and the National Security Agency (NSA) have created a little-known "trusted sources" program.<sup>65</sup> The idea is to certify U.S. suppliers as "trusted sources" of high-tech devices and components that are used throughout the military and in national security applications. DOD and NSA want to make sure they are buying parts that will not go haywire because they have been infected by overseas governments' use of "Trojan horses" — an expression used throughout the trusted sources program.

DOD and the National Security Agency started the "trusted" program in 2003, when it signed a 10-year, \$650-million contract with IBM for safe chips produced at IBM's wafer fabrication plant in Essex Junction, Vt. That program, which was never publicized, was in response to former Defense Deputy Secretary Paul Wolfowitz's request in October 2003 that the military "ensure the economic viability of domestic integrated circuit sources. The health of the defense IC supplier community depends on the health of the larger commercial IC base."

Those who run the trusted program in the Pentagon are becoming increasingly alarmed by the loss of U.S. high-tech capability, and especially by the 2008 announcement by IBM that it was transferring its state-of-the-art 45-nanometer bulk process integrated circuit technology to Semiconductor Manufacturing International Corp. (SMIC), which is headquartered in Shanghai, China. SMIC shortly thereafter announced that it would be partnering with the Shenzhen municipal government in China to build a fab that will produce 45-nanometer chips based on its IBM license. IBM provided SMIC with a shot in the arm — allowing it to move beyond its present 90-nanometer capabilities, and leapfrog its Chinese competitors that are producing 65-nanometer chips.

The IBM "trusted" foundry contract is due to expire in 2011. But the Pentagon is worried that IBM will exit the semiconductor fabrication production business. "Where is this going to lead us?" asks the person who runs the trusted program at the Defense Microelectronics Activity (DMEA) in Sacramento, Calif. "Urgent action is needed to stem this tide."

On the DMEA Internet home page, the agency notes that rapid technology development and the "commercial microelectronics technol-

ogy business climate make it difficult, if not impossible, to provide reliable, long-term support for the military's fielded systems."

But urgent action isn't on the immediate horizon. The trusted sources program "is like putting a Band-Aid on a bullet hole," said the DMEA program manager.

Within the Pentagon, the concern has risen to the top ranks. On July 16, 2008, Undersecretary of Defense for Intelligence James Clapper issued a sweeping new regulation to virtually every military office, service and contractor.<sup>66</sup> Called the "Critical Program Information Protection" program, its intent is to make sure the thousands of electronic components, network switches and software code embedded in weapon systems and national security devices are not infected with bugs from foreign adversaries. The directive states that DOD must protect itself against a "compromise of military and intelligence systems by components being integrated into them by foreign intelligence, foreign terrorists or other hostile elements through the supply chain or system design."

The directive will affect every DOD contracting officer and contractor working for the military, including those engaged in research and development. It calls on DOD's inspector general to start investigating contractors' use of foreign suppliers.

The problems associated with globalization of supply chains are beginning to mount. The U.S. military and national security agencies are facing an unprecedented infiltration of counterfeit electronic chips, chipsets and components. In a first-ever, government-mandated survey of the avionics electronics supply chain, the Commerce Department's Bureau of Industry and Security (BIS) in late 2008 found 7,383 electronics counterfeit incidents in military avionics systems. This is up from 5,747 such incidents reported in 2007.

The survey was comprehensive: 482 companies and organizations — virtually the entire U.S. avionics supply chain — were required to participate. Conducting the study on behalf of the U.S. Naval Air Systems Command, BIS found that the majority of counterfeit electronics products originated in China and other Asian nations, and the majority of them were discovered only after they were "returned as defective."

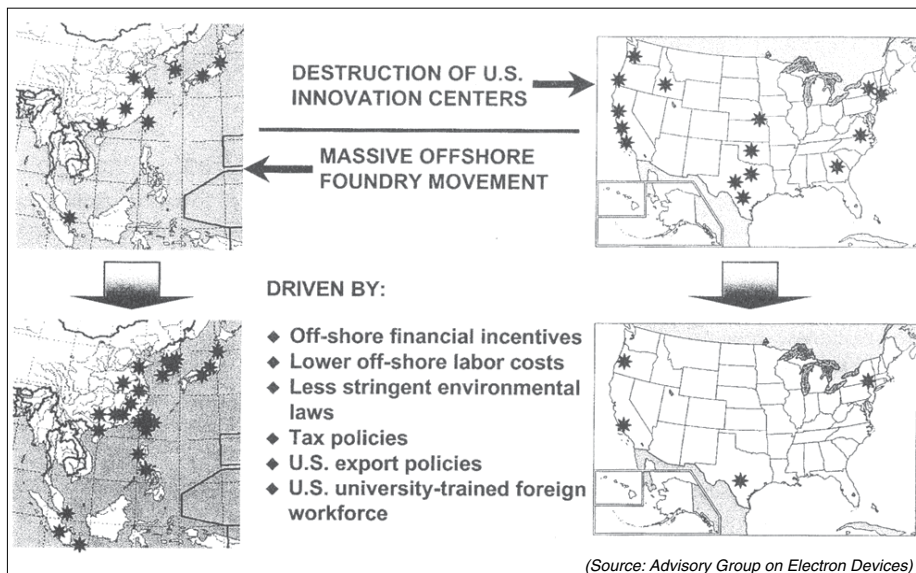
The proliferation of counterfeit electronics components "is a broad issue and it is prevalent in the commercial and government supply chains," said study director Kevin Kurland, director of BIS's Office of Technology Evaluation. "One of the things that brought it to light was the Navy and their field operations had systems go down that affected their operational readiness. We're trying to get a handle on this, [but] we are comfortable in saying the issue is prevalent."

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The military has been aptly warned about the loss of America's technological superiority and its potential negative national security implications. In 2003, the Pentagon's Advisory Group on Electron Devices (AGED) said that the offshore movement of intellectual capital and industrial capability in microelectronics had forced the DOD "to rely on perceived system integration advantages to maintain superiority."<sup>67</sup>

The Defense Department did not like what it heard from its electronics advisory group. DOD never authorized release of the AGED report, which was obtained only through a Freedom of Information Act request. Ronald Sega, the director of defense research and engineering (DDR&E) at the time, refused to endorse the report. Its findings did not "factually represent" the views of the DDR&E, said Pentagon spokesman Donald Sewell.

AGED's charter states that its job is to "assume a key role in identifying when major shifts in strategy for the DOD electronics program are needed." Such a shift had occurred, said AGED, whose members included officials from each of the military services, DARPA, the Ballistic Missile Defense Office, NASA, other federal agencies and industry and academic consultants. "We recommend that immediate corrective actions must be taken in order to sustain our technology leadership," said the



**In 2003, the Pentagon's Advisory Group on Electron Devices described the "Destruction of U.S. Innovation Centers." The Pentagon did not authorize the findings and shortly thereafter temporarily closed the advisory group down.**

AGED panel, chaired by Thomas Hartwick, a former TRW research executive. Others on the board included Jack Kilby, the inventor of the integrated circuit and Nobel Laureate; Bill Howard, director of R&D at Motorola; Andrew Yang, inventor of the infrared camera; and George Heilmeier, former president and CEO of Bellcore. AGED told DOD that it needed to put together an “analysis team to formulate actions for trend reversal.” It said the U.S. government needed to counter “massive financial and tax investments” being made by foreign governments to lure U.S. companies by “increasing U.S. incentives and implementing favorable tax policies.”

Shortly after the report became public, DOD closed AGED down.

But the panel’s work struck a nerve. Well before offshore outsourcing became a political issue, it warned that the offshore movement of intellectual capital and microelectronics industrial capability had negatively “impacted the ability of the U.S. to research and produce the best technologies and products for the nation and the warfighter.” It warned that without government leadership and “a prominent goal or mission” such as “putting a man on the moon,” that the U.S. economy’s “engine for growth” would be compromised, along with DOD’s “continuous superiority.” DOD “faces shrinking advantages across ALL technology areas,” said AGED. As the United States shifts its production offshore, it “assigns those nations political and military leverage over the United States.”

AGED said that U.S. technology leadership “is in decline,” and that the offshore migration of semiconductor chip foundries “must be addressed.” So far through 2009, the U.S. government had ignored the advice of its own advisory groups, refusing to address the root causes of offshore migration of high-technology production, which “will potentially slow the engine for economic growth,” AGED said.

By 2008, that forecast came to fruition with the country experiencing its most profound economic contraction in 70 years. AGED warned in 2003 that a quick recovery would not be possible due to the “hollowing out of U.S. productive capability.”

The Defense Science Board (DSB) issued its own analysis of the U.S. semiconductor industry. “Urgent action is recommended, as the industry is likely to continue moving in a deleterious direction, resulting in significant exposure if not remedied,” said William Howard, chairman of the DSB Task Force on High Performance Microchip Supply, upon release of its 2005 study on the subject.<sup>68</sup> The U.S. semiconductor industry cannot change the competitive dynamics that have emerged globally to shift the balance of production and markets away from the United States. The task force said that addressing the problem “is a uniquely govern-

ment function. The task force considers DOD the logical steward to lead, cajole and encourage a national solution to this critical problem regardless of which arm of government must act.”

The study called for a broad reexamination of U.S. government policies regarding trade, its approach to the WTO, export controls, foreign investment into U.S. suppliers, protection of intellectual property, direct federal funding of trusted foundries dedicated solely for defense production, economic development incentives with the states, research and development support and acquisition policies. Again, nothing of the sort ever occurred.

Another DOD program aimed at making sure there are supplies of manufactured parts for weapons systems like tanks and trucks has also been ignored. The DOD’s Diminishing Manufacturing Sources and Materials Shortage (DMSMS) program has found “escalating shortages of basic parts and processes, especially in the metal foundry and castings industries,” it says.

The Defense Department has been slow to recognize the problem because the military is a relatively small buyer in the overall market, accounting for an estimated 10 percent of all castings and materials. “Because we’re not buying every day, when we go back and look for these parts we’re finding that the manufacturers are gone and the tooling is gone,” says George Crandell, vice president of operations at the Castings Emissions Reduction Program (CERP) in McLellan, Calif. “For a pretty simple industry, it’s down below the radar screen and nobody pays much attention until they can’t get a long lead-time item like a transmission case.”

Brian Suma, who runs the DMSMS Information Systems project at the Army’s Tank-Automotive and Armaments Command, said the problem finding manufacturers for parts and suppliers of materials and chemicals is serious. “We’re out here stomping on the grass to put out a grass fire, but we haven’t looked behind us to see that the barn has gone up,” said Suma. “I’m supposed to be the guy who is saying that not only do we have a grass fire going up, but I need to be telling you that we have a barn fire, too. How do we get that information out to people so there is visibility so that somebody does something about it?”

Numerous other areas of defense industrial and technological “vulnerabilities” are becoming apparent. Advanced manufacturing battery capability has largely left the United States, making the military almost completely dependent on foreign sources of batteries for virtually every weapon system and portable computer and electronic device that uses them. In 2008, Congress told DOD to develop a “specific” roadmap that

included time-lines and estimates of funding necessary to assure the United States had “assured” access to battery technology.<sup>69</sup>

### **Measuring — Or Not Measuring — the Economic Impact of Globalization**

The United States government’s economic data gathering and analysis capability has not kept up with globalization. There is not an agency in the government that monitors plant closures and offshore outsourcing of jobs. Serious questions have been raised about the quality of basic government data series such as industrial production, productivity, international trade, foreign direct investment and employment.

Almost all of the economic data series run by the government were created during a time when the United States economy led the world, and there was no reason to measure the global activities of the country’s largest multinational companies. Without knowing what is occurring, it is impossible for the U.S. government to initiate a response. With the closure of the Office of Technology Assessment and the Technology Administration within the Commerce Department, there is no place within the federal government today that conducts qualitative analysis of globalization and technology trends.

#### **Productivity**

Susan Houseman of the Upjohn Institute for Employment Research has found that productivity growth rates of the manufacturing sector during the past 15 years may be overstated due to the reduction of labor hours associated with offshore outsourcing.

As companies move factories overseas or start contracting with foreign firms for the production of goods they were previously making in the United States, they can reduce their American workforce. Statistically, it looks like they have substantially increased labor productivity when, in fact, they may have greatly increased the number of workers in an overseas location who are working at a fraction of the cost.

The current productivity measures are “misleading,” says Houseman.<sup>70</sup> “Productivity growth is the basis for improvements in workers’ standard of living. Yet, widespread improvement in American workers’ wages has not accompanied the rapid growth in measured U.S. productivity.”

Globalization has made it “exceedingly difficult” for government

statistical agencies to measure changes in the flows of inputs into the production process “and hence to accurately measure productivity growth,” Houseman says. “The growth of outsourcing and offshoring raises conceptual issues about what productivity statistics do and should measure, with implications for how they should be interpreted and who will benefit from measured productivity gains.”

Houseman calculated that outsourcing of manufacturing jobs accounted for about half of a percent point of the growth in manufacturing productivity between 1990 and 2000, dropping the growth rate from 3.71 percent to 3.17 percent. It’s more difficult to factor in offshoring of production overseas in the manufacturing sector because the government does not track the shift of production offshore. It’s also difficult to ascertain productivity growth in the overall manufacturing sector because most of the gains in productivity during the 1990s were driven by rapid improvement of computer capability.

“Foreign labor is counted as a separate input, weighted by its cost share, and hence, in as much as lower hourly foreign labor costs are not commensurately matched by lower productivity, cost savings from offshoring will be counted as productivity gains,” Houseman writes. “To the extent that offshoring is an important source of measured productivity growth in the economy, productivity statistics will, in part, be capturing cost savings or gains to trade but not improvements in the output of American labor and should be interpreted with caution.”

### **Industrial Output**

Offshore outsourcing might also inflate the measure of U.S. industrial output. Output is defined as value added or sales, minus the cost of purchased inputs. But if the costs of inputs are cheaper from overseas, then the value added associated with the savings increases. A study by the Upjohn Institute estimates that U.S. manufacturing output was probably growing 0.2 percent to 0.5 percent less per year than the statistics indicate.<sup>71</sup> That means the Federal Reserve Board’s index of U.S. industrial production could be substantially higher than it is.

As measured by the Fed, industrial production increased by 13.4 percent from 2002 to July 2008, an annual increase of 2.5 percent. But if that number is really 2.2 percent, “then production in 2007 is up just 11.5 percent from 2002 and less than 6 percent from 2000,” notes Dan Luria, research director at the Michigan Manufacturing Technology Center. “In other words, over a period in which U.S. GDP rose by nearly 25 percent, more than three-quarters of the increase in demand for

manufactured goods would have had to have been satisfied by a rise in net imports.”

Even without the statistical problems associated with offshoring, the Fed’s production numbers tell a troubling story. Due to the steep economic downturn caused by the dot-com bust in 2001, the industrial production index increased by only 7.83 percent from December 2000 through June 2008 (from 103.5 to 111.6) or an annual rate of 0.95 percent. By comparison, in the previous seven-and-one-half year period (June 1993 through December 2000), the index rose from 72.5 to 103.5, an increase of almost 43 percent, or 5 percent per year. That rate was more than five times faster than the most recent period.

Industrial production from 2001 to 2008 is lagging far behind the real growth of GDP. From December 2000 to June 2008, GDP increased by 18.3 percent, 2.3 times as fast as industrial production, meaning industrial production grew at less than half the rate of the overall economy, notes Luria. Had industrial production grown at the same rate as GDP, the U.S. manufacturing sector would be generating \$155 billion more in production and would not have lost 1.3 million manufacturing jobs.

There might be other problems with the industrial production numbers, however. As companies shift their manufacturing offshore or contract with foreign manufacturers for production that was formerly done in the United States, the government statistical agencies should reclassify these former manufacturers as “wholesalers.” But they are slow in doing so. “There is concern that the statistics are getting thrown way off because of that,” says Houseman. “This is a real issue.” If former manufacturing companies are not being classified as importers/wholesalers, then the industrial production numbers that indicate growth in manufacturing might be wrong.

### **Employment**

There are perennial questions about the federal government’s unemployment numbers. The Department of Labor publishes six different versions of its unemployment statistics. The one most people know is the so-called “U-3” number, which, in June 2008, stood at 5.5 percent, growing to 7.2 percent by December 2008 and 9.4 percent by May 2009. But this number does not include many people who should be considered unemployed, and there are dozens of analysts who believe the number is a fraud because it does not include the many millions of people who want jobs but have given up looking for them. These despondent job seekers, along with those who hold part-time work and want a full-time



job, are included in the so-called “U-6” unemployment number. According to John Williams, editor of “Shadow Government Statistics,” the U-2 unemployment rate was 9.7 percent in August 2008. But he believes that the real figure of those who wanted to work during that month was 13.7 percent.<sup>72</sup>

### **Foreign Direct Investment**

In the area of foreign direct investment (FDI) into the United States, the Bureau of Economic Analysis (BEA) quietly announced in June 2008 that it will no longer differentiate between foreign purchases of U.S. companies and investments made in new production facilities. “Free traders” constantly point to “insourcing” of foreign investment in new plants from companies like Honda, Toyota and BMW, but such “insourcing” accounts for only a small portion of total FDI. In 2007, only \$22 billion — or 8.6 percent of the \$255 billion in total foreign direct investment — went toward creating new businesses or building new factories in the United States.

The BEA said Congress did not provide it with the \$600,000 it needs to keep track of the different forms of foreign investment.

This comes at a time when the United States is in such debt that it is selling off assets at an astounding rate. About 30 pro-U.S. manufacturing organizations led by the American Manufacturing Trade Action Coalition tried to get the data series reinstated. They told congressional leaders that “special interests, including those that receive large fees from facilitating acquisitions, have launched well-financed campaigns to obscure vital distinctions between the roughly 10 percent of FDI that goes into new businesses and 90 percent of FDI that brings existing U.S. businesses and their worldwide assets under the control of foreign interests.” Among those signing the letter were the American Mold Builders Association, the American Foundry Society, the American Iron and Steel Institute, the Coalition for a Prosperous America, the North American Die Casting Association, the National Farmers Union and the Pennsylvania Manufacturers Association.

### **Trade Data**

The trade figures for the past 20 years as reported by the Bureau of Economic Analysis might also be wrong. The U.S. trade deficit could be 10 to 15 percent higher than has been reported for the past 20 years. In 1988, the federal government was forced through litigation to allow importers to declare the value of their imported merchandise based on

the price when it first leaves a manufacturing plant in a foreign country. The so-called “first-sale” rule enables importers to substantially reduce the amount they pay in duties, but it also means that the value of many imported products does not include the costs of middlemen, contract manufacturers, transportation or logistics prior to a product being loaded onto a vessel for export to the United States. Importers are allowed to declare on their forms the price of a product as it leaves a factory in a developing nation.

They can also misstate the real price of the product, which enables them to further reduce the duties they pay, or they lie about the type of merchandise they are importing. For instance, an importer can mis-classify a shipment and pay a lower duty rate by claiming a product is made out of polyester rather than cotton. Customs and Border Protection import specialists would have to physically open the imported container at the port and do a test to determine the type of textiles in any given shipment.

All of this data is provided by importers to Customs and Bureau Protection, which then feeds it to the Bureau of Economic Analysis to prepare the monthly import/export data.<sup>73</sup>

### **Offshore Outsourcing**

The United States government does not track companies shifting production offshore. The only substantial study of actual job loss due to offshore outsourcing of manufacturing production was done by Cornell University professor Kate Bronfenbrenner for the U.S.-China Economic and Security Review Commission.<sup>74</sup> To understand the scope of the trend, Bronfenbrenner and her staff of graduate students monitored national and international newspapers, Internet sites, Lexis Nexis, trade journals, investor conference call transcripts and SEC filings. They analyzed government data from Trade Adjustment Assistance filings and the Workers Adjustment Retraining Notification notices.

What Bronfenbrenner found was that the United States was losing far more manufacturing jobs to low-cost countries than official government statistics ever indicated. She estimated that her tally of 48,417 lost jobs in one quarter of 2004 represented only about 25 percent of the total number of jobs lost to outsourcing and represented an “incredible escalation” of production shifts from her previous study conducted in 2001.

“Part of what we captured in our research is the fact that the imperfection of our [research] methods have increased even more because

more and more companies are hiding what they are doing,” said Bronfenbrenner. “If the government isn’t going to make people report it, soon it’s going to be impossible to track.”

Researchers found that the “overwhelming majority” of the job shifts during the first quarter of 2004 were from large publicly held multinational companies such as IBM, Texas Instruments, Accenture, Robert Bosch, Electrolux, Earthlink and Whirlpool. Almost 75 percent of the companies shifting production from the U.S. to China and Mexico were publicly held, U.S.-based multinationals.

Bronfenbrenner found that many of the multinational companies moving their production out of the United States intended to sell their products back into the country. Amerock closed its Rockford, Ill., cabinet and window manufacturing plant after 75 years in operation and laid off 450 workers. The company’s new facilities in China and Mexico will ship products to U.S. customers. “This is true for a wide variety of products that will be produced in China to sell back to the U.S. market by companies such as Carrier Corp. (air conditioners), Werner Co. (ladders for Home Depot), Union Tools (lawn and garden tools) and Remington Products Co. (electric shavers),” says Bronfenbrenner’s report. The production of thousands of other products has already left the United States, to be shipped back to American consumers: Etch-A-Sketch, Converse shoes, Radio Flier wagons, John Deere cotton pickers, K2 snow shoes, Levi Strauss jeans and Bic pens.

“These data remind us that it is not a story of good jobs being stolen from U.S. workers by low-wage workers in Latin America and Asia, especially China, with whom U.S. workers can never hope to compete,” the report concludes. “Instead, it is a story of the world’s largest multinational corporations buying and selling companies and pieces of companies, opening and closing plants, downsizing and expanding operations and shifting employment from one community to another, all around the world. With no particular loyalty to country, industry, community or product, what our data suggest is that this global race to the bottom is driven by several unifying factors: the search for ever cheaper production costs, accessibility to expanding global markets and the flexibility that comes from diverse supply chains in an ever more volatile global economic and political climate.”

Other analysts have looked at offshore outsourcing of manufacturing capability and concluded that the practice is leading to the strategic destruction of American industry. David Pritchard and Alan MacPherson of the Canada-United States Trade Center at the State University of New York in Buffalo say that Boeing is an example of a company that is “trad-

ing away” its intellectual property capabilities to supply chain partners overseas for short-term gain and long-term loss.<sup>75</sup> This knowledge took decades to develop through internal R&D and public support from government laboratories and research agencies. Boeing has outsourced more than 90 percent of its new 787 “Dreamliner” aircraft “even after the U.S. government provided Boeing with \$1.8 billion in NASA money for the High Speed Civil Transport program, which was earmarked to develop the U.S. industrial base,” according to the two researchers.

The state of Washington gave Boeing a \$3.2-billion subsidy (or \$3.2 million per production employee) to keep its production in Washington, yet Boeing has reduced its headcount in the commercial division from 90,000 before September 11, 2001, to about 40,000, as it continues to outsource the most important components of its new aircraft. Japanese suppliers will build the entire composite wing for the 787, which will put that country “in a position to build its own commercial aircraft as a direct result of decades of industrial offset arrangements” between Boeing and the big Japanese aerospace firms, according to Pritchard and MacPherson. “For the first time in U.S. commercial aviation history, foreign risk-sharing partners will have full control over the selection of second- and third-tier suppliers.”

### **Services Outsourcing**

The federal government does not track the outsourcing of white collar or service sector jobs, either. The only known government report on the topic was conducted by the Commerce Department. It was required by the House Appropriations Committee, which provided the Commerce Department’s Technology Administration with \$335,000 to conduct the analysis. After it was sent to the White House for approval, the report went from being 336 pages to 12 pages in length — at \$28,000 per page — and was never published. The Technology Administration was subsequently shut down.

Congress requested the study be done by July 2004. But it was never released due to fears within the Bush administration that the controversial subject would hurt the president’s re-election campaign. Gregory Mankiw, chairman of the White House Council on Economic Advisors, had embarrassed the Bush administration when he made a statement on February 10, 2004, that “outsourcing is a growing phenomenon, but it’s something that we should realize is probably a plus for the economy in the long run. We don’t have a comparative advantage in producing clothing, textiles and that’s one of the reasons we’ve tended to lose textile

jobs. Maybe we've learned that we don't have a comparative advantage in radiologists."

A week later, after a great deal of brouhaha, Mankiw made his way back to a podium, claiming his comments "were misinterpreted to suggest that I was praising U.S. job losses." He said that he "learned an important lesson from that experience. Economists and non-economists speak very different languages. The two languages share many words in common, but they are often interpreted in different ways."

The unreleased Commerce Department study on white collar job loss, which was finally provided via the Freedom of Information Act, provides a comparison of the average annual pay for global software workers: United States, \$63,000; Japan, \$44,000; Canada, \$28,174; Indonesia, \$12,200; Thailand, \$11,124; Russia, \$7,500; Philippines, \$6,550; Poland, \$6,400; Hungary, \$6,400; Pakistan, \$4,860; and China, \$4,750.

Fundamental questions about the offshore outsourcing of engineering and technology jobs were raised by Intel CEO Andrew Grove in November 2003, when he spoke before the Business Software Alliance. He said he was attending the event "to be the skunk at your garden party. A large number of well-trained, diligent people are out of work. One cannot help but ask the question: Does this represent some fundamental long-term change in the industry? The job recovery of various previous cycles and the absence of recovery in the current cycle suggest that something is basically different here."

Grove, one of the country's most successful entrepreneurs and author of one of the best business books ever written (*Only the Paranoid Survive*), said that he looked everywhere in the public policy realm for a government response to offshoring of high-tech jobs. "I am hard-put to find a documented statement or public policy series on this global shift," he said. "I can't find a statement..." Six years later, no such "public policy series" has been created by the U.S. government.

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