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The Metrics Of National Decline

BY PATRICK BUCHANAN

"Bush Boom Continues" trilled the headline over CNBC's Lawrence Kudlow column, as George W. Bush closed out his seventh year in office. "You can call it Goldilocks 2.0," purred Kudlow.

Yes, you could. But what a difference 12 months can make.

Final returns are now in on the eight years of George Bush. Charles McMillion of MBG Information Services has crunched the numbers. And, pace Kudlow, the only relevant comparison is to Herbert Hoover.

From January 2008, right after Kudlow's column ran, through January 2009, the U.S. economy lost 3.5 million jobs. The private sector loss of 3.65 million jobs was slightly offset by 148,000 jobs created by federal, state and local governments. Say what you will, the Bush years were boom times for Big Government.

And the private sector? Beginning and ending in recession, the Bush presidency added a net of 407,000 private sector jobs over eight years, less than 51,000 a year, the worst eight-year record since 1927-35, which includes the first six years of the Great Depression.

By January 2009, the average workweek had fallen to 33.3 hours, the lowest since record keeping began in 1964.

From Jan. 31, 2001, through Jan. 31, 2009, 4.4 million manufacturing jobs, 26 percent of all of the manufacturing jobs in the United States, disappeared.

Semiconductors and electronic component producers lost 42 percent of their jobs. Communications equipment producers lost 48 percent of their jobs. Textile and apparel producers lost, respectively, 63 percent and 61 percent of their jobs.

As a source of American jobs, manufacturing, for the

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Obama's Top Economic Aide Praises The 'Wal-Mart Economy'

A top new economic policy advisor to President Obama believes that Wal-Mart and "the Wal-Mart economy" have been very good for American workers, low-income Americans who can't afford to buy more expensive products made in America, and American taxpayers who pay part of the health care costs of thousands of Wal-Mart employees and their children.

Jason Furman, 38, who was hired to work as deputy director of Obama's National Economic Council, wrote a paper in Nov. 2005 entitled "Wal-Mart: A Progressive Success Story," in which he states that "there is little dispute that Wal-Mart's price reductions have benefited the 120 million American workers employed outside of the retail sector."

But there is such a "dispute," especially among executives and owners of domestic manufacturing companies who have long argued that the "Wal-Mart economy" has destroyed the American manufacturing sector — the wealth creation part of the United States economy — and has contributed to the demise of the American middle class.

Not in Furman's eyes. The Harvard Ph.D. notes that Wal-Mart saved American consumers $236 billion in 2004, or $2,239 for the average American household, though, like most Wal-Mart proponents, Furman does not mention the trade deficit in goods for the same year, which totaled $670 billion (or $8,800 for the average American household).

The fact that thousands of Wal-Mart workers have to be subsidized by the federal government does not

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Aide Embraces The 'Wal-Mart Economy'...

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phase Furman. In fact, "that is where a second progressive success story comes in," he writes in a paper published November 28, 2005, when he was a visiting scholar at New York University.

The Clinton administration successfully expanded the "social safety net" to American workers not paid enough to afford health care coverage, he explains. Expanding government assistance programs to support Wal-Mart workers who can't make it on their own is something that should be cheered by "progressives," he claims. The bulk of the benefits of government social programs go to "workers that receive them, not to the corporations that employ them," Furman states.

Progressives who have fought the growth of Wal-Mart in the United States have been on the wrong side of the battle, claims the Obama appointee who worked for Treasury Secretary Robert Rubin during the Clinton administration. By blocking the expansion of Wal-Mart into new communities, progressives are not only limiting the benefits of low-priced products to low- and moderate-income customers but they "also limit the job opportunities that Wal-Mart and other retailers provide," writes Furman. "More puzzling is that some progressives have described Medicaid, food stamps, the Earned Income Tax Credit and public housing assistance as 'corporate welfare.' The right response to Wal-Mart is not to scale back these programs but to expand them in order to fulfill the goal of making work pay." Without these government worker assistance programs, Furman notes later in his paper, more people, especially women, would be on welfare.

In keeping with the Obama administration's unwillingness to address domestic production as a means of helping the United States escape the current downturn, Furman argues for an expansion of policies that encourage "Everyday Low Prices." He cites studies describing how much money Americans save by shopping at Wal-Mart over "unionized chains like Kroger and Safeway." He explains: "Because moderate-income families spend a higher percentage of their incomes on food than upper-income families, these benefits are distributed very progressively." He notes that the company Global Insight was hired by Wal-Mart to quantify the national benefits of Wal-Mart's low prices, and highlights the study's results: a decrease in commodity prices of 4.2 percent between 1985 and 2004 and a 3.1 percent decline in overall consumer prices. A further increase of $118 billion in purchasing power for Americans "is primarily the result of Wal-Mart's contribution to total factor productivity, but is also due to its ability to bargain for lower prices for imported goods," he writes, noting in the paper's first footnote that "the author has never received payment from Wal-Mart of any kind."

Wal-Mart is also great at creating jobs. "In the spring of 2004, a new Wal-Mart opened up in Glendale, Ariz.," Furman explains. "The store received 8,000 applications for 525 jobs with wages starting as low as $6.75 per hour. A Harvard applicant has a higher chance of being accepted than a person applying for a job at that Wal-Mart. These anecdotes strongly suggest that jobs at Wal-Mart are better than opportunities these workers would have in the absence of Wal-Mart, either other jobs or unemployment."

Furman describes the average wage of a Wal-Mart employee compared to others in the retail sector. He says that unionized retail workers make 20 percent to 40 percent more than Wal-Mart workers "a fact that is reflected in a similar magnitude mark-up of prices at unionized grocery stores." Wal-Mart pays about 70 percent of the cost of health benefits for its workers, though only 48 percent of Wal-Mart's employees have health insurance — compared to 46 percent in the retail industry. Five percent of Wal-Mart workers are on Medicaid; 27 percent of Wal-Mart workers' children are on S-CHIP, the federal health insurance for children. "The fraction of children is relatively large, reflecting the expansion of public health coverage for children in low- and moderate-income families," Furman writes. "The fact that Wal-Mart employees top the Medicaid rolls in a number of states is simply a reflection of Wal-Mart's enormous size, not the higher likelihood that its employees will be on Medicaid."

Why would a Wal-Mart worker go on Medicaid rather than the Wal-Mart-provided health care plan, Furman asks. "Because a family policy costs $1,800 annually for a Wal-Mart worker. A Medicaid-eligible worker has the choice of taking home an additional $1,800 in take-home pay and being insured through Medicaid or taking home less pay and instead getting Wal-Mart's insurance. The beneficiary of choosing Medicaid is the worker — who gets to keep an additional $1,800 — not Wal-Mart. Wal-Mart — like every other business — is interested in paying the lowest possible total compensation (wages and benefits) consistent with recruiting, motivating and retaining a qualified workforce. As a corporation, it does not fundamentally care about whether this cost is in the form of wages or benefit."

None of this should be held against Wal-Mart because President Bill Clinton (from Wal-Mart's home state of Arkansas) changed the economic dynamic in the United States in the 1990s by expanding the Earned Income Tax Credit. He did this based on the idea, described in the Furman paper by Clinton himself, that "people who work shouldn't be poor. We need to make work pay by expanding the EITC for the working poor…At the same time, we need to assure all Americans that they'll have access to health care when the go to work."

Clinton "radically" shifted social assistance programs in America away from non-working Americans to those who are working, leading to "large increases in the incentives to work," writes Furman. "The intention of these expansions was two-fold: to get more low-income people, especially mothers, into work and to ensure that even low-paid, unskilled jobs come with a decent wage and benefits. Wal-Mart employees would seem like perfect candidates on both scores. Critics of

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THE F-35 AS A MANUFACTURING & EXPORT MODEL

The Nation Ignores The Defense Industry In Its Quest For An 'Economic Stimulus'

BY ROBBIN LAIRD

Last year, *Manufacturing & Technology News* editor Richard McCormack in a commentary on the defense sector [*MTN*, Oct. 18, 2008] underscored the importance of manufacturing in this sector for the U.S. economy. He wrote: "Few talking heads have said anything about the importance of reviving the U.S. high-tech manufacturing base and of rebuilding U.S. industrial capacity for the 'environmental' era that will demand a new generation of radical innovation and efficiency in product design, production and use. Without a viable industry, how is the United States going to pay off even more debt? By selling lollipops to the world's suckers who continue buying America's financial 'paper'?"

This plea for consideration of the role of manufacturing and exports for the future of the American economy is of growing significance as the economic crisis deepens. Notably, President Obama has orchestrated an economic stimulus package that does little to support manufacturing. Even more stunning, the stimulus is focused on domestic revival with little consideration for generating the exports that will be needed to pay off foreign bankers buying U.S. Treasuries.

There is plenty of press coverage of problems of cost over-runs for defense programs and a new desire for procurement reform that will somehow help solve the nation's economic woes. But there is virtually no media coverage addressing the essential role that the U.S. defense manufacturing sector plays in developing new technologies, deploying advanced manufacturing processes, generating jobs and driving global exports. For example, the media is fixated on the decline of the auto sector, yet there has not been a single story about how BAE Systems is building a new ground vehicles manufacturing facility in Detroit, employing engineers from the auto sector.

Notably absent from the numerous recent stories about redundancy of military aircraft is the role of a key program that will define the tactical aircraft industry for the next 30 years: the F-35 program, which will become the "foundational" platform for U.S. and allied air forces. This program is fundamentally reshaping manufacturing and will lead to an era of sustained global exports. Whatever the final number aircraft to be produced (from 3,000-5,000), the F-35 will define air and ground combat for years to come. It is built on a unique globally sourced program with 20 percent of the aircraft being produced through the contributions of foreign partners, a first in military aircraft manufacturing. Because of its great potential and immediate economic benefit, the F-35 technology and production program is worth a close look.

For the novice, the shift from "legacy" aircraft to the F-35 is largely about a stealthy airframe. The first stealth aircraft — the F-117 and the B-2 — demonstrated the utility of stealth to support strike operations and dominate air defenses. Stealth combined with a new generation of integrated sensors make the F-35 especially important by creating a different capability for a flying force. Stealth allows the aircraft to operate over enemy positions, and a new generation of sensors on board will allow the aircraft to strike mobile as well as fixed targets. Indeed, a major threat to air superiority in the 21st century is the growing capabilities of mobile air defenses, because "legacy" aircraft rely on target data obtained outside of the aircraft itself to launch strikes. With stealth and sensors integrated within the F-35, mobile targets — an increasingly important element of adversarial systems — are within the scope of effective strike actions.

Second, all of the previous add-on C^4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) capabilities that led to

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The F-35 Joint Strike Fighter is being produced in Fort Worth, Texas, with an estimated 3,000 people projected to be involved in assembly.
(Source of photo: Lockheed Martin)

F-35 As A Manufacturing Stimulus...

(Continued from page three)

substantial price escalations in previous aircraft are built into the F-35 itself. The integration allows the aircraft to process data and to make informed decisions much more rapidly than a fleet of older aircraft that need AWACS, electronic attack aircraft and a variety of specialized assets to accompany them to work effectively.

Third, the computational capabilities of the new aircraft are significantly greater than legacy aircraft. The F-35 has an advanced distributed computer system on board that can be upgraded simply by changing the chips empowering the system.

Finally, the processing power and integration of the aircraft facilitate a new man-machine relationship with the use of airborne robotic systems that process data and assist pilot decision-making.

What is interesting for the readers of *Manufacturing & Technology News* is that a new manufacturing process generates this capability. The design of the production system is essential to the emergence of the new aircraft. The manufacturing system is one of the key attractions to the foreign partners participating in the program. The F-35 is a 21st century manufactured product that embodies capabilities similar to the new manufacturing systems used by Boeing and Airbus in producing their next generation commercial aircraft.

The F-35 is not a traditionally produced combat aircraft assembled from a myriad of components provided by suppliers. It is a moving-line, high-tolerance manufactured product in which key partners manufacture assemblies and sub-systems. Stealth is a product of the high-tolerance manufacturing process, and is not "crafted in" through hand-built efforts.

As a program, the F-35 has been built around new manufacturing processes that are an essential part of the systems development phase. Machine tools and all elements of production are being pre-tested through the actual manufacturing of test aircraft. Based on feedback from this process, production systems are being altered so that full-scale production will be as efficient and effective as possible.

The F-35 prime contractor (Lockheed Martin) has adopted a "Fighter Production System" in which the final assembly facility is the outcome of a closely networked system of global suppliers. A collaborative engineering approach links the core stakeholders in the production process for a high-tolerance aircraft from the start. It will not use a traditional supply chain where the flow comes from the periphery to the final assembly center.

F-35 production will utilize a hub-and-spoke system. Collaborative information sharing and engineering processes are co-located in the hub and are closely connected to the stakeholders. A "digital thread" manufacturing capability enables CATIA design models to feed directly into computer numerically controlled machining centers and coordinate measurement machines. Other CATIA designs are processed in a composite programming system before being sent to fiber placement machines. In both cases, the finished product can be traced back to the original computer model through a "digital thread," thereby ensuring greater precision and accuracy in manufacturing. Global suppliers are collaborative participants in a networked engineering approach to the development and production of the aircraft. They are integrated into the "digital thread" manufacturing process.

The cost of aircraft produced by this manufacturing system will be driven down by the automated nature of the production facility. Life cycle costs will be further reduced by logistics and sustainment capabilities built directly into the F-35 as a manufactured product. Several of the tools being used to build the aircraft will be the same tools used to maintain the aircraft. The high degree of automation built into the integrated sensor systems on the aircraft will allow real-time monitoring of the health of the aircraft. This data will be delivered to logistics workers and will drive down maintenance costs.

Although it is central to the F-35 enterprise, the new manufacturing approach is not widely appreciated. For the next three years, the number of aircraft to be produced is more significant as a generator of revenue to prepare for the *launch* of production. Much of the program money over the next three years will be pushed into the manufacturing base to build the machine tools and carbon-fiber thread machines.

In short, the F-35 is an example — and not the only one — of a significant advance in manufacturing technology. The new engineering and production processes will allow the United States to demonstrate global manufacturing leadership. Unfortunately, the economic media in the United States continues to ignore the importance of the defense sector for hundreds of thousands of skilled workers, their communities and the nation. Instead, the media's focus is on sideshows like the presidential helicopter — as if it were something like a Wall Street corporate jet "scandal." Although amusing, the fate of the nation and its industrial base is at stake.

— Robbin Laird is director of ICSA LLC, an Arlington, Va.-based firm specializing in aerospace and defense. He can be reached via e-mail at rlaird@icsallc.com.

Letter To The Editor

One of my long time largest customers, Brake Parts Mfg. in Litchfield, Ill., is closing its doors. They are relocating manufacturing operations to China. After 28 years of my doing business with them things tend to get personal. You come to know the families involved who have made their livings for generations in the company. The town of Litchfield grew up around Brake Parts as there isn't much else out there. These are difficult times and I wanted to make sure that people understand this crisis. We are losing businesses that are 100+ years old. The United States is in a depression not a recession. This is what happens when lawyers dictate trade policies.

— Barry McKenna
McKenna Service Company
Mundelein, Ill.

Research Community Perplexed By Buy American

The American Association for the Advancement of Science isn't quite sure how various "Buy American" statutes contained in the $787-billion Stimulus Bill will impact the research community. These "less-noticed" Buy American provisions "are raising questions for researchers," notes AAAS in an e-mail to its members. There has been no guidance issued by the various R&D agencies such as the National Science Foundation, NIH or the Department of Energy on how recipients of R&D grants must deal with the requirement that all manufactured goods used in construction or renovation of public buildings be produced in the United States. Research organizations are not sure yet how the requirement will impact the purchase of scientific measurement equipment and instrumentation. Moreover, Section 1611 of the bill "incorporates the 'Employ American Workers Act,' which in theory could exclude foreign graduate students and postdocs from stimulus projects," notes AAAS in its February 25 "Policy Alert" to members. "While agency heads may be able to waive these provisions, how they will play out in practice is not at all clear."

Meanwhile, the head of the World Trade Organization says the Buy American clause in the Stimulus Bill is legal. "The final compromise is that this provision will be implemented in a way that is consistent with U.S. WTO obligations," said WTO Director-General Pascal Lamy on February 24 in Seoul, Korea. "Unfortunately, Lamy's quote has not received much coverage," says Steven Capozola, communications director for the Alliance for American Manufacturing. "But the truth is that Buy America provisions are consistent with U.S. obligations under the WTO's General Procurement Agreement. And so, all the fuss about 'Smoot Hawley' and 'protectionism' was overblown and inaccurate."

Major Purchasers
Machine Tool Consumption, $-millions

		2008 (est.)	2007 (rev.)
1.	China	$19,365.0	$16,171.0
2.	Germany	9,950.1	7,454.6
3.	Japan	8,030.5	7,637.0
4.	United States	6,755.8	5,863.6
5.	Italy	5,809.1	5,150.5
6.	South Korea	4,150.0	4,150.0
7.	Taiwan	2,800.0	3,563.0
8.	Brazil	2,547.2	1,822.6
9.	India	1,870.4	1,808.9
10.	France	1,773.5	1,573.6

Source: Gardner Publications, Inc.

Top Producers
Machine Tool Shipments, $-millions

		2008 (est.)	2007 (rev.)
1.	Japan	$15,846.9	$14,323.2
2.	Germany	15,656.8	12,922.5
3.	China	13,965.0	10,750.0
4.	Italy	8,208.8	7,293.4
5.	Taiwan	5,000.0	4,492.0
6.	South Korea	4,550.0	4,550.0
7.	United States	3,787.5	3,246.9
8.	Switzerland	3,742.9	3,514.7
9.	Spain	1,540.2	1,433.3
10.	Brazil	1,288.7	1,157.8

Source: Gardner Publications, Inc.

U.S. Is Far Behind In Machine Tool Use And Production

China's consumption of machine tools jumped by 20 percent in 2008, to $19.4 billion, almost three times the amount of machine tools purchased in the United States (at $6.7 billion), according to Gardner Publications. Germany was the world's second largest purchaser of machine tools in 2008, at $10 billion, followed by Japan at $8 billion, and then the United States in fourth place. However, consumption of machine tools in the United States increased at a healthy clip of 15 percent in 2008 to $6.7 billion. Machine tool consumption is one of the most important measures of the health of a country's manufacturing sector because machine tools form the basic building block of manufacturing. The United States accounts for only 10.7 percent of all machine tool purchases among the top 10 countries globally.

On the production side, the United States was in seventh place globally in 2008 (with production of $3.8 billion), well behind Japan in first place (at $15.8 billion), Germany ($15.6 billion), China ($14 billion) and Italy ($8 billion). The United States accounted for only 5 percent of production of machine tools in 2008 among the top 10 producers.

Trends Analyst Suggests The Economic End Is Near

The "Greatest Depression" is under way and it is going to get strange really soon, according to the Trends Research Institute, which has been predicting economic Armageddon for years. "Global financial markets are collapsing," says Trends Research Institute director Gerald Celente. Soon there will be massive bank failures, runs on banks, and bank holidays. "Even if deposits are FDIC insured, quick access to money is by no means assured," says Celente. "At a minimum, have reserves on hand for emergencies."

There is no economic turnaround in sight because the global financial system was built upon greed, fraud, speculation and cheap money. No amount of government stimulus packages, buyouts and bailouts can avert the coming tragedy.

"Undeterred economists, analysts and pundits continue to speculate on buying opportunities and market bottoms, but there is no market bottom in sight," says Celente. "Each new day produces a new record low. The only figure that can be forecast with confidence is that the Dow won't reach zero!"

Governments will soon be taking drastic measures to prevent a total economic collapse and public panic. "We have cautioned the likelihood of such measures before, but the rapidity and severity of the economic unraveling now demands immediate attention," says Celente. "When the ship is sinking there are very few options: life boats, life rafts, life preservers and, for the late to act, possibly a few pieces of floating debris to cling to."

Celente says that gold is about the only safe financial haven. It has already surged above $900 an ounce and Celente has long predicted that it will reach $2,000 per ounce, "and beyond."

MAPI Expects Economic Upturn By End Of Year

It's going to be a rough year for manufacturing production in the United States, according to the Manufacturers Alliance/MAPI. As the recession intensifies, MAPI projects manufacturing production in 27 major American industries will decline by 9 percent in 2009, rebounding by 3 percent in 2010. "A severe recession among our global partners has caused exports to decline, thereby removing a previously positive support to the economy," says Daniel Meckstroth, chief economist at MAPI.

Industrial production fell by 16 percent at an annual rate in the fourth quarter of 2008, after falling at a 9 percent annual rate in the third quarter. "High-tech industrial production fell at a 29 percent annual rate in the fourth quarter of 2008," says MAPI. Steel production declined by 41 percent, material handling equipment production dropped by 25 percent, industrial machinery production fell by 23 percent and housing starts were down by 43 percent.

But the recession should ease by the end of the year, as the federal government's stimulus spending starts to penetrate the economy, as pent-up demand begins to spill over into spending, as lower commodity prices begin to free up resources, as lower mortgage and borrowing rates improve the housing market, and as declining imports help keep money in America. Let's all pray that this happens.

'Some Of Us Are Looking At The Stars'

Amidst a nerve-wracking crash of the stock market (and the article contiguous to this one), here is a worthy diversion: wit and levity from the play that made the Irishman Oscar Wilde famous, "Lady Windermere's Fan."

- I can resist everything except temptation.
- Don't lose your temper; you have only got one.
- Now-a-days we are all of us so hard up that the only pleasant things to pay are compliments.
- Who are the people the world takes seriously? All the dull people one can think of.
- Men become old, but they never become good.
- I am the only person in the world I should like to know thoroughly; but I don't see any chance of it at present.
- When men give up saying what is charming, they give up thinking what is charming.
- A moment may ruin a life.
- If a woman wants to hold a man, she has merely to appeal to what is worst in him. We make gods of men, and they leave us. Others make brutes of them and they fawn and are faithful.
- My own business always bores me to death. I prefer other people's.
- Whenever people agree with me, I always feel I must be wrong.
- In this world, there are two tragedies. One is not getting what one wants, and the other is getting it. The last is much the worst, the last is a real tragedy.
- A man who knows the price of everything and the value of nothing.
- Experience is the name everyone gives to their mistakes.
- I like talking to a brick wall – it's the only thing that never contradicts me.
- What a pity that in life we only get our lessons when they are of no use to us.
- Actions are the first tragedy in life, words are the second. Words are perhaps the worst. Words are merciless.
- If I lost my ideals, I should lose everything.
- We are all in the gutter, but some of us are looking at the stars.

Far More Plants Are Closing Than Opening In The U.S.

ArcelorMittal plans to indefinitely close its Cleveland, Ohio, steel plant, and lay off 960 workers, due to the downturn in the automobile industry. ArcelorMittal's Cleveland plant "is the company's most efficient facility and perhaps the most efficient in the world," says Rep. Dennis. Kucinich (D-Ohio). "The idling of a mill with such great productive capacity and such a well-trained workforce is disconcerting not just for Cleveland, but for the steel industry throughout the country."

Integrity Manufacturing of Shepherdsville, Ky., a metal fabricator, has shut down, and laid off as many as 400 workers, according to the *Business First* newspaper in Louisville. "An employee who answered the door at the company's factory and who asked not to be identified, said that the decision was made [March 3] for the company to cease production," says the publication. "There were only a handful of cars in the company parking lot when a *Business First* reporter visited the plant."

Spartan Corp. has announced plans to close its Jackson, Mich., electronics manufacturing plant and lay off 210 workers. The company will shift production from the factory to plants in Florida and Vietnam.

Jabil, the St. Petersburg, Fla.-based electronics contract manufacturing firm, has announced plans to lay off 3,000 of its 85,000 workers. It will close 10 of its manufacturing plants throughout the world.

Burgess Norton Manufacturing has announced plans to close its automotive and truck piston plant in Claremore, Okla., and lay off 105 employees. "It's with great regret that we take this step," said company president Brett Vasseur. "Business conditions in the automotive and commercial truck industry have deteriorated significantly over the past several months."

International Game Technology, a maker of slot machines, has announced plans to lay off 660 workers, about 200 of which will be at the company's manufacturing plant in Reno, Nev. The company last year had 5,600 employees.

Cabot Corp., a maker of carbon black, has announced plans to close four of its manufacturing plants, mothball two others and delay opening a factory in China. The Boston-based company did not say which of its 39 manufacturing facilities would be closed. Production of its rubber blacks declined by 29 percent globally in the fourth quarter 2008, due to a steep decline in demand for tires. The price for rubber blacks has also fallen from $1.40 per pound in September to $0.94 in January. "We continue to be concerned about the automotive and construction sectors," says CEO Patrick Prevost.

Cesna has announced plans to lay off an additional 2,000 workers on top of the 2,600 announced in December. About 4,000 workers in Wichita, Kansas, will be leaving the company, along with 200 people from its plant in Independence, Kansas. "These numbers are profound," says Cesna CEO Jack Pelton. "It is extremely painful to lose so many of our colleagues and friends." Cesna is owned by Textron, which says slowing sales will force it to make more reductions later in 2009.

Dow Chemical has announced plans to lay off 5,000 employees and start closing plants throughout the world. The company in December said it will close 20 plants worldwide, and cut output in another 180 plants. Dow will cut production at its largest manufacturing facility in Freeport, Texas. It will close its production of vinyl resins at its Texas City Plant, along with styrene plants in Oyster Creek, Texas.

BASF has announced plans to temporarily close 80 manufacturing plants throughout the world and reduce production at 100 other plants, impacting 20,000 workers.

Advanced Micro Devices announced plans in January to cut 1,100 jobs and spin off its manufacturing operations into a separate company in partnership with the Abu Dhabi sovereign wealth fund. The company cut 600 workers in December after firing 1,600 earlier in 2008. "As a result of the continuing global economic downturn, we have determined that we need to take difficult but prudent actions designed to reduce our costs," the company said in a statement. CEO Dirk Meyer and chairman Hector Ruiz will reduce their salaries by 20 percent; senior executives will have their pay cut by 15 percent; those not eligible for overtime will see salaries decrease by 10 percent; and those eligible for overtime will see their pay decrease by 5 percent. The company has stopped making contributions to employees' 401(k) plans.

Milliken has announced plans to close its 50-year-old textile plant in Barnwell, S.C., and lay off 120 people.

OptiSolar Inc. of Los Angeles is laying off 300 workers — half of its workforce — and has halted construction of a manufacturing plant because it cannot secure funding needed to expand. The 550-megawatt solar plant would have been built in Sacramento, Calif. The company will lay off 105 workers in Sacramento and another 185 in Hayward

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Plants Closing...

(From page seven)

The windpower industry is experiencing layoffs. Clipper Windpower of Carpinteria, Calif., will lay off 90 of its 390 workers at its plant in Cedar Rapids, Iowa, according to the Associated Press. LM Glasfiber will lay off 150 workers and stop production at its factory in Little Rock, Ark. DMI Industries of North Dakota will cut its workforce by 20 percent, including 90 jobs at its wind-turbine tower plant in Fort Erie, Ontario. Aerisyn of Chattanooga, Tenn., will lay off 54 workers at its Chattanooga, Tenn., wind tower manufacturing plant. And Trinity Structural Towers of Fort Worth, Texas will lay off 131 workers in Tulsa, Okla.

Sunoco has announced plans to close a polypropylene manufacturing facility in Bayport, Texas, and take a charge of $35 million. The company says the plant, which produced 400 million pounds per year of polypropylene, was no longer financially viable.

Multi-Color Corp., a maker of labels, has announced plans to close its heat-transfer label plant in Framingham, Mass.

Bardon Homes of Syracuse, N.Y., has closed its manufacturing plant in Preble, N.Y., and will lay off 20 workers. The company will move all of its manufacturing of precut floors, interior and exterior walls and roof trusses to a factory in Middleport, N.Y.

Ethan Allen Interiors has announced plans to close its Eldred, Penn., upholstery manufacturing facility and lay off 350 workers.

Dubuque Stamping & Manufacturing in Dubuque, Iowa, has laid off about 25 percent of its workforce, or 40 workers, due to the recession. The company makes stampings, tools and dies for the automotive, appliance, agriculture and heavy truck industries.

Cianbro Corp. in Brewer, Maine, has announced plans to cut 110 workers from its new manufacturing plant making equipment for the oil refinery industry. The drop in oil prices has impacted its business,

Bridgestone has announced plans to stop making passenger and light truck tires at its manufacturing plant in LaVergne, Tenn., and lay off 534 workers. In all, the company will have laid off 802 workers at the facility since it started downsizing last year. The company will continue making tires for large commercial trucks at the plant and continue to employ 700 workers. Bridgestone, a Japanese company and the world's largest tire and rubber company, has been producing tires at the LaVergne plant since 1982.

Dott Manufacturing Co., in Deckerville, Mich., is expected to close up shop and lay off 160 people, according to Rhonda Heilig, president of the United Steelworkers local. The plant makes molded and decorated surface acrylics and car emblems.

Intel Corp. is closing its last manufacturing plant in Santa Clara, Calif., bringing an end to an era of manufacturing in Silicon Valley. Intel also plans to close a plant in Oregon and assembly and test facilities in Malaysia and the Philippines. It will lay off 6,000 workers due to slowing demand for microprocessors.

Herff Jones Inc. has announced plans to close its manufacturing plant and photography lab in Lewiston, Minn., a facility that employs 275 workers. The company will shift its operations to its site in Charlotte, N.C. The company is based in Indianapolis and produces recognition awards and graduation-related items.

Dell has announced plans to close its manufacturing plant in Ireland and move production to Poland and outsource to third-party manufacturing partners. The company says it will lay off 1,900 employees at the Limerick, Ireland, facility, which has a total head count of 3,000. Poland has much lower labor costs — $406 per month compared to $2,000 per month in Ireland.

Danaher will close 13 factories and lay off 1,700 employees. "Global economic conditions have continued to deteriorate over the last several weeks impacting many of our customers as well as a number of our businesses," said Danaher CEO Lawrence Culp. "In addition, the strengthening of the dollar against other global currencies has created additional headwinds that will negatively impact our financial results." The company has also initiated a wage and salary freeze across most of its businesses.

Boeing has announced plans to reduce employment at its Commercial Airplanes business by 4,500 in 2009 "as part of an effort to ensure competitiveness and control costs in the face of a weakening global economy," says the company. The reduction will bring the division's employment to approximately 63,500, "similar to the level it was at the start of 2008," says the company. Most of the jobs that will be eliminated are in "overhead" areas located mostly in the state of Washington. Layoffs will not impact aircraft production workers.

Interface Inc., an Atlanta, Ga.-based maker of flexible floor coverings for offices, has announced plans to close its manufacturing plant in Belleville, Canada, and reduce its worldwide employee base by a

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Plants Closing...(From page eight)

total of 530, or 14 percent of its workforce. "We sincerely regret the impact it will have on many of our hard working associates," says company president and CEO Daniel Hendrix.

Affinia Group Inc. has announced plans to close automotive brake component manufacturing facilities in Dallas, Texas, Litchfield, Ill., and Milton, Ontario. The facilities employ about 400 and will close within the next four months. The impacted employees "are extremely talented and dedicated and these closings in no way reflect upon their performance," said John Washbish, president of Affinia's Under Vehicle Group. "Our decision to phase out manufacturing in Dallas, Litchfield and Milton was unavoidable, reflecting fundamental changes that are taking place in the markets we serve around the world. We deeply regret the impact on the lives of our people and their families and will provide assistance where possible during these challenging times."

Deluxe Corp. has announced plans to close its Greensboro, N.C. manufacturing facility and lay off 117 people. The company, which makes custom printed items such as business cards, stationary labels and retail packaging supplies, will also close a manufacturing facility in North Wales, Pa., and a manufacturing facility and call center in Thorofare, N.J., laying off a total of 570 people.

Companies that have announced layoffs in 2009:
- Circuit City: 34,000
- New York City: up to 23,000
- Caterpillar: 20,000
- Pfizer: 19,000
- Alcoa: 13,500
- Boeing: 10,000
- Home Depot: 8,000
- Sprint Nortel: 8,000
- Home Depot: 7,000
- Starbucks: up to 6,000
- Microsoft: 5,000
- Kodak: 4,500
- Cummins: 4,500
- Hertz Global Holdings: 4,000
- Avery Dennison: 3,600
- Corning: 3,500
- SAP: 3,000
- General Motors: 2,000
- MeadWestvaco: 2,000
- Huntsman Corp: 1,175
- WellPoint Inc.: 1,500
- Baker Hughes: 1,500
- Target: 1,500
- General Dynamics (Gulfstream): 1,200
- Bon Ton: 1,150
- Harley-Davidson: 1,100
- Northrop Grumman: 750
- Autodesk: 750
- Navistar International: 700
- Volvo Trucks North America: 650
- Freightliner: 500
- Teradyne: 500
- City of Sacramento: 500
- Deere: 325
- Readers Digest: 280
- Weyerhaeuser: 220
- Greenheck Fan Corp.: 155
- Pella: 150
- M.J. Soffe: 107
- Square D: 67

NEW PLANTS IN THE UNITED STATES:

ProTech Systems, a maker of venting systems for residential and commercial heating equipment, has opened a new 24,000-square-foot manufacturing facility in the City of Albany, N.Y.

ProSeal America, a division of ProSeal Holdings in Manchester, England, has announced plans to locate a new facility in Richmond, Va., to import and manufacture heat-sealing machinery and tools for the food processing industry.

NEW PLANTS OVERSEAS:

Toshiba Corp. has announced plans to construct a new factory for the production of its rapid rechargeable lithium ion battery intended for use in the automotive industry. The company started shipping the batteries in April 2008 and has generated "considerable interest from potential customers," says the company. Total worldwide sales of lithium-ion batteries are expected to reach $19 billion by 2015. The new facility will be constructed in the city of Kashiwazaki, which has created incentives to be the center of a "low-carbon society by promoting electric vehicles and to attract electric-vehicle related businesses." The city has applied for recognition as a "model area for the EV and plug-in hybrid vehicle (PHV) town concept," which is promoted by Japan's Ministry of Economy, Trade and Industry, according to Toshiba. Lithium-ion batteries suffer from less than a 10 percent charge and discharge loss after 3,000 cycles and are able to repeat the charge-discharge cycle over 6,000 times, "which means that they can be continuously used for more than 10 years with a once-a-day recharge-discharge cycle," says Toshiba.

Toshiba has announced plans to open a manufacturing facility in Vietnam for its Industrial Products Division. The company will manufacture high-efficiency industrial motors rated under 100 horsepower, plus parts. The $77-million factory will be built in the Amata Industrial Park in Dong Nai Province. The facility will have production capacity of

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New Plants Overseas...*(From page nine)*

1.2-million motors per year and will export to North America, China and Japan. It hopes to sell $210 million worth of motors by 2015.

Kyocera Corp. has announced plans to build a new large-scale solar cell manufacturing facility in Yasu City, Japan. It will be the company's largest manufacturing facility in Japan. Construction is starting early this year with production scheduled to begin in the spring of 2010. The facility will allow Kyocera to more than double its annual production of solar cells from an output of 300 megawatts in 2008 to 650 megawatts by 2012. The plant will manufacture Kyocera's new "back-contact cell," which has an energy conversion efficiency rating of 18.5 percent. The company will continue its strategy as a fully integrated manufacturer of solar modules, managing the entire production process from procuring and casting raw silicon to producing solar cells and assembling ready-to-install solar modules." Kyocera has been in the solar business for 33 years.

Finisar Corp. of Sunnyvale, Calif., has opened a new manufacturing and R&D facility in Shanghai, China. The company has hired 650 local workers to man its new state-of-the-art factory making fiber optics, lasers and passive devices, and man its new R&D shop.

Sanofi-Aventis SA, the third largest pharmaceutical company in the world, announced that it will increase its investment in research and development in China. The French company will work with the Shanghai Institute for Biological Sciences (SIBS) to jointly research and develop drugs for neurological disease, diabetes and cancer. Sanofi-Aventis has also created a biometrics center in Beijing to support testing and analysis of local trials in pharmaceuticals and vaccines.

Hong Kong Highpower Technology, a manufacturer of nickel-metal hydride and lithium-ion batteries, has started building a new battery manufacturing facility in Huizhou, Guangdong Province, China. It is the company's second battery plant in China, and its output will triple the company's current production capacity. The company, with 2,174 employees, expects to increase production from approximately 600,000 batteries per day to 1.6 million per day. Almost all of the output from the plant will be sold to the United States, Europe, China, Hong Kong and Southeast Asia.

DuPont's Liquid Packaging Systems division has opened a new manufacturing facility in Manchester, England, making pre-made bags for bag-in-box applications. The company will sell its output throughout Europe, the Middle East and Africa. The company makes wine, beverage and food packages.

Laird Technologies, a maker of wireless and electronics products, has opened its first manufacturing plant in India in Sriperumbudur near Chennai. The factory will employ more than 1,200 people and will produce antennas, battery packs and other components used in Nokia's cell phone manufacturing facility in Chennai. UK-based Laird has more than 14,000 employees across 40 facilities in 14 countries.

H.B. Fuller Co. of St. Paul, Minn., has announced plans to build a new factory in China to produce specialty adhesive for textiles and wood applications including insulating glass, textile lamination and footwear. The company will also build a new research and technology center at the site. H.B. Fuller had sales in 2007 of $1.4 billion.

Wipro Infotech has opened a new manufacturing plant at Kotdwar in Uttarakhand, India, to manufacture computer servers, storage devices, notebooks and desktops. The factory produces more than 1,000 computers a day and supplies India's northern region.

Powers Fasteners, a Brewster, N.Y.-based maker of concrete anchoring systems, has expanded into China with offices that will act as a quality checkpoint for products manufactured in China and shipped to the United States. "We see this as an important step to accelerate the launching and development of products tailored towards the North American and European" markets, said company president Jeffrey Reid Powers.

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The Lesson From Toyota: Respect Science, Especially In A Crisis

BY JAMES WOMACK

The current recession is the fifth in my working career. And it is beginning to feel like the worst. I can't imagine that any manager or improvement team member in any industry in any country isn't feeling a bit queasy at this point, as the world economy keeps recessing toward an unknown bottom. Where should we go to calibrate our North Star in times like these, to reassure ourselves that we are on the most promising path? Recently I've found one answer.

In carefully reviewing a new publication from the Lean Enterprise Institute, I've had the opportunity to spend a lot of time with the "fathers of lean." By this I mean the small band of Japanese line managers who made the original breakthrough to create a lean enterprise and who were interviewed at length much later about what they did and why. The relevant point for this moment is that a small group of managers achieved a lean leap in a time of severe stress, making some of their boldest moves during the financial crisis of 1950.

As the Japanese economy entered a steep recession in that year, the Toyota Motor Company ran out of cash, which was tied up in inventory for products customers no longer wanted. The company fell under the control of bankers who chopped the company in two, creating separate firms to divide the marketing and sale functions from the product development and production functions. (These firms were only recombined in 1982 to create the current Toyota Motor Corporation.) Founding president Kiichiro Toyoda (new president Akio Toyoda's grandfather) was driven out in the process. The pursuit of what became the Toyota Production System, along with the product development, supplier management, and customer support systems, was the creative response to this crisis.

As I started to read these interviews I expected to discover that Toyota's managers had a clear plan all along. Surely leaders like Taiichi Ohno, Kikuo Suzumura, and Eiji Toyoda knew exactly where they were going and how to get there. I also expected to find a clearly chartered improvement team and a formal program to go with it. (Perhaps "The Way Forward," Toyota's recent tag line in its advertising?)

What I found instead was that a few line managers had some very simple ideas and an extreme sense of urgency: Minimize lead time from order to delivery (to free up scarce cash). Remove waste from every step in every process (to reduce costs and enhance quality). Take action now (because there wasn't much time). But what they also had — and this was critical — was a tight scientific discipline. While they did act quickly, they also took the necessary time to document the current state, to state their hypothesis very clearly, to conduct a rigorous experiment, to measure the results, and to reflect on what they had actually achieved, sharing their findings widely.

What they didn't have was a "program" or even a name for the system of scientific discovery they were creating. Indeed, the label "Toyota Production System" was only introduced in 1970, after the system had been fully invented, to explain it to suppliers. What they also didn't have was a program office or a dedicated improvement team. The fabled Operations Management Consulting Division was introduced at about the same time as the label TPS and only after TPS was deployed across the enterprise. Toyota's remarkable act of creation — based on a scientific process of systematic discovery — was conducted by line managers as the most important part of their daily work. And here's the really inspiring part: they did most of their research in midst of a fierce battle for survival.

In learning more about Toyota's achievements in the 1950s as the company struggled to survive, I've gained a new appreciation for the fact that we have no excuses in our current period of chaotic markets and falling demand. Systematic science works wherever it is applied to any process. And it is more and not less useful in the depths of a crisis. The only ingredient that may be lacking today is our determination to respect rigorous science in the current crisis. And that you can quickly rectify!

— James Womack is the founder and chairman of the Lean Enterprise Institute: jwomack@lean.org. This article was reprinted with permission from LEI, copyright 2009.

U.S. Long Way From Being The World's Most Competitive Country

The United States is no longer the world's leader in innovation and competitiveness, and, in fact, is not even close to being the world's most competitive nation, according to a new analysis from the Information Technology & Innovation Foundation. In a ranking using 16 indicators such as IT infrastructure, economic performance, entrepreneurship, innovation capacity and economic policy, ITIF found that the United States ranks sixth in the world among nations, with Singapore being the world competitive leader.

But the trend line is not up for the United States. In a measure of the progress nations are making in the 16 indicators since the turn of the century, the United States ranks dead last — 40th of the 40 nations and regions examined, according to ITIF. The United States has made the least amount of progress in improvement in international competitiveness and innovation capacity over the last decade. Adds ITIF president Robert Atkinson: "This is not a very encouraging picture of the U.S. competitiveness position."

"The prevailing view among many Washington policymakers is that the United States has been number one for so long it will continue to be number one," according to the ITIF report. "Given this situation, the thinking goes, there is no real need for the United States to develop and implement a national economic development or competitiveness strategy."

The United States doesn't have time to dither. Its position "is slipping rapidly and with it, relative U.S. living standards," says ITIF.

The report "The Atlantic Century: Benchmarking EU and U.S. Innovation and Competitiveness," is located at http://www.itif.org/files/2009-atlantic-century.pdf.

Metrics of Decline...

(From page one)

first time in our history, fell below health care and education in 2001, below retail sales in 2002, below local government in 2006, below leisure and hospitality, i.e., restaurants and bars, in 2008.

Between this unprecedented loss in manufacturing capacity and jobs, and the $3.5 trillion in trade deficits in manufactured goods alone, run up by George W. Bush, the correlation is absolute.

In February, final trade figures for 2008 came in. They make for riveting reading for Americans who yet believe that manufacturing is an indispensable element of national power.

With China exporting five times the dollar volume in goods to us as she imports from us, Beijing's trade surplus with the United States set yet another world record: $266 billion.

In those critical items the Commerce Department defines as advanced technology products (ATP), our trade deficit with China in 2008 reached an astonishing $72 billion. Since Bush took office, our total trade deficit with China in ATP exceeds $300 billion.

Which of us, China or America, has the trade profile of a mature industrial and technological power?

Americans deplore our deepening dependence on foreign regimes for the vital necessity of oil. Are they unaware that the U.S. trade deficit in manufactured goods, $440 billion, is $89 billion greater than our all-time record trade deficit of $351 billion in crude oil?

Why is a dependence on Canada, Mexico, Venezuela or Saudi Arabia for oil a greater peril than a reliance on China and Asia for vital necessities upon which our prosperity and military depend?

A week ago, the *Washington Times* ("Volcker Blames Recession on Trade Imbalances") reported that ex-Fed Chair Paul Volcker told Congress the "massive trade-related imbalances in the United States economy were the source of the financial crisis."

Pressed by Sen. Chris Dodd, Volcker said, "Go back to the imbalances in the economy. The United States has been consuming more than it has been producing for many years."

What "imbalances" was Volcker referring to? Perhaps these.

Since 1982, the United States has run $5.7 trillion in trade deficits in manufactured goods, and $2.1 trillion in trade deficits in auto parts, trucks and automobiles. In the Bush years alone, the United States ran more than $1 trillion in trade deficits in auto parts, trucks and cars.

These statistics, these realities — factories closing in the United States, manufacturing jobs being outsourced in the millions to China and Asia, enormous, endless trade deficits in goods — testify to a painful truth: America is a receding and declining world power.

And in dealing with this systemic crisis, Obama's stimulus package is as irrelevant as were the Bush tax cuts.

How do we correct those "trade-related imbalances" of which Volcker spoke? We must export more and import less, save more and spend less, produce more and consume less. We need to emulate the ants and behave less like the grasshoppers of summer.

But how do you tell that to two generations of Americans who have been raised in an era of entitlement?

America needs an Industrial Policy.

But how do you tell that to Americans indoctrinated in the hoary myth that Reed Smoot and Willis Hawley caused the Great Depression and anything that sounds like America First risks a rerun of the 1930s?

— Patrick Buchanan has been a senior advisor to three Presidents, a two-time candidate for the Republican presidential nomination, and was the presidential nominee of the Reform Party in 2000. His Web site, "Right from the Beginning," is located at http://www.buchanan.org.

Wal-Mart...

(From page two)

Wal-Mart, however, have harshly criticized the fact that Wal-Mart employees receive benefits through these programs."

But taxes paid by both Wal-Mart and by its employees far outweigh the costs to American taxpayers of government spending on Wal-Mart workers. "Together with indirect effects like driving up real estate values, their total tax bill is much larger than the claimed $1.5 billion in federal subsidies for its low-income employees," states Furman. "Implicit in much of the criticism of Wal-Mart is the belief that the company has enormous resources and could easily pay higher wages or more benefits without making a major sacrifice. After all, Wal-Mart's mind-boggling $10 billion in profits last year make it appear as if the company could wave a wand and do anything it wants. But Wal-Mart also has a staggering 1.3 million American employees, multiplying the costs of even a modest change in compensation. Overall, it is no easier for Wal-Mart to change compensation than many other companies. This year, Wal-Mart will earn about $6,000 per employee. This is virtually identical to the average for the retail sector and somewhat below the national average of $9,000 in profits per employee in the corporate sector. If Microsoft paid each of its employees an additional $5,000 or expanded its health benefits, its profits would be largely unchanged. If Wal-Mart took the same step — and did not pass the cost on to consumers — it would be virtually wiped out….The image of Wal-Mart as all powerful is at least six years out of date."

Those who are anti-Wal-Mart are doing the country a economic disservice, argues Furman. Higher prices will hurt low-income people. Instead, "a much better strategy would be to recognize that Wal-Mart is a progressive success story," he writes. "…The Wal-Mart economy is not about an economy in which corporations are squeezing workers. It's about an economy in which the return to skills is rapidly growing and technological change…is leading to increased inequality. The most fundamental solution to these challenges is to invest in education and training necessary to ensure that all Americans have the skills to be successful in a technologically sophisticated global economy."