

Written Testimony of Mark Zandi  
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Before the Economic Policy Subcommittee of the Senate Banking Committee

*"The U.S. as Global Competitor: What Are the Elements of a National Manufacturing Strategy?"*

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Mr. Chairman and members of the Committee, my name is Mark Zandi. I am the Chief Economist and Co-founder of Moody's Economy.com.

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### **Economic backdrop**

The severe economic and financial crisis that began in December 2007 continues. After 18 months of economic contraction, 6.5 million jobs have been lost, and the unemployment rate is fast approaching double digits. Many people with jobs are seeing their hours cut—the length of the average workweek fell to a record low in June—and are taking cuts in pay as overall wage growth stalls. Balance sheets have also been hit hard. Some \$15 trillion in household wealth has evaporated, the federal government has run up a deficit approaching \$1.5 trillion, and many state and local governments have borrowed heavily to fill gaping budget holes.

Despite the bleak statistics, economic conditions are slowly firming. Households are being cautious, but they are no longer panicked. Spending and home sales, which were in free fall through last Christmas, have stabilized. Businesses continue to cut costs, but the cutting is not nearly as draconian as it was just a few months ago. Overseas customers are ordering again, providing some lift to exports. Investors are calmer as the financial crisis has meaningfully abated in the wake of the Federal Reserve's unprecedented efforts, the Troubled Asset Relief Program, and regulators' stress tests on the nation's largest banks.

As the fiscal stimulus provides its maximum economic benefit in the next few months, real GDP should turn from negative to positive in the current quarter. The arbiters of the national business cycle at the National Bureau of Economic Research will thus eventually proclaim that this recession ended sometime this summer.

### **Manufacturing's performance**

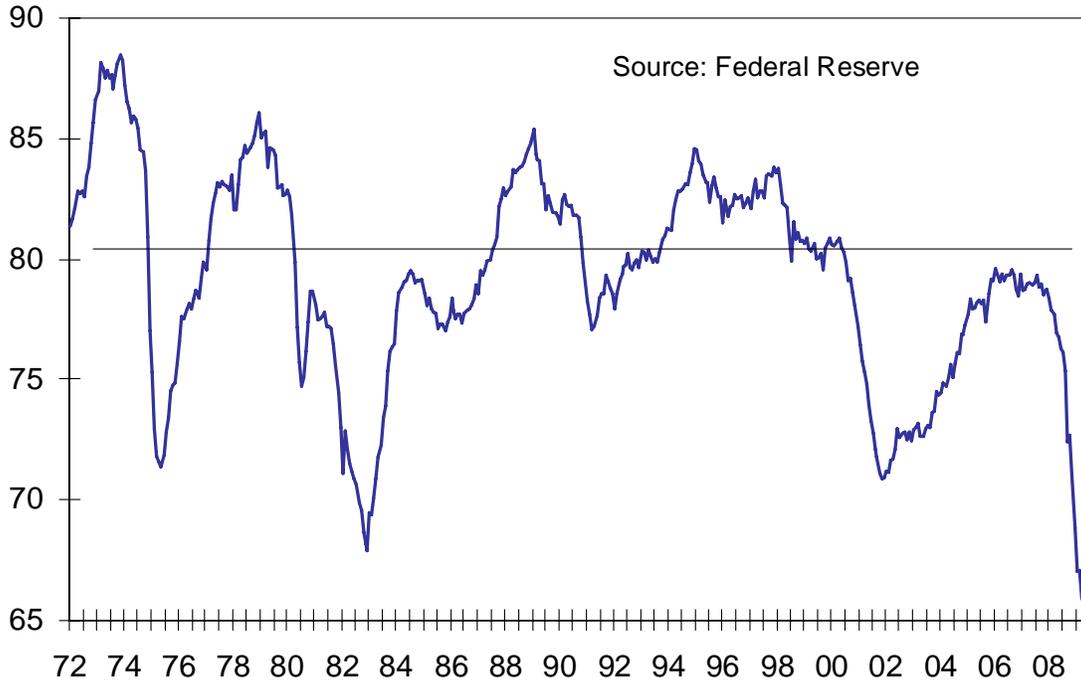
Aside from housing, manufacturing has suffered more during this economic downturn than any other sector of the economy. The statistics are grim. Industrial production has fallen over 17% since peaking a year and a half ago. This is already the worst performance during any recession since World War II and more than twice the average decline in production during recessions (see Table 1). Manufacturing capacity utilization also fell to a record low in June, and manufacturing capacity is falling. The last time capacity declined was in the immediate wake of the technology bust earlier this decade (see Chart 1). The problems are very broad-based, as close to 80% of manufacturing industries are suffering consistent declines in manufacturing production and employment.

**Table 1: U.S. Business Cycle Since World War II**

Peak	Trough	Duration in Months		Peak-to-Trough % Change			Jobless Rate		Change
		Recession Peak to Trough	Expansion Trough to Peak	Real GDP	Industrial Production	Nonfarm Employment	Low	High	
<b>December 2007</b>	<b>June 2009</b>	<b>18</b>	<b>na</b>	<b>-3.1%</b>	<b>-17.2%</b>	<b>-4.7%</b>	<b>4.4%</b>	<b>9.5%</b>	<b>5.1%</b>
March 2001	November 2001	8	120	-0.4%	-6.3%	-2.0%	3.8%	6.3%	2.5%
July 1990	March 1991	8	92	-1.3%	-4.3%	-1.5%	5.0%	7.8%	2.8%
July 1981	November 1982	16	12	-2.9%	-9.5%	-3.1%	7.2%	10.8%	3.6%
January 1980	July 1980	6	58	-2.2%	-6.2%	-1.3%	5.6%	7.8%	2.2%
November 1973	March 1975	16	36	-3.1%	-14.8%	-2.7%	4.6%	9.0%	4.4%
December 1969	November 1970	11	106	-1.0%	-5.8%	-1.4%	3.4%	6.1%	2.7%
April 1960	February 1961	10	24	-1.3%	-6.2%	-2.3%	4.8%	7.1%	2.3%
August 1957	April 1958	8	39	-3.8%	-12.7%	-4.4%	3.7%	7.5%	3.8%
July 1953	May 1954	10	45	-2.7%	-9.0%	-3.3%	2.5%	6.1%	3.6%
November 1948	October 1949	11	37	-1.7%	-8.6%	-5.1%	3.4%	7.9%	4.5%
<b>Average</b>		<b>10</b>	<b>57</b>	<b>-2.0%</b>	<b>-8.3%</b>	<b>-2.7%</b>	<b>4.4%</b>	<b>7.6%</b>	<b>3.2%</b>

Sources: NBER, BEA, FRB, BLS, Moody's Economy.com

**Chart 1: Furloughed Factories**  
*Manufacturing capacity utilization rate*



Manufacturing's problems began long before the current recession. Industrial production has actually declined during this decade. This is the worst performance on record. Even during the 1930s, production had eked out a small gain (see Chart 2). Manufacturing employment has been declining even more sharply, with 5 million manufacturing jobs lost during this decade (see Chart 3). Even during the debilitating recessions of the early 1980s, manufacturing employment fell by less than half the amount lost during this decade. In the wake of all these lost jobs, fewer than 2 million workers are now employed in manufacturing, the lowest level of manufacturing employment since just before World War II. Manufacturing now accounts for less than 10% of total payroll employment. About one-third of the workforce had been employed in manufacturing just after WWII.

Chart 2: Manufacturing's Worst Decade

*% change in industrial production*

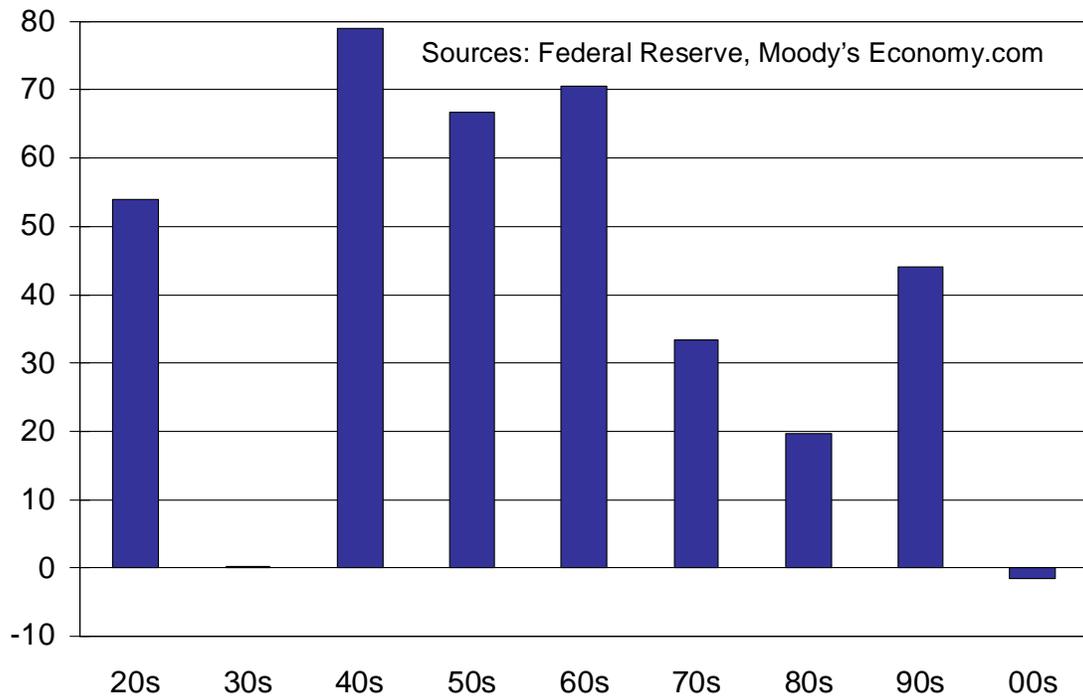
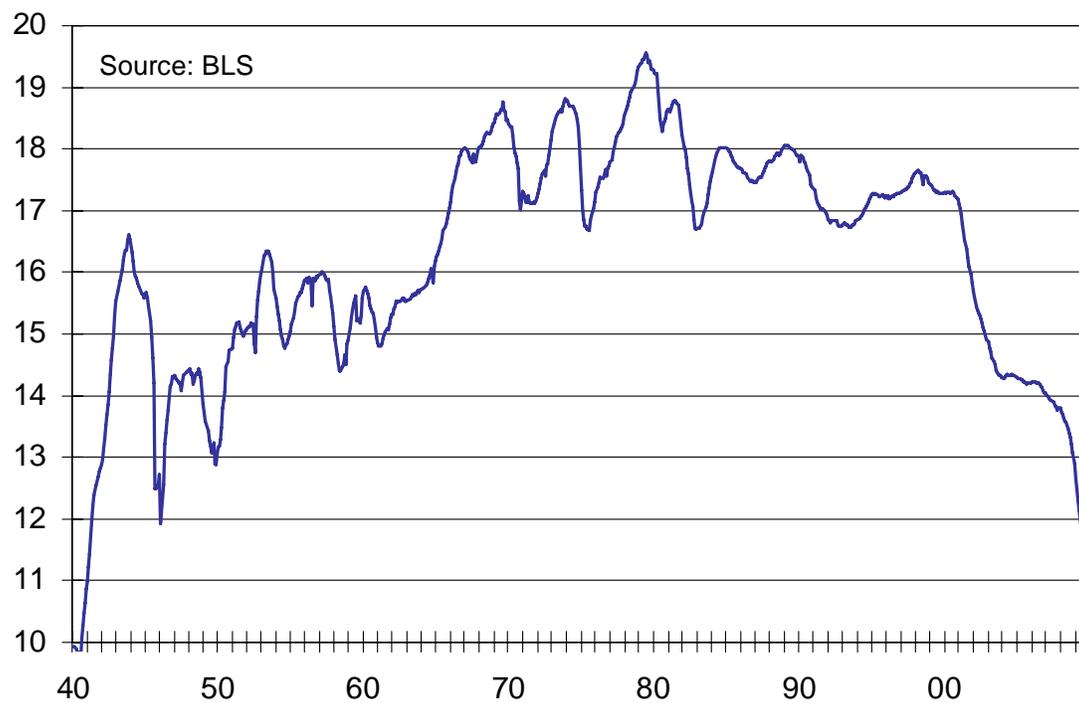


Chart 3: Manufacturing Jobs Evaporate

*Jobs, mil*

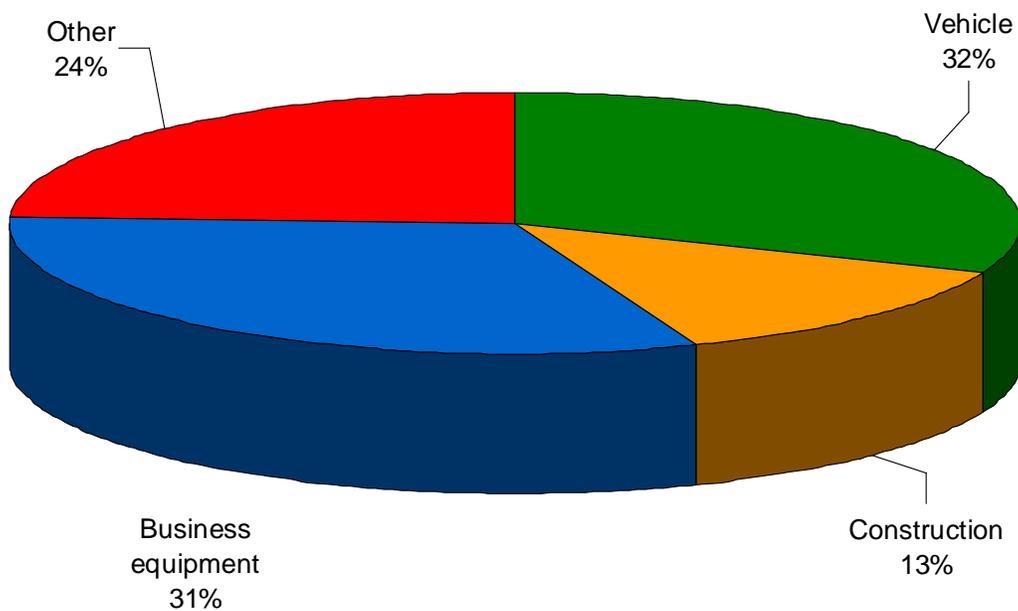


## Behind the decline

The unprecedented decline in manufacturing during this downturn is the result of a wide range of factors, most notably the crises in the vehicle and housing industries, a deep worldwide recession, and draconian cuts by U.S. businesses in their investment in technology and other equipment.

Nearly one-third of the decline in real manufacturing gross output during this recession has been in the vehicle industry (see Chart 4). Vehicle assemblies have been cut from over 10 million units annually at the start of the recession to just about 4 million units now. This plunge reflects two things: the rationalization of General Motors and Chrysler as a result of their bankruptcies, and a decline in vehicle demand due to lost jobs, a lack of credit, greatly reduced household wealth, and record-low consumer confidence. Parts suppliers have also been hit extraordinarily hard. Vehicle production has one of the largest multipliers of any industry; for every lost job in vehicle assembly, about nine more jobs are lost elsewhere in manufacturing and the rest of the economy.

**Chart 4: What Is Behind the Manufacturing Collapse**  
*Share of decline in real gross output during this recession*



The problems in the vehicle industry and the fallout on the broader economy of the GM and Chrysler bankruptcies would have been measurably more severe if not for the help of the federal government. If the two automakers had not received federal financial aid beginning in December, their bankruptcies would have resulted in liquidations, causing a very serious disruption to the already-reeling financial system and economy. Even with the help, the vehicle industry has suffered mightily, as has the economy.

More than one-tenth of the decline in real manufacturing output in this recession has been in construction supplies production. The decline in housing construction and home sales during the more than three-year-long housing bust has badly hurt industries ranging from lumber and wood products to fabricated metals to furniture and appliances. Housing starts are now near their lowest levels since WWII.

The deep global recession has also been a significant problem for U.S. manufacturers. Approximately

one-fourth of U.S. manufactured production is shipped overseas to global customers. With nearly the entire global economy suffering a severe downturn, exports have declined sharply. In 2008, real goods exports increased by 6%, the sixth straight year of sturdy export gains. In stark contrast, real goods exports are on track to fall by over 15% this year. Approximately one-fourth of the decline in real manufacturing output during this downturn is due to lower exports.

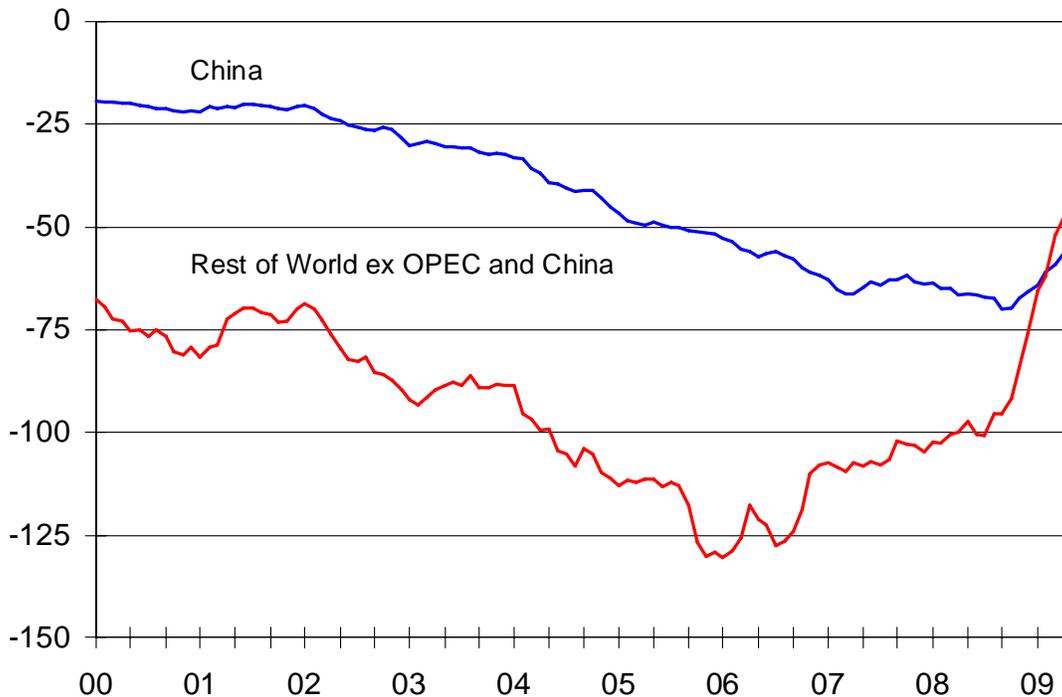
Much of the rest of the decline in manufacturing output during this downturn is due to the sharp pullback in investment in technology and equipment by U.S. businesses. Nearly all businesses in every industry in every corner of the nation have struggled during this downturn. For many it has been a matter of survival, and as such, they have been draconian in their cost-cutting. Real investment in equipment and software has fallen by more than 20% to a level last seen in the wake of the tech bust.

Considering the decline in U.S. manufacturing more broadly to include the past decade, another very significant factor behind the slide is the loss of market share to global competitors. U.S. manufacturers have steadily been losing market share in the U.S. market since the early 1970s. Between 1975 and 2000, the import share of U.S. manufacturing production (excluding petroleum) rose from approximately 10% to 30%. Between 2000 and its peak in mid-2008, the import share rose further to over 40%, largely due to the rapid growth in Chinese manufacturing.

The import share has fallen significantly during the past year given the severe U.S. recession, but the trade situation with China has not improved appreciably. Excluding OPEC, the trade deficit with China is now larger than for all other nations combined (see Chart 5). This trend is likely to become even clearer in coming months.

### Chart 5: Rising Global Competition, Particularly From China

*Trade deficit, \$ bil, 3 mo. moving sum*



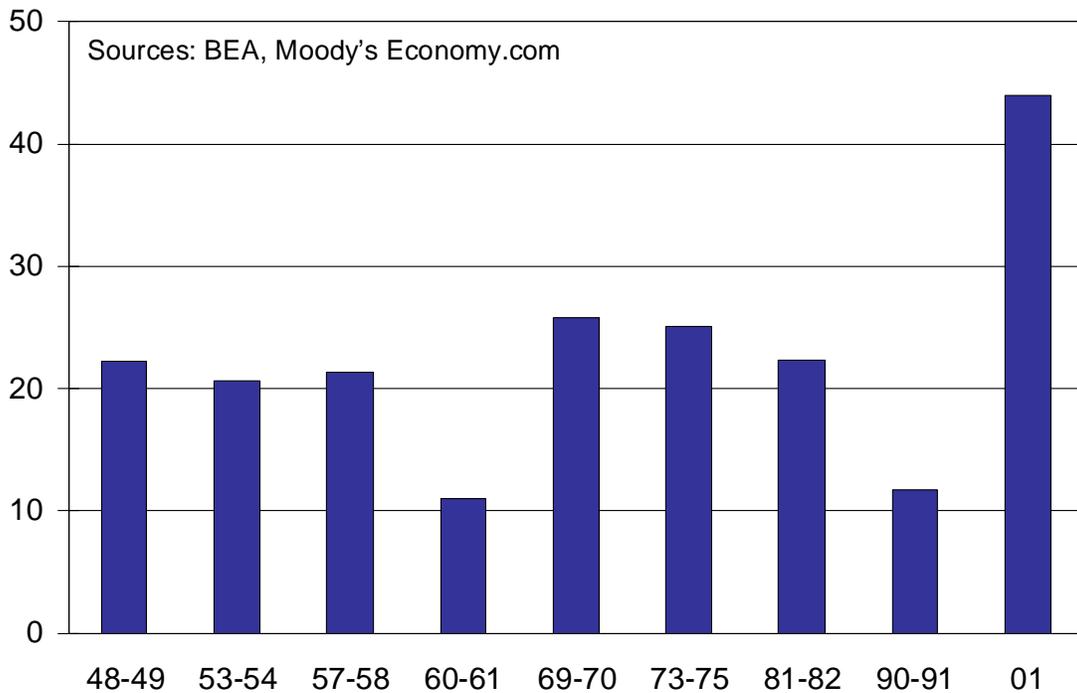
## Manufacturing's role

Manufacturing has played an outsized role in economy-wide recessions and in supporting growth early during recoveries. Real GDP has fallen by an average of 2% peak to trough during recessions since World War II, with manufacturing contributing to over half the decline. In a number of recessions, the decline in manufacturing was even greater than the decline in real GDP, as growth in other sectors offset some of the drag from manufacturing.

Manufacturing is also very important to powering the U.S. economy out of recession. In the first year of recoveries since World War II, manufacturing has been responsible for well over one-fifth of the growth in GDP. In the first year after the recession in 2001, for example, manufacturing accounted for almost one-half of total GDP growth (see Chart 6). GM's zero interest rate financing deals in the immediate wake of 9/11 ignited a surge in vehicle sales that quickly brought that recession to an end.

### Chart 6: Manufacturing Is Important to Recoveries

*Contribution to GDP growth in first year of recovery, %*



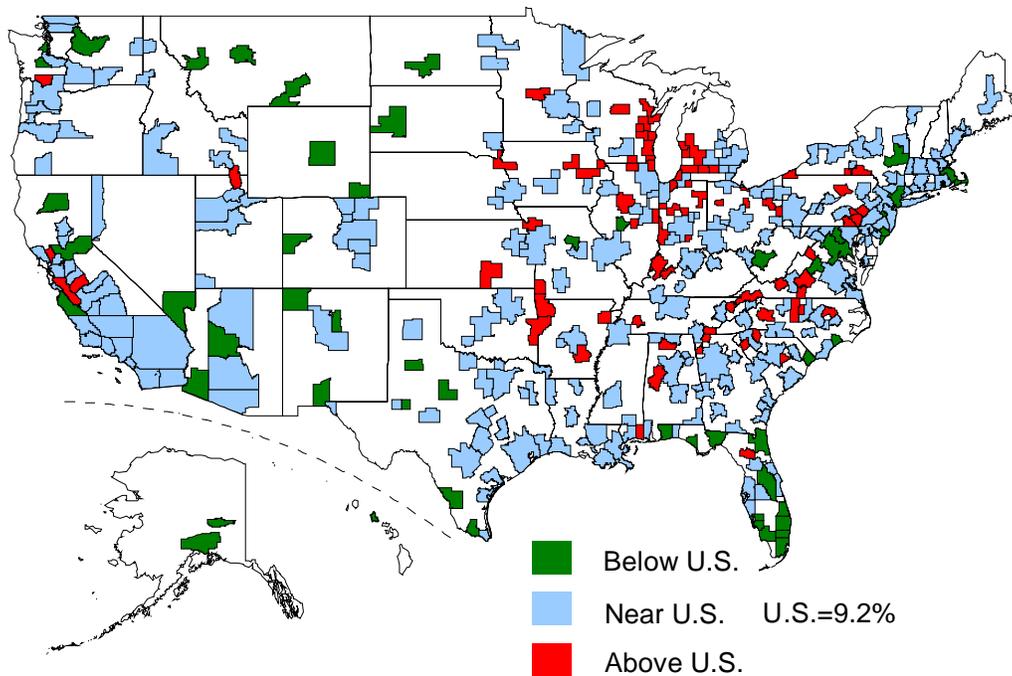
Manufacturing's large role in the ups and downs of the business cycle is due to the impact of large inventory swings and the high interest-rate sensitivity of many manufacturing industries. Most recessions are preceded by a buildup of inventory as confident manufacturers, wholesalers and retailers anticipate continued vigorous sales. When those sales don't materialize, they work hard to cut those inventories by reducing production and employment. In recessions, the inventory drawdown and resulting hit to production are often very large. These inventory cycles were larger before new inventory management techniques and technologies became available, but they are still instrumental in shaping the business cycle. Recessions are also preceded by rising interest rates, which weigh heavily on the demand for manufactured goods, which are often financed. When recessions hit, interest rates decline, which in turn lifts demand and thus manufacturing output early in a recovery.

Manufacturing will not be able to contribute as much to the recovery from the current downturn. The problems in the vehicle and housing industries will not abate quickly. Vehicle sales and production and

housing construction will rise from their extraordinarily depressed levels in the next 12 to 24 months, but only very modestly. Weighing on vehicle sales and production will be the lingering effects of the GM and Chrysler bankruptcies and the spent-up demand created by sales levels above what could be supported by underlying demographic, wealth and income trends during the strong sales years earlier in the decade. There is over a year's worth of spent-up vehicle demand. Housing construction and thus the demand for manufactured construction supplies will also be constrained by the large amount of excess housing inventory built up during the housing boom and bubble. There is well over a year's worth of excess housing inventory.

Manufacturing's importance to the broader economy goes beyond its share of GDP and employment. It is vital to national defense, to lower- and middle-income households that rely on manufacturing's relatively high-paying jobs, and to many smaller metropolitan areas and rural communities across the nation in which the factory is a large, if not the largest, employer. Manufacturing is particularly important in the Midwest and large parts of the South (see Table 2 and Chart 7). In many of these areas, the economy is very dependent on manufacturing, and thus its slide has pushed these regional economies into very deep, long-running downturns. Unemployment is already well into the double digits in Indiana, Kentucky, Michigan, Ohio and Tennessee, and it is rising quickly. Because of their financial straits, many unemployed workers in these states are unable to relocate to where jobs might be available; in many cases, they are under water on their homes. Unemployment is thus likely to remain very high in these areas for years to come.

**Chart 7: Many Communities Rely on Manufacturing**  
*Manufacturing share of employment, 2009 through May*



Manufacturing is also essential to research and development, innovation, and ultimately productivity and living standards. Manufacturing has long experienced the most rapid productivity growth of any sector of the economy. Over the past decade, for example, labor productivity in manufacturing has risen by 2.9% per annum compared with 2.2% in the rest of the nonfarm business sector. Many of the processes and technological innovations developed and honed among manufacturers ultimately find their way into the rest of the economy. Moreover, the productivity gains in many service businesses and government are driven by sophisticated manufacturing equipment. Losing this type of manufacturing could diminish the ability to generate strong productivity gains in the rest of the economy, even if such equipment can be purchased

from overseas producers. Significant economies are generated by having manufacturing physically located near one another and near nonmanufacturing activities.

**Table 2: Manufacturing Share of Economic Activity**

Sources: BEA, BLS, Moody's Economy.com

	Gross Product Share		Employment	
	2008	Rank	2009	Rank
United States	13.4		9.2	
Alabama	17.2	10	13.5	5
Alaska	2.0	49	4.0	46
Arizona	7.8	39	6.7	37
Arkansas	17.4	9	14.3	3
California	9.8	33	9.3	29
Colorado	6.4	42	5.9	41
Connecticut	13.4	18	10.8	16
Delaware	7.4	40	6.7	37
District of Columbia	0.2	51	0.2	51
Florida	4.8	45	4.6	44
Georgia	10.9	26	9.4	27
Hawaii	1.7	50	2.4	50
Idaho	9.9	31	9.4	28
Illinois	12.4	21	10.5	19
Indiana	25.0	1	16.1	2
Iowa	20.8	2	14.0	4
Kansas	15.2	14	12.9	7
Kentucky	18.4	6	12.0	11
Louisiana	18.2	7	7.6	34
Maine	11.1	25	9.1	30
Maryland	5.6	44	4.9	43
Massachusetts	9.5	35	8.6	32
Michigan	16.1	11	12.2	10
Minnesota	12.8	20	11.5	14
Mississippi	15.0	15	13.1	6
Missouri	13.5	17	9.7	23
Montana	4.0	47	4.4	45
Nebraska	11.8	23	10.0	21
Nevada	4.4	46	3.8	48
New Hampshire	10.9	27	11.0	15
New Jersey	9.2	36	6.9	36
New Mexico	6.6	41	3.9	47
New York	6.0	43	5.8	42
North Carolina	19.5	4	11.6	13
North Dakota	9.1	37	6.7	40
Ohio	17.8	8	12.5	8
Oklahoma	10.8	28	8.9	31
Oregon	18.7	5	10.6	18
Pennsylvania	13.6	16	10.4	20
Rhode Island	9.8	32	9.5	25
South Carolina	16.1	13	11.9	12
South Dakota	9.6	34	9.8	22
Tennessee	16.1	12	12.2	9
Texas	13.0	19	8.4	33
Utah	11.9	22	9.5	24
Vermont	11.4	24	10.7	17
Virginia	8.6	38	6.7	39
Washington	9.9	30	9.5	25
West Virginia	10.7	29	7.1	35
Wisconsin	20.3	3	16.3	1
Wyoming	3.1	48	3.3	49

Note: 2009 is year to date through May.

It is also important to note that manufacturing will need to play a more important role in the nation's longer-term economic growth, as the most significant growth opportunity for U.S. businesses lies in selling to customers overseas. U.S. manufactured goods must be a large part of what we sell abroad.

### **Policy don'ts**

There are number of things policymakers should and should not do to correct the long-running decline in manufacturing. The most obvious thing policymakers should not do is to erect trade barriers to limit trade in manufactured goods. This would be very counterproductive, particularly at a time when the global economy is in recession and protectionist sentiment is building nearly everywhere. A trade war could very well ensue, derailing prospects for recovery here and elsewhere. To date, global policymakers have done an admirable job of forestalling protectionist sentiment. Efforts to further liberalize global trade and investment have stalled, but they have not backtracked to any significant degree. But as global unemployment increases, these sentiments could very well boil over. U.S. policymakers must resolve not to allow this to occur.

However, policymakers should work to guide the Chinese to continue revaluing the yuan once global financial and economic conditions stabilize. The yuan has appreciated by 17% since the revaluation process began four years ago, but the currency remains 20% to 25% overvalued against the dollar. This gives Chinese manufacturers an unfair competitive advantage in global markets. A reasonable expectation would be for the Chinese to allow their currency to appreciate by 3% to 5% per annum over the next five years. This would allow for a smooth transition for their manufacturers and provide steady relief to U.S. manufacturers.

Industrial policies directed to specific manufacturing industries have not been successful in stemming their long-running decline. To be sure, there has not been extensive experience with such policies here in the U.S., but what experience we do have and what we have learned from the experience of other developed economies suggest that such targeted industrial policies are not productive. A much more efficacious policy effort would be to help lower the cost of production and open global markets for all businesses, with special attention to and consideration of those costs and markets generally most important to manufacturers.

### **Policy dos**

Policymakers should implement policies that reduce manufacturers' cost of doing business. To lower labor costs, policymakers could invest in technical schools and community colleges, facilitate work-share programs to reduce the cost of unemployment insurance and layoffs, and more aggressively establish and fund retraining. Healthcare reform that slows the growth of healthcare costs is also very important.

Technical schools and community colleges provide significant value, particularly in hard-pressed communities whose residents lack the financial resources to attend private four-year colleges or even state-funded universities. These schools can also alleviate a growing problem for many manufacturers, namely the lack of a qualified workforce. Many of the most skilled workers are aging, and they have not been replaced by a new generation of workers. This skill shortage threatens to become a key constraint on the ability of many manufacturing businesses to grow.

Manufacturers now face crushing costs associated with their large layoffs. Expansion of work-share programs may alleviate these costs. Work-share allows manufacturers to avoid some layoffs by cutting hours for their workforce, with the government paying for some of the employees' lost compensation. This allows businesses to avoid severance costs and avoid losing valuable employees whose skills are difficult to replace. Workers are increasingly willing to give up some hours in order to avoid being laid off.

The unemployment insurance program should also be reformed to expand coverage to more workers and to provide incentives to unemployed workers to invest in their own retraining. Federal efforts to facilitate the retraining and education of displaced workers are very inadequate. There has been too little research into the design and implementation of effective retraining programs. This is especially important

for unemployed workers in very distressed regions of the country.

To lower the cost of capital for manufacturers, policymakers could establish a direct lending program at the Small Business Administration and perhaps even establish lending facilities to help finance investment in clean energy and other technologies. SBA lending has been encumbered in today's tight credit environment, as depository institutions that implement the lending programs have remained cautious in extending credit. This reluctance continues despite changes in SBA programs to prompt more lending. The SBA may want to experiment with direct lending, at least temporarily, to ensure that credit flows to businesses that are good credit risks but are facing refinancing risk or other short-term liquidity issues.

Policymakers may also want to establish other temporary lending facilities targeted to specific types of investment. Given high and volatile energy prices and what will be potentially higher costs associated with cap-and-trade, lending targeted to finance investment in clean and more efficient energy technologies would seem appropriate at this time.

To lower the cost of transportation, telecommunications and energy, policymakers could provide consistent support to public investment in transportation networks, the internet backbone, and the electric grid. As a potential example of this support, Build America bonds issued as part of the current fiscal stimulus have been very successful.

### **Conclusions**

The severe, ongoing slide in the nation's manufacturing base has contributed significantly to the severity of this recession and will greatly constrain the economy's ability to rebound from this Great Recession. Manufacturing's slide also jeopardizes the financial prospects of many lower- and middle-income households, the economic well-being of many communities across the country, and even the innovation and technological progress necessary to power the broader economy's long-term growth. Policymakers should not target manufacturing specifically for help from the federal government, but they should carefully consider manufacturing's monumental difficulties and its importance in our economy when designing and implementing economic policy.