

# EPI BRIEFING PAPER

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## THE IMPORTANCE OF MANUFACTURING

### Key to recovery in the states and the nation

BY ROBERT E. SCOTT

While U.S. manufacturing has been hard hit by a decade of rapid import growth and job loss, the manufacturing sector still remains a vital part of the U.S. economy.

The manufacturing sector supported 14 million jobs in 2007, or about 10.1% of total employment. Manufacturing employs a higher share of workers without a college degree than the rest of the economy. On average, these workers made 9% more than similar workers in the rest of the economy in 2006-07.

Manufacturing industries are also responsible for a significant share of U.S. economic production, generating \$1.6 trillion in GDP in 2006 (12.2% of total U.S. gross domestic product (GDP)). U.S. manufacturing firms also lead the way on trade, exporting \$923 billion in manufactured goods—64% of all U.S. goods and services exported in 2006.

Manufacturing is one of the most dynamic sectors of the U.S. economy. It was responsible for 60% of all U.S. research and development spending in 2003, with total research and development spending of \$123 billion (total public, corporate, and other funds) in that year alone (National Science Foundation 2006). Scientists and engineers make up 9% of the manufacturing labor force, a share that is nearly twice as large as in the rest of the economy.<sup>1</sup> As a result, manufacturing productivity growth rates have been high for decades. Multifactor labor productivity growth averaged 4.6% per year in manufacturing between 1997 and 2005.<sup>2</sup> This was 60% greater than in the private, non-farm economy as a whole.<sup>3</sup> Given the nexus between research and development and manufacturing, a vital manufacturing sector plays an important role in maintaining an innovative economy.

#### TABLE OF CONTENTS

Manufacturing's footprint .....	4
Recent experience .....	8
Conclusion .....	11

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TABLE 1

## U.S. total and manufacturing employment, December 2007

	Employment (thousands)		Manufacturing share of total employment	Jobs lost since March 1998 (in thousands)	Manufacturing jobs lost as a share of total employment in 1998
	Total	Manufacturing			
<b>UNITED STATES</b>	138,495	13,919	10.1%	- 3,718	-3.0%
<b>NORTHEAST</b>	25,717	2,215	8.6	- 868	-3.6
New England	7,061	703	10.0	- 271	-4.0
Connecticut	1,703	191	11.2	- 59	-3.6
Maine	620	58	9.3	- 23	-4.2
Massachusetts	3,282	294	9.0	- 124	-3.9
New Hampshire	648	75	11.5	- 30	-5.1
Rhode Island	499	50	10.1	- 26	-5.7
Vermont	309	36	11.5	- 9	-3.2
Middle Atlantic	18,656	1,512	8.1	- 597	-3.4
New Jersey	4,115	316	7.7	- 116	-3.1
New York	8,723	541	6.2	- 258	-3.2
Pennsylvania	5,818	655	11.3	- 223	-4.1
<b>MIDWEST</b>	31,761	4,322	13.6	- 1,170	-3.8
East North Central	21,546	3,104	14.4	- 982	-4.6
Illinois	5,991	673	11.2	- 237	-4.1
Indiana	2,986	554	18.5	- 107	-3.7
Michigan	4,248	606	14.3	- 288	-6.4
Ohio	5,428	774	14.3	- 256	-4.7
Wisconsin	2,893	496	17.2	- 94	-3.5
West North Central	10,215	1,218	11.9	- 188	-2.0
Iowa	1,528	231	15.1	- 16	-1.1
Kansas	1,384	187	13.5	- 17	-1.3
Minnesota	2,768	336	12.2	- 62	-2.4
Missouri	2,797	294	10.5	- 83	-3.1
Nebraska	969	101	10.5	- 12	-1.4
North Dakota	361	26	7.2	3	1.0
South Dakota	409	43	10.5	- 1	-0.3
<b>SOUTH</b>	49,732	4,643	9.3	- 1,284	-2.9
South Atlantic	26,752	2,114	7.9	- 733	-3.2
Delaware*	441	32	7.2	- 13	-3.2
District of Columbia*	704	2	0.2	3	-0.4
Florida	8,155	390	4.8	- 81	-1.2
Georgia	4,171	432	10.4	- 120	-3.2
Maryland	2,636	134	5.1	- 43	-1.9
North Carolina	4,133	540	13.1	- 262	-7.0
South Carolina	1,939	240	12.4	- 102	-5.8
Virginia	3,810	286	7.5	- 90	-2.8
West Virginia	763	59	7.7	- 19	-2.7

\* Non-seasonally adjusted data are used for Alaska, D. C., Delaware, Hawaii, Oklahoma, and Wyoming.

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TABLE 1 (CONT.)

## U.S. total and manufacturing employment, December 2007

	Employment (thousands)		Manufacturing share of total employment	Jobs lost since March 1998 (in thousands)	Manufacturing jobs lost as a share of total employment in 1998
	Total	Manufacturing			
<b>UNITED STATES</b>	138,495	13,919	10.1%	- 3,718	-3.0%
<b>East South Central</b>	7,867	1,110	14.1	- 298	-4.0
Alabama	2,022	298	14.7	- 66	-3.5
Kentucky	1,857	253	13.6	- 52	-3.0
Mississippi	1,171	172	14.7	- 60	-5.4
Tennessee	2,817	387	13.7	- 120	-4.6
<b>West South Central</b>	15,113	1,420	9.4	- 254	-1.9
Arkansas	1,208	187	15.5	- 55	-4.9
Louisiana	1,929	154	8.0	- 32	-1.7
Oklahoma*	1,586	151	9.5	- 23	-1.6
Texas	10,390	927	8.9	- 145	-1.6
<b>WEST</b>	30,822	2,662	8.6	- 541	-2.1
<b>Mountain</b>	9,893	642	6.5	- 73	-0.9
Arizona	2,720	187	6.9	- 26	-1.2
Colorado	2,346	143	6.1	- 48	-2.4
Idaho	659	64	9.6	- 6	-1.2
Montana	450	21	4.6	- 1	-0.3
Nevada	1,308	52	4.0	12	1.3
New Mexico	848	36	4.3	- 7	-0.9
Utah	1,272	129	10.2	2	0.2
Wyoming*	291	11	3.6	1	0.3
<b>Pacific</b>	20,929	2,020	9.7	- 468	-2.5
Alaska*	317	13	4.0	- 1	-0.3
California	15,291	1,493	9.8	- 372	-2.8
Hawaii*	632	15	2.4	- 1	-0.2
Oregon	1,739	204	11.8	- 27	-1.7
Washington	2,949	296	10.0	- 68	-2.6

\* Non-seasonally adjusted data are used for Alaska, D. C., Delaware, Hawaii, Oklahoma, and Wyoming.

SOURCE: Bureau of Labor Statistics and EPI analysis.

Not only is manufacturing important for jobs and production, but a vital manufacturing sector is also essential to meeting national challenges, including reducing greenhouse gas emissions and the nation's reliance on imported energy. Renewable forms of energy, such as wind or solar power, rely on manufactured components more so than extractable energy such as oil. A vibrant manufacturing sector will be needed to supply the new materials that will be in demand by a low-carbon economy.

Rapidly growing manufacturing output could reduce the unsustainable U.S. trade deficit, which is likely to exceed \$750 billion in 2007. For example, energy investments likely to result from the Senate "Clean Edge" energy bill that was proposed in the U.S. Senate in 2006 would support up to 500,000 jobs per year, at peak, and half of those jobs would be in the manufacturing sector (Scott 2006). Elimination of the U.S. trade deficit by 2016 would support millions of additional U.S. manufacturing jobs (Scott, forthcoming).

Finally, the manufacturing sector has a large geographic footprint. It is the largest sector of the economy, aside from real estate (which is dominated by imputed and actual rental income on property) in most states, as a share of GDP. Manufactured goods are a significant source of demand for goods and services from other sectors of the economy, ranging from energy and natural resources to construction of new factories to services provided by accounting, engineering, software, and temporary help firms. U.S. manufacturing had gross output of \$4.5 trillion in 2005, and it is by far the most important sector of the U.S. economy in terms of total output (Bureau of Economic Analysis 2008).

This Briefing Paper examines the role manufacturing plays in employment at the state level, including an examination of the number of jobs and the level of wages in the sector. The data show that employment peaked in the late 1990s and has been on a largely downward trajectory since then, with traditional manufacturing states hit particularly hard. Given its size and importance, we cannot ignore the consequences of such a decline.

## Manufacturing's footprint

### Jobs

The manufacturing sector employed 13.9 million workers in December 2007 (**Table 1**), or 10.1% of total U.S. employment. Manufacturing plays a particularly important role in the economies of a core group of states in the upper Midwest (East North Central and selected West North Central) and South-Atlantic (East South Central) states. Manufacturing was responsible for 14.4% of employment in the East North Central region in December 2007.

Midwestern states with large manufacturing employment include:

- Indiana (554,000 jobs, 18.5% of total employment), Michigan (606,000 jobs, 14.3%), Ohio (774,000 jobs, 14.3%), Wisconsin (496,000 jobs, 17.2%), and Iowa (231,000 jobs, 15.1%).

Manufacturing dependent states in the South included:

- Alabama (298,000 jobs, 14.7%), Kentucky (253,000, 13.6%), Mississippi (172,000,

14.7%), Tennessee (387,000 jobs, 13.7%), and Arkansas (187,000 jobs, 15.5%).

### GDP

Manufacturing is the largest sector of the economy, excluding real estate. In 2006, it was responsible for more than 10% of GDP in 32 of the 50 states, as shown in **Table 2**.

Many manufacturing jobs are capital intensive, productive activities. Thus, the GDP share of manufacturing exceeds its employment share in most states, reflecting the fact that manufacturing activity also generates higher-than-average value-added per employee. This helps explain why manufacturing wages are higher than average for non-college educated workers (see below).

Manufacturing generated more than 20% of total GDP in four states in 2006:

- Indiana (28% of total GDP, or \$70 billion), Iowa (21%, \$26 billion), Louisiana (21%, \$41 billion), and Wisconsin (20%, \$47 billion).

Nine states generated more than \$60 billion in GDP in 2006:

- California (\$169 billion), Texas (\$140 billion), Ohio (\$89 billion), Illinois (\$78 billion), Pennsylvania (\$75 billion), North Carolina (\$74 billion), Indiana (\$70 billion), Michigan (\$68 billion), and New York (\$64 billion).

### Wages

The manufacturing sector employs workers at all skill and education levels. While the manufacturing sector is a particularly important provider of good jobs for workers without a college degree, nearly one in 10 workers in the industry are scientists and engineers. And while many manufacturing jobs may not require a college education, they are not “unskilled.” Manufacturing employs many highly skilled workers in high-productivity jobs, and manufacturing wages are higher than average as a result.

The manufacturing wage “premium” for these workers—the amount that the average wage in manufacturing exceeds the economy as a whole—varies widely by state and industry, as shown in **Table 3**. The average wage premium

for all U.S. manufacturing workers without a college degree was \$1.38 per hour (or 9.2%) in 2006-07.<sup>4</sup> However, these premiums were much higher for states that produced large amounts of higher value-added durable goods, such as aircraft and autos. States with especially high wage premiums included:

- Michigan (\$3.46 per hour, or a 23.5% premium), Kansas (\$3.17 per hour, 22.5%), South Carolina (\$2.86 per hour, 21.1%), New Mexico (\$2.94 per hour, 20.8%), Oklahoma (\$2.83 per hour, 20.6%), Maine (\$2.88 per hour, 20.5%), and Washington (\$3.36 per hour, 20.3%).

**TABLE 2**

**Manufacturing employment and GDP, by state (2006)**

	<i>Manufacturing share of total employment</i>	<i>Manufacturing GDP (\$ billions)</i>	<i>Manufacturing share of state GDP</i>
<b>UNITED STATES</b>	10.4%	\$1,601	12.2%
<b>NEW ENGLAND</b>	10.3%	\$76	10.7%
<i>Connecticut</i>	11.5	24	11.5
<i>Maine</i>	9.8	5	11.4
<i>Massachusetts</i>	9.2	33	9.9
<i>New Hampshire</i>	12.1	7	11.7
<i>Rhode Island</i>	10.7	5	9.9
<i>Vermont</i>	11.7	3	12.1
<b>MIDEAST</b>	7.8%	\$200	8.4%
<i>Delaware</i>	7.7	5	7.5
<i>District of Columbia</i>	0.2	0	0.2
<i>Maryland</i>	5.3	14	5.5
<i>New Jersey</i>	8.0	42	9.2
<i>New York</i>	6.6	64	6.3
<i>Pennsylvania</i>	11.7	75	14.8
<b>GREAT LAKES</b>	14.8%	\$353	18.5%
<i>Illinois</i>	11.5	78	13.2
<i>Indiana</i>	19.0	70	28.1
<i>Michigan</i>	14.9	68	17.9
<i>Ohio</i>	14.6	89	19.4
<i>Wisconsin</i>	17.7	47	20.8
<b>PLAINS</b>	12.3%	\$124	14.8%
<i>Iowa</i>	15.4	26	21.0
<i>Kansas</i>	13.5	15	13.7
<i>Minnesota</i>	12.6	34	13.9
<i>Missouri</i>	11.1	34	15.2
<i>Nebraska</i>	10.7	9	11.8
<i>North Dakota</i>	7.4	2	9.5
<i>South Dakota</i>	10.4	3	10.4

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TABLE 2 (CONT.)

## Manufacturing employment and GDP, by state (2006)

	<i>Manufacturing share of total employment</i>	<i>Manufacturing GDP (\$ billions)</i>	<i>Manufacturing share of state GDP</i>
<b>UNITED STATES</b>	10.4%	\$1,601	12.2%
<b>SOUTHEAST</b>	10.5%	\$397	13.4%
<i>Alabama</i>	15.3	30	18.7
<i>Arkansas</i>	16.6	18	19.6
<i>Florida</i>	5.0	36	5.0
<i>Georgia</i>	11.0	49	12.9
<i>Kentucky</i>	14.2	27	18.7
<i>Louisiana</i>	8.2	41	21.0
<i>Mississippi</i>	15.4	13	15.3
<i>North Carolina</i>	13.8	74	19.8
<i>South Carolina</i>	13.2	26	17.6
<i>Tennessee</i>	14.4	42	17.8
<i>Virginia</i>	7.7	34	9.3
<i>West Virginia</i>	8.1	6	11.0
<b>SOUTHWEST</b>	8.6%	\$180	11.9%
<i>Arizona</i>	7.1	19	8.1
<i>New Mexico</i>	4.5	7	9.7
<i>Oklahoma</i>	9.6	14	10.4
<i>Texas</i>	9.2	140	13.1
<b>ROCKY MOUNTAIN</b>	7.6%	\$36	8.1%
<i>Colorado</i>	6.6	15	6.5
<i>Idaho</i>	10.3	7	14.4
<i>Montana</i>	4.7	1	4.6
<i>Utah</i>	10.2	11	11.2
<i>Wyoming</i>	3.7	1	3.4
<b>FAR WEST</b>	9.5%	\$236	9.9 %
<i>Alaska</i>	4.2	1	2.3
<i>California</i>	10.0	169	9.8
<i>Hawaii</i>	2.5	1	1.7
<i>Nevada</i>	3.9	6	4.9
<i>Oregon</i>	12.1	26	17.5
<i>Washington</i>	10.0	33	11.2

SOURCE: Bureau of Economic Analysis, U.S. Department of Commerce, and EPI.

High rates of unionization contribute to the wage premiums earned by manufacturing workers. In 2006, 12.5% of all manufacturing workers were members

of labor unions, substantially above the 8.1% average unionization rate for workers in the private sector as a whole (BLS 2007). Unionized workers earned about

TABLE 3

**For workers without a college degree,  
manufacturing jobs pay more than jobs in the rest of the economy  
(average hourly wages)\***

State	Average hourly wage		Manufacturing wage premium	
	Manufacturing	Non-manufacturing	Dollars per hour	Percent
U.S. average	\$16.49	\$15.10	\$1.38	9.2%
<i>Alabama</i>	\$15.30	\$14.27	\$1.03	7.2%
<i>Alaska</i>	21.30	18.35	2.95	16.1
<i>Arizona</i>	17.07	14.96	2.11	14.1
<i>Arkansas</i>	13.93	13.40	0.52	3.9
<i>California</i>	16.56	16.26	0.30	1.8
<i>Colorado</i>	17.83	16.27	1.56	9.6
<i>Connecticut</i>	19.12	16.66	2.46	14.8
<i>Delaware</i>	19.25	16.21	3.04	18.7
<i>District of Columbia</i>	15.25	15.05	0.20	1.3
<i>Florida</i>	16.58	15.11	1.47	9.8
<i>Georgia</i>	15.39	14.60	0.79	5.4
<i>Hawaii</i>	15.85	15.81	0.04	0.2
<i>Idaho</i>	15.89	14.46	1.43	9.9
<i>Illinois</i>	16.65	15.25	1.40	9.2
<i>Indiana</i>	16.77	14.80	1.98	13.3
<i>Iowa</i>	15.51	14.24	1.27	8.9
<i>Kansas</i>	17.22	14.05	3.17	22.5
<i>Kentucky</i>	15.71	13.90	1.81	13.0
<i>Louisiana</i>	16.48	14.37	2.12	14.7
<i>Maine</i>	16.92	14.04	2.88	20.5
<i>Maryland</i>	17.71	17.31	0.40	2.3
<i>Massachusetts</i>	17.30	15.87	1.43	9.0
<i>Michigan</i>	18.17	14.71	3.46	23.5
<i>Minnesota</i>	17.19	15.70	1.49	9.5
<i>Mississippi</i>	14.31	13.21	1.10	8.4
<i>Missouri</i>	16.15	14.84	1.31	8.8
<i>Montana</i>	15.10	13.65	1.45	10.7
<i>Nebraska</i>	14.14	13.84	0.30	2.1
<i>Nevada</i>	16.27	16.18	0.09	0.6
<i>New Hampshire</i>	18.64	16.46	2.18	13.3
<i>New Jersey</i>	17.94	17.08	0.85	5.0
<i>New Mexico</i>	17.11	14.17	2.94	20.8
<i>New York</i>	16.03	15.83	0.20	1.2
<i>North Carolina</i>	15.03	13.97	1.06	7.6
<i>North Dakota</i>	14.18	13.51	0.67	5.0

\* Hourly wage of workers with less than a college degree of manufacturing versus non-manufacturing industries in 2006-07 by state; data in 2007 dollars.

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TABLE 3 (CONT.)

**For workers without a college degree,  
manufacturing jobs pay more than jobs in the rest of the economy  
(average hourly wages)\***

State	Average hourly wage		Manufacturing wage premium	
	Manufacturing	Non-manufacturing	Dollars per hour	Percent
<i>Ohio</i>	\$16.74	\$14.51	\$2.23	15.4%
<i>Oklahoma</i>	16.60	13.77	2.83	20.6
<i>Oregon</i>	17.16	14.85	2.31	15.6
<i>Pennsylvania</i>	16.70	14.91	1.78	12.0
<i>Rhode Island</i>	15.55	15.49	0.07	0.4
<i>South Carolina</i>	16.45	13.59	2.86	21.1
<i>South Dakota</i>	13.75	13.61	0.14	1.0
<i>Tennessee</i>	14.14	13.57	0.58	4.2
<i>Texas</i>	16.08	13.81	2.27	16.4
<i>Utah</i>	15.03	14.61	0.42	2.9
<i>Vermont</i>	16.60	15.13	1.47	9.7
<i>Virginia</i>	17.08	15.56	1.52	9.8
<i>Washington</i>	19.88	16.52	3.36	20.3
<i>West Virginia</i>	16.25	14.68	1.57	10.7
<i>Wisconsin</i>	16.75	14.87	1.89	12.7
<i>Wyoming</i>	17.91	15.73	2.18	13.8

\* Hourly wage of workers with less than a college degree of manufacturing versus non-manufacturing industries in 2006-07 by state; data in 2007 dollars.

SOURCE: U.S. Bureau of Labor Statistics, Current Population Survey, Outgoing Rotation Group (CPS ORG), combined 2006-07 samples, expressed in real 2007 dollars; and EPI analysis.

14.7% more than workers from comparable demographic groups in 2005 (Mishel, Bernstein, and Allegretto 2006, Table 3.34).

## Recent experience

U.S. manufacturing employment reached a cyclical peak in March 1998. The Asian financial crisis of late 1997 caused the real, trade-weighted value of the U.S. dollar to rise 20% in value through the first quarter of 2002. What began with steady growth in U.S. manufacturing imports and job losses in the late 1990s turned into a major collapse when the U.S. economy fell into recession in early 2001. The United States lost 3.7 million manufacturing jobs between March 1998 and December 2007, as shown in Table 1. Three million of those jobs were lost after March 2001.<sup>5</sup>

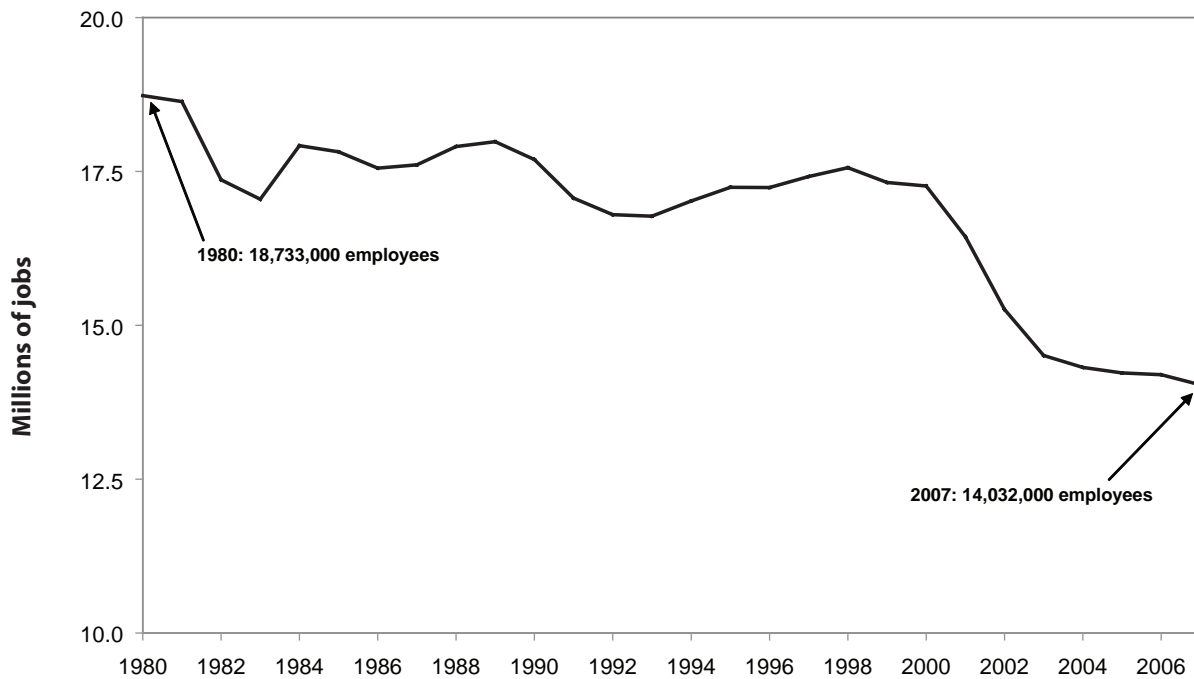
The number of jobs in U.S. manufacturing was relatively stable between 1965 and 2000, and total employment never fell below 16.5 million workers in this period (Bivens 2005). However, after 2000, manufacturing employment declined sharply, as shown in **Figure A**. Unlike previous recessions and business cycle recoveries, manufacturing employment failed to recover after the 2001 downturn, and average annual employment fell steadily after 2000.

Employment in four states has failed to recover since the recession of 2001: Massachusetts, Illinois, Michigan, and Ohio. Since March 1998, only two states—Michigan and Ohio—have failed to experience any employment growth. In these four states losses in the manufacturing sector swamped gains in other sectors.



FIGURE A

Total U.S. manufacturing employment, 1980-2007



SOURCE: Bureau of Labor Statistics.

Manufacturing job losses are summarized in **Figure B**. The states are ranked by manufacturing jobs lost as a share of total employment in each state since March 1998 (shown on the bottom axis). The number of jobs lost in each state is indicated on the top axis. Hardest hit states include:

- North Carolina (-7.0%, -262,000 jobs lost), Michigan (-6.4%, -288,000 jobs), South Carolina (-5.8%, -102,000 jobs), Rhode Island (-5.7%, -26,000 jobs), Mississippi (-5.3%, -60,000 jobs), and New Hampshire (-5.1%, -30,000 jobs).

Seven states have lost more than 200,000 manufacturing jobs since 1998:

- California (-372,000 jobs, -2.8%), Michigan (-288,000 jobs, -6.4%), North Carolina (-262,000 jobs, -7.0%), New York (-258,000 jobs, -3.1%), Ohio (-256,000 jobs, -4.7%),

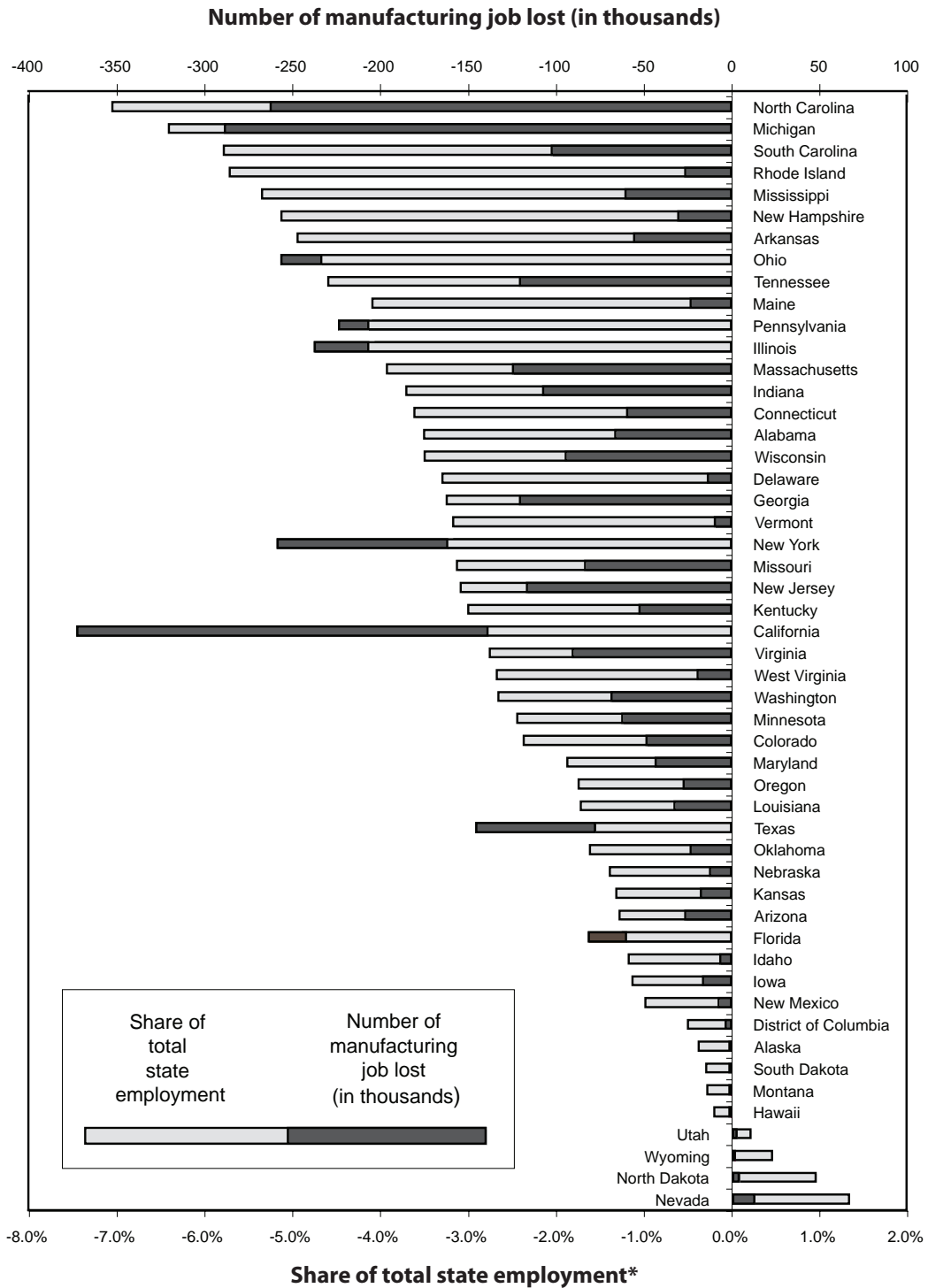
Illinois (-237,000 jobs, -4.0%), and Pennsylvania (-223,000 jobs, -4.1%).

The Midwest and some southern states have been particularly hard hit by the collapse of manufacturing. Those states are also well positioned for a manufacturing recovery if the structural causes of the manufacturing decline are reversed, including a reduction or elimination of the U.S. trade deficit in manufactured goods. In addition to the growth of the U.S. trade deficit, other structural problems in manufacturing that remain to be addressed are the stagnation of public investment in research and development, lack of attention to climate change, conservation and renewable energy development, and inadequate public investment and support for high-performance work systems (Helper 2008).

U.S. imports of manufactured goods more than doubled from \$749 billion in 1997 to \$1.512 trillion in 2006, and the U.S. trade deficit in these products quadrupled from \$136 billion to \$589 billion. Although the

**FIGURE B**

**Total manufacturing jobs lost, 1998 - 2007:  
Number of jobs lost and share of total state employment**



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2001 recession officially ended after three quarters, U.S. manufacturing output declined for two years, and recovery, when it finally began, has been quite weak by historical standards. Real manufacturing output growth averaged only 1.4% per year between 2001 and 2007, versus 4.2% per year during the previous 1991-2001 business cycle (Federal Reserve Board of Governors 2008).

Contrary to some popular reports, there has been no significant increase in manufacturing productivity growth in the current business cycle (Scott 2007). Thus, the sharp contraction of the U.S. manufacturing sector in this decade is largely explained by the rapid growth in manufactured imports and the manufacturing trade deficit (Bivens 2005).

## Conclusion

The manufacturing sector has struggled to expand as the United States has become more integrated into the global marketplace. A lack of supportive U.S. trade and

currency policies and inadequate industrial and energy policies harm the nation's ability to meet future challenges that will require a solid manufacturing base. The sector is poised to play a key role in reducing green house gas emissions and reliance on imported energy, but it must become a focus of policy makers to take full advantage of the new opportunities.

The manufacturing sector is also of vital importance in maintaining our innovative capacity. Reinvestment in U.S. research, development, energy, and manufacturing policies can also stimulate the growth of a wide swath of states in the U.S. heartlands that have been hardest hit by the manufacturing crisis.

*—The author thanks Lauren Marra for her research assistance and Bob Baugh, Josh Bivens, Michael Ettlinger, Sue Helper, and John Irons for comments.*

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## Endnotes

1. BLS, Current Population Statistics, Outgoing Rotation Group.
2. BLS, Multi-factor productivity statistics, output per hour. <http://www.bls.gov/mfp/home.htm>
3. Houseman (2007) notes that “poor measurement may impart a significant bias to manufacturing and, where offshoring is involved, aggregate productivity statistics.” However, U.S. manufacturing growth rates have been quite high since at least the 1970s, and have not increased significantly in that period. Hence, there is little aggregate evidence that recent growth in offshoring has accelerated productivity growth, at least in the manufacturing sector. See Scott (2007).
4. Table 3 reports average wages for a pooled, cross-section of workers from the CPS ORG data groups for 2006 and 2007. Wages for workers surveyed in 2006 were inflation adjusted for comparison with 2007 data.
5. For current data on manufacturing job losses by state since March 2001 see Economic Policy Institute (2008).

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