

## *Employment outlook: 2008–2018*

# Industry output and employment projections to 2018

*Professional and business services and the health care and social assistance sectors account for more than half of the projected job growth from 2008 to 2018; construction also is expected to add jobs, while agriculture and manufacturing employment is expected to decline over the period*

Rose A. Woods

**T**he most recent BLS projections have the labor force increasing at 0.8 percent per year and Gross Domestic Product (GDP) growing 2.4 percent annually over the coming decade. How do these predictions affect specific industries? With the foundation for the labor force and macroeconomy laid, the BLS develops industry employment projections every 2 years, which, in turn, are used to project growth for detailed occupations.<sup>1</sup> This article examines and reports on the results for detailed industry employment and output projections from 2008 to 2018.

These results project total employment in the United States to increase by 15.3 million over the 2008–18 period, rising from 150.9 million to 166.2 million.<sup>2</sup> This represents a 1.0-percent average annual growth rate, which is somewhat faster than the 0.7-percent annual rate experienced during the 1998–2008 period, when employment increased by 10.4 million jobs. The slower growth in the earlier period was due in large part to the recession which began in December 2007.<sup>3</sup>

Over the 2007–08 period, average annual employment fell by 803,900 jobs, down 0.5 percent over the year. Since 2008, further declines in employment have worsened the labor market. From December 2008 through August 2009, monthly employ-

ment (seasonally adjusted) for nonfarm wage and salary workers fell by more than 3.8 million jobs. These relatively large losses in employment since 2008 are not part of the analysis in the present article. Rather, the purpose of this article is to evaluate and present the long-term trends in industry employment, as well as the factors affecting these trends over the 10-year projection period from 2008 through 2018. Nevertheless, because of the relatively low levels for the base year employment, the projected growth rates over the 2008–18 period for some industries may be uncharacteristically high, as part of this growth will likely be due to the recovery of jobs lost during the recession.<sup>4</sup>

Nonagricultural wage and salary employment accounts for about 9 out of 10 projected jobs in the coming period.<sup>5</sup> Within this broad category, most growth is expected within service-providing industries, in which employment is projected to increase by 14.6 million, rising to 131.1 million by 2018. In contrast, jobs in goods-producing industries are projected to show virtually no growth, remaining at 21.4 million in 2018. The number of agriculture workers, which includes self-employed persons, unpaid family workers, and wage and salary workers, is projected to decline by 78,200. Most remaining job growth is accounted for by a projected increase of 630,500 among nonagricultural self-employed and unpaid family workers, rising to 9.9 million by 2018. (See table 1.)

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**Table 1. Employment by major industry sector, 1998, 2008, and 2018**

Industry sector	Thousands of jobs			Change		Percent distribution			Average annual rate of change	
	1998	2008	2018	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
Total <sup>1</sup> .....	140,563.9	150,931.7	166,205.6	10,367.8	15,273.9	100.0	100.0	100.0	0.7	1.0
Nonagriculture wage and salary <sup>2</sup> .....	126,624.7	137,814.8	152,443.5	11,190.1	14,628.7	90.1	91.3	91.7	.9	1.0
Goods-producing, excluding agriculture.....	24,273.6	21,363.1	21,390.4	-2,910.5	27.3	17.3	14.2	12.9	-1.3	.0
Mining.....	564.7	717.0	613.2	152.3	-103.8	.4	.5	.4	2.4	-1.6
Construction.....	6,149.4	7,214.9	8,552.0	1,065.5	1,337.1	4.4	4.8	5.1	1.6	1.7
Manufacturing.....	17,559.5	13,431.2	12,225.2	-4,128.3	-1,206.0	12.5	8.9	7.4	-2.6	-9
Services-providing.....	102,351.1	116,451.7	131,053.1	14,100.6	14,601.4	72.8	77.2	78.8	1.3	1.2
Utilities.....	613.4	559.5	500.5	-53.9	-59.0	.4	.4	.3	-.9	-1.1
Wholesale trade.....	5,795.2	5,963.9	6,219.8	168.7	255.9	4.1	4.0	3.7	-.3	.4
Retail trade.....	14,609.7	15,356.4	16,010.4	746.7	654.0	10.4	10.2	9.6	.5	.4
Transportation and warehousing.....	4,168.1	4,504.9	4,950.4	336.8	445.5	3.0	3.0	3.0	.8	.9
Information.....	3,218.4	2,996.9	3,115.0	-221.5	118.1	2.3	2.0	1.9	-.7	.4
Financial activities.....	7,462.4	8,145.5	8,702.7	683.1	557.2	5.3	5.4	5.2	.9	.7
Professional and business services.....	15,146.5	17,778.0	21,967.9	2,631.5	4,189.9	10.8	11.8	13.2	1.6	2.1
Educational services.....	2,233.0	3,036.5	3,842.0	803.5	805.5	1.6	2.0	2.3	3.1	2.4
Health care and social assistance.....	12,213.7	15,818.7	19,815.6	3,605.0	3,996.9	8.7	10.5	11.9	2.6	2.3
Leisure and hospitality.....	11,231.6	13,458.7	14,601.1	2,227.1	1,142.4	8.0	8.9	8.8	1.8	.8
Other services.....	5,749.8	6,333.2	7,141.9	583.4	808.7	4.1	4.2	4.3	1.0	1.2
Federal Government.....	2,772.0	2,764.3	2,859.1	-7.7	94.8	2.0	1.8	1.7	.0	.3
State and local government.....	17,137.3	19,735.2	21,326.7	2,597.9	1,591.5	12.2	13.1	12.8	1.4	.8
Agriculture, forestry, fishing, and hunting <sup>3</sup> .....	2,528.0	2,098.3	2,020.1	-429.7	-78.2	1.8	1.4	1.2	-1.8	-.4
Agriculture wage and salary.....	1,372.6	1,209.8	1,206.4	-162.8	-3.4	1.0	.8	.7	-1.3	.0
Agriculture self-employed and unpaid family workers.....	1,155.4	888.5	813.7	-266.9	-74.8	.8	.6	.5	-2.6	-9
Nonagriculture self-employed and unpaid family worker.....	9,342.2	9,312.6	9,943.1	-29.6	630.5	6.6	6.2	6.0	.0	.7
Secondary wage and salary jobs in agriculture and private household industries <sup>4</sup> .....	172.5	181.7	191.6	9.2	9.9	.1	.1	.1	.5	.5
Secondary jobs as a self-employed or unpaid family worker <sup>5</sup> .....	1,896.5	1,524.3	1,607.3	-372.2	83.0	1.3	1.0	1.0	-2.2	.5

<sup>1</sup> Employment data for wage and salary workers are from the BLS Current Employment Statistics survey, which counts jobs, whereas self-employed, unpaid family workers, and agriculture, forestry, fishing, and hunting are from the Current Population Survey (household survey), which counts workers.

<sup>2</sup> Includes wage and salary data from the Current Employment Statistics survey, except private households, which is from the Current Populations Survey. Logging workers are excluded.

<sup>3</sup> Includes agriculture, forestry, fishing, and hunting data from the Current Population Survey, except logging, which is from Current Employment Statistics survey. Government wage and salary workers are excluded.

<sup>4</sup> Workers who hold a secondary wage and salary job in agricultural production, forestry, fishing, and private household industries.

<sup>5</sup> Wage and salary workers who hold a secondary job as a self-employed or unpaid family worker.

Projected industry employment is determined by a number of inputs, including projected industry output. BLS projects industry output to expand to \$27.7 trillion (in chain-weighted 2000 dollars) by 2018, an increase of \$6.7 trillion from 2008.<sup>7</sup> The resulting average annual growth rate of 2.8 percent is somewhat faster than the

2.1-percent rate experienced during the previous decade. Most growth is expected to come from service-providing sectors. Output in these sectors is projected to increase to \$20.0 trillion by 2018, an average annual growth rate of 3.1 percent. As the growth rate is similar to the 3.0-percent rate of the 1998–2008 period, and is faster than

the overall growth rate for output, the service-providing sectors are expected to continue to increase their share of nominal output from 68.4 percent in 2008 to 72.8 percent in 2018.<sup>8</sup>

Output in the goods-producing sectors, excluding agriculture, and the agriculture, forestry, fishing and hunting sector is projected to grow at a 2.0-percent annual rate. This is an improvement from the previous decade, in which the recession at the end of the period negated any growth, resulting in a zero-percent growth rate for the goods-producing sectors, overall. Output in the agriculture, forestry, fishing and hunting sector is projected to grow at a 0.9-percent annual rate to reach \$318.9 billion in 2018. Despite growth in these two sectors, neither is expected to outpace growth among service-providing industries. As a result, their respective shares of nominal

output are expected to decline. (See table 2.)

The 2008–18 BLS projections have the labor force growing at an annual rate of 0.8 percent in the coming period, which is somewhat slower than the 1.1-percent growth rate experienced during the 1998–2008 period.<sup>9</sup> The growth rate of the nonfarm labor productivity index is projected to average 1.8 percent annually over the projection period, which is significantly slower than the 2.6-percent growth rate experienced in the previous decade.<sup>9</sup> The projected annual growth in GDP is expected to remain essentially unchanged, from 2.5 percent over the 1998–08 period to 2.4 percent per year over the projection period. These macroeconomic constraints, along with the industry models, shape the final projections of industry employment and output.

In addition, changes within the various GDP com-

**Table 2. Output by major industry sector (gross duplicated output), 1998, 2008, and projected 2018**

Industry sector	Billions of chained 2000 dollars			Average annual rate of change		Billions of dollars			Percent distribution		
	1998	2008	2018	1998–2008	2008–18	1998	2008	2018	1998	2008	2018
Total .....	17,050.0	21,028.4	27,702.7	2.1	2.8	16,285.4	26,773.1	43,131.1	100.0	100.0	100.0
Goods-producing, excluding agriculture .....	5,116.2	5,096.8	6,235.5	.0	2.0	4,833.6	6,937.1	10,218.1	29.7	25.9	23.7
Mining .....	204.9	231.5	227.3	1.2	–.2	137.0	575.6	953.0	.8	2.1	2.2
Construction .....	852.4	860.6	1,140.5	.1	2.9	783.3	1,190.3	2,402.1	4.8	4.4	5.6
Manufacturing .....	4,061.2	3,985.3	4,922.9	–.2	2.1	3,913.3	5,171.2	6,863.0	24.0	19.3	15.9
Service-providing .....	10,973.0	14,769.6	20,050.2	3.0	3.1	10,520.3	18,300.5	31,405.4	64.6	68.4	72.8
Utilities .....	298.9	319.2	349.0	.7	.9	279.8	472.2	588.4	1.7	1.8	1.4
Wholesale trade .....	779.8	1,063.5	1,777.0	3.2	5.3	769.4	1,303.2	1,855.9	4.7	4.9	4.3
Retail trade .....	872.5	1,232.3	1,863.8	3.5	4.2	844.4	1,377.9	2,264.1	5.2	5.1	5.2
Transportation and warehousing .....	594.6	678.3	905.9	1.3	2.9	545.8	816.4	1,467.1	3.4	3.0	3.4
Information .....	769.4	1,105.6	1,865.0	3.7	5.4	755.7	1,190.3	2,335.9	4.6	4.4	5.4
Financial activities .....	2,107.5	2,957.1	3,962.4	3.4	3.0	2,091.3	3,568.3	5,917.9	12.8	13.3	13.7
Professional and business services .....	1,677.5	2,501.5	3,535.3	4.1	3.5	1,587.4	2,993.5	6,009.8	9.7	11.2	13.9
Educational services .....	122.5	155.8	183.6	2.4	1.7	113.0	215.4	376.3	.7	.8	.9
Health care and social assistance .....	924.1	1,301.6	1,861.1	3.5	3.6	874.1	1,659.9	3,343.5	5.4	6.2	7.8
Leisure and hospitality .....	606.9	748.2	884.6	2.1	1.7	571.5	950.3	1,473.2	3.5	3.5	3.4
Other services .....	400.6	462.5	539.2	1.4	1.5	378.3	603.0	931.2	2.3	2.3	2.2
Federal Government .....	572.6	759.5	867.6	2.9	1.3	540.6	1,048.4	1,632.8	3.3	3.9	3.8
State and local government .....	1,254.2	1,504.4	1,727.8	1.8	1.4	1,169.0	2,101.5	3,209.2	7.2	7.8	7.4
Agriculture, forestry, fishing, and hunting .....	264.8	292.6	318.9	1.0	.9	271.6	390.1	375.4	1.7	1.5	.9
Special industries <sup>1</sup> .....	698.5	898.8	1,092.6	2.6	2.0	659.9	1,145.3	1,132.2	4.1	4.3	2.6
Residual <sup>2</sup> .....	–2.5	–29.3	5.5	–	–	–	–	–	–	–	–

<sup>1</sup> Consists of nonproducing accounting categories to reconcile the input-output system with NIPA accounts.

<sup>2</sup> Residual is shown for the first level only. Subcategories do not necessarily add to higher categories as a by-product of chain-weighting.

ponents can directly influence employment and output projections. As globalization and international competition continue to take on greater significance, exports and imports will affect the future prospects of many industries. Indeed, two of the GDP components with the fastest projected growth in the coming period are imports (4.2 percent) and exports (3.9 percent).<sup>10</sup> As a result, a variety of industries—from agriculture and manufacturing to financial services—are expected to benefit from globalization in the form of rapidly rising exports. At the same time, however, increased globalization is projected to lead to even faster increases in imports. While some industries may benefit from increased imports in terms of improved productivity<sup>11</sup>, others, such as apparel and textiles, are likely to be affected adversely.

## Sector highlights

Service-providing sectors include those with the fastest projected rates of employment and output growth over the projection period. In terms of employment, the educational services sector<sup>12</sup> is projected to have the most rapid growth in the economy, adding 805,500 jobs by 2018, an annual average growth rate of 2.4 percent. (See table 1.) Professional and business services is projected to generate the greatest number of jobs, with employment increasing by 4.2 million during the 2008–18 period (2.1 percent per year). In terms of output, the information sector is projected to have the fastest growth, increasing by 5.4 percent per year and reaching nearly \$1.9 trillion by 2018. (See table 2.)

Within the goods-producing sectors, the only sector projected to show employment growth over the projection period is construction, which is expected to add 1.3 million jobs and reach 8.6 million by 2018. The job gains in the construction sector will be almost entirely offset by the projected 1.2-million decline in manufacturing employment during the 2008–18 period. The manufacturing sector's seemingly large employment loss, which projects an employment level of 12.2 million in 2018, still represents a contrast to what was experienced during the previous decade when the sector lost 4.1 million jobs. Employment in mining is projected to decline from its 2008 level of 717,000, shedding jobs at a rate of 1.6 percent per year to reach 613,200 by 2018.

Due to continued productivity gains, output in the goods-producing sector is expected to paint a different picture than employment, as both construction and manufacturing are expected to have rising output. Specifically, output for the goods-producing sector is projected

to increase 2.0 percent annually and reach \$6.2 trillion by 2018. Manufacturing, the dominant major industry in the goods-producing sector, is projected to expand output 2.1 percent annually, reaching \$4.9 trillion in 2018.

The recession that began in December 2007 affected some sectors more severely. As a percent of total employment, the largest employment declines over the 2007–08 period occurred in construction, manufacturing, and financial activities. Construction had a 5.4-percent decrease, representing a loss of 415.1 thousand jobs. Manufacturing lost the most jobs, 448,000, as employment fell by 3.2 percent over the 1-year period. The financial activities sector was also severely affected by the recession, as employment fell by 1.9 percent, losing 155.9 thousand jobs.<sup>13</sup>

## Service-providing sectors

Service-providing sectors are projected to generate almost all of the employment gain from 2008 to 2018. Two of these sectors—professional and business services and health care and social assistance services—are expected to generate 8.2 million jobs over the period, more than half the increase in total employment. Projected employment growth in the leisure and hospitality sector and in the State and local government sector will contribute an additional 2.7 million jobs by 2018. Employment declines are projected in only one service-providing sector—utilities—where employment is expected to decline by 59,000 jobs over the period. (See table 1.)

Service-providing sectors are also expected to produce strong gains in output, which is projected to grow by \$5.3 trillion over the 2008–18 period. At the sector level, real output is projected to grow fastest in the information, wholesale trade, and retail trade sectors. (See table 2.)

*Professional and business services.* Employment in the professional and business services sector is projected to reach 22.0 million by 2018, an increase of 4.2 million jobs, more than any other sector in the economy. Business demand for consultants, sophisticated computer networks, and a variety of employment services to address complex business issues is expected to generate much of the demand. Employment is projected to grow 2.1 percent annually over the projection period, higher than the 1.6-percent rate experienced during the 1998 to 2008 period, as the sector returns to the prerecession employment growth rates. Demand for professional and business services is projected to remain strong; output in the sector is expected to increase by 3.5 percent per year (\$1.0 trillion), reaching a \$3.5 trillion by 2018.

Much of the employment growth in the professional and business services sector will be in management, scientific, and technical consulting services. This industry is projected to have the fastest employment growth of all industries and the third largest employment increase. (See tables 3 and 4.) Employment in the industry is projected to increase by 835,200 jobs (6.2 percent annually), reaching a level of 1.8 million by 2018. Strong job growth is expected due to continued business demand for advice on planning and logistics, implementation of new technologies, and compliance with workplace safety, environmental, and employment regulations. Increasing globalization, trends towards outsourcing and mergers, and a heightened need for security also provide opportunities for consulting firms.<sup>14</sup> For the management, scientific and technical consulting services industry, output is projected to rise by \$115.4 billion (5.3 percent annually) and reach \$287.2 billion by 2018, which places this industry among those with the fastest and largest projected output growth. (See tables 5 and 6.)

Computer systems design and related services is also among the industries projected to experience the fastest and largest employment growth. (See tables 3 and 4.) Employment is projected to increase by 656,400 jobs, bringing the level of employment to 2.1 million by 2018. This represents an average annual growth rate of 3.8 percent, slightly slower than the rate experienced during the previous decade, largely due to a deceleration in the growth of new markets for this industry. Still, with increasing demand for the design and integration of sophisticated networks and Internet and intranet sites, employment in the industry is expected to continue to rise over the projection period. Other factors driving growth include the need for compatibility with mobile technologies, the adoption of e-prescribing and electronic health records, and increasing requirements for computer-related security services.<sup>15</sup> These demands are expected to increase output by \$94.5 billion (3.8 percent annually), resulting in a level of \$302.0 billion in 2018.

The employment services industry, comprising employment placement agencies, temporary help services, and professional employer organizations, is projected to have one of the largest employment increases over the projection period. (See table 4.) This industry is expected to add 599,700 jobs and reach 3.7 million by 2018, an average annual rate of 1.8 percent. Output is projected to increase by \$64.3 billion (3.2 percent annually) and reach \$238.0 billion by 2018. The demand for temporary help services is expected to generate much of the growth. These services include the placement of temporary workers and those

with specialized skills, such as health care staff needed to meet the needs of aging baby boomers. Demand for the services of professional employer organizations is also expected to drive growth. As companies face increasingly complex employee regulations, they are expected to shift responsibility for human resource and personnel management to these organizations to help control costs and reduce risks.

*Health care and social assistance.* Employment in health care and social assistance is projected to generate 4.0 million jobs, the second largest increase among all sectors. Employment in this sector is projected to reach 19.8 million in 2018, growing at an average annual rate of 2.3 percent, the second fastest among all sectors. The strong growth is driven largely by projected changes in demographics. The total number of persons aged 65 years and older is projected to increase from 38.7 million in 2008 to nearly 51.4 million in 2018; this age group will account for 15.3 percent of the total population in 2018, up from 12.7 percent in 2008.<sup>16</sup> Advances in medical technology and the increasing population of the elderly, whose health care needs are greater than average, are expected to drive growth.

Cost pressures are expected to continue to impact the distribution of employment within the health care and social assistance sector. The delivery of services is expected to continue shifting from costly inpatient facilities, such as hospitals, to less expensive outpatient settings. The demand for integrated delivery of different types of care is expected to continue to grow,<sup>17</sup> and pressures to limit unnecessary or low-priority services will continue as well. Although cost pressures may dampen employment growth in hospitals, they are also expected to help drive demand for services provided by offices of health practitioners, home health care services, and individual and family services.

Offices of health practitioners provide medical, surgical, and dental services outside the traditional hospital setting. This industry is expected to be among those with the largest employment and output increases over the projection period. (See tables 4 and 6.) The industry is projected to add 1.3 million jobs (3.0 percent, annually) and reach a level of 5.0 million by 2018. Output is projected to grow by \$246.2 billion (4.3 percent annually) and reach \$714.1 billion by 2018. This growth will be driven by several factors. First, innovations in medical technology are expected to increase life expectancy and the number of elderly persons seeking medical care. In addition, medical advances are expected to improve survival rates of severely ill and injured patients of all ages, which will increase the need

**Table 3. Industries with the fastest growing and most rapidly declining wage and salary employment, 2008–18**

2007 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2008	2018	2008–18	2008–18
<b>Fastest growth</b>						
5416	Management, scientific, and technical consulting services .....	Professional and business services	1,008.9	1,844.1	835.2	6.2
6114-7	Other educational services .....	Educational services	578.9	894.9	316.0	4.5
6241	Individual and family services .....	Health care and social assistance	1,108.6	1,638.8	530.2	4.0
6216	Home health care services .....	Health care and social assistance	958.0	1,399.4	441.4	3.9
5414	Specialized design services .....	Professional and business services	143.1	208.7	65.6	3.8
518, 519	Data processing, hosting, related services, and other information services .....	Information	395.2	574.1	178.9	3.8
5415	Computer systems design and related services .....	Professional and business services	1,450.3	2,106.7	656.4	3.8
533	Lessors of nonfinancial intangible assets (except copyrighted works) .....	Financial activities	28.2	37.9	9.7	3.0
6211, 6212, 6213	Offices of health practitioners .....	Health care and social assistance	3,713.3	4,978.6	1,265.3	3.0
8121	Personal care services .....	Other services	621.6	819.1	197.5	2.8
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services .....	Health care and social assistance	989.5	1,297.9	308.4	2.8
5612	Facilities support services .....	Professional and business services	132.7	173.6	40.9	2.7
5112	Software publishers .....	Information	263.7	342.8	79.1	2.7
7115	Independent artists, writers, and performers .....	Leisure and hospitality	50.4	64.8	14.4	2.5
NA	Local government passenger transit .....	State and local government	268.6	342.6	74.0	2.5
6111	Elementary and secondary schools .....	Educational services	854.9	1,089.7	234.8	2.5
5417	Scientific research and development services .....	Professional and business services	621.7	778.9	157.2	2.3
562	Waste management and remediation services .....	Professional and business services	360.2	451.0	90.8	2.3
3399	Other miscellaneous manufacturing .....	Manufacturing	321.0	399.4	78.4	2.2
6242, 6243	Community and vocational rehabilitation services .....	Health care and social assistance	540.9	672.0	131.1	2.2
<b>Most rapidly declining</b>						
3152	Cut and sew apparel manufacturing .....	Manufacturing	155.2	66.7	-88.5	-8.1
3151	Apparel knitting mills .....	Manufacturing	26.2	12.5	-13.7	-7.1
3133	Textile and fabric finishing and fabric coating mills .....	Manufacturing	48.3	23.5	-24.8	-7.0
3132	Fabric mills .....	Manufacturing	65.4	35.0	-30.4	-6.1
3343	Audio and video equipment manufacturing .....	Manufacturing	27.0	14.6	-12.4	-6.0
3159	Apparel accessories and other apparel manufacturing .....	Manufacturing	17.0	9.2	-7.8	-6.0
3131	Fiber, yarn, and thread mills .....	Manufacturing	37.4	20.7	-16.7	-5.7
3141	Textile furnishings mills .....	Manufacturing	75.4	41.9	-33.5	-5.7
3365	Railroad rolling stock manufacturing .....	Manufacturing	28.4	17.5	-10.9	-4.7
3162	Footwear manufacturing .....	Manufacturing	15.8	10.0	-5.8	-4.5
3221	Pulp, paper, and paperboard mills .....	Manufacturing	126.1	81.9	-44.2	-4.2
3251	Basic chemical manufacturing .....	Manufacturing	152.1	99.9	-52.2	-4.1
3344	Semiconductor and other electronic component manufacturing .....	Manufacturing	432.4	286.8	-145.6	-4.0
3341	Computer and peripheral equipment manufacturing .....	Manufacturing	182.8	124.7	-58.1	-3.8
3149	Other textile product mills .....	Manufacturing	72.2	49.4	-22.8	-3.7
NA	Federal enterprises except the Postal Service and electric utilities .....	Federal Government	63.5	44.9	-18.6	-3.4
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing .....	Manufacturing	17.8	13.0	-4.8	-3.1
3322	Cutlery and handtool manufacturing .....	Manufacturing	49.1	35.9	-13.2	-3.1
3346	Manufacturing and reproducing magnetic and optical media .....	Manufacturing	34.9	26.0	-8.9	-2.9
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	Manufacturing	149.5	112.8	-36.7	-2.8

<b>Table 4. Industries with the largest wage and salary employment growth and declines, 2008–18</b>						
2007 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2008	2018	2008–18	2008–18
<b>Largest growth</b>						
23	Construction .....	Construction	7,214.9	8,552.0	1,337.1	1.7
6211, 6212, 6213	Offices of health practitioners.....	Health care and social assistance	3,713.3	4,978.6	1,265.3	3.0
5416	Management, scientific, and technical consulting services.....	Professional and business services	1,008.9	1,844.1	835.2	6.2
722	Food services and drinking places.....	Leisure and hospitality	9,631.9	10,370.7	738.8	.7
5415	Computer systems design and related services services.....	Professional and business services	1,450.3	2,106.7	656.4	3.8
44, 45	Retail trade .....	Retail trade	15,356.4	16,010.4	654.0	.4
NA	General local government educational services compensation .....	State and local government	8,075.6	8,728.3	652.7	.8
623	Nursing and residential care facilities.....	Health care and social assistance	3,008.0	3,644.8	636.8	1.9
5613	Employment services .....	Professional and business services	3,144.4	3,744.1	599.7	1.8
622	Hospitals.....	Health care and social assistance	4,641.2	5,191.9	550.7	1.1
6241	Individual and family services .....	Health care and social assistance	1,108.6	1,638.8	530.2	4.0
6216	Home health care services.....	Health care and social assistance	958.0	1,399.4	441.4	3.9
5617	Services to buildings and dwellings.....	Professional and business services	1,847.1	2,182.6	335.5	1.7
5413	Architectural, engineering, and related services.....	Professional and business services	1,444.7	1,769.5	324.8	2.0
6114-7	Other educational services.....	Educational services	578.9	894.9	316.0	4.5
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services.....	Health care and social assistance	989.5	1,297.9	308.4	2.8
42	Wholesale trade.....	Wholesale trade	5,963.9	6,219.8	255.9	.4
6112, 6113	Junior colleges, colleges, universities, and professional schools.....	Educational services	1,602.7	1,857.4	254.7	1.5
5411	Legal services.....	Professional and business services	1,163.7	1,416.8	253.1	2.0
NA	General Local government, other compensation .....	State and local government	4,224.1	4,464.0	239.9	.6
<b>Largest declines</b>						
3344	Semiconductor and other electronic component manufacturing.....	Manufacturing	432.4	286.8	-145.6	-4.0
5111	Newspaper, periodical, book, and directory publishers.....	Information	618.9	499.2	-119.7	-2.1
3363	Motor vehicle parts manufacturing .....	Manufacturing	544.4	443.3	-101.1	-2.0
491	Postal Service.....	Federal Government	747.5	650.0	-97.5	-1.4
323	Printing and related support activities.....	Manufacturing	594.1	499.3	-94.8	-1.7
517	Telecommunications .....	Information	1,021.5	931.9	-89.6	-9
3152	Cut and sew apparel manufacturing .....	Manufacturing	155.2	66.7	-88.5	-8.1
213	Support activities for mining.....	Mining	327.7	251.7	-76.0	-2.6
111	Crop production .....	Agriculture, forestry, fishing, and hunting	950.6	880.7	-69.9	-8
3222	Converted paper product manufacturing .....	Manufacturing	319.7	255.6	-64.1	-2.2
5241	Insurance carriers.....	Financial activities	1,401.8	1,338.2	-63.6	-.5
2211	Electric power generation, transmission and distribution .....	Utilities	404.7	345.7	-59.0	-1.6
3341	Computer and peripheral equipment manufacturing....	Manufacturing	182.8	124.7	-58.1	-3.8
3251	Basic chemical manufacturing .....	Manufacturing	152.1	99.9	-52.2	-4.1
3221	Pulp, paper, and paperboard mills.....	Manufacturing	126.1	81.9	-44.2	-4.2
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing.....	Manufacturing	360.1	319.5	-40.6	-1.2
112	Animal production .....	Agriculture, forestry, fishing, and hunting	860.6	823.9	-36.7	-.4
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	Manufacturing	149.5	112.8	-36.7	-2.8
3261	Plastics product manufacturing .....	Manufacturing	589.0	555.2	-33.8	-.6
3141	Textile furnishings mills .....	Manufacturing	75.4	41.9	-33.5	-5.7

**Table 5. Industries with the fastest growing and most rapidly declining output, 2008–18**

2007 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2008	2018	2008–18	2008–18
<b>Fastest growing</b>						
3341	Computer and peripheral equipment manufacturing.....	Manufacturing	200.5	967.3	766.8	17.0
5112	Software publishers .....	Information	194.9	529.6	334.7	10.5
518, 519	Data processing, hosting, related services, and other information services .....	Information	141.9	345.3	203.4	9.3
3343	Audio and video equipment manufacturing.....	Manufacturing	4.8	10.8	6.0	8.4
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	435.5	883.2	447.7	7.3
3391	Medical equipment and supplies manufacturing.....	Manufacturing	72.1	132.7	60.6	6.3
5417	Scientific research and development services .....	Professional and business services	159.0	288.5	129.5	6.1
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance.....	Other services	22.8	40.7	17.9	6.0
3344	Semiconductor and other electronic component manufacturing .....	Manufacturing	173.4	308.7	135.3	5.9
3369	Other transportation equipment manufacturing.....	Manufacturing	12.6	21.9	9.3	5.7
517	Telecommunications .....	Information	480.3	822.3	342.0	5.5
5416	Management, scientific, and technical consulting services .....	Professional and business services	171.8	287.2	115.4	5.3
42	Wholesale trade.....	Wholesale trade	1,063.5	1,777.0	713.5	5.3
6242, 6243	Community and vocational rehabilitation services.....	Health care and social assistance	24.2	40.3	16.2	5.2
5617	Services to buildings and dwellings.....	Professional and business services	121.1	197.7	76.6	5.0
533	Lessors of nonfinancial intangible assets (except copyrighted works).....	Financial activities	146.0	235.0	89.0	4.9
3371	Household and institutional furniture and kitchen cabinet manufacturing.....	Manufacturing	35.6	57.0	21.4	4.8
562	Waste management and remediation services.....	Professional and business services	67.0	104.8	37.8	4.6
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services .....	Health care and social assistance	115.5	180.0	64.5	4.5
6211, 6212, 6213	Offices of health practitioners.....	Health care and social assistance	467.9	714.1	246.2	4.3
55	Management of companies and enterprises.....	Professional and business services	634.0	964.0	329.9	4.3
<b>Most rapidly declining</b>						
NA	Federal enterprises except the Postal Service and electric utilities.....	Federal Government	10.9	6.7	-4.2	-4.7
3152	Cut and sew apparel manufacturing .....	Manufacturing	24.7	16.2	-8.5	-4.1
3314	Nonferrous metal (except aluminum) production and processing .....	Manufacturing	24.2	15.9	-8.3	-4.1
3151	Apparel knitting mills .....	Manufacturing	4.6	3.4	-1.2	-3.0
3122	Tobacco manufacturing.....	Manufacturing	64.8	49.7	-15.2	-2.6
3133	Textile and fabric finishing and fabric coating mills.....	Manufacturing	8.3	7.1	-1.2	-1.5
323	Printing and related support activities.....	Manufacturing	92.2	80.4	-11.9	-1.4
3222	Converted paper product manufacturing .....	Manufacturing	74.8	66.1	-8.7	-1.2
8122	Death care services.....	Other services	10.5	9.4	-1.1	-1.1
114	Fishing, hunting and trapping .....	Agriculture, forestry, fishing, and hunting	7.1	6.3	-0.8	-1.1
3315	Foundries .....	Manufacturing	30.3	27.8	-2.5	-0.9
3149	Other textile product mills .....	Manufacturing	6.4	5.9	-0.5	-0.8
3221	Pulp, paper, and paperboard mills.....	Manufacturing	66.9	62.2	-4.7	-0.7
5111	Newspaper, periodical, book, and directory publishers ..	Information	127.0	119.6	-7.3	-0.6
3332	Industrial machinery manufacturing.....	Manufacturing	33.6	32.1	-1.5	-0.5
3313	Alumina and aluminum production and processing.....	Manufacturing	41.8	40.0	-1.9	-0.5
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing.....	Manufacturing	3.8	3.6	-0.1	-0.4
8114	Personal and household goods repair and maintenance	Other services	14.3	13.7	-0.5	-0.4
3162	Footwear manufacturing .....	Manufacturing	7.8	7.5	-0.3	-0.4
211	Oil and gas extraction .....	Mining	125.6	121.9	-3.7	-3.0
213	Support activities for mining.....	Mining	55.7	54.3	-1.4	-3.0

<b>Table 6. Industries with the largest output growth and declines, 2008–18</b>						
2007 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2008	2018	2008–18	2008–18
<b>Largest growth</b>						
3341	Computer and peripheral equipment manufacturing....	Manufacturing	200.5	967.3	766.8	17.0
42	Wholesale trade.....	Wholesale trade	1,063.5	1,777.0	713.5	5.3
44, 45	Retail trade .....	Retail trade	1,232.3	1,863.8	631.5	4.2
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	435.5	883.2	447.7	7.3
521, 522	Monetary authorities, credit intermediation, and related activities .....	Financial activities	846.6	1,217.3	370.6	3.7
517	Telecommunications .....	Information	480.3	822.3	342.0	5.5
5112	Software publishers .....	Information	194.9	529.6	334.7	10.5
55	Management of companies and enterprises.....	Professional and business services	634.0	964.0	329.9	4.3
23	Construction .....	Construction	860.6	1,140.5	279.9	2.9
6211, 6212, 6213	Offices of health practitioners.....	Health care and social assistance	467.9	714.1	246.2	4.3
NA	Owner-occupied dwellings .....	Special industries	898.8	1,132.2	233.4	2.3
531	Real estate.....	Financial activities	859.4	1,064.7	205.3	2.2
518, 519	Data processing, hosting, related services, and other information services .....	Information	141.9	345.3	203.4	9.3
622	Hospitals.....	Health care and social assistance	425.5	580.4	154.8	3.2
3344	Semiconductor and other electronic component manufacturing .....	Manufacturing	173.4	308.7	135.3	5.9
5417	Scientific research and development services .....	Professional and business services	159.0	288.5	129.5	6.1
NA	General State and local government except compensation and consumption of fixed capital.....	State and local government	461.9	590.2	128.3	2.5
5416	Management, scientific, and technical consulting services.....	Professional and business services	171.8	287.2	115.4	5.3
484	Truck transportation .....	Transportation and warehousing	275.3	374.5	99.2	3.1
5415	Computer systems design and related services.....	Professional and business services	207.4	302.0	94.5	3.8
<b>Largest declines</b>						
3122	Tobacco manufacturing.....	Manufacturing	64.8	49.7	-15.2	-2.6
323	Printing and related support activities.....	Manufacturing	92.2	80.4	-11.9	-1.4
3222	Converted paper product manufacturing .....	Manufacturing	74.8	66.1	-8.7	-1.2
3152	Cut and sew apparel manufacturing .....	Manufacturing	24.7	16.2	-8.5	-4.1
3314	Nonferrous metal (except aluminum) production and processing .....	Manufacturing	24.2	15.9	-8.3	-4.1
5111	Newspaper, periodical, book, and directory publishers ....	Information	127.0	119.6	-7.3	-.6
3221	Pulp, paper, and paperboard mills.....	Manufacturing	66.9	62.2	-4.7	-.7
NA	Federal enterprises except the Postal Service and electric utilities .....	Federal Government	10.9	6.7	-4.2	-4.7
211	Oil and gas extraction .....	Mining	125.6	121.9	-3.7	-.3
3315	Foundries .....	Manufacturing	30.3	27.8	-2.5	-.9
3313	Alumina and aluminum production and processing.....	Manufacturing	41.8	40.0	-1.9	-.5
3332	Industrial machinery manufacturing.....	Manufacturing	33.6	32.1	-1.5	-.5
213	Support activities for mining.....	Mining	55.7	54.3	-1.4	-.3
3151	Apparel knitting mills .....	Manufacturing	4.6	3.4	-1.2	-3.0
3133	Textile and fabric finishing and fabric coating mills.....	Manufacturing	8.3	7.1	-1.2	-1.5
8122	Death care services.....	Other services	10.5	9.4	-1.1	-1.1
114	Fishing, hunting and trapping .....	Agriculture, forestry, fishing, and hunting	7.1	6.3	-.8	-1.1
2212	Natural gas distribution .....	Mining	67.7	67.1	-.6	-.1
8114	Personal and household goods repair and maintenance	Other services	14.3	13.7	-.5	-.4
3149	Other textile product mills .....	Manufacturing	6.4	5.9	-.5	-.8

for extensive care to aid in their recovery. Finally, cost pressures are expected to shift delivery of some services from expensive inpatient facilities to the offices of health practitioners.<sup>18</sup>

The home health care services industry is also projected to experience strong employment growth over the projection period. This industry provides skilled nursing or other medical care in the patient's home. Home health care services are expected to add 441,400 jobs, reaching an employment level of 1.4 million by 2018. This represents an annual growth rate of 3.9 percent, making it the fourth fastest among all industries. (See table 3.) Output growth in home health care services is projected to increase by \$26.4 billion and reach \$79.1 billion by 2018, an average annual growth rate of 4.1 percent. Strong growth is expected due to the rising population of elderly, for whom most home health services are provided, and the lower cost of delivering some services in a home health care setting compared with more costly inpatient facilities.

The nursing and residential care facilities industry is projected to add 636,800 jobs over the projection period and is among those with the largest employment increases. (See table 4.) Employment in this industry is projected to reach a level of 3.6 million by 2018, growing at a 1.9-percent average annual rate. Output in this industry is projected to increase by \$29.3 billion from 2008 to 2018, reaching \$160.4 billion by the end of the period, an annual growth rate of 2.0 percent. Nursing and residential care facilities provide inpatient nursing, rehabilitation, and health-related personal care to those who need continuous nursing care but do not require hospital services. The increasing share of elderly persons in the population is expected to drive growth among these facilities. As life expectancy continues to increase, so does the number of people who require nursing and residential care.

Employment growth in private hospitals is expected to increase at an average annual rate of only 1.1 percent during the projection period. (See the government section of this article for a discussion of employment in public hospitals.) Still, because of the large employment base, this annual growth rate represents one of the largest employment increases among all industries. (See table 4.) Hospitals are expected to add 550,700 jobs and reach an employment level of 5.2 million by 2018. Over the same period, output is projected to increase by \$154.8 billion, at a 3.2-percent average annual rate, to reach \$580.4 billion. The slow rate of employment growth relative to most other health care services results from cost pressures. Services currently provided on a costly inpatient basis in a hospital are expected to be increasingly provided as an outpatient

or home health service. In addition, continued emphasis on preventive care, the elimination of unnecessary procedures, and the integrated delivery of care are expected to dampen growth in this industry.

Individual and family services provide a variety of social assistance services to children, the elderly, persons with disabilities, and others. This industry is projected to be the third-fastest in terms of employment growth over the projection period, increasing at a 4.0-percent average annual rate. (See table 3.) This rate of growth represents an additional 530,200 jobs by 2018, which is one of the largest projected increases among all industries, bringing the employment level to 1.6 million. (See table 4.) Projected growth in this industry is driven by the expected increase in the share of elderly in the population and the resulting increase in demand for services such as senior centers, adult day care, and programs that provide home care services. In addition, cost pressures are expected to shift delivery of some services from relatively expensive inpatient facilities to less costly individual and family service providers.

Outpatient, laboratory, and other ambulatory care, which stands to benefit from cost-reduction measures, includes services such as medical and diagnostic laboratories in addition to outpatient care centers. The employment growth in this industry is projected to be one of the largest increases, adding 308,400 jobs, at a rate of 2.8 percent annually, which also ranks it as one of the fastest growing industries. (See table 3.) Output in this industry is projected to grow 4.5 percent annually, increasing by \$64.5 billion over the projection period to reach \$180.0 billion in 2016.

*Information.* The information sector is projected to experience output growth at an average annual rate of 5.4 percent, faster than any other sector in the economy. (See table 2.) Output in the information sector is expected to increase by \$759.4 billion over the projection period, reaching \$1.9 trillion in 2018. Most of this projected growth is expected in three industries: telecommunications; software publishing; and data processing, hosting, related services, and other information services. These three industries are among those with the fastest and the largest projected output growth. (See tables 5 and 6.) However, employment in the information sector is projected to grow at an average annual rate of only 0.4 percent, which is lower than the expected growth rate of total employment. Slow job growth is due mostly to two large industries within the information sector that are projected to see declining employment. Telecommunications and

newspaper, periodical, book, and directory publishers are expected to lose a combined 209,300 jobs over the projection period. Overall, the information sector is projected to add 118,100 jobs during the projection period, to reach 3.1 million jobs by 2018.

Within the information sector, the telecommunications industry accounted for about a third of employment in 2008. Over the projection period, telecommunications employment is projected to decrease at a 0.9-percent average annual rate, declining by 89,600 jobs to reach 931,900 jobs in 2018. Despite an increase in demand for telecommunications services, more reliable networks and consolidation among organizations will lead to productivity gains, reducing the need for workers. In terms of output, telecommunications is projected to be among the industries with the fastest and the largest output growth, as households and businesses demand an expanding range of communications services. (See tables 5 and 6.) Output is expected to increase by \$342.0 billion over the projection period, reaching \$822.3 billion by 2018, an average annual rate of 5.5 percent.

In terms of output, software publishing is expected to be the second-fastest growing industry. (See table 5.) Real output is expected to grow over the projection period at a rate of 10.5 percent, increasing by \$334.7 billion to reach \$529.6 billion by 2018. Employment is expected to increase at an annual rate of 2.7 percent, placing this industry among those with the fastest employment growth. (See table 3.) Software publishers are expected to add 79,100 jobs over the period, reaching an employment level of 342,800 in 2018. Relative to the previous decade, employment growth should be rapid as organizations of all types continue to adopt the newest software products. In addition, software companies will continue to offer a wider range of IT services, many of which are labor-intensive.

The data processing, hosting, related services, and other information services industry is also projected to be among those with the strongest employment growth, increasing at 3.8 percent annually, to reach 574,100 jobs by 2018. (See table 3.) Included in this industry are establishments that provide Web hosting, streaming services and application hosting and service provisioning. Establishments supplying information or storing and providing access to information, for the purpose of searching, publishing or broadcasting content are also included in this industry. These can include news syndicates, libraries, archives and Web search portals. Real output in the industry is projected to grow at an average annual rate of 9.3 percent, the third fastest increase among all industries. (See table 5.) Output is expected to increase by \$203.4 billion over

the projection period, placing this industry among those with the largest output increases and bringing output to \$345.3 billion in 2018. (See table 6.) Internet publishing and broadcasting and Web search portals are expected to grow rapidly, as Web search portals continue to expand into major IT providers, and as Internet publishing and broadcasting gain market share from more traditional mediums.

*Financial activities.* This sector comprises industries related to finance, insurance, real estate, and renting and leasing. While large output growth is projected for several industries in this sector (see table 5 and table 6), employment growth is expected to be more in line with the overall employment growth rate in the economy. The sector is projected to add 557,200 jobs over the projection period, growing at a rate of 0.7 percent annually. Output in the financial sector is projected to increase at a 3.0-percent annual growth rate—somewhat slower than the 1998-2008 period, which grew 3.4 percent annually.

The industries within the financial sector expected to have the largest increases in employment are real estate; monetary authorities, credit intermediation, and related activities; and agencies and brokerages, and other insurance related activities. Real estate is projected to add 196,100 jobs, growing at average annual rate of 1.3 percent. Two other industries—monetary authorities, credit intermediation, and related activities, along with agencies, brokerages, and other insurance related activities—are expected to add 137,400 and 131,200 jobs, respectively. The employment growth in these three industries accounts for over 80 percent of the job growth in the financial sector, over the projection period.

One industry projected to be among the fastest growing in terms of employment and output is lessors of nonfinancial intangible assets (except copyrighted works). Output is projected to rise as the composition of the economy changes and trademarks, licensing, and branding become more important aspects of firms' activity. Employment in this industry is projected to rise more slowly than output, as the nature of the work allows for increased output (value of the assets leased) without increasing employment. This industry is expected to add 9,700 jobs over the projection period and reach an employment level of 37,900. Output in this industry is expected to grow 4.9 percent annually, making it one of the fastest growing industries in terms of output. (See table 5.)

Other industries within the financial sector projected to be among the largest or fastest growing in terms of output include securities, commodity contracts, and other

financial investments and related activities (\$44.7 billion increase); monetary authorities, credit intermediation, and related activities (\$370.6 billion increase); and real estate (\$205.3 billion increase). One factor expected to drive growth in these industries is the movement of many members of the baby boom generation into retirement in the coming years. The prevalence of defined contribution retirement plans will lead many retirees to seek professional investment advice to manage their retirement accounts. Globalization is another factor expected to drive growth, as the continued removal of trading boundaries increases the number of Americans seeking to invest abroad and of foreigners seeking to invest in U.S. securities.

*Educational services.* The educational services sector includes private education at elementary and secondary schools, colleges, and training centers. (For a discussion of public educational services, see the government section.) Employment is projected to reach 3.8 million in 2018, growing at an average annual rate of 2.4 percent, the fastest among all sectors. The overall demand for workers in educational services is expected to increase with a growing emphasis on improving education and making it available not only to more children and young adults, but also to those currently employed and in need of improving their skills.

Employment in other educational services—which include establishments that specialize in business, computer, and management training; schools offering technical, trade, and other instruction; and educational consulting services—is projected to grow at an average annual rate of 4.5 percent during the 2008–2018 period, second fastest among all industries. (See table 3.) The industry is expected to add 316,000 jobs to reach an employment level of 894,900 in 2018. As adults seek additional training to improve their skills, educational services such as professional and management development, technical and computer training, and fine arts schools are expected to grow. In addition, educational reforms are expected to increase demand for educational consultants who advise districts on how to improve test scores and other achievement measures.

Accounting for nearly a third of the projected increase, jobs at private junior colleges, colleges, universities, and professional schools are projected to increase by 254,700, representing an average annual growth rate of 1.5 percent. As more high school graduates attend college, and more working adults return to school, employment at these post-secondary institutions is projected to grow to 1.9 million by 2018.

Employment in elementary and secondary schools is

projected to be among the fastest growing industries, increasing at a rate of 2.5 percent annually. This represents a gain of 234,800 jobs over the projection period, with employment reaching 1.1 million in 2018. Much of this growth is expected as a result of continued enrollment growth and reforms. In addition, the number of special education teachers is expected to increase because of continued emphasis on the inclusion of disabled students in general education classrooms and an effort to reach students with problems at younger ages.

*Wholesale and retail trade.* Employment in wholesale trade is projected to increase at a 0.4-percent average annual rate over the 2008–18 period. Although slower than the growth rate of overall employment, the change represents one of the largest increases among all industries. (See table 4.) Wholesale trade is projected to add about 255,900 jobs, reaching an employment level of 6.2 million in 2018. Consolidation of wholesale trade firms into fewer and larger companies will contribute to slower than average employment growth in the industry in the future. With strong competition among wholesale distribution companies, manufacturers' representative companies, and logistics companies for business from manufacturers, cost pressures are likely to continue to force wholesale distributors to merge with other firms or to acquire smaller firms. The consolidation of wholesale trade into fewer, larger firms will make some staff redundant and reduce demand for some workers. Technological improvements such as electronic data interchange that allow better tracking of product information; radio frequency identification that streamlines the distribution process; and electronic commerce will also increase productivity, putting additional pressure on demand for employment.

Output in wholesale trade is projected to grow by \$713.5 billion over the projection period, the second largest increase among all industries. (See table 6.) This represents a 5.3-percent average annual growth rate, bringing output to \$1.8 trillion in 2018. Strong output growth is expected as demand continues for the industry's essential distribution services, as well as for newer services such as financing, marketing, and product support.

The retail trade industry is projected to add 654,000 jobs over the projection period, growing at an average annual rate of 0.4 percent, to reach an employment level 16.0 million in 2018. Although the projected increase is one of the largest among all industries, the rate of growth is slightly slower than it was in the previous decade. (See table 4.) The slower growth is expected because of continued consolidation and slower projected growth in

personal consumption than in the previous decade.<sup>19</sup> Real output in the retail trade industry is projected to increase by \$631.5 billion over the projection period, bringing the level to \$1.9 trillion by 2018, an annual average growth rate of 4.2 percent. The output increase is the third largest among all industries. (See table 6.)

*Leisure and hospitality:* The leisure and hospitality sector is projected to have the fourth-largest employment increase among the service-providing sectors. (See table 1.) This sector is projected to add 1.1 million jobs over the projection period, reaching 14.6 million in 2018. This represents a 0.8-percent average annual growth rate, slightly slower than the overall economy. While this sector comprises many industries in arts, entertainment, and recreation as well as accommodation and food services, over half of the projected growth is found in a single industry. Food services and drinking places is projected to generate 738,800 jobs, the fourth largest increase among all industries. (See table 4.). This represents a 0.7-percent annual growth rate, resulting in an employment level of 10.4 million jobs in 2018. Output for this industry is projected to grow at a 1.5-percent annual rate over the projection period, increasing by \$69.0 billion to reach \$499.1 billion in 2018. Factors driving growth in food services and drinking places include the increasing population of the elderly and the growing demand for more convenient dining options.

*Utilities:* The only employment decline among service-providing sectors is expected in utilities. This sector is projected to shed 59,000 jobs, declining at a 1.1-percent average annual rate. (See table 1.) The largest projected decline is in electric power generation, transmission, and distribution. This industry is expected to lose 59,000 jobs over the projection period, an average annual rate of decline of 1.6 percent, resulting in an employment level of 345,700 by 2018. Job losses are projected to occur even as increasing demand for electricity causes output to grow by \$35.0 billion to reach a level of \$282.4 billion by 2018, an average annual rate of 1.3 percent. The downward trend in employment in past years has mainly resulted from changes in scale, although the deregulation of energy markets in the 1990s was certainly a factor. The trend has been in the direction of building larger facilities, resulting in more efficient plants. At the same time, new technologies have decreased the number of workers needed at all plants—including older plants with lower capacities.

Natural gas distribution is projected to lose 6,000 jobs

over the projection period, resulting in an employment level of 100,800 in 2018, or an average annual decline of 0.6 percent. The projected job losses are partly the result of no output growth in the industry, which forces distributors to contain costs. Real output in the industry is expected to remain flat over the period, holding steady at a level of \$67.1 billion in 2018. Industry consolidation has affected this industry significantly and will continue to do so. Further, new equipment that is more heavily automated means that fewer operators are needed to monitor these systems. The adoption of new technologies is costly, so companies are taking these steps gradually.

The expected job losses among natural gas distributors are offset by an expected job gain in water, sewage, and other systems, because of the rapid expansion of water systems. Employment is projected to increase from 48,000 to 54,000 jobs, over the projection period. Rising demand for water, sewage and other systems is projected to increase output at an average annual rate of 1.6 percent, adding \$1.4 billion to reach a level of \$9.6 billion in 2018. As the population continues to grow and move toward the suburbs, more water treatment facilities are being built. Further, changing EPA and State water quality regulations may require more workers to ensure that water is safe to drink and to release into the environment.

*Government.* Public sector employment is expected to grow by 1.7 million jobs over the projection period, reaching 24.2 million in 2018. This represents an average annual growth rate of 0.7 percent, compared with the 1.2-percent rate of the previous decade. Projected gains in State and local government employment account for nearly 95 percent of the job gains.

Federal government employment is expected to increase over the projection period by 94,800 jobs, an average annual increase of 0.3 percent, to reach 2.9 million in 2018. Employment increases are expected in both Federal defense government and Federal nondefense government except enterprises, growing by 50,800 and 165,100 jobs, respectively. The Postal Service, however, is expected to be the fourth largest industry in terms of employment loss, reaching 650,000 jobs in 2018—a decline of 97,500 (see Table 4). Job losses are also projected for Federal enterprises except the Postal Service and electric utilities, declining by 18,600, a rate of 3.4 percent per year. Over the coming decade, employment growth within Federal government is expected to be supported by domestic programs in areas such as public health, information security, and scientific research.

The State and local government sector is projected to

add 1.6 million jobs during the 2008–18 period, an average annual growth rate 0.8 percent, to reach 21.3 million. Most of this growth is expected to come from State and local government educational services, which accounted for more than half the sector’s employment in 2008. (For a discussion of private educational services, see the educational services section.) The local government educational services industry is among those with the largest projected employment growth, adding 652,700 jobs, an average annual growth rate of 0.8 percent. (See table 4.) Growing enrollments, along with educational reforms are expected to drive much of the increased demand for teachers and other workers in elementary and secondary schools.<sup>20</sup>

Employment in State government educational services is expected to grow somewhat faster than in local government, increasing at a 0.9-percent annual growth rate, as these services are concentrated at the postsecondary level. Trends expected in private postsecondary education, such as increasing numbers of high school graduates attending college and more working adults returning to school, are also expected to apply here. As a result, State government educational services are projected to add 225,000 jobs, reaching 2.6 million in 2018.

State and local government hospitals are projected to see little employment growth as a result of cost pressures similar to those facing private hospitals. (For a discussion of private hospitals, see the health care and social assistance section.) Local government hospitals, where most of the employment is found, are projected to add 6,400 jobs over the projection period, growing at a 0.1-percent average annual rate to reach a level of 669,000 in 2018. State government hospitals, which are mostly psychiatric and substance abuse hospitals, are projected to add 13,900 jobs, growing at an average annual rate of 0.4 percent, to reach an employment of 377,300.

The rest of State and local government is projected to experience employment growth due to increasing demand for services, particularly public safety and health services. The increasing population of the elderly, combined with State and local assumption of responsibility for services such as security and disaster response are driving growth in these services. Although employment is projected to rise, the growth is expected to be dampened by budgetary constraints, primarily from the increasing proportion of revenue devoted to the Medicaid program and health insurance for government employees and retirees.<sup>21</sup> Resistance to tax increases is expected to limit employment growth, although to a lesser degree than health-related cost pressures.

## Goods-producing sectors

The goods-producing sectors comprise agriculture, mining, construction, and manufacturing. Employment in these sectors decreased over the 1998–2008 period and is expected to show virtually no growth through 2018, remaining at 21.4 million jobs. As output in the goods-producing sectors is expected to increase, labor-saving techniques and productivity improvements are expected to continue to put downward pressure on any employment growth. As a percent of total employment, the goods-producing sectors are projected to fall from 14.2 percent in 2008 to 12.9 percent in 2018. In contrast, output for the goods produced by these sectors (excluding agriculture) is expected to grow at a rate of 2.0 percent annually through 2018, somewhat slower than the 2.8-percent growth rate of output for the overall economy. The share of total nominal output for the goods-producing sector is also expected to fall, from 25.9 percent to 23.7 percent, as demand in the service sectors continues to grow more quickly than in the goods-producing sectors.

*Agriculture, forestry, fishing, and hunting.* This sector comprises two large industries—production of crops and production of animals—in addition to four smaller industries: forestry, logging, fishing, and agricultural support activities. Establishments in this sector are generally described as farms, ranches, dairies, greenhouses, nurseries, orchards, or hatcheries. Employment in the agriculture, forestry, fishing, and hunting sector, which has a significant proportion of self-employed workers, is projected to decline by 78,200 over the 2008–18 period, an annual rate of –0.4 percent. Overall, employment in the sector is expected to decline to 2.0 million by 2018.

Despite the declines in employment, however, output is projected to expand by 0.9 percent per year to reach \$318.9 billion in 2018, up from \$292.6 billion in 2008. According to the U.S. Department of Agriculture<sup>22</sup>, long run developments for global agriculture reflect continued demand for biofuels, particularly in the United States and the European Union (EU). Increases in corn-based ethanol production in the United States are projected to slow; however, demand for ethanol is expected to remain high and will affect production, use, and prices of farm commodities throughout the sector. Expansion of biodiesel use in the EU is also expected to raise demand for vegetable oils in global markets.

Other crops, some of which might be more efficient than corn in the production of ethanol, are likely to be introduced as well. Cellulosic ethanol, for example, which

can be made from straw, switchgrass, or wood chips, will likely play a larger role in this market. Nevertheless, employment is expected to decline in the coming period, as technological improvements in farm equipment continue to reduce the number of workers needed in the sector and market pressures on small family farms continue to drive consolidation in the industry.

The downward trend in employment in agriculture, forestry, fishing, and hunting is dominated by declines in the crop production and animal production, which are projected to post job losses of 69,900 and 36,700, respectively, over the coming period. This places both of these industries among the largest industry employment declines in the economy over the period. (See table 4.)

Other industries within the sector are expected to increase employment. Logging is expected to gain 18,200 jobs, growing at a rate of 2.0 percent annually. Support activities for agriculture and forestry is projected to add 8,800 jobs. Consolidation of farms should continue to lead to more demand for this industry's services.

Crop production and animal production make up the vast majority of output in the agriculture, forestry, fishing, and hunting sector—over 80 percent of nominal output in 2008. These two industries are expected to expand production through 2018. Crop production, which will be affected by the increased demand for corn-based ethanol products and other biofuels, is projected to increase output at an annual rate of 0.7 percent, down from the 1.8-percent annual rate experienced during the 1998–2018 period. Output in animal production is projected to grow 1.1 percent annually, virtually unchanged from the 1.0-percent growth rate experienced during the 1998–2008 period.

Output in the other industries within agriculture, forestry, fishing, and hunting, which currently account for only a small portion of total output in the sector, is expected to show some growth over the projection period. Forestry is expected to increase output at a 3.2-percent annual rate, albeit from a smaller numerical base for output relative to agriculture, as the industry is expected to raise timber stands to meet future demand for alternative fuels. Support activities for agriculture and forestry is projected to increase its output at a 2.9-percent annual growth rate, as the forestry industry expands, and also with the consolidation of other farms.

*Mining.* Employment in the mining sector is expected to reach 613,200 by 2018, down 103,800 from its 2008 level. As a whole, the mining sector is expected to experience an average annual decline in employment of 1.6

percent. Output is expected to decrease slightly at an average annual rate of 0.2 percent and reach \$227.3 billion by 2018. Mining production is tied closely to prices and demand for the raw materials the industry produces. As prices for oil, gas, and metals have risen rapidly in recent years, production and employment in the industry have also grown. In the recent past, employment may have fluctuated due to changes in prices, but over the course of the projection period, prices are expected to stabilize, and output is expected to return to historic levels. Technological advances are expected to increase productivity and cause employment declines in the mining industry as a whole.

The oil and gas extraction industry, which accounted for almost 60 percent of the nominal output and 23 percent of employment within the mining sector in 2008, is expected to decline in terms of employment over the projection period by 25,800 jobs. This represents an annual rate of decline of 1.7 percent, in contrast to the 1.4-percent annual rate of increase that occurred between 1998 and 2008. Output in oil and gas extraction is projected to decrease at an annual rate of 0.3 percent, from \$125.6 billion in 2008 to \$121.9 billion in 2018. Petroleum and natural gas exploration and development in the United States depends on prices for these resources and the size of accessible reserves. Rising worldwide demand for oil and gas is likely to cause prices to remain strong and generate the incentive for oil and gas producers to continue exploring and developing oil and gas reserves. U.S. reserves of oil and gas should remain adequate to support continued production through 2018.<sup>23</sup> Factors dampening output growth include environmental concerns, accompanied by strict regulation and limited access to protected Federal lands. Restrictions on drilling in environmentally sensitive areas and other environmental constraints should continue to limit exploration and development, both onshore and offshore.

Within the mining sector, coal mining is the only industry expected to show employment growth, increasing by 3,300 jobs to reach 83,900 in 2018. Output in this industry is expected to increase 1.5 percent annually, reaching \$23.7 billion in 2018. Demand for coal will increase as coal remains the primary fuel source for electricity generation. Although environmental concerns exist regarding coal power—burning coal releases pollutants and carbon dioxide—few alternatives exist on a scale large enough to meet the fuel demand of utilities. Natural gas burns cleaner than coal, but coal power plants equipped with scrubbers reduce this disadvantage somewhat. Future increased use of nuclear power or renewable energy sources, such as solar or wind power, could reduce demand for coal,

but over the projection period neither is expected to increase rapidly enough to contribute significantly to U.S. energy supplies.

Metal ore mining is projected to lose 4,000 jobs over the projection period, an annual decrease of 1.1 percent. Metals are used primarily as raw materials by other industries, such as telecommunications, construction, steel, aerospace, and automobile manufacturing. Consequently, the strength of the metal ore mining industry is greatly affected by the strength of these industries. Most metals are bought and sold in a world market, so demand stems not only from domestic industries but also from fast growing industries in developing countries. Demand on the world market from fast growing countries has caused prices for many metals to increase substantially in recent years. This has caused U.S. mining companies to expand production at existing mines and restart production at some mines that were closed when low metal prices made them unprofitable. However, in the long term the potential stabilization of prices together with many of the same environmental concerns as in coal mining will cause employment in metal ore mining to decline. Output is projected to grow 0.6 percent annually, up from the 3.5-percent average annual decline that occurred during the 1998–2008 period.

Nonmetallic mineral mining is projected to experience little change in employment, as it is projected to fall at a 0.1-percent rate over the projection period. Output is projected to increase 2.8 percent annually, reaching \$23.2 billion in 2018. Although demand will continue to increase for crushed stone, sand, and gravel used in construction activities, advances in mining technology will require fewer workers for operation and maintenance of new mining machines. Like the metal ore mining industry, the nonmetallic mineral mining industry is influenced by the strength of the industries that use its outputs in the manufacture of their products. Nonmetallic minerals are used to make concrete and asphalt for road construction and also as materials in residential and nonresidential building construction.

*Construction.* The construction industry, which is projected to add 1.3 million jobs by 2018 (1.7 percent annually), is the only major sector within the goods-producing sectors expected to show employment growth over the projection period. In fact, with employment expected to reach a level of 8.5 million in 2018, the construction sector is ranked first among the industries with largest projected increases in terms of employment growth. (See table 4.) The construction industry was hit particularly hard by the recession, as average annual employment for wage and sal-

ary workers fell by 415,100 jobs; this represents a 5.4-percent annual decline for the 2007–08 period.<sup>24</sup> From December 2008 through August 2009, employment for wage and salary workers fell by an additional 748,000 jobs. The relatively low starting point for 2008 contributes to the large change and relatively fast rate of growth for employment over the projection period. During the 1998–2008 period, the share of total employment represented by the construction industry rose from 4.4 percent to 4.8 percent. As employment in the construction industry is expected to grow at a faster rate than overall employment, the percent of all employees in the construction industry is expected to rise to 5.1 percent in 2018.

Construction is also expected to be among the largest sources of output growth in the economy over the projection period, with output projected to increase at a rate of 2.9 percent per year to reach \$1.1 trillion by 2018. Construction's share of nominal output decreased during the 1998–2008 period, falling slightly from 4.8 percent of total expenditures to 4.4 percent. As this sector returns to historical growth rates, the share of nominal output is expected to increase to 5.6 percent in 2018.

Investment in residential and nonresidential structures strongly influences the growth of output and employment in construction. While there was some growth (1.4 percent annually) in nonresidential investment during the previous decade, it is expected to slow, growing at 0.7 percent annually over the 2008–18 projection period. Expanding construction of nursing homes and other medical treatment facilities, as well as new schools in faster growing regions, is expected to continue through 2018, as changing demographics play a greater role in nonresidential investment. Continued improvements to roads, bridges, and other infrastructure across the country will also contribute to output growth in this industry. Delayed replacement and remodeling of industrial plants will require improvements for a large number of structures, further supporting this expansion.

Investment in residential construction is projected to grow at an annual rate of 5.1 percent throughout the 2008–18 period. This represents a turnaround from the overall decline that occurred in residential investment over the 1998–2008 period, an average annual decline of 1.5 percent. Much of the rapid growth rate over the projection period is due to the low starting point. In 2008, investment in residential construction fell to \$359.5 billion (in 2000 dollars), which is a level not seen since 1995. The growth in residential construction will be strongly influenced by demographic trends, including an aging population. The building of new retirement communities, as well as remodeling and

home improvement for existing structures, is expected to continue throughout the projection period.<sup>25</sup>

*Manufacturing.* Led by consumer demand, business investment, and exports, output in manufacturing is expected to increase by \$937.6 billion over the projection period, reaching \$4.9 trillion by 2018, or an average annual growth rate of 2.1 percent. The share of total nominal output allocated to manufacturing is expected to continue to drop—after falling from 24.0 percent in 1998 to 19.3 percent in 2008, the share is projected to be 15.9 percent by 2018. As the share of expenditures increase for service-providing sectors such as health care and professional and business services, the manufacturing sector is projected to continue to account for a smaller percentage of the total nominal output.

Employment in manufacturing is projected to fall over the 2008–18 period. However, since 2008, the decline in employment has accelerated to the point where manufacturing employment levels reported for August 2009 are below the projected levels for 2018.<sup>26</sup> For this reason, the projected employment levels in 2018 compared with those of 2009 will show some recovery. When looking at the longer term 2008–18 period, however, the overall trend reflects the continued declining demand for employment in this sector. The discussion of the manufacturing sector—like the other sectors—is based on the 2008–18 period, and the factors affecting the long-term trend.

The rate at which employment is expected to decline in manufacturing over the 2008–18 period is projected to slow compared with the preceding decade: the average annual decline is expected to be 0.9 percent through 2018, compared with 2.6 percent during the 1998–2008 period. In 1998, manufacturing wage and salary employment stood at 17.6 million, accounting for 12.5 percent of all jobs in the economy. By 2008, employment in this sector had fallen to 13.4 million, or 8.9 percent of economy-wide employment. The projected loss of 1.2 million jobs from 2008 to 2018, in addition to the 14.6 million jobs gained in the service-providing sectors, will result in the manufacturing sector's share of employment falling to 7.4 percent by 2018.

Within the manufacturing sector, 69 of the 84 industries reviewed are expected to experience employment declines over the projection period. The remaining 15 industries are projected to gain only 283,600 jobs from a base of 3.2 million jobs in 2008. As import competition increases and demand for some domestically manufactured products falls, declining output in some of these industries will contribute to the employment loss; 15 of

the 84 manufacturing industries reviewed are expected to see a decrease in output during the 2008–18 period. As mentioned previously, output for the manufacturing sector is expected to expand, at 2.1 percent annually. Among these 69 expanding industries, 54 are projected to decrease employment, as improvements in their manufacturing processes will allow them to produce more output with fewer workers.

The industry subsectors that are projected to experience the fastest declines in employment are apparel manufacturing; textile mills; and leather and allied product manufacturing. The largest declines are expected in computer and electronic product manufacturing; transportation equipment manufacturing; and fabricated metal product manufacturing, losing a combined total of 539,600 jobs over the projection period.

The computer and electronic product manufacturing subsector, which includes computer, communications, semiconductor, and navigational equipment production, is expected to lead the manufacturing sector in terms of output growth over the projection period; output is projected to grow at an annual rate of 6.3 percent, up substantially from the 2.4-percent rate experienced during the 1998–2008 period. The well-known productivity improvements associated with this subsector are expected to continue, resulting in employment falling from 1.2 million in 2008 to 1.0 million in 2018. This corresponds to an average annual employment decline of 2.1 percent, which is an improvement over the 3.8-percent annual rate of decline experienced during the 1998–2008 period.

The computer and peripheral equipment manufacturing industry is projected to post the largest and fastest real output gain of all the detailed industries reviewed in the BLS projection process. (See tables 5 and 6.) However, output comparisons with other industries are problematic, because changes in price measures for this industry, which are used to capture the pace of technological change, are so rapid.<sup>27</sup> With a 17.0-percent projected growth rate, output in the industry is expected to reach \$967.3 billion (in chained 2000 dollars) by 2018. In contrast, in terms of employment, computer and peripheral equipment manufacturing is expected to be among the fastest and largest declining industries over the projection period. (See tables 3 and 4.) Employment is projected to decline at an average annual rate of 3.8 percent, reaching 124,700 in 2018, down 58,100 from 2008. Despite the strong growth in output, employment is expected to decline due to continued productivity gains in this industry. Extensive use of automation in the production processes and more efficient use of labor will keep employment

from rising in spite of rapidly rising output.

Semiconductor and other electronic component manufacturing is projected to have the largest employment decline over the projection period, losing 145,600 jobs. The industry is also among those with the most rapidly declining employment, falling at a rate of 4.0 percent annually. The industry is expected to continue its output growth, however, increasing at an average annual rate of 5.9 percent. (See table 5.) Continued technological advancements are also expected in this industry, driving declining employment in spite of rapid growth in output. Productivity improvements in the industry have often been associated with Moore's Law, which states that the number of transistors per integrated circuit will double roughly every 2 years, resulting in increasingly more computing power. Since the 1960s, the trend has been maintained. While there is some evidence to suggest the processes are reaching their physical limits,<sup>18</sup> rapid productivity gains are still expected over the projection period.

Other industries within the computer and electronic product manufacturing subsector include communications equipment manufacturing; audio and video equipment manufacturing; navigational, measuring, electromedical, and control instruments manufacturing; and manufacturing and reproducing magnetic and optical media. Audio and video equipment manufacturing is also expected to be among the industries with rapid employment loss as output expands at a faster than average pace. This industry is expected to be the fourth fastest growing in terms of output, while employment is ranked fifth among the most rapidly declining (see table 3 and table 5). Communications equipment is projected to increase its output 3.8 percent annually, as demand for wireless communications devices, along with enhanced wireless applications, continues to expand. Employment, however, is expected to decline slightly, falling to 120,100. The navigational, measuring, electromedical, and control instruments industry, is expected to decrease its employment over the projection period (-0.2 percent annually), as output is projected to increase 3.3 percent per year, on average.

The transportation equipment manufacturing subsector, which includes motor vehicle and parts manufacturing, aerospace, railroad, and ship production, historically has been responsible for the largest share of manufacturing employment—approximately 12.0 percent in 2008. This subsector's share of employment within manufacturing is expected to remain mostly flat at 11.8 percent. Overall, employment in transportation equipment manufacturing is projected to fall by 169,200 jobs from 2008 to 2018, or

an annual growth rate of -1.1 percent per year. Output is expected to expand at a rate of 2.5 percent per year over the 2008-18 period.

The motor vehicle parts manufacturing industry accounts for the largest share (34 percent) of employment within the transportation subsector. Output in this industry is projected to grow at 1.2 percent over the projection period, up from the 0.6-percent average annual decline that occurred during the previous period. Employment in motor vehicle parts manufacturing is expected to decrease from 544,400 in 2008 to 443,300 in 2018, making this industry one of the largest declining industries in terms of employment. (See table 4.) Strong foreign competition from low-wage countries has weakened the industry domestically.

Other industries within the transportation subsector expected to expand their output include aerospace products and parts, ship and boat building, and other transportation equipment. With the introduction of major new aircraft for both military and civilian applications, output in the aerospace products industry is projected to grow at a 2.5-percent rate during the projection period. However, this will not translate into an employment increase, as the industry is expected to show no growth, maintaining a level of 502,400 jobs. Output in ship and boat building and in other transportation equipment, which includes motorcycles, bicycles, military armored vehicles, ATVs, and golf carts, is expected to continue its growth over the projection period. Although employment in ship and boat building is expected to decline by 16,900 jobs, additional employment is expected in other transportation equipment manufacturing, as 3,300 jobs are added to this industry.

Falling employment has been one of the main stories in the manufacturing sector for the last several decades. In general, over the 2008-18 projection period, this long-term trend is expected to continue. Highlighting this phenomenon, industries within the textile, apparel, footwear, and leather and allied product manufacturing subsectors are projected to be among the most rapidly declining industries in terms of employment over the projection period. Together, these industries are projected to reduce employment by approximately 248,800 from their 2008 level of 530,700 jobs. During the previous period, even larger reductions occurred, when combined employment in these industries fell by 832,800 from 1998 to 2008. This large employment reduction is due mostly to the continued rapid decline in U.S. production in these industries. The labor intensive nature of the industry, import competition, and changing trade regulations are the

most important factors behind output and employment change.

Output is projected to decline 0.4 percent annually in the textile mills subsector, 3.6 percent annually for apparel manufacturing and 0.4 percent for the leather and allied product subsector over the projection period. Among the various industries, the cut and sew apparel industry is projected to lose the most employment, 88,500 jobs, an annual rate of decline of 8.1 percent. Output for this industry is expected to continue to fall over the projection period, averaging -4.1 percent per year. The second largest decline in employment within these subsectors will occur in the textile furnishing mills industry, which is projected to lose 33,500 jobs, an average annual decline of 5.7 percent. Although these declines are relatively small compared with those of the previous decade, the industries within the apparel, textile, footwear, and leather products subsectors are expected to account for 20.6 percent of the overall employment decrease in the manufacturing sector over the projection period.

Fabricated metal product manufacturing is projected to lose 129,200 jobs by 2018. This average annual decline of 0.9 percent is somewhat slower than the 1.3-percent annual decline that occurred during the 1998–2008 period. Industries within this subsector contributing to the large projected employment decline include machine shops; turned product; and screw, nut, and bolt manufacturing (-40,600); other fabricated metal product manufacturing (-31,900); and forging and stamping (-23,000). Increased output growth in the computer, motor vehicle, and aerospace products manufacturing industries is expected to support additional output growth in machine shops and turned product and screw, nut, and bolt manufacturing. Although output in this industry is projected to grow at an annual rate of 1.7 percent, greater use of robotics and computer numerically controlled machine improvements is expected to result in the relatively large employment downturn. Output in the other fabricated metal industry is projected to grow at a 0.7-percent average annual rate over the projection period, but improved robotic welding and other heat treating processes will eliminate many jobs.

The paper manufacturing and printing and related support activities subsectors are projected to lose a combined 203,100 jobs by 2018. As employment in paper manufacturing is projected to decline at a 2.7-percent rate and printing and related support activities falls 1.7 percent

per year, declining output in these subsectors is driving much of this employment loss. This decrease reflects the increasing computerization of the printing process, growing imports of some types of printed products, and the expanding use of the Internet, which reduces the need for printed materials. Smaller firms are also consolidating in order to afford investment in new technology, and this development is expected to lead to further declines in employment.

## Conclusion

BLS industry employment and output projections are based on various assumptions about the size of the labor force, how the macroeconomy will perform, and industry-specific attributes such as labor-saving technological improvements and future industry demand. In general, BLS assumes no large unforeseen structural changes to the economy. However, because some industries were affected more severely by the recession, projections of employment growth rates may be uncharacteristically high compared with previous projections. Because of the uncertainty associated with these assumptions, actual outcomes are likely to differ from these projections.

In sum, relative to the previous decade, BLS projects employment growth to improve over the coming decade, as output expands and more workers are required to meet future demand. This will be seen in the goods-producing sectors, as the historical rates of job loss will moderate in the manufacturing and agricultural sectors, and improvements in the construction industry are projected to offset employment losses in those sectors. The service-providing sectors will grow at a slightly lower rate over the projection period than in the previous decade, but are expected to grow faster than overall employment.

The service-providing sectors are expected to account for the largest source of employment gains and to increase their share of total employment, making up more than three-quarters of all jobs in 2018. Professional business services and health care and social assistance services—the sectors with the largest employment growth—will add half of the new jobs and represent nearly a quarter of all employment in 2018. Industries with the fastest growth in employment are projected to come from within the service-providing sectors. In contrast, the goods-producing sectors contain many industries with rapidly declining employment. □

## NOTES

<sup>1</sup> For a detailed description of the methods used in projecting industry output and employment, see *BLS Handbook of Methods*, chapter 13, “Economic growth and employment projections,” on the Internet at <http://www.bls.gov/opub/hom/pdf/homch13.pdf>.

<sup>2</sup> Total employment is a summation of nonagricultural wage and salary workers; the data are from the BLS Current Employment Statistics survey, and self-employed, unpaid family workers, and agriculture, forestry, fishing, and hunting workers, which are from the Current Population Survey.

<sup>3</sup> The National Bureau of Economic Research (NBER) is generally recognized as the official arbiter of recessions in the United States. The NBER identified December 2007 as the beginning of a recession. The NBER has not yet determined an end point for the recession that began in December 2007. For further information, visit the NBER Web site on the Internet at [www.nber.org](http://www.nber.org) (visited Nov. 12, 2009).

<sup>4</sup> This effect is somewhat dampened by the use of average annual employment, as opposed to monthly employment. From 2007 to 2008, the average annual employment for nonfarm wage and salary workers fell by 532 thousand jobs, compared with over 3.0 million (seasonally adjusted) from December 2007 to December 2008.

<sup>5</sup> Nonagricultural wage and salary employment includes data from the Current Employment Statistics survey, except private households, which is from the Current Population Survey. Logging workers are excluded.

<sup>6</sup> Throughout this article, unless otherwise noted, output refers to real output in chain-weighted 2000 dollars.

<sup>7</sup> This article uses the gross duplicated output concept. Gross duplicated output measures not only GDP, or all final demand purchases of new goods and services, but also all new goods and services produced as intermediate goods for use in further production. Real output is measured as a 2000 based chain-weighted Fisher index and is used for historical rate of growth comparisons. Real output on an industry basis does not add to their higher level aggregates because of chain weighting. See Charles Steindel, “Chain-weighting: The New Approach to Measuring GDP,” *Current Issues in Economics and Finance*, Federal Reserve Board of New York, December 1995.

<sup>8</sup> Providing a more accurate measure of the relative importance of aggregated sectors of the economy, current-dollars estimates were used in lieu of chain-weighted measures. See J. Steven Landefeld, Brent R. Moulton, and Cindy M. Vojtech, “Chained-Dollar Indexes: Issues, Tips on Their Use, and Upcoming Changes,” *Survey of Current Business*, U.S. Department of Commerce, November 2003, pp. 8–16.

<sup>9</sup> For more information on projections for productivity index, see Kathryn Byun and Ian Wyatt, “The U.S. economy to 2018,” this issue, pp. xx–xx.

<sup>10</sup> *Ibid.*

<sup>11</sup> László Halpern, Miklós Koren and Adam Szeidl, “Imported Inputs and Productivity,” Center for Firms in the Global Economy (CeFiG) Working Papers, no. 8, April 2009.

<sup>12</sup> This set of BLS projections is based on the 2007 North American Industrial Classification System (NAICS). Within this article, sectors generally refer to 2-digit NAICS categories, subsectors refer to 3-digit NAICS categories, and industries refer to either 2-, 3- or 4-digit NAICS categories.

<sup>13</sup> These data refer to annual average employment and may not reflect the impact of the recession on these sectors since the recession began in December 2007 and continues through 2009.

<sup>14</sup> Association of Management Consulting Firms, Global Consulting Leaders Symposium, “Delivering and Capturing Value in a Shifting Market,” January 9, 2008.

<sup>15</sup> For more information, see National Workforce Center for Emerging Technologies, on the Internet at [www.nwcet.org](http://www.nwcet.org) (visited Nov. 12, 2009).

<sup>16</sup> For more information on population and labor force projections, see Mitra Toossi, “Labor force projections to 2018,” this issue, pp. xx–xx.

<sup>17</sup> Kara Olsen, “Outpatient outlook,” *Health Care Strategic Management*, March 2007, p. 7.

<sup>18</sup> Projections of National Health Expenditures: Methodology and Model Specifications, Centers for Medicare and Medicaid Services, on the Internet at [www.cms.hhs.gov](http://www.cms.hhs.gov) (visited Nov. 12, 2009).

<sup>19</sup> For more information on macroeconomic projections, see Kathryn Byun and Ian Wyatt, “The U.S. economy to 2018,” this issue, pp. xx–xx.

<sup>20</sup> For more information, see Tabitha M. Bailey and William J. Hussar, “Projections of Education Statistics to 2017” (U.S. Department of Education, National Center for Education Statistics, Washington, DC, September 2008).

<sup>21</sup> National Health Expenditures Projections 2008–2018, table 3. Centers for Medicare and Medicaid Services, on the Internet at [www.cms.hhs.gov](http://www.cms.hhs.gov) (visited Nov. 12, 2009).

<sup>22</sup> *USDA Agricultural Projections to 2018*, Report OCE–2007–1 (Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture, Interagency Agricultural Projections Committee, Long-term Projections Report).

<sup>23</sup> *US Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report*, DOE/EIA–0216(2007), February 2009.

<sup>24</sup> For more information on industry job losses in 2008, see Laura A. Kelter, “Substantial job losses in 2008: weakness broadens and deepens across industries,” *Monthly Labor Review*, March 2009.

<sup>25</sup> For more information on macroeconomic projections, see Kathryn Byun and Ian Wyatt, “The U.S. economy to 2018,” this issue, pp. xx–xx.

<sup>26</sup> The CES seasonally adjusted employment levels for manufacturing in August 2009 were 11.8 million, compared with the projected 12.2 million for 2018.

<sup>27</sup> The price measures used for computer and peripheral equipment are designed to capture technological change and to facilitate historical output comparisons within the industry. Reflecting this industry’s rapid pace of technological change, strong price declines relative to other industries translate into very large real output changes. Therefore, output comparisons between this industry and others are problematic. This phenomenon is expected to persist over the projected period due to the assumption that strong technological growth will continue and thereby cause similar price declines relative to other products. For an explanation of the computer and peripheral equipment price deflator, see Allan H. Young, “BEA’s Measurement of Computer Output,” *Survey of Current Business*, US Department of Commerce, July 1998, pp. 108–115.

<sup>28</sup> John Markoff, “After the Transistor, a Leap into the Microcosm,” *New York Times*, Aug. 31, 2009.

**Appendix 1. Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998-2008	2008-18	1998-2008	2008-18	1998	2008	2018	1998-2008	2008-18
NA	Nonagriculture wage and salary.....	126,624.7	137,814.8	152,443.5	11,190.1	14,628.7	0.9	1.0	16,784.8	20,735.3	27,371.1	2.1	2.8
21	Mining.....	564.7	717.0	613.2	152.3	-103.8	2.4	-1.6	204.9	231.5	227.3	1.2	-2
211	Oil and gas extraction .....	140.8	161.6	135.8	20.8	-25.8	1.4	-1.7	131.4	125.6	121.9	-5	-3
212	Mining, except oil and gas .....	243.1	227.7	225.7	-15.4	-2.0	-7	-1	48.9	45.6	55.5	-7	2.0
2121	Coal mining.....	85.3	80.6	83.9	-4.7	3.3	-6	.4	19.5	20.4	23.7	.5	1.5
2122	Metal ore mining.....	46.2	39.9	35.9	-6.3	-4.0	-1.5	-1.1	10.7	7.5	7.9	-3.5	.6
2123	Nonmetallic mineral mining and quarrying .....	11.6	107.2	105.9	-4.4	-1.3	-4	-1	18.7	17.5	23.2	-7	2.8
213	Support activities for mining .....	180.8	327.7	251.7	146.9	-76.0	6.1	-2.6	24.9	55.7	54.3	8.4	-3
22	Utilities.....	613.4	559.5	500.5	-53.9	-59.0	-9	-1.1	298.9	319.2	349.0	.7	.9
2211	Electric power generation, transmission and distribution.....	443.8	404.7	345.7	-39.1	-59.0	-9	-1.6	206.4	247.4	282.4	1.8	1.3
2212	Natural gas distribution.....	128.6	106.8	100.8	-21.8	-6.0	-1.8	-6	85.2	67.7	67.1	-2.3	-1
2213	Water, sewage and other systems .....	41.0	48.0	54.0	7.0	6.0	1.6	1.2	7.3	8.2	9.6	1.2	1.6
23	Construction.....	6,149.4	7,214.9	8,552.0	1,065.5	1,337.1	1.6	1.7	852.4	860.6	1,140.5	.1	2.9
31-33	Manufacturing.....	17,559.5	13,431.2	12,225.2	-4,128.3	-1,206.0	-2.6	-9	4,061.2	3,985.3	4,922.9	-2	2.1
311	Food manufacturing.....	1,554.9	1,484.8	1,483.2	-70.1	-1.6	-5	.0	416.5	433.7	532.6	.4	2.1
3111	Animal food manufacturing .....	55.3	50.9	49.0	-4.4	-1.9	-8	-4	24.0	20.8	31.5	-1.4	4.2
3112	Grain and oilseed milling .....	67.5	62.6	61.4	-4.9	-1.2	-8	-2	44.0	34.4	52.1	-2.4	4.2
3113	Sugar and confectionery product manufacturing .....	98.3	70.8	63.7	-27.5	-7.1	-3.2	-1.1	24.6	24.6	29.1	.0	1.7
3114	Fruit and vegetable preserving and specialty food manufacturing .....	202.8	173.7	154.8	-29.1	-18.9	-1.5	-1.1	49.7	55.7	65.7	1.1	1.7
3115	Dairy product manufacturing .....	131.1	129.1	126.3	-2.0	-2.8	-2	-2	58.5	59.1	63.9	.1	.8
3116	Animal slaughtering and processing.....	498.9	512.1	538.7	13.2	26.6	.3	.5	110.4	126.1	144.8	1.3	1.4
3117	Seafood product preparation and packaging .....	47.4	40.6	44.7	-6.8	4.1	-1.5	1.0	7.8	9.8	11.9	2.4	2.0
3118	Bakeries and tortilla manufacturing .....	305.9	280.9	275.4	-25.0	-5.5	-8	-2	45.8	44.8	56.8	-2	2.4
3119	Other food manufacturing.....	147.7	164.1	169.2	16.4	5.1	1.1	.3	51.6	62.0	78.6	1.9	2.4
312	Beverage and tobacco product .....	208.8	199.0	180.9	-9.8	-18.1	-5	-9	167.9	144.3	139.9	-1.5	-3
3121	Beverage manufacturing .....	170.9	177.0	164.1	6.1	-12.9	.4	-8	72.1	80.5	98.4	1.1	2.0
3122	Tobacco manufacturing .....	37.9	22.0	16.8	-15.9	-5.2	-5.3	-2.7	96.4	64.8	49.7	-3.9	-2.6
313	Textile mills.....	424.5	151.1	79.2	-273.4	-71.9	-9.8	-6.3	55.5	30.6	29.4	-5.8	-4
3131	Fiber, yarn, and thread mills.....	87.2	37.4	20.7	-49.8	-16.7	-8.1	-5.7	12.0	7.8	8.2	-4.2	.5
3132	Fabric mills .....	220.9	65.4	35.0	-155.5	-30.4	-11.5	-6.1	28.5	14.5	14.2	-6.5	-2
3133	Textile and fabric finishing and fabric coating mills.....	116.4	48.3	23.5	-68.1	-24.8	-8.4	-7.0	15.1	8.3	7.1	-5.8	-1.5
314	Textile product mills .....	234.7	147.6	91.3	-87.1	-56.3	-4.5	-4.7	30.6	22.6	23.9	-3.0	.6
3141	Textile furnishings mills.....	126.6	75.4	41.9	-51.2	-33.5	-5.1	-5.7	20.5	16.1	18.0	-2.4	1.1
3149	Other textile product mills.....	108.1	72.2	49.4	-35.9	-22.8	-4.0	-3.7	10.1	6.4	5.9	-4.4	-8
315	Apparel manufacturing .....	621.5	198.4	88.4	-423.1	-110.0	-10.8	-7.8	67.1	31.3	21.7	-7.3	-3.6
3151	Apparel knitting mills.....	86.5	26.2	12.5	-60.3	-13.7	-11.3	-7.1	8.6	4.6	3.4	-6.0	-3.0
3152	Cut and sew apparel manufacturing .....	498.1	155.2	66.7	-342.9	-88.5	-11.0	-8.1	53.9	24.7	16.2	-7.5	-4.1

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
3159	Apparel accessories and other apparel manufacturing.....	36.9	17.0	9.2	-19.9	-7.8	-7.5	-6.0	4.6	2.0	2.0	-8.0	.2
316	Leather and allied product...	82.8	33.6	23.0	-49.2	-10.6	-8.6	-3.7	23.1	11.6	11.1	-6.7	-.4
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing..	43.2	17.8	13.0	-25.4	-4.8	-8.5	-3.1	7.7	3.8	3.6	-6.9	-.4
3162	Footwear manufacturing...	39.6	15.8	10.0	-23.8	-5.8	-8.8	-4.5	15.5	7.8	7.5	-6.6	-.4
321	Wood product manufacturing.....	609.2	459.6	424.4	-149.6	-35.2	-2.8	-0.8	92.4	90.6	94.6	-.2	.4
3211	Sawmills and wood preservation.....	134.8	103.6	84.9	-31.2	-18.7	-2.6	-2.0	28.0	29.6	31.0	.6	.5
3212	Veneer, plywood, and engineered wood product manufacturing...	112.7	90.8	99.8	-21.9	9.0	-2.1	.9	20.4	21.2	21.8	.4	.3
3219	Other wood product manufacturing.....	361.7	265.2	239.7	-96.5	-25.5	-3.1	-1.0	44.0	39.9	42.0	-1.0	.5
322	Paper manufacturing.....	624.9	445.8	337.5	-179.1	-108.3	-3.3	-2.7	165.4	141.7	128.2	-1.5	-1.0
3221	Pulp, paper, and paperboard mills.....	207.8	126.1	81.9	-81.7	-44.2	-4.9	-4.2	77.8	66.9	62.2	-1.5	-.7
3222	Converted paper product manufacturing.....	417.1	319.7	255.6	-97.4	-64.1	-2.6	-2.2	87.6	74.8	66.1	-1.6	-1.2
323	Printing and related support activities.....	827.9	594.1	499.3	-233.8	-94.8	-3.3	-1.7	106.9	92.2	80.4	-1.5	-1.4
324	Petroleum and coal products manufacturing...	134.5	117.1	90.8	-17.4	-26.3	-1.4	-2.5	225.8	223.6	279.1	-.1	2.2
325	Chemical manufacturing...	992.7	849.8	793.2	-142.9	-56.6	-1.5	-.7	430.2	464.4	612.7	.8	2.8
3251	Basic chemical manufacturing.....	212.6	152.1	99.9	-60.5	-52.2	-3.3	-4.1	111.5	104.4	135.9	-.7	2.7
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing.....	140.1	105.4	95.2	-34.7	-10.2	-2.8	-1.0	69.9	66.3	84.8	-.5	2.5
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing.....	50.0	36.1	35.0	-13.9	-1.1	-3.2	-.3	23.5	16.5	19.4	-3.5	1.6
3254	Pharmaceutical and medicine manufacturing..	247.2	289.8	307.4	42.6	17.6	1.6	.6	108.3	140.5	194.5	2.6	3.3
3255	Paint, coating, and adhesive manufacturing...	77.7	62.8	65.4	-14.9	2.6	-2.1	.4	26.9	26.4	30.4	-.2	1.4
3256	Soap, cleaning compound, and toilet preparation manufacturing.....	130.5	108.2	101.1	-22.3	-7.1	-1.9	-.7	54.8	74.6	98.0	3.1	2.8
3259	Other chemical product and preparation manufacturing.....	134.6	95.4	89.2	-39.2	-6.2	-3.4	-.7	35.3	40.3	48.9	1.3	1.9
326	Plastics and rubber products manufacturing...	941.4	734.3	678.0	-207.1	-56.3	-2.5	-.8	164.5	160.4	227.0	-.3	3.5
3261	Plastics product manufacturing.....	727.8	589.0	555.2	-138.8	-33.8	-2.1	-.6	130.1	138.1	193.3	.6	3.4
3262	Rubber product manufacturing.....	213.6	145.3	122.8	-68.3	-22.5	-3.8	-1.7	34.3	22.0	33.3	-4.3	4.2

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
327	Nonmetallic mineral product manufacturing...	535.2	468.1	480.1	-67.1	12.0	-1.3	.3	94.8	85.2	104.1	-1.1	2.0
3271	Clay product and refractory manufacturing .....	82.4	52.4	53.9	-30.0	1.5	-4.4	0.3	9.4	7.7	9.4	-1.9	1.9
3272	Glass and glass product manufacturing .....	141.9	96.5	83.8	-45.4	-12.7	-3.8	-1.4	22.9	22.1	29.8	-.4	3.0
3273	Cement and concrete product manufacturing..	216.9	223.3	247.5	6.4	24.2	.3	1.0	40.3	35.5	44.6	-1.3	2.3
3274, 3279	Lime, gypsum and other nonmetallic mineral product manufacturing..	94.0	95.9	94.9	1.9	-1.0	.2	-.1	22.2	20.7	22.2	-.7	.7
331	Primary metal manufacturing .....	641.5	443.2	399.5	-198.3	-43.7	-3.6	-1.0	162.3	152.3	143.9	-.6	-.6
3311	Iron and steel mills and ferroalloy manufacturing..	144.0	98.9	79.9	-45.1	-19.0	-3.7	-2.1	52.2	44.9	46.6	-1.5	.4
3312	Steel product manufacturing from purchased steel.....	72.5	60.1	58.9	-12.4	-1.2	-1.9	-.2	18.9	14.6	15.6	-2.6	.6
3313	Alumina and aluminum production and processing.....	99.9	67.9	64.9	-32.0	-3.0	-3.8	-.5	32.7	41.8	40.0	2.5	-.5
3314	Nonferrous metal (except aluminum) production and processing.....	102.1	67.4	62.9	-34.7	-4.5	-4.1	-.7	29.2	24.2	15.9	-1.9	-4.1
3315	Foundries .....	223.0	148.9	132.9	-74.1	-16.0	-4.0	-1.1	29.5	30.3	27.8	.3	-.9
332	Fabricated metal product manufacturing .....	1,739.5	1,528.3	1,399.1	-211.2	-129.2	-1.3	-.9	254.7	250.6	286.3	-.2	1.3
3321	Forging and stamping .....	146.0	107.9	84.9	-38.1	-23.0	-3.0	-2.4	25.5	24.0	24.6	-.6	.3
3322	Cutlery and handtool manufacturing .....	79.6	49.1	35.9	-30.5	-13.2	-4.7	-3.1	11.1	10.7	11.1	-.4	.3
3323	Architectural and structural metals manufacturing.....	395.8	409.4	429.4	13.6	20.0	.3	.5	57.2	58.9	74.5	.3	2.4
3324	Boiler, tank, and shipping container manufacturing..	108.5	95.8	89.1	-12.7	-6.7	-1.2	-.7	23.8	20.9	23.8	-1.3	1.3
3325	Hardware manufacturing ..	53.5	29.3	24.0	-24.2	-5.3	-5.8	-2.0	11.2	10.3	10.3	-.8	.0
3326	Spring and wire product manufacturing .....	82.9	51.5	41.9	-31.4	-9.6	-4.6	-2.0	9.1	7.4	9.3	-2.0	2.2
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing ..	370.7	360.1	319.5	-10.6	-40.6	-.3	-1.2	45.2	47.1	55.6	.4	1.7
3328	Coating, engraving, heat treating, and allied activities.....	172.6	143.7	124.8	-28.9	-18.9	-1.8	-1.4	19.6	22.5	24.8	1.4	1.0
3329	Other fabricated metal product manufacturing..	329.9	281.5	249.6	-48.4	-31.9	-1.6	-1.2	51.9	49.1	52.5	-.6	.7
333	Machinery manufacturing.	1,514.0	1,185.5	1,095.2	-328.5	-90.3	-2.4	-.8	275.5	280.0	334.2	.2	1.8
3331	Agriculture, construction, and mining machinery manufacturing .....	241.2	242.1	249.6	.9	7.5	.0	.3	56.8	56.7	76.5	.0	3.0
3332	Industrial machinery manufacturing .....	170.5	120.8	92.9	-49.7	-27.9	-3.4	-2.6	31.5	33.6	32.1	.7	-.5

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing.....	185.6	149.5	112.8	-36.1	-36.7	-2.1	-2.8	32.3	34.9	38.1	0.8	0.9
3335	Metalworking machinery manufacturing.....	288.7	191.7	189.7	-97.0	-2.0	-4.0	-.1	31.6	28.4	32.5	-1.1	1.4
3336	Engine, turbine, and power transmission equipment manufacturing.....	113.6	103.5	96.8	-10.1	-6.7	-.9	-.7	32.1	38.1	53.5	1.7	3.4
3339	Other general purpose machinery manufacturing.....	364.6	272.6	248.6	-92.0	-24.0	-2.9	-.9	64.3	64.3	74.1	.0	1.4
334	Computer and electronic product manufacturing..	1,830.8	1,247.7	1,006.5	-583.1	-241.2	-3.8	-2.1	406.8	514.7	945.9	2.4	6.3
3341	Computer and peripheral equipment manufacturing.....	322.1	182.8	124.7	-139.3	-58.1	-5.5	-3.8	87.6	200.5	967.3	8.6	17.0
3342	Communications equipment manufacturing.....	237.4	129.0	120.1	-108.4	-8.9	-5.9	-.7	81.3	75.0	108.5	-.8	3.8
3343	Audio and video equipment manufacturing.....	53.2	27.0	14.6	-26.2	-12.4	-6.6	-6.0	7.8	4.8	10.8	-4.7	8.4
3344	Semiconductor and other electronic component manufacturing.....	649.8	432.4	286.8	-217.4	-145.6	-4.0	-4.0	126.6	173.4	308.7	3.2	5.9
3345	Navigational, measuring, electromedical, and control instruments manufacturing.....	509.2	441.6	434.3	-67.6	-7.3	-1.4	-.2	93.5	92.4	128.1	-.1	3.3
3346	Manufacturing and reproducing magnetic and optical media.....	59.1	34.9	26.0	-24.2	-8.9	-5.1	-2.9	10.6	10.4	12.5	-.1	1.8
335	Electrical equipment, appliance, and component manufacturing.....	591.6	424.9	367.8	-166.7	-57.1	-3.3	-1.4	114.2	99.7	113.0	-1.4	1.3
3351	Electric lighting equipment manufacturing.....	84.7	57.1	45.9	-27.6	-11.2	-3.9	-2.2	12.9	12.5	15.1	-.3	1.9
3352	Household appliance manufacturing.....	108.3	72.0	54.9	-36.3	-17.1	-4.0	-2.7	21.4	23.5	30.0	1.0	2.5
3353	Electrical equipment manufacturing.....	214.8	158.5	129.2	-56.3	-29.3	-3.0	-2.0	35.9	28.3	30.1	-2.4	.6
3359	Other electrical equipment and component manufacturing.....	183.8	137.3	137.8	-46.5	.5	-2.9	.0	44.1	35.6	38.7	-2.1	.8
336	Transportation equipment manufacturing.....	2,078.4	1,606.6	1,437.4	-471.8	-169.2	-2.5	-1.1	637.7	583.0	744.3	-.9	2.5
3361	Motor vehicle manufacturing.....	283.6	190.7	159.7	-92.9	-31.0	-3.9	-1.8	238.6	237.0	321.7	-.1	3.1
3362	Motor vehicle body and trailer manufacturing.....	169.7	141.9	130.8	-27.8	-11.1	-1.8	-.8	31.6	27.9	36.4	-1.2	2.7
3363	Motor vehicle parts manufacturing.....	818.2	544.4	443.3	-273.8	-101.1	-4.0	-2.0	178.5	168.7	189.8	-.6	1.2

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
3364	Aerospace product and parts manufacturing.....	578.6	503.9	502.4	-74.7	-1.5	-1.4	0.0	153.8	115.4	148.0	-2.8	2.5
3365	Railroad rolling stock manufacturing.....	34.9	28.4	17.5	-6.5	-10.9	-2.0	-4.7	8.8	4.7	6.9	-6.2	3.9
3366	Ship and boat building.....	153.8	156.7	139.8	2.9	-16.9	.2	-1.1	17.5	16.2	23.7	-8	3.9
3369	Other transportation equipment manufacturing.....	39.6	40.6	43.9	1.0	3.3	.2	.8	9.5	12.6	21.9	2.8	5.7
337	Furniture and related product manufacturing..	643.9	481.0	511.5	-162.9	30.5	-2.9	.6	70.4	62.9	94.7	-1.1	4.2
3371	Household and institutional furniture and kitchen cabinet manufacturing..	418.3	306.0	339.4	-112.3	33.4	-3.1	1.0	40.1	35.6	57.0	-1.2	4.8
3372	Office furniture (including fixtures) manufacturing..	172.9	131.2	129.8	-41.7	-1.4	-2.7	-1	23.2	21.1	29.6	-9	3.4
3379	Other furniture related product manufacturing..	52.7	43.8	42.3	-8.9	-1.5	-1.8	-3	7.1	6.2	8.0	-1.4	2.7
339	Miscellaneous manufacturing.....	726.8	630.7	758.9	-96.1	128.2	-1.4	1.9	105.1	133.6	221.7	2.4	5.2
3391	Medical equipment and supplies manufacturing..	301.3	309.7	359.5	8.4	49.8	.3	1.5	49.1	72.1	132.7	3.9	6.3
3399	Other miscellaneous manufacturing.....	425.5	321.0	399.4	-104.5	78.4	-2.8	2.2	56.1	61.4	88.9	.9	3.8
42	Wholesale trade.....	5,795.2	5,963.9	6,219.8	168.7	255.9	.3	.4	779.8	1,063.5	1,777.0	3.2	5.3
44, 45	Retail trade.....	14,609.7	15,356.4	16,010.4	746.7	654.0	.5	.4	872.4	1,232.3	1,863.8	3.5	4.2
48, 492, 493	Transportation and warehousing.....	4,168.1	4,504.9	4,950.4	336.8	445.5	.8	.9	594.6	678.3	905.9	1.3	2.9
481	Air transportation.....	562.8	492.6	529.4	-70.2	36.8	-1.3	.7	120.5	101.9	151.8	-1.7	4.1
482	Rail transportation.....	225.0	229.5	240.4	4.5	10.9	.2	.5	43.6	50.4	59.1	1.5	1.6
483	Water transportation.....	50.5	65.2	66.9	14.7	1.7	2.6	.3	27.9	20.9	31.5	-2.9	4.2
484	Truck transportation.....	1,354.4	1,391.0	1,534.2	36.6	143.2	.3	1.0	199.1	275.3	374.5	3.3	3.1
485	Transit and ground passenger transportation..	362.7	418.0	471.4	55.3	53.4	1.4	1.2	31.6	38.0	46.8	1.9	2.1
486	Pipeline transportation.....	48.1	42.0	38.2	-6.1	-3.8	-1.3	-9	20.3	17.0	16.8	-1.8	-0.1
487,488	Scenic and sightseeing transportation and support activities for transportation.....	522.2	617.9	726.1	95.7	108.2	1.7	1.6	116.3	137.1	172.6	1.7	2.3
491	Postal Service.....	880.5	747.5	650.0	-133.0	-97.5	-1.6	-1.4	61.5	56.8	62.3	-8	.9
492	Couriers and messengers..	568.2	575.9	588.1	7.7	12.2	.1	.2	58.6	72.3	94.5	2.1	2.7
493	Warehousing and storage....	474.2	672.8	755.7	198.6	82.9	3.6	1.2	35.7	43.1	55.4	1.9	2.5
51	Information.....	3,218.4	2,996.9	3,115.0	-221.5	118.1	-.7	.4	769.4	1,105.6	1,865.0	3.7	5.4
511	Publishing industries.....	982.3	882.6	842.0	-99.7	-40.6	-1.1	-.5	224.0	307.6	467.8	3.2	4.3
5111	Newspaper, periodical, book, and directory publishers.....	767.4	618.9	499.2	-148.5	-119.7	-2.1	-2.1	136.1	127.0	119.6	-.7	-.6
5112	Software publishers.....	214.9	263.7	342.8	48.8	79.1	2.1	2.7	88.3	194.9	529.6	8.2	10.5
512	Motion picture, video, and sound recording industries.....	369.4	381.6	427.5	12.2	45.9	.3	1.1	73.6	87.3	116.0	1.7	2.9
515	Broadcasting (except internet).....	321.2	316.0	339.5	-5.2	23.5	-.2	.7	63.2	84.5	103.8	2.9	2.1

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
517 518, 519	Telecommunications ..... Data processing, hosting, related services, and other information services .....	1,167.4	1,021.5	931.9	-145.9	-89.6	-1.3	-0.9	351.0	480.3	822.3	3.2	5.5
		378.1	395.2	574.1	17.1	178.9	.4	3.8	58.1	141.9	345.3	9.3	9.3
52 521, 522	Finance and insurance ..... Monetary authorities, credit intermediation, and related activities.....	5,528.7	6,015.3	6,336.9	486.6	321.6	.8	.5	58.1	141.9	345.3	9.3	9.3
523	Securities, commodity contracts, and other financial investments and related activities .....	2,553.6	2,758.1	2,895.5	204.5	137.4	.8	.5	560.2	846.6	1,217.3	4.2	3.7
524	Insurance carriers and related activities .....	692.2	858.1	959.1	165.9	101.0	2.2	1.1	199.4	435.5	883.2	8.1	7.3
5241	Insurance carriers.....	2,209.5	2,308.8	2,376.4	99.3	67.6	.4	.3	421.2	488.0	578.2	1.5	1.7
5242	Agencies, brokerages, and other insurance related activities.....	1,443.1	1,401.8	1,338.2	-41.3	-63.6	-.3	-.5	309.3	362.4	421.4	1.6	1.5
525	Funds, trusts, and other financial vehicles .....	766.4	907.0	1,038.2	140.6	131.2	1.7	1.4	112.0	123.6	160.6	1.0	2.7
53	Real estate, rental, and leasing .....	73.4	90.3	105.9	16.9	15.6	2.1	1.6	71.3	88.0	98.9	2.1	1.2
531	Real estate .....	1,933.7	2,130.2	2,365.8	196.5	235.6	1.0	1.1	876.1	1,114.1	1,430.0	2.4	2.5
532,533	Rental and leasing services and lessors of intangible assets .....	1,277.7	1,481.1	1,677.2	203.4	196.1	1.5	1.3	689.6	859.4	1,064.7	2.2	2.2
5321	Automotive equipment rental and leasing.....	656.0	649.1	688.6	-6.9	39.5	-.1	.6	186.6	255.0	370.1	3.2	3.8
5322, 5323	Consumer goods rental and general rental centers.....	188.5	194.6	214.6	6.1	20.0	.3	1.0	36.6	39.8	53.3	.8	3.0
5324	Commercial and industrial machinery and equipment rental and leasing .....	344.2	298.1	308.3	-46.1	10.2	-1.4	.3	22.1	24.0	30.1	.8	2.3
533	Lessors of nonfinancial intangible assets (except copyrighted works) .....	98.0	128.2	127.8	30.2	-4	2.7	.0	36.3	45.3	51.7	2.3	1.3
54	Professional, scientific, and technical services .....	25.3	28.2	37.9	2.9	9.7	1.1	3.0	91.6	146.0	235.0	4.8	4.9
5411	Legal services .....	5,992.1	7,829.6	10,486.1	1,837.5	2,656.5	2.7	3.0	876.8	1,279.2	1,752.3	3.8	3.2
5412	Accounting, tax preparation, bookkeeping, and payroll services.....	1,021.1	1,163.7	1,416.8	142.6	253.1	1.3	2.0	182.7	202.3	249.4	1.0	2.1
5413	Architectural, engineering, and related services .....	802.0	950.1	1,149.2	148.1	199.1	1.7	1.9	89.8	107.9	117.7	1.9	.9
5414	Specialized design services..	1,114.7	1,444.7	1,769.5	330.0	324.8	2.6	2.0	148.0	228.8	268.6	4.5	1.6
5415	Computer systems design and related services .....	119.9	143.1	208.7	23.2	65.6	1.8	3.8	20.6	25.7	34.6	2.2	3.0
5416	Management, scientific, and technical consulting services .....	974.9	1,450.3	2,106.7	475.4	656.4	4.1	3.8	142.8	207.4	302.0	3.8	3.8
5417	Scientific research and development services .....	590.4	1,008.9	1,844.1	418.5	835.2	5.5	6.2	95.8	171.8	287.2	6.0	5.3
		486.0	621.7	778.9	135.7	157.2	2.5	2.3	65.7	159.0	288.5	9.2	6.1

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
5418	Advertising and related services .....	453.3	462.3	499.3	9.0	37.0	0.2	0.8	68.3	95.9	131.3	3.4	3.2
5419	Other professional, scientific, and technical services .....	429.8	584.8	712.9	155.0	128.1	3.1	2.0	63.5	87.4	107.4	3.2	2.1
55	Management of companies and enterprises .....	1,756.1	1,894.6	1,997.0	138.5	102.4	.8	.5	379.4	634.0	964.0	5.3	4.3
56	Administrative and support and waste management and remediation services..	7,398.3	8,053.8	9,484.8	655.5	1,431.0	.9	1.6	422.0	593.2	836.5	3.5	3.5
561	Administrative and support services .....	7,098.9	7,693.6	9,033.8	594.7	1,340.2	.8	1.6	370.4	526.2	731.4	3.6	3.3
5611	Office administrative services .....	264.5	403.3	483.3	138.8	80.0	4.3	1.8	22.5	49.8	67.6	8.2	3.1
5612	Facilities support services..	89.2	132.7	173.6	43.5	40.9	4.1	2.7	12.3	17.1	18.2	3.4	.6
5613	Employment services .....	3,245.8	3,144.4	3,744.1	-101.4	599.7	-.3	1.8	130.3	173.7	238.0	2.9	3.2
5614	Business support services..	772.3	823.2	948.3	50.9	125.1	.6	1.4	42.9	57.2	68.1	2.9	1.8
5615	Travel arrangement and reservation services.....	304.3	227.7	224.7	-76.6	-3.0	-2.9	-.1	26.4	28.3	36.9	.7	2.7
5616	Investigation and security services .....	659.0	806.8	960.0	147.8	153.2	2.0	1.8	27.8	39.8	53.6	3.6	3.0
5617	Services to buildings and dwellings.....	1,460.0	1,847.1	2,182.6	387.1	335.5	2.4	1.7	77.0	121.1	197.7	4.6	5.0
5619	Other support services .....	303.8	308.4	317.2	4.6	8.8	.2	.3	31.3	39.3	51.1	2.3	2.7
562	Waste management and remediation services.....	299.4	360.2	451.0	60.8	90.8	1.9	2.3	51.6	67.0	104.8	2.6	4.6
61	Education services.....	2,233.0	3,036.5	3,842.0	803.5	805.5	3.1	2.4	122.5	155.8	183.6	2.4	1.7
6111	Elementary and secondary schools .....	650.7	854.9	1,089.7	204.2	234.8	2.8	2.5	25.7	30.0	37.3	1.5	2.2
6112, 6113	Junior colleges, colleges, universities, and professional schools.....	1,234.1	1,602.7	1,857.4	368.6	254.7	2.6	1.5	68.3	92.2	101.8	3.0	1.0
6114–7	Other educational services...	348.2	578.9	894.9	230.7	316.0	5.2	4.5	28.5	33.7	43.9	1.7	2.7
62	Health care and social assistance .....	12,213.7	15,818.7	19,815.6	3,605.0	3,996.9	2.6	2.3	924.1	1,301.6	1,861.1	3.5	3.6
621	Ambulatory health care services .....	4,161.3	5,660.8	7,675.9	1,499.5	2,015.1	3.1	3.1	426.4	635.5	972.6	4.1	4.3
6211, 6212, 6213	Offices of health practitioners.....	2,815.1	3,713.3	4,978.6	898.2	1,265.3	2.8	3.0	311.5	467.9	714.1	4.2	4.3
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services.....	686.7	989.5	1,297.9	302.8	308.4	3.7	2.8	82.0	115.5	180.0	3.5	4.5
6216	Home health care services ...	659.5	958.0	1,399.4	298.5	441.4	3.8	3.9	32.8	52.7	79.1	4.8	4.1
622	Hospitals, private .....	3,892.4	4,641.2	5,191.9	748.8	550.7	1.8	1.1	305.6	425.5	580.4	3.4	3.2
623	Nursing and residential care facilities.....	2,487.4	3,008.0	3,644.8	520.6	636.8	1.9	1.9	111.3	131.1	160.4	1.6	2.0
624	Social assistance.....	1,672.6	2,508.7	3,303.0	836.1	794.3	4.1	2.8	80.8	110.8	156.6	3.2	3.5
6241	Individual and family services .....	597.3	1,108.6	1,638.8	511.3	530.2	6.4	4.0	32.1	46.2	69.1	3.7	4.1
6242, 6243	Community, and vocational rehabilitation services .....	460.2	540.9	672.0	80.7	131.1	1.6	2.2	17.6	24.2	40.3	3.2	5.2
6244	Child day care services.....	615.1	859.2	992.2	244.1	133.0	3.4	1.4	31.1	40.5	48.7	2.7	1.9

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
71	Arts, entertainment, and recreation .....	1,645.4	1,969.5	2,273.7	324.1	304.2	1.8	1.4	133.6	173.3	208.9	2.6	1.9
711	Performing arts, spectator sports, and related industries.....	350.1	406.4	468.1	56.3	61.7	1.5	1.4	69.5	78.3	89.2	1.2	1.3
7111	Performing arts companies..	127.7	117.8	126.7	-9.9	8.9	-.8	.7	13.2	9.6	10.8	-3.2	1.2
7112	Spectator sports.....	109.9	128.8	145.9	18.9	17.1	1.6	1.3	22.0	27.0	33.1	2.0	2.1
7113, 7114	Promoters of events, and agents and managers.....	77.3	109.4	130.7	32.1	21.3	3.5	1.8	14.8	20.7	20.7	3.4	.0
7115	Independent artists, writers, and performers ..	35.2	50.4	64.8	15.2	14.4	3.7	2.5	19.5	21.1	24.7	.8	1.6
712	Museums, historical sites, and similar institutions....	97.4	131.8	160.7	34.4	28.9	3.1	2.0	5.3	6.7	7.6	2.5	1.2
713	Amusement, gambling, and recreation industries..	1,197.9	1,431.3	1,644.9	233.4	213.6	1.8	1.4	59.0	88.4	113.0	4.1	2.5
72	Accommodation and food services .....	9,586.2	11,489.2	12,327.4	1,903.0	838.2	1.8	.7	473.3	574.9	675.1	2.0	1.6
721	Accommodation .....	1,773.5	1,857.3	1,956.7	83.8	99.4	.5	.5	129.2	144.7	176.0	1.1	2.0
722	Food services and drinking places.....	7,812.7	9,631.9	10,370.7	1,819.2	738.8	2.1	.7	344.0	430.1	499.1	2.3	1.5
81	Other services .....	5,749.8	6,333.2	7,141.9	583.4	808.7	1.0	1.2	400.6	462.5	539.2	1.4	1.5
811	Repair and maintenance....	1,189.2	1,228.2	1,290.7	39.0	62.5	.3	.5	140.5	156.6	179.5	1.1	1.4
8111	Automotive repair and maintenance.....	828.3	858.3	911.9	30.0	53.6	.4	.6	87.9	99.0	105.2	1.2	.6
8112	Electronic and precision equipment repair and maintenance.....	112.9	104.4	110.7	-8.5	6.3	-.8	.6	19.5	20.6	22.7	.6	1.0
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance.....	163.4	191.5	199.7	28.1	8.2	1.6	0.4	16.7	22.8	40.7	3.2	6.0
8114	Personal and household goods repair and maintenance.....	84.6	74.0	68.4	-10.6	-5.6	-1.3	-.8	16.6	14.3	13.7	-1.5	-.4
812	Personal and laundry services .....	1,205.6	1,326.7	1,588.7	121.1	262.0	1.0	1.8	105.4	123.5	153.4	1.6	2.2
8121	Personal care services .....	468.7	621.6	819.1	152.9	197.5	2.9	2.8	33.2	39.7	53.5	1.8	3.0
8122	Death care services .....	133.7	136.2	145.3	2.5	9.1	.2	.6	12.9	10.5	9.4	-2.0	-1.1
8123	Drycleaning and laundry services .....	383.1	334.8	347.9	-48.3	13.1	-1.3	.4	22.0	21.6	22.2	-.2	.3
8129	Other personal services.....	220.1	234.1	276.4	14.0	42.3	.6	1.7	37.4	51.8	69.5	3.3	3.0
813	Religious, grantmaking, civic, professional, and similar organizations.....	2,581.3	2,973.3	3,352.5	392.0	379.2	1.4	1.2	140.0	168.3	188.9	1.9	1.2
8131	Religious organizations .....	1,460.0	1,684.2	1,881.8	224.2	197.6	1.4	1.1	46.9	51.4	57.3	.9	1.1
8132, 8133	Grantmaking and giving services and social advocacy organizations.....	264.6	351.1	387.4	86.5	36.3	2.9	1.0	28.8	44.3	46.5	4.4	.5
8134, 8139	Civic, social, professional, and similar organizations...	856.7	938.0	1,083.3	81.3	145.3	.9	1.5	64.4	73.2	85.5	1.3	1.6
814	Private households.....	773.7	805.0	910.0	31.3	105.0	.4	1.2	14.7	14.1	17.2	-.4	2.0
NA	Federal Government .....	2772.0	2764.3	2859.1	-7.7	94.8	.0	.3	572.6	759.5	867.6	2.9	1.3
491	Postal Service .....	880.5	747.5	650.0	-133.0	-97.5	-1.6	-1.4	61.5	56.8	62.3	-.8	.9

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
NA	Federal electric utilities...	29.7	24.0	19.0	-5.7	-5.0	-2.1	-2.3	9.7	11.0	11.8	1.3	0.7
NA	Federal enterprises except the Postal Service and electric utilities .....	85.8	63.5	44.9	-22.3	-18.6	-3.0	-3.4	7.8	11.0	12.6	3.5	1.4
NA	Federal defense government .....	550.4	496.3	547.1	-54.1	50.8	-1.0	1.0	323.2	462.7	548.3	3.7	1.7
NA	Federal non-defense government except enterprises .....	1225.6	1433.0	1598.1	207.4	165.1	1.6	1.1	172.2	224.5	245.7	2.7	.9
NA	Federal Government except enterprises .....	1,776.0	1,929.3	2,145.2	153.3	215.9	.8	1.1	495.2	681.3	785.4	3.2	1.4
NA	State and local government .....	17,137.3	19,735.2	21,326.7	2,597.9	1,591.5	1.4	.8	1,254.2	1,504.4	1,727.8	1.8	1.4
NA	Local government passenger transit .....	213.9	268.6	342.6	54.7	74.0	2.3	2.5	8.3	9.2	11.3	1.1	2.1
NA	Local government enterprises except passenger transit .....	1,077.6	1,326.4	1,499.1	248.8	172.7	2.1	1.2	139.7	176.2	211.4	2.3	1.8
NA	Local government hospitals - compensation .....	630.2	662.6	669.0	32.4	6.4	.5	.1	22.6	27.1	28.7	1.9	0.6
NA	Local government educational services - compensation .....	6,920.9	8,075.6	8,728.3	1,154.7	652.7	1.6	.8	270.5	305.0	323.2	1.2	0.6
NA	Local government excluding enterprises, educational services, and hospitals - compensation .....	3,682.3	4,224.1	4,464.0	541.8	239.9	1.4	.6	164.4	184.5	188.5	1.2	.2
NA	State government enterprises .....	503.9	533.8	578.3	29.9	44.5	.6	.8	20.5	25.4	30.4	2.1	1.8
NA	State government hospitals - compensation .....	346.0	363.4	377.3	17.4	13.9	.5	.4	19.2	19.5	21.4	.1	.9
NA	State government educational services - compensation .....	1,922.2	2,359.0	2,584.0	436.8	225.0	2.1	.9	75.3	86.8	88.7	1.4	.2
NA	State government, other compensation .....	1,840.3	1,921.7	2,084.1	81.4	162.4	.4	.8	96.8	100.8	103.0	.4	.2
NA	State and local government capital services .....	-	-	-	-	-	-	-	77.1	109.1	138.9	3.5	2.4
NA	General state and local government except compensation and capital services .....	-	-	-	-	-	-	-	359.8	461.9	590.2	2.5	2.5
NA	Owner-occupied dwellings .....	-	-	-	-	-	-	-	698.6	898.8	1,092.6	2.6	2.0
11	Agriculture, forestry, fishing, and hunting' .....	2,528.0	2,098.3	2,020.1	-429.7	-78.2	-1.8	-.4	264.8	292.6	318.9	1.0	.9
111	Crop production .....	1,085.3	950.6	880.7	-134.7	-69.9	-1.3	-.8	110.1	131.0	140.8	1.8	.7
112	Animal production .....	1,119.6	860.6	823.9	-259	-36.7	-2.6	-.4	104.4	114.9	128.4	1.0	1.1
1131, 1132	Forestry .....	17.1	16.8	18.0	-.3	1.2	-.2	.7	6.8	5.8	7.9	-1.7	3.2
1133	Logging .....	122.7	82.0	100.2	-40.7	18.2	-4.0	2.0	24.4	22.7	23.1	-.7	.1
114	Fishing, hunting and trapping .....	57.8	47.0	47.1	-10.8	.1	-2.0	.0	6.3	7.1	6.3	1.1	-1.1

See footnotes at end of table.

**Appendix 1. Continued—Employment and output by industry, 1998, 2008, and projected 2018**

2007 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1998	2008	2018	1998–2008	2008–18	1998–2008	2008–18	1998	2008	2018	1998–2008	2008–18
115	Support activities for agriculture and forestry.....	125.5	141.3	150.1	15.8	8.8	1.2	0.6	12.8	8.2	10.9	-4.4	2.9
NA	Nonagriculture self-employed and unpaid family worker <sup>2</sup> .....	9,342.2	9,312.6	9,943.1	-29.6	630.5	.0	.7	-	-	-	-	-
NA	Secondary wage and salary jobs in agriculture and private household industries <sup>3</sup> .....	172.5	181.7	191.6	9.2	9.9	.5	.5	-	-	-	-	-
NA	Secondary jobs as a self-employed or unpaid family worker <sup>4</sup> .....	1,896.5	1,524.3	1,607.3	-372.2	83.0	-2.2	.5	-	-	-	-	-
NA	Total <sup>5,6</sup> .....	140,563.9	150,931.7	166,205.6	10,367.8	15,273.9	.7	1.0	17,050.0	21,028.4	27,702.7	2.1	2.8

<sup>1</sup> Includes agriculture, forestry, fishing, and hunting wage and salary, self-employed, and unpaid family workers data from the Current Population Survey, except logging, which is from Current Employment Statistics survey. Government wage and salary workers are excluded.

<sup>2</sup> Comparable estimate of output growth is not available.

<sup>3</sup> Workers who hold a secondary wage and salary job in agricultural production, forestry, fishing, and private household industries.

<sup>4</sup> Wage and salary workers who hold a secondary job as a self-employed or unpaid family worker.

<sup>5</sup> Employment data for wage and salary workers are from the BLS Current Employment Statistics survey, which counts jobs, whereas self-employed, unpaid family workers, and agriculture, forestry, fishing, and hunting are from the Current Population Survey (household survey), which counts workers.

<sup>6</sup> Output subcategories do not necessarily add to higher categories as a by product of chain-weighting.

NOTE: Dash indicates data not available.