

# MONTHLY LABOR REVIEW

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Volume 130, Number 11  
November 2007

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### The November Review

One of the Bureau's—indeed, the Federal Government's—most popular and enduring products is the *Occupational Outlook Handbook*. Look for the 2008–09 edition to be issued in the second half of December. In the meantime, the economic, labor force, and industrial and occupational employment projections featured in a series of articles in the *Review* this month serve as the quantitative underpinnings of the *Handbook* and its evaluation of future employment prospects for hundreds of specific occupations. The projections, which are updated every 2 years, have been produced by BLS for many decades and are widely used in career guidance, in education and training program planning, and in analysis of longer range job market trends. This year's projections encompass the 2006–16 period.

The inexorable aging and retiring of the baby boomers—a generation that has had enormous socioeconomic impact—is an important element in this year's projections. The labor force is projected to grow more slowly than in the previous decade in part due to this process. The number of workers in the age 55-and-older group is projected to grow by nearly 50 percent, over 5 times the growth projected for the labor force overall. The need to replace these workers as they gradually begin to retire is expected to create a significant number of job openings.

The U.S. economy is projected to grow at a steady pace, but less than the typical gains posted in the 1996–2006 period. Productivity growth is expected to slow as well. Reflecting the increased interpenetration of world markets, international and foreign trade activities are projected to continue their current fast-growing trend over the projection period.

Professional and related occupations and service occupations—two major occupational groups on opposite ends of the educational and earnings ranges—are projected to grow the fastest and add the most jobs. In fact, they are projected to account for more than 6 of 10 new jobs created over the 2006–16 decade, and will dominate the list of the fastest growing occupations.

Construction is the only major goods-producing industry projected to grow. The number of manufacturing jobs is expected to decline, but in a lesser volume than over the 1996–2006 period. Jobs in the professional and business services and in the health care and social assistance industries are expected to have large employment gains; all told, they are projected to make up more than half of the increase in total employment. Overall, jobs in service-providing industries will generate almost all of the employment gain from 2006 to 2016 and will make up more than three-quarters of all jobs in 2016.

### New information on labor market churning

Each month, through data gathered in the Current Population Survey (CPS), BLS develops and reports estimates of the number of people inside and outside of the labor force—that is, those persons who are employed, actively seeking and available for work (the unemployed) or not currently seeking work, such as full-time students or retirees. The net changes of people in these labor force statuses are important indicators of the state of the U.S. labor market and economy.

In a labor market with the size and complexity of that in the United States, these net changes are the result of deci-

sions made each month by literally millions of individuals in response to questions like: Should I take a part-time job to supplement my retirement income? Is now the right time to leave my current employer and search for a new job? Since being laid off, should I spend some time learning new skills and reenter the job market later? Now that I've graduated, should I go on to further schooling or take that first tempting job offer? The outcome of myriad decisions like these leads to the movement of millions of people between employment and unemployment each month, or between entering and leaving the work force.

BLS now is publishing through its Web site a research series on these monthly labor force flows. Gross flows data have been available from the CPS for decades, but researchers at the Bureau have developed methods to make the data more analytically useful and intelligible. The development of this refined series and its potential analytic uses were discussed in the September 2005 *Review*. The data, available in a time series from 1994, are an important addition to our core “canon” of labor market measures. They can be found at [http://www.bls.gov/cps/cps\\_flows.htm](http://www.bls.gov/cps/cps_flows.htm)

### Spotlight on Statistics

The multiplicity of outputs from the Bureau's various programs sometimes leaves us searching for opportunities to explore common cross-cutting subjects. To that end, and to have a little fun, BLS is now issuing, via its Web site, brief synopses of its data tied to common themes. Look for these *Spotlight on Statistics* to be posted periodically. The most recent in this new series highlighted data tied to Thanksgiving. As the year draws to a close, hopefully we all have much to be thankful for.

## **Employment outlook: 2006–16**

# **An overview of BLS projections to 2016**

*The U.S. economy is projected to grow at a moderate pace over the next 10 years; productivity growth is expected to slow, but still grow at a rate faster than the 1970s and 1980s; and the labor force will grow older as baby boomers move into the 55-and-older age group*

James C. Franklin

**T**he BLS projections of the U.S. economy to 2016 present an economy with steady but slowing growth. Growth in the population, and therefore the labor force, is expected to slow. As the baby boomers age, so too does the population, but also, the boomers begin their transition into retirement. Productivity growth is expected to maintain a pace slower than the late 1990s and early 2000s but one faster than the period from the 1970s to the early 1990s. Together, these trends combine to produce an expectation of gross domestic product (GDP) growth of 2.8 percent per year, slower than the 1996–2006 annual growth of 3.1 percent.

On a biennial basis, BLS prepares a set of 10-year projections of industry and occupational employment. The current projections to 2016 are the 20th in the series.<sup>1</sup> In this issue, four articles examine, in detail, the main aspects of these projections: the aggregate economy; the labor force; industry output and employment; and occupational employment and job openings.<sup>2</sup> The U.S. economic trends projected over the 2006–16 decade arise from methods that include both analytical judgment and econometric models, and rest on assumptions that are explicit and implicit to the projections methods.

These projections provide information for individuals seeking career guidance and for organizations and individuals that offer career guidance resources. In addition, policymak-

ers, community planners, and educational authorities who need information for long-term policy planning purposes make use of the BLS employment projections. BLS projections also are used by States in preparing State and local area projections.

These new projections supersede the 2004–14 projections published in November 2005, and they form the basis of updated Internet and print editions of the *Occupational Outlook Handbook*, *Career Guide to Industries*, and *Occupational Projections and Training Data*. The remainder of this article presents a summary of the results of each projections component, a brief methods statement, and some discussion of risks and issues related to the projections.

### **Summary of articles**

*Aggregate economy.* In the first article, Betty Su focuses on the aggregate economic outlook for the coming decade (pages 13–32). Gross domestic product (GDP), which measures the sales of domestically produced goods and services to final users, is projected to grow at an annual average rate of 2.8 percent over the 2006–16 period. (See table 1.) This is slower than either of the preceding two decades. Historically, in nominal terms, consumer spending accounts for about two-thirds of GDP. Over the projections period, consumer spending is expected to maintain

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**Table 1. Summary of results of BLS aggregate economic projections, 1986, 1996, 2006, and projected 2016**

Real gross domestic product (GDP) and components (Billions of chained 2000 dollars)	1986	1996	2006	2016	Average annual rate of change			
					1986–96	1996–2006	2006–16	
					Gross domestic product .....	\$6,263.6	\$8,328.9	\$11,319.4
Personal consumption expenditures .....	4,228.9	5,619.4	8,044.1	10,718.3	2.9	3.7	2.9	
Gross private domestic investment .....	843.9	1,234.3	1,919.5	2,609.5	3.9	4.5	3.1	
Exports .....	353.7	843.4	1,304.1	2,229.7	9.1	4.5	5.5	
Imports .....	510.0	923.0	1,928.6	2,912.0	6.1	7.6	4.2	
Federal defense consumption expenditures and gross investment .....	462.4	383.8	491.5	542.3	-1.8	2.5	1.0	
Federal nondefense consumption expenditures and gross investment .....	160.1	189.6	250.7	253.1	1.7	2.8	.1	
State and local consumption expenditures and gross investment .....	766.4	990.5	1,239.0	1,489.0	2.6	2.3	1.9	
Nominal GDP and percent distribution (billions of dollars) <sup>1</sup>	1986	1996	2006	2016	Percent distribution			
					1986	1996	2006	2016
					Gross domestic product .....	\$4,462.8	7,816.9	13,194.7
Personal consumption expenditures .....	2,899.8	5,256.8	9,224.5	15,881.1	65.0	67.2	69.9	70.1
Gross private domestic investment .....	746.5	1,240.3	2,209.1	3,769.1	16.7	15.9	16.7	16.6
Exports .....	320.5	868.5	1,467.6	3,162.4	7.2	11.1	11.1	14.0
Imports .....	453.3	964.8	2,229.6	4,194.3	10.2	12.3	16.9	18.5
Federal defense consumption expenditures and gross investment .....	330.9	354.6	624.3	913.0	7.4	4.5	4.7	4.0
Federal nondefense consumption expenditures and gross investment .....	107.8	172.8	308.2	437.2	2.4	2.2	2.3	1.9
State and local consumption expenditures and gross investment .....	510.7	888.6	1,590.5	2,673.9	11.4	11.4	12.1	11.8
Labor supply and productivity	1986	1996	2006	2016	Average annual rate of change			
					1986–96	1996–2006	2006–16	
					Total population (millions) .....	240.4	269.8	300.5
Civilian population aged 16 and older .....	180.6	200.6	228.8	250.6	1.1	1.3	.9	
Civilian labor force .....	117.8	133.9	151.4	164.2	1.3	1.2	.8	
Civilian household employment .....	109.6	126.7	144.4	155.9	1.5	1.3	.8	
Nonfarm payroll employment .....	99.5	119.7	136.2	151.1	1.9	1.3	1.0	
Unemployment rate (percent) .....	7.0	5.4	4.6	5.0	-2.6	-1.5	.8	
Private nonfarm business output per hour (chained 2000 dollars) .....	30.4	35.3	45.6	56.9	1.5	2.6	2.2	

<sup>1</sup> Imports are subtracted from GDP components because they are produced outside of the United States.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

its 2006 share of about 70 percent. In real terms, consumer spending has a projected growth rate of 2.9 percent per year from 2006 through 2016. For private investment, the projected real annual growth rate is 3.1 percent. Over the projections period, a deficit foreign trade position will persist. Growth of exports in real terms is expected to average 5.5 percent on an annual basis, while real imports are expected to grow at a 4.2-percent annual rate. This reflects an increase in the growth rate of exports and a decrease in the growth rate of imports over the previous decade. Real federal spending on defense is projected to grow at a rate of 1.0 percent through the decade, while nondefense spending is expected to remain

nearly flat. State and local government expenditures are projected to grow in real terms at an annual average rate of 1.9 percent.

The macroeconomic projections are developed under certain assumptions and expectations. The unemployment rate is assumed to be 5.0 percent in 2016. Nonfarm business labor productivity is assumed to grow at an annual rate of 2.2 percent. This is slower than the 2.6-percent rate for 1996–2006, but faster than the 1.5-percent annual growth rate for 1986–96. The world economy is expected to be moderately strong along with a continuing and steady depreciation of the dollar against our major trading partners. Inflation, as measured by the GDP

price index, is assumed to be 2.7 percent per year over the projection period.<sup>3</sup>

In summary, moderately strong economic growth is expected, with productivity growth slightly faster than the long run trend.

*Labor force.* Mitra Toossi, the author of the second article in the series, presents the projected growth of the labor force by age, sex, race, and ethnicity (pages 33–52). The essential story of the labor force has three aspects. First, population growth is expected to slow over the coming decade, and consequently, labor force growth will also slow. Second, over the next 10 years, the labor force component of older individuals is expected to grow at a rate more than 5 times faster than the growth of the labor force overall. This reflects the movement of baby boomers into this older cohort and expected increases in labor force participation among older workers. Finally, the historical trend of increasing racial and ethnic diversity of the labor force is expected to continue.

The civilian labor force is projected to grow at an annual rate of 0.8 percent (See table 2.), slightly slower than the population growth rate of 0.9 percent annually.<sup>4</sup> Growth in the labor force is a consequence of changes in both the population and labor force participation rates. The overall participation rate is projected to decline slightly from 66.2 percent in 2006 to 65.5 percent in 2016. (See table 3.) The slower growth in the labor force relative to the population growth is a reflection of the declining overall participation rate. This, in turn, is being driven by the aging baby-boom cohort as they enter the 55-and-older age group with a significantly lower participation rate than the 25- to 54-year-old age group.

The progression of the baby boomers through their career paths over the last 40 years has had a significant impact on the growth characteristics of the labor force. Over the next 10 years, the “boomers’” decisions about work and retirement also will have significant impacts on the character of the labor force. An examination of the projected labor force participation rates by age shows a significant variation across the three main age groups. The 16- to 24-year-olds have a decreasing participation rate from 60.6 percent in 2006 to 57.1 percent in 2016; individuals in their prime work years of ages 24 to 54 have a slightly increasing participation rate of 82.9 percent to 83.6 percent; and the 55-and-older age group have the greatest increase in their participation rate, from 38.0 percent to 42.8 percent. For the 55-and-older age group, the participation rate change, along with increased numbers of individuals in their group, translates into an annual

projected growth rate of 3.9 percent for the number of those 55 and older in the labor force, as shown in table 2. This growth rate is nearly 5 times the overall labor force annual growth rate of 0.8 percent.

The increase in the participation of those 55 and older is a continuation of the increase over the 1996–2006 decade from 30.3 percent to 38.0 percent. During this decade, the oldest of the baby boomers joined the 55-and-older component of the population. By contrast, the participation rate of the 55 and older group remained relatively flat between 1986 and 1996 at 30.1 percent and 30.3 percent respectively. The baby boomers in 1996 were aged 32 to 50, but by 2006 were aged 42 to 60. The first of the baby boomers entered into the 55-and-older age group in 2001. Many factors influence an individual’s decision to remain in the work force or to retire. Health and the ability to work are very important. In general, people are living longer and healthier, allowing them to extend their working years. Government policies and legislation, and private sector business policies that affect retirement benefits also influence retirement decisions. The general trend towards defined contribution retirement plans rather than defined benefit plans encourages individuals to work longer. So too, the gradual increases in the age of eligibility for full Social Security payments that began in 2000 encourage individuals to work longer. These factors together underlie the trend towards increased participation of the 55-and-older age group.

Immigration plays a significant role in the dynamics of population and labor force growth. The Census Bureau estimate of population change between April 2000 and July 2006 is about 18 million.<sup>5</sup> Of that, about 7.6 million, or 43 percent was supplied by net international migration. Asian immigrants accounted for about 23 percent of the net migration and immigrants of Hispanic origin, about 52 percent. Similarly, Asians and Hispanics have been the fastest growing components of the labor force since 1986, and this is expected to continue into the future. Their respective labor forces have projected growth rates of 2.7 per year during the 2006–16 period.

In summary, the labor force is projected to grow at a pace slightly less than that of the overall population. This reflects an aging workforce as the baby boomers move well into the ages considered traditional for retirement.

*Industry employment.* The third article (pages 53–85), by Eric Figueroa and Rose Woods, examines the growth of industry output and employment. Projections of employment and output at the aggregate level show the combined macro effects of slower growth in both productivity

**Table 2. Civilian labor force by age, sex, race, and Hispanic origin, 1986, 1996, 2006, and projected 2016**

(Numbers in thousands)

Age, sex, race, and ethnicity	Level				Change			Percent distribution				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Total, 16 years and older.....	117,834	133,943	151,428	164,232	16,109	17,485	12,804	100.0	100.0	100.0	100.0	1.3	1.2	0.8
Age, years:														
16 to 24 .....	23,367	21,183	22,394	20,852	-2,184	1,211	-1,542	19.8	15.8	14.8	12.7	-1.0	.6	-.7
25 to 54 .....	79,563	96,786	103,566	106,026	17,223	6,780	2,460	67.5	72.3	68.4	64.6	2.0	.7	.2
55 and older .....	14,904	15,974	25,468	37,354	1,070	9,494	11,886	12.6	11.9	16.8	22.7	.7	4.8	3.9
Sex:														
Men .....	65,422	72,087	81,255	87,781	6,665	9,168	6,526	55.5	53.8	53.7	53.4	1.0	1.2	.8
Women .....	52,413	61,857	70,173	76,450	9,444	8,316	6,277	44.5	46.2	46.3	46.6	1.7	1.3	.9
Race:														
White .....	101,801	113,108	123,834	130,665	11,307	10,726	6,831	86.4	84.4	81.8	79.6	1.1	.9	.5
Black .....	12,654	15,134	17,314	20,121	2,480	2,180	2,807	10.7	11.3	11.4	12.3	1.8	1.4	1.5
Asian .....	3,379	5,701	6,727	8,741	2,322	1,026	2,014	2.9	4.3	4.4	5.3	5.4	1.7	2.7
All other groups <sup>1</sup> .....	-	-	3,553	4,705	-	-	1,152	-	-	2.3	2.9	-	-	2.8
Ethnicity:														
Hispanic origin .....	8,076	12,774	20,694	26,889	4,698	7,920	6,195	6.9	9.5	13.7	16.4	4.7	4.9	2.7
Other than Hispanic origin .....	109,758	121,169	130,734	137,343	11,411	9,565	6,609	93.1	90.5	86.3	83.6	1.0	.8	.5
White non-Hispanic .....	94,027	100,915	104,629	106,133	6,888	3,714	1,504	79.8	75.3	69.1	64.6	.7	.4	.1
Age of baby boomers .....	22 to 40	32 to 50	42 to 60	52 to 70										

<sup>1</sup> The "all other groups" category includes (1) those classified as being of multiple racial origin and (2) the race categories of (2a) American Indian and Alaska Native or (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

**Table 3. Civilian labor force participation rates by age, 1986, 1996, 2006, and projected 2016**

(In percent)

Group	Participation rate				Percentage point change			Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16
Total, 16 years and older.....	65.3	66.8	66.2	65.5	1.5	-0.6	-0.7	0.2	-0.1	-0.1
16 to 24 .....	68.6	65.5	60.6	57.1	-3.1	-4.9	-3.5	-5	-.8	-.6
16 to 19 .....	54.7	52.3	43.7	37.5	-2.4	-8.6	-6.2	-4	-1.8	-1.5
20 to 24 .....	78.9	76.8	74.6	71.8	-2.1	-2.2	-2.8	-3	-3	-4
25 to 54 .....	82.0	83.8	82.9	83.6	1.8	-.9	.7	.2	-.1	.1
25 to 34 .....	82.9	84.1	83.0	85.4	1.2	-1.1	2.4	.1	-.1	.3
35 to 44 .....	83.7	84.6	83.8	83.3	.9	-.8	-.5	.1	-.1	-.1
45 to 54 .....	78.0	82.1	81.9	82.1	4.1	-.2	.2	.5	.0	.0
55 and older .....	30.1	30.3	38.0	42.8	.2	7.7	4.8	.1	2.3	1.2
55 to 64 .....	54.0	57.9	63.7	66.7	3.9	5.8	3.0	.7	1.0	.5
65 to 74 .....	15.2	17.5	23.6	29.5	2.3	6.1	5.9	1.4	3.0	2.3
75 and older .....	4.0	4.7	6.4	10.5	.7	1.7	4.1	1.6	3.1	5.1

and the labor force. Nonagricultural wage and salary employment<sup>6</sup> is projected to grow by 15 million, an annual growth rate of 1.0 percent, during the projections decade. Projected total industry output is expected to increase<sup>7</sup> on a real basis at an annual rate of 2.9 percent. (See table 4.) This growth in both employment and output is slower than the respective annual growth rates of 1.3 percent and 3.0 percent in the historical 1996–2006 period.

Nearly all the growth in nonagricultural wage and salary employment is projected to occur in the service-providing sectors of the economy. Employment in services is expected to account for 86 percent of all jobs. The projected 2016 level of employment in services is 130.2 million which is attained with an expected 1.3-percent annual growth rate. The two fastest growing service-providing sectors are health care and social assistance, and professional and business services, with growth rates of 2.4 and 2.1 percent respectively. The combined employment growth for these two sectors, 8.1 million, account for more than half the total projected employment increase.

Construction, projected to add about 780,000 jobs, is

the only component of the goods-producing sector expected to have a positive employment growth. Manufacturing declined by 3.0 million jobs during 1996–2006 at an annual rate of –1.9 percent. The decline is expected to continue at a slower pace over 2006–16 of –1.1 percent annually, resulting in a 1.5-million job loss. The projected decline in manufacturing employment, and the goods-producing sector overall, is not accompanied by expected real output declines, however. Expected productivity increases during 2006–16 offset the employment declines, resulting in a projected annual growth rate for the output from the goods-producing sector of 2.1 percent, and for manufacturing output of 2.4 percent. Real output for the service-producing sector has a projected annual growth rate of 3.3 percent. With the associated employment growth, productivity gains clearly contribute less to service output growth than goods output growth.

The two sectors within the service-producing sector with the fastest projected employment growth also are expected to have strong real output growth. Health care and social assistance real output growth is projected at 3.6

**Table 4. Real output and nonfarm wage and salary employment, by major industry, 2006 and 2016**

Industry sector	Output <sup>1</sup>		Average annual rate of change	Employment <sup>2</sup>		Average annual rate of change
	2006	2016		2006	2016	
Total .....	\$20,265.3	\$27,093.7	2.9	136,912.2	151,962.3	1.0
Goods-producing, excluding agriculture.....	5,297.3	6,535.0	2.1	22,504.9	21,772.6	–.3
Mining .....	242.2	268.6	1.0	618.7	608.5	–.2
Construction .....	899.1	1,031.1	1.4	7,688.9	8,469.6	1.0
Manufacturing .....	4,145.8	5,263.6	2.4	14,197.3	12,694.5	–1.1
Service-producing .....	13,778.0	18,992.2	3.3	114,407.3	130,189.7	1.3
Utilities .....	323.4	353.5	.9	548.5	517.6	–.6
Wholesale trade .....	1,041.9	1,702.7	5.0	5,897.7	6,326.2	.7
Retail trade.....	1,305.3	1,892.1	3.8	15,319.4	16,006.4	.4
Transportation and warehousing.....	669.9	889.9	2.9	4,465.8	4,962.0	1.1
Information .....	1,006.2	1,682.8	5.3	3,054.9	3,266.7	.7
Financial activities.....	2,621.1	3,761.6	3.7	8,363.2	9,570.1	1.4
Professional and business services.....	2,130.7	2,990.7	3.4	17,551.6	21,643.7	2.1
Educational services .....	157.1	190.9	2.0	2,918.4	3,527.4	1.9
Health care and social assistance .....	1,210.9	1,720.2	3.6	14,919.8	18,954.1	2.4
Leisure and hospitality .....	739.3	909.4	2.1	13,143.4	15,016.7	1.3
Other services .....	439.1	550.5	2.3	6,234.6	7,077.2	1.3
Federal Government.....	715.1	760.7	.6	2,728.3	2,625.7	–.4
State and local government .....	1,435.9	1,748.7	2.0	19,261.7	20,696.1	.7

<sup>1</sup>Output is on a gross duplicated basis in billions of chained 2000 dollars. Total includes agriculture which is excluded from detail.

<sup>2</sup>Employment is in thousands. 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.

percent annually, while professional and business services real output is expected to grow at an annual rate of 3.4 percent. The information sector is the fastest growing service-producing sector, with projected real output growth of 5.3 percent annually. The growth for the information sector is driven by expectations of growth for telecommunications, software publishing, and Internet and other related services.

In summary, the long-term historical shift of employment from the goods-producing to the service-producing sector is expected to continue. In part, this is predicated on differences in productivity growth at the sector level, but also, in part, demographics and technological change are driving the shift.

*Occupational employment.* The final article, by Lynn Shniper and Arlene Dohm, discusses the results of the occupational component of the projections (pages 86–125). The two largest of the major occupational groups<sup>8</sup> in 2006, professional and related occupations, and service occupations, are expected to remain the two largest in 2016. (See table 5.) These two occupational groups are projected as the fastest growing, accounting for about 63 percent of the total projected growth. With the addition of the management, business, and financial occupational group—the only other group expected to exceed the projected average occupational growth—these three occupational groups account for 73 percent of total growth. On the opposite end of the growth spectrum resides the fishing, forestry, and farming occupations and the production occupations. These two occupational groups have projected declines in the number of jobs over the 10-year span 2006–16. The

remaining occupational groups are expected to grow, but at a rate less than the average for all occupations.

Within the professional and related occupational group, three major occupational groups account for 3.5 million of the projected jobs growth. Health care practitioners and technical occupations contribute 1.4 million; education, training, and library contribute 1.3 million; and computer and mathematical science contribute 822,000. Within the service occupational group, the major group, healthcare support occupations, is expected to be the fastest growing at nearly 27 percent over the 2006–16 period.

New job growth is not the only source of employment opportunities. People retire, or leave the workforce for several reasons; people also leave their jobs and take work in different occupations. The job opportunities that arise from the need to replace workers are significant: at 35.1 million it is more than double the 15.6 million of new jobs attributed to growth. As the baby boomers age, an increasing share of replacement needs will arise from their retirements.

The occupational article also examines the most significant source of training by occupation. The analysis of the most significant source of training reveals that the occupations historically requiring short-term on-the-job training are expected to be about 30 percent of all new jobs. Jobs that historically require a bachelor's degree as the most significant source of training are expected to account for about 20 percent of all new jobs.

In summary, the occupational projections are similarly impacted by the factors that drive the industry employment projections. The combined influence of the productivity outlook, the aging demographic, and the technolog-

**Table 5. Employment by major occupational group, 2006 and projected 2016**

(Numbers in thousands)

Occupation	Level		Change	Percent distribution		Percent change
	2006	2016		2006	2016	
Total, all occupations.....	150,620	166,220	15,600	100.0	100.0	10.4
Management, business, and financial.....	15,397	16,993	1,596	10.2	10.2	10.4
Professional and related .....	29,819	34,790	4,970	19.8	20.9	16.7
Service .....	28,950	33,780	4,830	19.2	20.3	16.7
Sales and related .....	15,985	17,203	1,218	10.6	10.3	7.6
Office and administrative support .....	24,344	26,089	1,745	16.2	15.7	7.2
Farming, fishing, and forestry .....	1,039	1,010	-29	.7	.6	-2.8
Construction and extraction .....	8,295	9,079	785	5.5	5.5	9.5
Installation, maintenance, and repair .....	5,883	6,433	550	3.9	3.9	9.3
Production.....	10,675	10,147	-528	7.1	6.1	-4.9
Transportation and material moving.....	10,233	10,695	462	6.8	6.4	4.5

ical changes that confront both consumers and businesses are expected to motivate a continued shift towards service-producing activities.

## Risks to the projections

Every forecast has associated risks; the BLS projections are no different. At the first level, the underlying assumptions of the projections, whether explicit or implicit within the analytic methods, are a point of risk. At the second level, the analytic results have risk owing to the uncertain nature of the issues addressed. These projections are an attempt to identify the most likely path for employment within the U.S. economy over the coming decade. That attempt requires giving qualitative and quantitative boundaries to several issues facing the economy. These issues include the aging population, globalization and immigration, and other considerations such as the current wars and the reality of terrorism. The section that follows briefly discusses these issues.

*General risks.* Statistical and econometric models formally project historical relationships. Subjective analysis, as well, relies on understanding history and extrapolating that understanding to conceive the future. Exercises such as the BLS projections typically stipulate a disclaimer for unanticipated events: no new wars, no forthcoming natural disasters or other significant unanticipated events. Such a disclaimer reinforces the point that the methods rely on an extrapolation of history, and that the occurrence of such events could upset the behavior of the various models or upend the basis of analysis. This disclaimer applies to the BLS projections.

*Aging population.* The aging of the U.S. population and the implications for Social Security and healthcare present challenges for domestic policymakers. Future policy decisions present an associated risk to these projections. BLS assumes that the laws and policies in effect, or legislated to be effective, during the development of the projections are not changed. Therefore, the current laws regarding Social Security and Medicare are assumed throughout the projections. However, it is clear there are long-term fiscal issues regarding both that require political solutions. BLS makes no presumptions about the nature of any future political solutions, nor what the impacts might be upon the projections.

*Globalization and immigration.* Political and economic concerns revolve around the reality of globalization and

immigration. Persistent foreign trade deficits in goods and services, along with increased flows of capital and strong immigration growth have prompted both political and economic debate about appropriate U.S. policy. Again, BLS makes no presumptions during the development of these projections about future laws or policies regarding these issues. The projections do recognize the reality of historical trends, and generally expect the persistence of these trends.

Economic growth requires energy, and crude oil is a fundamental source of energy on a global basis. These projections use the annual energy forecast provided by the Department of Energy to develop the underlying energy assumptions.<sup>9</sup> The cost of imported oil to refiners averaged just shy of \$21 a barrel in real terms. When deflated by the GDP price deflator (2000 chain-weighted basis), the cost to refiners ranged from about \$13 to \$28 a barrel from 1986 through 2002.<sup>10</sup> In 1980, imported oil peaked at a real price of almost \$63 a barrel. With the beginning of the Iraq war in 2003, the real cost of imported oil began to climb, but at the end of 2006, it had not reached the 1980 peak. The real cost of oil can be volatile, and is subject to political as well as market forces. These projections mirror the reference case of the Department of Energy's projections in assuming a fairly optimistic outlook, where the price of oil is expected to retreat somewhat from the high real levels in 2006 and not return to the relatively lower prices of the late 1980s and 1990s.

With regard to offshoring of jobs, BLS has attempted to address the possible impacts on occupational demand in a qualitative sense.<sup>11</sup> These efforts involve a process of "scoring" individual occupations according to susceptibility of being offshored. The scores are derived from the answers regarding specific characteristics of work as they pertain to each occupation. Based on these scores, certain occupations are identified as most susceptible—but not necessarily certain—to be offshored. This analysis lends a structured qualitative understanding to one factor among many that affect occupational demand for a given industry.

The immigration assumptions are embedded in the Census Bureau's population projections. In developing the labor force projections, BLS adjusts the population projections so that they correspond with the most recent historical population data. No other adjustment is made to the population projections. As Mitra Toossi discusses in her article, there is a difference of about 400,000 immigrants per year between the Census Bureau's estimates of the immigrant population and the Census Bureau's pro-

jection of the immigrant population, over the 2000–06 period. This difference, extrapolated through the 2006–16 decade, would add 4 million persons to the projected resident population to yield 329 million instead of 325 million in 2016. The projected labor force, given the projected participation rates, would be nearly 167 million in 2016 as opposed to 164.2 million.

There is much current political debate about immigration. The context of that debate is twofold: economic and defensive security. The economic context ranges from the advantages of immigration for the overall economy, to the risk of job opportunities for U.S. citizens. The security context focuses on the issue of potential terrorist activity within U.S. borders. The political outcomes can have varying impacts upon the projections. Generally, however, immigrants are motivated by economic opportunity and therefore are expected to have higher labor force participation rates than the resident population, on average.

## Projections methods

The projections are developed by BLS as a series of analytical processes that incorporate a variety of methods, ranging from econometric and time-series models to explicitly subjective analyses. The process begins with the projection of the labor force, followed by the projection of aggregate economic activity, then industrial production and employment, and finally the translation of industry employment into occupational employment. The methods used are discussed in general terms in the following section. A more detailed discussion is available in the BLS *Handbook of Methods*.<sup>12</sup>

The labor force projections are developed by first extrapolating detailed labor force participation rates and then applying those rates to a set of population projections. The U.S. Census Bureau provides population projections by detailed age, sex, race, and ethnicity groupings.<sup>13</sup> The historical labor participation rates are projected using time-series smoothing and extrapolation techniques.<sup>14</sup> These extrapolated labor force participation rates are then multiplied by the projected population to arrive at the initial estimates of the labor force groupings. The projected participation rates and labor force levels are reviewed for anomalous behavior, such as unexplained changes in the relationships between the various groupings of the labor force. When completed, the total of the projected labor force is supplied, as an exogenous variable, to the next stage of the projections.

The aggregate economic projections are developed us-

ing the Macroeconomic Advisers, LLC (MA) quarterly macroeconomic model. MA is a St. Louis, MO, based forecasting group that provides both monthly short-term and quarterly long-term projections of the U.S. economy.<sup>15</sup> The MA macroeconomic model (WUMMSIM 2005 version 2.0) comprises 744 variables descriptive of the U.S. economy. Of these, 134 are behavioral equations, 409 are identities. The remaining 201 variables are exogenous and must be supplied to the model in order to calculate a solution for the projections horizon. Among the exogenous variables, only a relatively small number significantly affect the long-term projections of the value of GDP and its demand makeup, as well as the level of employment necessary to produce that GDP. Included in the list of critical assumptions are monetary and fiscal policies, energy, outlook, population growth, and demographic changes. These are supplied to the model which is then solved for the behavioral and identity equations. Further discussion and presentation of the exogenous macro assumptions is found in the article by Betty Su.

The projections are generally prepared with a prior notion of target values for selected variables in the macroeconomic model. These include the inflation rate, the level of the unemployment rate, the labor productivity growth rate, and variables related to international trade. Setting preliminary target values for those key variables defines a context in which the model results are evaluated. The final results for these variables are determined through several iterations of model solution and review. When the aggregate economic projection is final, the components of GDP are then supplied to the industry component of the projections process.

The translation of GDP into detailed industrial production is the next stage in the process of developing the BLS employment projections. This involves two tasks. The first is to allocate the GDP components, supplied by the macroeconomic model, to a detailed list of commodities purchased. The individual GDP components are allocated to a detailed commodity-by-category matrix. This matrix comprises 201 commodity sectors and 194 categories. The methods vary by GDP component and include econometric and statistical techniques, as well as analytic judgment. This redistribution of GDP provides the demand component of an inter-industry model of the U.S. economy.

The second task is to derive industry output, using the final demand allocated to commodity and an inter-industry model of the U.S. economy. This involves projecting an input-output system for the target year that allows the calculation of the industry and commodity output necessary to produce the projected level of GDP.<sup>16</sup> This task

also is accomplished by using a combination of statistical methods and analytic judgments. The industry total output includes both industry sales to final users and to other industries as intermediate inputs. This measure of industry output is also referred to as gross duplicated output, and, at a detailed industry level, is the determinant for the primary factors of production (labor and capital) necessary to produce that given level of output.

Wage and salary employment is solved independently for each industry through a system of equations. The individual industry estimates of employment are controlled back to a total employment level derived from the macroeconomic solution. Total hours are first estimated through an estimated production function for each of the detailed industries. These equations solve for total hours as a function of industry output, sector wage rates, the unemployment rate, and a trend variable standing as a proxy for technological change. A separate set of trend equations estimates average weekly hours for each industry. An identity relating average weekly hours, total hours, and employment yields a count of jobs by industry.<sup>17</sup> Self-employment is estimated as a trend of the historical relationship with wage and salary employment. In the final stage, the industry employment for the 201 industries is extrapolated to more than 300 industries of the North American Industry Classification System (NAICS), for input to the occupational demand component.

The occupational projections also involve two basic tasks. In the first task, the latest historical industry-by-occupation staffing pattern matrix is extrapolated to the projections year. The second task applies the projected industry employment from the labor model to a projected staffing pattern matrix to derive occupational employment. A staffing pattern matrix presents the proportional distribution of detailed occupations within each of the 311 detailed NAICS industries. Analysts make specific judgments as to whether an occupational ratio should remain unchanged, increase, or decrease over the projections horizon. These ratio analyses are conducted relative to all the other ratios within a given industry. Analysts' judgments are based on reviews of available historical data, studies of specific industries and occupations, and ongoing consultations with industry, trade and professional associations. Balancing procedures ensure that the changed ratios sum to unity for each industry. The final step, applying the previously projected industry employment levels, result in estimates of new job growth for more than 700 detailed occupations. Estimates of job growth for the self-employed are

carried out in a similar, but separate step.

The projections analysts also form estimates of replacement demand for individuals who temporarily leave the labor force, retire, or move on to other occupations during the projections decade. These estimates are based on data from the Current Population Survey. Replacement demand is expected to be more than double new occupational job growth. By considering replacement demand in conjunction with new job growth, a better understanding is gained for potential job opportunities in many occupations.

The results of each stage of the projections are reviewed both as an independent step, and in the context of cumulative results. The results are examined for consistency and meaningfulness in the context of the modeling framework, research and analysis, and understanding of market dynamics. The review process can have feedback effects on prior steps so that, for example, a result in occupational levels may influence rethinking the determinants of industry outputs and/or employment, or even precipitate revisiting the results at the aggregate level of detail. BLS conducts this detailed review process to provide estimates that are consistent from the aggregate to the most detailed occupations.

As a final review, BLS evaluates previous projections when historical data overtakes the projected years. The Bureau has carried out and published projections evaluations since the 1970 projections.<sup>18</sup> These evaluations are conducted to provide insight on the efficacy of BLS methods, to give BLS guidance on potential improvements of methods, and to provide users with a basis to determine for themselves both weaknesses and strengths in the projections.

THE BLS PROJECTIONS are undertaken to provide guidance primarily to those seeking labor market and career information. These projections present a reasonable and attainable view of the likely path of the U.S. economy, given the caveats associated with the projections methods.

The U.S. economy has been resilient over these last 10 years, and the 2006–16 projections indicate that this is expected to continue, with an expected GDP growth rate of 2.8 percent through 2016. The population is aging and becoming more diverse, as is the labor force, and those trends are expected to continue. The moderate growth of the U.S. economy and the aging of both the workforce and the population combine to present a unique set of opportunities for those seeking employment and unique challenges for policymakers and educators. □

## Notes

<sup>1</sup> The 20 projection groups span projections to 1970, published in 1966, to the current projections to 2016. They represent a unified set of aggregate economic, labor force, industry, and occupational demand projections presented as a series of linked outlook estimates. The occupational demand projections predate these unified sets of projections by 17 years with the first publication of the *Occupational Outlook Handbook* in 1949. A series of articles published in the May 1999 issue of the *Monthly Labor Review* takes a comprehensive look at the history of the occupational projections program in BLS. These are available at [www.bls.gov/opub/mlr/1999/05/contents.htm](http://www.bls.gov/opub/mlr/1999/05/contents.htm) (visited Nov. 19, 2007).

<sup>2</sup> See in this issue, Betty Su, “The U.S. economy to 2016: slower growth as boomers begin to retire,” pp. 13–32; Mitra Toossi, “Labor force projections to 2016: more workers in their golden years,” pp. 33–52; Eric Figueroa and Rose Woods, “Industry output and employment projections to 2016,” pp. 53–85; and Arlene Dohm and Lynn Shniper, “Occupational employment projections to 2016: less production, more health care jobs,” pp. 86–125.

<sup>3</sup> See Su, “The U.S. economy,” for additional discussion of macroeconomic assumptions.

<sup>4</sup> The labor force is defined as the population that is 16 and older at work or actively seeking work. The labor force participation rate is the ratio of the labor force to the population aged 16 and older. The bottom panel of table 1 shows the 0.9-percent increase in the total population.

<sup>5</sup> See Table 5: Cumulative Estimates of the Components of Population Change by Race and Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2006 (NC-EST2006-05), Population Division, U.S. Census Bureau, online at <http://www.census.gov/popest/national/asrh/NC-EST2006/NC-EST2006-05.xls> (visited Nov. 19, 2007).

<sup>6</sup> Nonagricultural wage and salary employment includes data from the Current Employment Statistics survey, except private households, which is from the Current Population Survey.

<sup>7</sup> When referencing industry and total industry output, this article uses the gross duplicated output concept. Gross duplicated output includes intermediate as well as final purchases of goods and services. 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* (New York, Federal Reserve Board of New York, December 1995).

<sup>8</sup> The Standard Occupational Classification (SOC) system broadly classifies occupations in one of 23 major groups. This article uses an aggregation of the 23 major groups referred to as the SOC Intermediate Aggregation which is comprised of 11 groups. The groupings, man-

agement, business, and financial occupations; professional and related occupations; and service occupations are comprised of selections of the 23 major group levels. Military specific occupations are excluded, and represent a specific grouping under the 23 major groups as well as the intermediate aggregation.

<sup>9</sup> See *Annual Energy Outlook 2007* (U.S. Department of Energy, Energy Information Agency, February 2007), pp 34–35.

<sup>10</sup> See *Annual Energy Review* (U.S. Department of Energy, Energy Information Agency, June 2007), table 5.21, p 171.

<sup>11</sup> For more information about BLS methods of evaluating offshoring risk, see “Accounting for Offshoring in Occupational Projections,” *Occupational Projections and Training Data, 2006–2007 Edition, Bulletin 2602* (U.S. Department of Labor, February 2006), pp.12–15.

<sup>12</sup> The *BLS Handbook of Methods* is available online as a series of chapters in pdf format. The projections program is described in chapter 13 of the *Handbook* at <http://www.bls.gov/opub/hom/pdf/homch13.pdf> (visited Nov. 19, 2007).

<sup>13</sup> BLS labor force projections are classified by 136 different groups including gender, 17 age groups, and 4 race and ethnic categories. The race categories include white-only, black-only, Asian-only and “all other.” The “all other” group includes all those who claim multiracial backgrounds in addition to the race categories of American Indian, Alaska Natives, and Native Hawaiian and other Pacific Islanders. In addition, projections are made of the Hispanic ethnic category and white non-Hispanics.

<sup>14</sup> For detail on the extrapolation techniques applied to the labor force participation rates, see Mitra Toossi, “Labor force projection methodology” (unpublished documentation memorandum, Bureau of Labor Statistics). For updates contact [Toossi.Mitra@bls.gov](mailto:Toossi.Mitra@bls.gov).

<sup>15</sup> Information about Macroeconomic Advisors, LLC, and the products and services they offer, are available online at <http://www.macroadvisers.com> (visited Nov. 19, 2007).

<sup>16</sup> The source data for the input-output model is published by the Bureau of Economic Analysis. More information about the data and methods is available online at <http://www.bea.gov/industry/> (visited Nov. 19, 2007).

<sup>17</sup> For details about the industry employment model, see “A model of detailed industry labor demand” (unpublished documentation memorandum, Bureau of Labor Statistics). For updates contact [Woods.Rose.A@bls.gov](mailto:Woods.Rose.A@bls.gov) or [Figueroa.Eric@bls.gov](mailto:Figueroa.Eric@bls.gov).

<sup>18</sup> For the most recent BLS evaluations, see Howard N Fullerton Jr., “Evaluating the BLS labor force projections to 2000,” *Monthly Labor Review*, October 2003, pp. 3–12 and Jill Auyer, and Andrew Alpert “Evaluating the BLS 1988–2000 employment projections,” *Monthly Labor Review*, October 2003, pp. 13–37.

## ***Employment outlook: 2006–16***

# **The U.S. economy to 2016: slower growth as boomers begin to retire**

*Real GDP growth is expected to average 2.8 percent a year over the next decade, less than its previous 10-year trend, while productivity growth is expected to slow as well; continued increases in defense spending and strong foreign markets also characterize the outlook for the coming decade*

Betty W. Su

As of late 2007, the U.S. population is aging, with baby boomers approaching their retirement years. The high productivity growth of the late 1990s and early 2000s appears to be slowing. Globalization marches on. In this context, the Bureau of Labor Statistics (BLS) has projected economic trends for the U.S. economy to 2016. Under the assumptions used in developing these projections, gross domestic product (GDP) is expected to reach \$14.9 trillion in chained 2000 dollars by 2016, an increase of \$3.6 trillion over the 2006–16 projection span. Rising by an average annual rate of 2.8 percent, GDP is projected to grow at a slower pace, less than the 3.1 percent posted over the preceding 10-year period.

Demographic factors are a primary driving force in determining the growth potential of the economy over the long term. BLS anticipates that, as the 77 million baby boomers begin to retire in the next few years, the pace of labor force growth will slow down over the projection horizon.<sup>1</sup> Other factors, such as capital input and productivity growth, also will contribute to the slower growth. As regards employment prospects in the next decade, slower growth in civilian household employment is expected, from a rate of 1.3 percent per year during the 1996–2006 period to 0.8 percent annually between 2006 and 2016. The latter percentage translates into an employment increase of 11.5 million over the pro-

jection horizon, less than the increase of 17.7 million across the 1996–2006 decade. The BLS employment projection is accompanied by an assumed unemployment rate of 5.0 percent in 2016, up from 4.6 percent in 2006.

Reflecting the increased globalization of the U.S. economy, international and foreign trade activities are expected to continue their fast-growing trend over the projection period. Personal consumption expenditures are expected to grow along with GDP, and business investment in new equipment and software will continue to play a major role in the economy over the projection span. On the government side, a projected increase in defense spending reflects long-term efforts to fight global terrorism and to ensure U.S. domestic security.

After the economic boom of the 1990s—the longest economic expansion in U.S. history—the Nation's economy weathered many challenges, including recession, terrorist attacks, two wars, corporate scandals, the dot-com burst, and oil price hikes.<sup>2</sup> Despite the setbacks that buffeted the economy, one of the most striking features of the period was the uninterrupted surge in productivity growth. During the late 1990s, a fundamental change in the pace of labor productivity emerged. Businesses began to use a wide range of technological advances and managerial innovations to improve their supply chain management and information systems and to better tailor their products and services

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to meet customer demands. Rapid innovation led to the implementation of new technology in capital equipment, which, in turn, contributed substantially to the acceleration in productivity.

The strong productivity gains gave the economy enough momentum to overcome the effects of the 2001 recession. From 1996 to 2006, U.S. nonfarm business productivity rose at a pace of 2.6 percent per year, significantly faster than the 1.5-percent growth registered during the 1975–95 period. The speedup allowed the economy to grow strongly, with a low rate of unemployment and without causing price pressures and rising interest rates.

Every 2 years, the BLS develops a set of projections for the U.S. economy as part of a program of studies aimed at analyzing long-term economic growth and its implications for the structure of employment by industry and occupation. This article focuses on projected trends in the aggregate economy for the 10-year period from 2006 to 2016; it sets the stage for BLS projections of detailed industry and occupational employment. The article begins with highlights of the macroeconomic model and its key underlying assumptions. Then projections of GDP and its demand categories are examined, as are projections of income growth, labor productivity, and employment. The last section briefly addresses uncertain factors that might have a significant impact on the economic projections. Each section of the article describes the projections in the context of trends covering the 2006–16 period and is based on apparent economic relationships over the previous decade or two.

## The macroeconomic model

To generate an economic projection, the BLS employs a macroeconomic model provided by Macroeconomic Advisers, LLC, a St. Louis, Missouri, based forecasting group.<sup>3</sup> The company's quarterly model comprises 744 variables in 543 equations descriptive of the U.S. economy; 201 of the variables are exogenous—variables whose values must be provided to the model in order to calculate a solution for a given period. Among the 201 exogenous variables, only a relatively small number significantly affect the long-term projections of the value of GDP and its demand makeup, as well as the level of employment necessary to produce that value of GDP. Included in the list of critical assumptions are those having to do with monetary and fiscal policies, the U.S. energy outlook, and population growth and demographics. The key assumptions are listed in table 1.

In addition, the projections are generally prepared with some selected variables, such as the inflation rate, the unemployment rate, the labor productivity growth rate, and

the international trade-related issue, much more carefully evaluated than other variables in the model. Setting a preliminary target value for those key variables helps BLS analysts define the parameters around which the aggregate projections are developed.

*Monetary policy assumptions.* Through the 2001 recession and the initially weak recovery period, the Federal Reserve Board (Fed) cut the funds rate, from 6.50 percent at the beginning of 2001 to a four-decade low of 1.00 percent in mid-2003. The rate cut was aimed at stimulating economic activity by lowering the costs of borrowing to make it easier for consumers to buy and for businesses to invest. Beginning in 2004, as the economy expanded at a healthy clip, the Fed began to move toward a more neutral stance and capped a 2-year credit-tightening campaign with 17 consecutive quarter-point rate hikes until the funds rate reached 5.25 percent. The increases were designed to prevent the economy from overheating and to cut inflation just enough by making it harder to raise prices and wages. From June 2006 through August 2007, the Fed held the 5.25-percent rate steady. In September 2007, due to growing market uncertainty, the Fed shaved the target funds rate by half a percentage point, to 4.75 percent, to stabilize financial markets.<sup>4</sup> In October 2007, the Fed again lowered the funds rate, by 25 basis points, to 4.50 percent, in hopes of warding off a possible slowdown.

For the purpose of developing its projections, the BLS assumes that, in the long term, the Fed will set monetary policy so as to keep inflation within a “comfort zone”<sup>5</sup> and hold the funds rate at an average of 5.15 percent through 2016. Ten-year bond yields will generally move parallel to the funds rate over the projection interval, but run somewhat higher.

*Fiscal policy assumptions.* Fiscal policy describes two governmental actions: government outlays and taxation. The tax-related assumptions, such as the effective marginal tax rate, which measures the amount of an extra dollar in income earned taken away in taxes, affect Federal Government revenues. Reflecting tax cuts enacted in 2001 and 2003, the effective marginal personal tax rate dropped from 22.5 percent in 1996 to 22.0 percent in 2003 and then fell further, to 21.4 percent in 2006.

The projections assume that these recent tax cuts will become permanent.<sup>6</sup> Under this assumption, the effective marginal personal tax rate will remain at the same level in 2016 as it was in 2006. The capital-gains tax rate, which dropped significantly from 25.7 percent in 1996 to 16.9 percent in 2003 and 15.0 percent in 2006, is anticipated

**Table 1. Major assumptions affecting aggregate projections, 1986, 1996, 2006, and projected 2016**

Exogenous variables	Billions of chained 2000 dollars (unless otherwise noted)				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Monetary policy related:							
Federal funds rate (percent) .....	6.81	5.30	4.96	5.15	-2.5	-0.7	0.4
Excess reserves (billions of current dollars) .....	.89	1.09	1.62	2.49	2.1	4.0	4.4
Ninety-day Treasury bill rate (percent).....	5.98	5.01	4.73	4.79	-1.8	-.6	.1
Yields on 10-year Treasury notes (percent).....	7.68	6.44	4.79	5.63	-1.8	-2.9	1.6
Fiscal policy, tax related:							
Effective Federal marginal tax rate on wages and salaries (percent) .....	25.9	22.5	21.4	21.4	-1.4	-.5	.0
Effective Federal marginal tax rate on interest income (percent) .....	25.7	24.3	23.0	23.0	-.6	-.6	.0
Effective Federal marginal tax rate on dividend income (percent).....	34.3	27.8	22.5	22.5	-2.1	-2.1	.0
Effective Federal marginal tax rate on capital gains (percent) .....	40.0	25.7	15.0	15.0	-4.3	-5.2	.0
Maximum Federal corporate rate (percent) .....	46.0	35.0	35.0	35.0	-2.7	.0	.0
Fiscal policy, Government outlays related:							
Defense intermediate goods and services purchased .....	147.0	120.3	209.7	239.9	-2.0	5.7	1.4
Defense gross investment .....	69.5	51.3	76.6	94.2	-3.0	4.1	2.1
Nondefense intermediate goods and services purchased .....	53.1	61.0	96.5	104.7	1.4	4.7	.8
Nondefense gross investment .....	19.3	28.6	38.5	37.9	4.0	3.0	-.2
Federal grants-in-aid, Medicaid and other (billions of current dollars) .....	87.6	191.1	358.5	588.5	8.1	6.5	5.1
Federal transfer payments, Medicare (billions of current dollars) .....	75.3	195.7	393.8	900.0	10.0	7.2	8.6
Energy related:							
Refiners' acquisition cost of imported oil (nominal dollars per barrel).....	14.3	20.6	58.9	55.2	3.7	11.1	-.6
Domestic share of U.S. crude oil acquisitions (as percentage of total acquisitions) .....	67.5	46.3	33.6	35.8	-3.7	-3.2	.7
Domestic oil product .....	37.8	32.1	29.1	26.3	-1.6	-1.0	-1.0
Demographic related:							
Total population, including overseas Armed Forces (millions) .....	240.4	269.8	300.5	327.0	1.2	1.1	.9
Population aged 16 years and older (millions).....	180.6	200.6	228.8	250.6	1.1	1.3	.9

SOURCE: Historical data—Federal Reserve Board, Bureau of Economic Analysis, Energy Information Administration, and U.S.

Census Bureau; projected data—Bureau of Labor Statistics, Energy Information Administration, and U.S. Census Bureau.

to stabilize and remain at 15.0 percent in 2016. The maximum Federal corporate tax rate has been left unchanged at 35.0 percent since 1993 and also is assumed to hold at the same level throughout the entire projection period.

Turning to fiscal policy on government-outlays-related assumptions, real increases in gross defense investments are foreseen as it becomes necessary to replace or improve the equipment available to the Armed Forces. As regards other fiscal-policy-related assumptions, Federal grants-in-aid to State and local governments are assumed to slow their growth, reflecting a shift of more responsi-

bilities from the Federal Government to State and local levels. By contrast, due in substantial part to the coming retirement of baby boomers and to continued increases in health care costs, rapid growth is assumed in the Federal Government's Medicare Program.

*Energy assumptions.* Amid surging demand, worries over possible supply shortages, and tensions in the Middle East, U.S. crude-oil prices reached a record \$79 per barrel in July 2006 before retreating to around \$60 a barrel by the end of the year. Beginning in May 2007, oil prices rose again,

reaching about \$90 per barrel in October. For the past 2 years, helped by growing income and profits, consumers and businesses have absorbed the impact of the rise in oil prices. BLS energy assumptions are developed from the U.S. Department of Energy's annual energy projections. Under the basic assumption of no further shocks from the Organization of the Petroleum Exporting Countries (OPEC) and an optimistic outlook regarding the long-term supply potential of non-OPEC producers, the BLS projects a decline in world oil prices from current high levels, with prices expected to hover around \$55 per barrel in nominal dollars in 2016. In addition, new technologies are expected to hold prices down, and some alternative energy supplies might enter the market over the next decade.<sup>7</sup>

*Demographic assumptions.* As mentioned earlier, demographic factors play a key role in determining the growth potential of the economy over the long term. The growth rate of the U.S. population, together with changes in its composition, has a considerable impact on the labor force, the unemployment rate, housing demand, and other categories of spending. BLS assumptions in these areas are based on the Census Bureau's middle-series population projections, with its "interim" projections adjustments.<sup>8</sup> The Census Bureau projections show the U.S. population expanding at an average of 0.9 percent annually between 2006 and 2016, attaining a level of 327.0 million by the end of the period. Growth in the older age cohorts will be strong as baby boomers age. The 77 million baby boomers, who make up a quarter of the Nation's population, will have a variety of significant effects on the labor force and on labor force participation rates.

The BLS prepares labor force and participation rate projections for detailed age, sex, race, and ethnicity groups. Presented elsewhere in this issue,<sup>9</sup> these more detailed projections are aggregated to produce the higher level projections. Overall, the BLS expects the labor force to grow from 151.4 million in 2006 to 164.2 million in 2016, representing an annual growth rate of 0.8 percent over the projection period.

*Inflation assumptions.* Inflation slowed significantly from the late 1990s until mid-2004. Since then, it has begun to show signs of acceleration, primarily in response to surging energy costs. As inflation rose, the Fed instituted a series of increases in the Federal funds target rate that began in June of 2004 and ended in June of 2006. Inflation eased in 2006, with falling fuel prices and a slowing economy that cooled the pace of consumer price increases. Over the long run, inflation is a monetary phenomenon, and, as mentioned earlier, the BLS projections assume that the

Fed sets monetary policy so as to keep inflation within a target range. If inflation rises above the maximum value of the range, the Fed tightens monetary policy. As measured by the chain-weighted GDP price index, inflation is expected to pick up moderately, but remain stable, with an annual average growth rate of 2.7 percent over the 2006–16 projection horizon.

*Unemployment rate.* Unemployment peaked in mid-2003. The labor market began to recover at the beginning of 2004, and the recovery has gained traction, with the unemployment rate tailing off gradually. On the basis of the labor force projections and a target GDP growth rate, the economy is expected to reach full employment by the end of the projection interval. With moderate inflation expected to prevail over the projection period, the assumed unemployment rate in 2016 is about 5.0 percent. (The subject is discussed further in a later section.)

*Productivity assumptions.* As mentioned earlier, one striking aspect of recent U.S. economic history has been vigorous growth in labor productivity. High productivity growth allows for a mix of higher wages and profits and lower consumer prices. Together, these permit a higher standard of living and quality of life. Since 1995, the U.S. economy has had the fastest productivity gains in 30 years. However, beginning in the second quarter of 2005, productivity growth slowed.

It is uncertain whether the productivity slowdown is a lull or is an end to the productivity boom of the late 1990s and early 2000s, but what is clear enough is that productivity growth is one of the critical influences on the economy's long-term growth potential and increases in living standards. With steady GDP growth projected over the next 10 years, the BLS has assumed that productivity will grow at a pace of about 2.2 percent annually between 2006 and 2016. (The subject is discussed further in a later section.)

*Foreign-trade assumptions.* The trade deficit has widened, and the current-account deficit has risen significantly, since 1998. Although exports of U.S. products to the rest of the world remain strong, they have been growing less rapidly than have U.S. imports over the past decade. The large trade deficit in 2006 also likely reflected a steep rise in the U.S. foreign oil bill and an all-time high in the trade gap with China.

The assumptions underlying BLS foreign trade projections contemplate a wider trade deficit by 2016 than the deficit registered in 2006, but increasing at a more modest

clip over the 2006–16 period, compared with a steep increase between 1996 and 2006. The BLS has assumed that, over the projection period, the dollar will continue to depreciate against foreign currencies and the trade-weighted exchange rate will depreciate by 13 percent. Net exports (exports minus imports) are expected to have a deficit of \$682 billion in real terms in 2016, while the current-account deficit is projected to grow, but at a slower pace. (The subject is discussed further in a later section.)

## GDP from the demand side

In the 1990s, the U.S. economy recorded the longest uninterrupted period of expansion in its history. Technological developments brought a wide range of sophisticated new electronics products. Innovations in telecommunications and computer networking spawned a vast computer hardware and software industry and changed the way many industries operate. The economy grew rapidly and corporate earnings rose sharply. With low inflation and low unemployment, the Federal Government posted a budget surplus and the stock market experienced an unprecedented boom. Real GDP growth reached a historical high at an average of 4.4 percent annually from 1996 to 1999.

The U.S. economic performance slowed in 2000 and

tipped into a recession in 2001. The 2001 recession was a production-side recession, led by unsustainable business capital investment and equity market bubbles, but consumer spending and the housing market remained relatively healthy. During three quarters of decline in 2001, GDP registered a mild drop. However, the lingering effects from the weakening of the technology sector, the terrorist attacks, the emergence of corporate finance scandals, and the wars in Afghanistan and Iraq had an impact on some business sectors during the recovery period.

In mid-2003, the U.S. economy began to grow more strongly. Buoyed by Federal tax cuts, gains in household wealth, growing optimism about the pace of business investment, and continued strength in corporate profits, real GDP grew at an average rate of 3.4 percent annually during the 2003–05 period. This rate was sufficient to generate moderate employment growth. In 2006, although a rising trade gap and a slump in the Nation's housing market undercut U.S. economic performance, GDP growth remained stable at a rate of 2.9 percent per year.<sup>10</sup> As mentioned earlier, over the 2006–16 span, real GDP is projected to grow at an average annual rate of 2.8 percent. (See table 2.)

GDP measures the total output of the economy. Another indicator for assessing how well an economy performs is the growth of GDP per capita. It is important to

**Table 2. Real gross domestic product, by major demand category, 1986, 1996, 2006, and projected 2016**

Category	Billions of chained 2000 dollars				Average annual rate of change			Contributions to percent change in real GDP		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16
Gross domestic product.....	\$6,263.6	\$8,328.9	\$11,319.4	\$14,875.2	2.9	3.1	2.8	2.9	3.1	2.8
Personal consumption expenditures	4,228.9	5,619.4	8,044.1	10,718.3	2.9	3.7	2.9	1.95	2.52	2.08
Gross private domestic investment...	843.9	1,234.3	1,919.5	2,609.5	3.9	4.5	3.1	.59	.75	.53
Exports .....	353.7	843.4	1,304.1	2,229.7	9.1	4.5	5.5	.84	.48	.70
Imports <sup>1</sup> .....	510.0	923.0	1,928.6	2,912.0	6.1	7.6	4.2	–.68	–1.05	–.76
Federal defense consumption expenditures and gross investment.	462.4	383.8	491.5	542.3	–1.8	2.5	1.0	–.10	.11	.04
Federal nondefense consumption expenditures and gross investment.	160.1	189.6	250.7	253.1	1.7	2.8	.1	.04	.06	.00
State and local consumption expenditures and gross investment.	766.4	990.5	1,239.0	1,489.0	2.6	2.3	1.9	.30	.26	.22
Residual <sup>2</sup> .....	–41.7	–9.1	–.8	–54.8	...	...	...	...	...	...
<b>Addendum</b>										
GDP per capita, chained 2000 dollars ....	26,055	30,870	37,675	45,490	1.7	2.0	1.9	...	...	...

<sup>1</sup> Imports are subtracted from the other components of GDP because they are not produced in the United States.

<sup>2</sup> The residual is calculated as real gross domestic product, plus

imports, less other components.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

recognize that the two indicators do not necessarily move in the same direction. For example, a massive increase in labor supply would tend to increase GDP, but reduce GDP per capita and real wages.<sup>11</sup> Clearly, GDP per capita is a key measure of purchasing power, and most economists believe that it is an adequate proxy for well-being because it summarizes or otherwise quantifies important aspects of the average availability of goods and services. The BLS projects that real GDP per capita will grow at an average annual rate of 1.9 percent over the 2006–16 projection period, down slightly from a 2.0-percent growth rate between 1996 and 2006. (See table 2.)

*Personal consumption expenditures.* Personal consumption spending, which fuels two-thirds of U.S. economic activity, is the largest component of demand. During the last economic expansion, buoyed by steady income growth and sharply increasing wealth from rising asset prices, consumer spending accelerated at a robust pace. From 1996 to 2000, consumer spending grew by 4.6 percent yearly.

Mirroring the expansion in consumption, the personal savings rate continued to drop, from 8.2 percent in 1986, to 4.0 percent in 1996, and down to 2.3 percent by 2000. The decline was due in part to rising consumer spending as a proportion of disposable income, but it also was due to perceived wealth effects of a soaring stock market and rising housing prices, a phenomenon that is not adequately captured by the savings rate statistic.<sup>12</sup> It is important to emphasize that the two-decade downturn of the per-

sonal savings rate that began in the 1980s is a systematic response of households to changes in the fundamental determinants of the rate, most notably the sizable gains in wealth from financial and real-estate assets.

Throughout the recession and recovery in the early 2000s, households contributed more to GDP growth than in the past. In 2004 and 2005, personal consumption, spurred by rising household wealth and solid job markets, exhibited extremely strong growth. In 2006, despite soaring gasoline prices, a slump in the housing market, and worries over subprime mortgages, consumer spending was steady.<sup>13</sup> Overall, consumer spending grew at an average rate of 3.7 percent between 1996 and 2006, far exceeding the pace of GDP growth over the same period. (See table 2.) By contrast, the personal savings rate dipped to 0.5 percent in 2005, followed by a further decline to 0.4 percent in 2006, the lowest rate since the Great Depression.

Over the long run, consumer spending is determined primarily by the growth of real permanent income, demographic influences, and changes in relative prices. Personal consumption as a share of nominal GDP is projected to be 70.1 percent in 2016. (See table 3.) Real consumer demand is projected to grow at an average annual rate of 2.9 percent from 2006 to 2016. (See table 2.) The importance of the relationship between GDP and personal consumption expenditures also can be viewed from the perspective of the contribution of real personal consumption to the change in real GDP; such change provides a measure of the composition of growth in GDP.<sup>14</sup> Over the 2006–16

**Table 3. Nominal gross domestic product, by major demand category, 1986, 1996, 2006, and projected 2016**

Category	Billions of current dollars				Percent distribution			
	1986	1996	2006	2016	1986	1996	2006	2016
Gross domestic product.....	\$4,462.8	\$7,816.9	\$13,194.7	\$22,642.3	100.0	100.0	100.0	100.0
Personal consumption expenditures.....	2,899.8	5,256.8	9,224.5	15,881.1	65.0	67.2	69.9	70.1
Gross private domestic investment.....	746.5	1,240.3	2,209.2	3,769.1	16.7	15.9	16.7	16.6
Exports.....	320.5	868.6	1,467.6	3,162.4	7.2	11.1	11.1	14.0
Imports <sup>1</sup> .....	453.3	964.8	2,229.6	4,194.3	10.2	12.3	16.9	18.5
Federal defense consumption expenditures and gross investment.....	330.9	354.6	624.3	913.0	7.4	4.5	4.7	4.0
Federal nondefense consumption expenditures and gross investment.....	107.8	172.8	308.2	437.2	2.4	2.2	2.3	1.9
State and local consumption expenditures and gross investment.....	510.7	888.6	1,590.5	2,673.9	11.4	11.4	12.1	11.8

<sup>1</sup> Imports are subtracted from the other components of GDP because they are not produced in the United States.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

projection period, consumption spending will contribute about 2.1 percentage points to the 2.8-percent annual growth rate in real GDP projected by BLS. Real disposable income is projected to grow at a 3.0-percent annual rate between 2006 and 2016 (see table 4), whereas the savings rate is projected to improve gradually, reaching 1.5 percent by 2016.

A closer look at the major expenditure categories reveals that consumer spending on long-lasting items is highly cyclical. During the 1990s, the U.S. economy experienced sustained spending on big-ticket items such as automobiles, home furniture, and major household appliances. In 2000, sales of light vehicles, including autos and light trucks, climbed sharply to a peak of 17.3 million units, as the value of sales incentives reached a new high and buyers responded eagerly to those incentives. In particular, since the 1999 introduction of gas-electric hybrid cars into U.S. markets, consumers have been becoming more and more intrigued by fuel-efficient vehicles.

Other high-end durable goods, such as top-of-the-line television sets and refrigerators, appeal to the affluent, who have been driving much of the growth of U.S. consumer spending. Automobile sales did decline in 2006, but strong demand on other kinds of durable goods offset the decline. In the long run, spending on total durable goods is expected to remain strong, but somewhat lower than its performance over the past 10 years. The lower level of spending is attributable mainly to demographic shifts: as consumers increasingly move into older age cohorts, demand for motor vehicles and large household items tends to taper off. In sum, demand for total durable goods is projected to grow steadily, but at a relatively lower rate of 5.2 percent yearly between 2006 and 2016, compared with the robust 7.1-percent rate of growth exhibited over the 1996–2006 period. (See table 5.)

Historically, as incomes rise, spending on short-term consumable products, such as food, clothing, and gasoline, also rises, but tends to increase more slowly than income. For decades, expenditures for nondurable goods increased much more slowly than spending on durable goods and services. Correspondingly, the share of nominal personal consumption attributed to nondurable goods decreased from 33.1 percent in 1986, to 29.6 percent in 1996, and down to 29.1 percent in 2006. Note that, despite recent surges in energy prices,<sup>15</sup> consumers seem resilient overall, but rising energy prices have a significant effect on a number of business sectors and individual consumers. In sum, the BLS projects that the long-term diminution in the growth of spending for nondurable goods will continue over the projection horizon, so that nondurable goods will account for a 25.6-percent

share of nominal personal consumption by 2016.

Expenditures for consumer services, including housing, medical care, and other personal services, represent the largest share of total consumption, and they have been steadily growing larger as a share over the past few decades. A major contributor to overall growth in spending on services is the increase in health care expenditures. As the Nation's 77 million baby boomers age, and as medical technology advances, demand for health services will rise, and the average per-person cost of many kinds of health care services also will rise. Real spending on medical services increased 3.5 percent annually during the 1996–2006 period. Over the coming 10 years, due to the importance of demographic factors, spending on medical services is expected to continue to post solid gains and is projected to grow at a higher rate of 3.7 percent per year.

*Nonresidential investment.* An increase in the number of technological establishments contributed substantially to growth in equipment spending during the boom of the late 1990s. However, large overcapacities that developed during the boom period also were the major cause of the 2000 “tech bubble.” During the 2001 recession and recovery, nonresidential investment declined severely, and spending on equipment and software—the largest category of business investment—plummeted 4.9 percent from 2000 to 2001, followed by a further drop of 6.2 percent between 2001 and 2002.

By mid-2003, business investment started to recover, benefiting partly from a temporary tax break that allowed companies to write off their investment in new plant and equipment and partly from a reduction in the capital gains and dividend tax rates.<sup>16</sup> The ensuing turnaround in business investment during the 2004–06 period, and especially in 2006, was dramatic because of continuing growth in output, a tight labor market, and strong demand for new capital equipment. Between 1996 and 2006, nonresidential spending for equipment and software exhibited a growth rate of 6.1 percent annually, far exceeding the pace of GDP growth over the same timeframe. (See table 6.)

After the collapse of the dot-com market, investment in nonresidential construction, including buildings for office use and industrial buildings, dropped by about 8.0 percent from 2000 to 2003. Moreover, a sizable decline in investment in power and communication facilities occurred during the 2004–05 period. Nevertheless, purchases of nonresidential structures have picked up during the past couple of years, due in part to a decline in available space when the investment slump in the early 2000s

**Table 4. Personal income, 1986, 1996, 2006, and projected 2016**

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1986	1996	2006	2016	1986	1996	2006	2016	1986–96	1996–2006	2006–16
<b>Sources</b>											
Personal income .....	\$3,722.4	\$6,520.6	\$10,983.4	\$19,370.3	100.0	100.0	100.0	100.0	5.8	5.4	5.8
Compensation of employees.....	2,570.1	4,386.9	7,440.8	13,239.2	69.0	67.3	67.7	68.3	5.5	5.4	5.9
Wage and salary disbursements.....	2,114.8	3,619.6	6,018.2	10,688.0	56.8	55.5	54.8	55.2	5.5	5.2	5.9
Supplements to wages and salaries.....	455.3	767.3	1,422.6	2,551.4	12.2	11.8	13.0	13.2	5.4	6.4	6.0
Proprietors' income .....	275.7	543.2	1,006.7	1,765.4	7.4	8.3	9.2	9.1	7.0	6.4	5.8
Rental income .....	33.5	131.5	54.5	148.0	.9	2.0	.5	.8	14.6	-8.4	10.5
Personal income on assets.....	695.5	1,089.2	1,796.5	2,844.7	18.7	16.7	16.4	14.7	4.6	5.1	4.7
Personal interest income .....	589.5	793.0	1,100.2	1,892.6	15.8	12.2	10.0	9.8	3.0	3.3	5.6
Personal dividend income.....	106.0	296.2	696.3	952.1	2.8	4.5	6.3	4.9	10.8	8.9	3.2
Personal current transfer receipts .....	451.0	925.0	1,612.5	3,046.4	12.1	14.2	14.7	15.7	7.4	5.7	6.6
Federal social benefits	343.6	677.9	1,184.6	2,273.9	9.2	10.4	10.8	11.7	7.0	5.7	6.7
State and local social benefits .....	84.3	224.2	400.8	714.1	2.3	3.4	3.6	3.7	10.3	6.0	5.9
Other, from business (net).....	22.9	22.9	27.2	58.4	.6	.4	.2	.3	.0	1.7	8.0
Less social insurance contribution .....	303.4	555.2	927.6	1,673.4	8.2	8.5	8.4	8.6	6.2	5.3	6.1
<b>Use</b>											
Personal income .....	3,722.4	6,520.6	10,983.4	19,370.3	100.0	100.0	100.0	100.0	5.8	5.4	5.8
Personal consumption ...	2,899.7	5,256.8	9,224.5	15,881.1	77.9	80.6	84.0	82.0	6.1	5.8	5.6
Personal taxes .....	437.3	832.1	1,354.3	2,663.6	11.7	12.8	12.3	13.8	6.6	5.0	7.0
Personal interest payments .....	96.1	150.3	238.0	377.7	2.6	2.3	2.2	2.0	4.6	4.7	4.7
Personal transfer payments .....	20.9	52.9	127.8	191.3	.6	.8	1.2	1.0	9.7	9.2	4.1
To government .....	12.0	34.9	78.9	117.8	.3	.5	.7	.6	11.3	8.5	4.1
Federal.....	1.3	7.2	15.2	23.4	.0	.1	.1	.1	18.4	7.8	4.4
State and local .....	10.6	27.8	63.8	94.5	.3	.4	.6	.5	10.1	8.7	4.0
To the rest of the world (net).....	9.0	18.0	48.9	73.5	.2	.3	.4	.4	7.2	10.5	4.2
Personal savings.....	268.4	228.4	38.8	256.7	7.2	3.5	.4	1.3	-1.6	-16.2	20.8
<b>Addenda</b>											
Disposable personal income .....	3,285.1	5,688.5	9,629.1	16,706.7	...	...	...	...	5.6	5.4	5.7
Disposable personal income, chained 2000 dollars .....	4,791.0	6,080.9	8,396.9	11,275.5	...	...	...	...	2.4	3.3	3.0
Per capita disposable income .....	13,665	21,083	32,049	51,091	...	...	...	...	4.4	4.3	4.8
Per capita disposable income, chained 2000 dollars .....	19,929	22,538	27,948	34,482	...	...	...	...	1.2	2.2	2.1
Savings rate (percent)....	8.2	4.0	0.4	1.5	...	...	...	...	-6.9	-20.6	14.4

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

**Table 5. Personal consumption expenditures, 1986, 1996, 2006, and projected 2016**

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Personal consumption expenditures .....	\$4,228.9	\$5,619.5	\$8,044.1	\$10,718.3	2.9	3.7	2.9
Durable goods .....	412.5	595.9	1,180.5	1,951.5	3.7	7.1	5.2
Motor vehicles and parts .....	256.0	285.3	437.3	640.5	1.1	4.4	3.9
Other durable goods .....	174.5	311.5	756.9	1,387.0	6.0	9.3	6.2
Nondurable goods .....	1,344.7	1,680.4	2,337.7	2,745.8	2.3	3.4	1.6
Services .....	2,479.5	3,356.0	4,545.5	6,160.3	3.1	3.1	3.1
Housing services .....	717.6	901.1	1,148.3	1,471.9	2.3	2.5	2.5
Medical services .....	669.9	922.5	1,300.3	1,866.3	3.3	3.5	3.7
Other services .....	1,092.0	1,533.9	2,096.2	2,815.4	3.5	3.2	3.0
Residual <sup>1</sup> .....	-25.8	-15.3	-32.6	-208.6	...	...	...

<sup>1</sup> The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

**Table 6. Gross private domestic investment, 1986, 1996, 2006, and projected 2016**

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Gross private domestic investment .....	\$843.9	\$1,234.3	\$1,919.6	\$2,609.5	3.9	4.5	3.1
Fixed nonresidential investment .....	533.3	833.6	1,306.8	1,910.1	4.6	4.6	3.9
Equipment and software .....	303.3	578.7	1,050.6	1,701.5	6.7	6.1	4.9
Computers and software .....	7.8	106.0	393.8	863.3	19.5	14.0	8.2
Other equipment .....	345.6	485.4	666.5	949.7	3.5	3.2	3.6
Structures .....	271.9	261.1	268.6	313.2	-.4	.3	1.5
Fixed residential structures .....	334.2	381.3	569.5	675.8	1.3	4.1	1.7
Single family .....	163.7	197.3	302.7	336.1	1.9	4.4	1.1
Multifamily .....	45.7	25.0	39.1	48.4	-5.8	4.6	2.2
Other .....	123.9	158.9	227.8	291.3	2.5	3.7	2.5
Change in business inventories .....	8.3	28.7	40.3	40.5	13.3	3.4	.1
Residual <sup>1</sup> .....	-132.9	-28.0	-19.2	-233.0	...	...	...

<sup>1</sup> The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

left many markets with too few new buildings. Taken together, all these changes during the early years of the 21st century resulted in purchases of nonresidential structures increasing at an average annual pace of 0.3 percent between 1996 and 2006, in contrast to a decrease of 0.4 percent over the 1986–96 period.

BLS projections indicate that, over the coming decade, the U.S. economy will expand at a steady pace with good profitability, technological innovation, and solid growth in demand. Meanwhile, nonresidential investment in equipment and software is expected to grow at a sustainable rate of 4.9 percent per year from 2006 to 2016. Purchases

of nonresidential structures are anticipated to grow faster than the historical pace, but still modestly, at a 1.5-percent rate of growth annually over the projection period.

*Residential investment.* When the U.S. economy entered into a recession in 2001, the strength of the housing market kept the downturn short and mild. After 5 boom years of record sales for new and existing homes from 2001 through 2005, the housing market dropped in 2006. Clearly, the robust upswing in the previous housing market cycle was due largely to a combination of particularly low mortgage rates and high expectations of rapid growth in housing prices. In addition, immigration into the United States fueled activity in the housing market. When rates on a 30-year mortgage sank to a four-decade low of 5.37 percent in April 2004, housing starts surged to 1.95 million units that year, followed by an all-time high of 2.07 million units in 2005. The national homeownership rate set a record high of 69.0 percent in 2004 and repeated the performance in 2005. Overall, residential construction grew at a historically high average of 8.3 percent annually from 2003 to 2005.

Starting in 2006, however, the once-hot housing market cooled considerably when potential buyers found home ownership less affordable in the face of rising housing prices and mortgage interest rates. Slowing demand led to sharply increasing numbers of homes on the market and resulted in stagnating housing prices. Defaults mounted in the market for subprime home loans and led to a wave of foreclosures and more homes remaining in an oversupplied market. In many markets across the Nation, home sales and prices fell sharply as a result. New-home sales plunged to 1.051 million units in 2006, down from a record 1.283 million units in 2005.

Under the circumstances, it is difficult to predict how deep the housing downturn will be and how long it will last, especially in light of the downturn in the subprime mortgage market and rapid developments in the credit market. Nevertheless, over the long term, the number of homes constructed will depend less on interest rates than on demographic trends. In 2009, the last of the baby boomers will have passed the prime home-buying age range of 25 to 44 years—the range in which people exhibit the greatest propensity to establish and maintain independent households. Spending on residential investment is anticipated to stay weak for some time and stabilize in the latter portion of the projection period. A moderate 1.7-percent average annual growth rate is expected over the 2006–16 period, while housing starts are expected to number about 1.818 million units in 2016, almost the same as the 1.812

million units started in 2006.

Business investment as a whole is expected to increase at a rate of 3.1 percent per year for the 2006–16 period, with higher growth of nonresidential investments offsetting lower growth of residential investment. This 3.1-percent-per-year business investment growth translates to a 0.5-percentage-point annual contribution to the 2.8-percent rise in real GDP over the 2006–16 projection span. Nominal private investment's share of GDP is anticipated to be about 16.6 percent in 2016, almost no change from its 16.7-percent share measured in 2006. (See table 2 for data on real GDP and table 3 for data on nominal GDP.)

*Foreign trade in goods and services and current account.* The United States is becoming increasingly integrated with the global economy in trade of goods and services, as well as in finance. During the 1990s, a strong U.S. dollar and falling foreign commodity prices in emerging markets helped keep the Nation's rate of inflation low and, combined with other factors, helped trigger strong growth in consumer spending. Clearly, globalization creates opportunities because of the emergence of greater U.S. competitiveness in a growing world economy. Globalization also creates challenges to the U.S. economy, including a widened trade deficit in total goods and services. The trade deficit has posed increasing difficulties for the U.S. economy since the 1990s.

Although a weaker dollar is now making U.S. exports more competitive overseas, exports are being hindered by slower growth in the foreign markets,<sup>17</sup> especially in Europe. At the same time, strong U.S. demand for goods from abroad continues to bring in more imports. Coupled with a steep rise in the price of imported oil, the slower foreign growth of exports and the robust demand for imported goods have caused the U.S. trade gap to balloon to a record high in 2006, with real imports exceeding real exports by \$625 billion. (See table 7.)

As a share of GDP, nominal exports increased from 7.2 percent in 1986 to 11.1 percent in 1996 and remained at the same 11.1 percent in 2006, while the nominal import share of GDP increased from 10.2 percent in 1986 to 12.3 percent in 1996 and jumped further, to 16.9 percent, by 2006. (See table 3.) In terms of real growth, exports increased at a 9.1-percent annual rate from 1986 to 1996, while imports posted an average annual growth rate of 6.1 percent. Over the 1996–2006 period, exports exhibited a 4.5-percent rate of growth and imports grew much more rapidly, at 7.6 percent. (See table 7.) As mentioned earlier, the widening deficit posted in 2006 reflected higher oil prices, which increased the Nation's import bill; in addi-

**Table 7. Exports and imports of goods and services, 1986, 1996, 2006, and projected 2016**

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Exports of goods and services .....	\$353.7	\$843.4	\$1,304.1	\$2,229.7	9.1	4.5	5.5
Goods.....	229.2	581.1	927.4	1,520.7	9.8	4.8	5.1
Nonagricultural.....	197.4	532.2	871.1	1,449.9	10.4	5.1	5.2
Agricultural.....	31.5	47.6	58.1	78.0	4.2	2.0	3.0
Services.....	128.9	263.5	377.1	708.4	7.4	3.6	6.5
Residual <sup>1</sup> .....	-4.1	.1	-2.1	-6.5	...	...	...
Imports of goods and services .....	510.0	923.0	1,928.6	2,912.0	6.1	7.6	4.2
Goods.....	401.8	762.7	1,646.9	2,541.6	6.6	8.0	4.4
Nonpetroleum.....	347.2	671.9	1,523.3	2,448.0	6.8	8.5	4.9
Petroleum.....	65.6	101.4	138.2	165.0	4.4	3.1	1.8
Services.....	110.7	160.5	283.8	379.2	3.8	5.9	2.9
Residual <sup>2</sup> .....	-13.5	-10.8	-16.7	-80.3	...	...	...
Trade surplus or deficit.....	-156.4	-79.6	-624.5	-682.2	-6.5	22.9	.9

<sup>1</sup> This residual is the difference between the aggregate category “exports of goods and services” and the sum of the figures for the separate categories under that aggregate category.

<sup>2</sup> This residual is the difference between the aggregate category

“imports of goods and services” and the sum of the figures for the separate categories under that aggregate category.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

tion, it reflected the American consumer’s rising appetite for foreign-made goods, which helped to nudge the trade deficit higher.

In any long-term projections program, the international trade sector is the most difficult to project. The key to the BLS 10-year outlook for U.S. trade is increasing global accessibility and international competition, as the world becomes more open to trade and as the United States maintains its ability to compete in world markets. Over the next decade, the BLS expects that U.S. exports will benefit from strong overseas demand, with China, in particular, becoming an increasingly important export destination for U.S.-made products and services. In addition, a continued decline in the exchange rate or a weaker dollar will be a key factor in making U.S. goods and services more competitive in foreign markets, in turn helping the United States shift to a more export-driven economy. In sum, total exports of goods and services are expected to grow at a 5.5-percent annual rate between 2006 and 2016.

Total imports of goods and services are projected to grow at a rate of 4.2 percent annually over the 2006–16 projection period, much lower than the 7.6-percent annual growth rate over the 1996–2006 span. World oil prices

are expected to fall from the recent peak, down to \$55 per barrel in nominal terms by 2016. Demand for petroleum imports is projected to increase at a rate of 1.8 percent per year during the 2006–16 period, much lower than the 3.1 percent recorded over the 1996–06 period.

Although imports of goods are expected to grow at 4.4 percent per year during the 2006–16 period, a 2.9-percent annual rate of growth is anticipated for imports of services over the same span. The BLS projects a continued increase in the trade surplus in services, but this gain will not be large enough to offset the considerable deficit in goods. In sum, a substantial trade deficit is still expected in 2016, reaching \$682.2 billion in real terms, but the trade imbalance is anticipated to grow at a slower pace than it did during the previous decade, and its share of GDP will drop considerably, from 5.8 percent of nominal GDP in 2006 to 4.5 percent in 2016. (See table 3.)

The current-account deficit (the excess of imports and income flows to foreigners over exports and foreign income of Americans) has increased sharply since the late 1990s, reflecting not only the growth in the trade deficit, but also a rapid increase in foreign investment in the United States. For more than a decade, many economists have been issuing warnings about an unsustainable trade

deficit,<sup>18</sup> but the fact is that prosperity at home makes the United States an attractive destination for foreign investors, resulting in a heavy global demand for U.S. securities. Even when U.S. investment abroad is factored into the mix, it becomes clear that the imbalance in investment contributes in no small measure to the large current-account deficit. Finally, a drop in the national savings rate, due to a rising Federal deficit, pushed the current-account deficit to a 6.0-percent share of GDP in 2006.<sup>19</sup>

Owing to steady pressure on the value of the dollar from the current-account deficit, further depreciation is projected to help make imported goods more expensive while making U.S.-made goods more competitive in global markets. However, a continued increase in foreign investment in the United States is expected throughout the projection period. By 2016, the current-account deficit is projected to increase overall, but to remain with about a 6.0-percent share of nominal GDP.

*Federal Government.* After three decades of Federal budget deficits, a surplus was realized in 1998. Two years later, the surplus reached \$189.4 billion, in nominal terms, and accounted for 1.9 percent of GDP, the largest share in the previous four decades. This dramatic change was attributable largely to increasing tax revenues from the expanding economy. Also, the end of the Cold War allowed the growth in defense spending to slow. However, the Federal budget once more fell into deficit, as economic growth began to cool after 2000. On the spending side, defense expenditures increased sharply to pay for military operations in Iraq and Afghanistan and for antiterrorism activities; on the revenue side, Federal receipts increased more slowly in response to tax cuts. Taken together, these factors led to the Federal Government's incurring a peak deficit of \$370.6 billion in 2004, accounting for a 3.2-percent share of nominal GDP.<sup>20</sup> Over the 2005–06 period, increases in tax revenue from the improving economy and high incomes, combined with cutbacks in domestic programs, partly offset the continued surge in spending for the war in Iraq, as well as for certain benefit programs providing health coverage. As a result, the deficit shrank by more than one-third in 2006, to \$220 billion, or 1.7 percent of GDP. (See table 8.)

The BLS projects that the Federal budget will remain in deficit throughout the projection period. The deficit is expected to be as much as \$436.9 billion by 2016, accounting for 1.9 percent of nominal GDP. The projections also anticipate shifts in the composition of Federal expenditures over the 2006–16 period. In 2008, the oldest baby boomers will turn 62 and become eligible for Social Security retire-

ment benefits. After 2010, they will be eligible to receive Medicare benefits. As spending due to the aging of the baby-boom generation rises, along with increases in life expectancy, the Government will face considerable pressure with regard to the budget. In addition, new medical technologies and drugs will keep pushing up health care costs. On the basis of demographic changes anticipated for the next decade, the BLS projects that spending for Medicare and Social Security will account for a 40.9-percent share of Federal expenditures by 2016, up substantially from 34.8 percent in 2006 and 32.2 percent in 1996.

A new Medicare prescription drug benefit that took effect in January 2006 provides drug coverage for Medicare beneficiaries. The program replaces Medicaid payments for individuals who qualify for both Medicare and Medicaid. In accordance with this change, the share of total Federal expenditures held by Federal grants-in-aid (primarily Medicaid funding and support) is projected to fall from 13.2 percent in 2006 to 12.3 percent in 2016. Overall, transfer payments are projected to account for a 60.6-percent share of total Federal expenditures by 2016, an increase from 58.0 percent in 2006.

In the National Income and Product Accounts system, defense purchases of goods and services used by the U.S. military are defined as defense consumption and gross investment.<sup>21</sup> In absolute terms, real defense purchases declined over the 1988–98 period as military force levels were reduced and purchases of new weapons systems were postponed. In 1999, however, as mentioned earlier, real spending on defense reversed its 10-year trend and started to rise slightly, due mainly to increases in the consumption of capital goods and in investment in equipment and software.

After the September 11, 2001, terrorist attacks, defense spending surged, with most of the increase attributable to the cost of ongoing military operations in Iraq and Afghanistan, as well as the cost of conducting antiterrorism activities. On the basis of Defense Department estimates, the BLS assumes that military force levels will remain fixed at 1.4 million troops throughout the projection period. The future cost of military operations, as well as the cost of replacing equipment, depends mostly upon how long troops will stay in Iraq. The duration of deployment affects the actual compensation of personnel, equipment, and operations, in addition to the longer term consequences, such as veterans' expenses.<sup>22</sup> Real defense spending is anticipated to increase from a 40-year record high of \$491.5 billion in 2006 to \$542.3 billion by 2016, growing about 1.0 percent yearly over the period. (See table 9.)

Real nondefense spending, which includes the salaries

**Table 8. Federal Government receipts and expenditures, 1986, 1996, 2006, and projected 2016**

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1986	1996	2006	2016	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Receipts .....	\$815.2	\$1,524.0	\$2,495.8	\$4,349.9	100.0	100.0	100.0	100.0	6.5	5.1	5.7
Tax receipts.....	479.6	932.4	1,537.5	2,630.2	58.8	61.2	61.6	60.5	6.9	5.1	5.5
Personal taxes .....	350.1	663.4	1,053.2	2,110.3	42.9	43.5	42.2	48.5	6.6	4.7	7.2
Corporate income taxes .....	83.8	190.6	373.1	332.8	10.3	12.5	14.9	7.7	8.6	6.9	-1.1
Taxes on production and imports .....	44.0	73.2	98.6	168.9	5.4	4.8	3.9	3.9	5.2	3.0	5.5
Taxes from the rest of the world .....	1.7	5.2	12.6	18.2	.2	.3	.5	.4	11.6	9.4	3.7
Contributions for social insurance .....	297.5	542.8	901.6	1,631.5	36.5	35.6	36.1	37.5	6.2	5.2	6.1
Income receipts on assets.....	31.4	26.9	24.7	36.1	3.8	1.8	1.0	.8	-1.5	-.8	3.9
Interest receipts .....	29.0	23.0	17.1	20.5	3.6	1.5	.7	.5	-2.3	-2.9	1.8
Rents and royalties .....	2.4	4.0	7.7	15.6	.3	.3	.3	.4	5.1	6.8	7.4
Transfer receipts.....	8.2	23.1	35.2	52.0	1.0	1.5	1.4	1.2	10.9	4.3	4.0
From businesses .....	6.9	16.0	20.0	28.6	.8	1.0	.8	.7	8.8	2.2	3.7
From persons.....	1.3	7.2	15.2	23.4	.2	.5	.6	.5	18.4	7.8	4.4
Surplus of government enterprises .....	-1.5	-1.2	-3.2	.0	-.2	-.1	-.1	.0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Expenditures .....	1,006.0	1,665.8	2,715.8	4,786.7	100.0	100.0	100.0	100.0	5.2	5.0	5.8
Consumption expenditures .....	358.3	446.3	812.8	1,197.0	35.6	26.8	29.9	25.0	2.2	6.2	3.9
Transfer payments.....	445.1	888.3	1,576.1	2,899.1	44.2	53.3	58.0	60.6	7.2	5.9	6.3
Government social benefits .....	345.3	680.0	1,187.9	2,279.1	34.3	40.8	43.7	47.6	7.0	5.7	6.7
Social Security benefits .....	193.6	342.0	552.6	1,058.5	19.2	20.5	20.3	22.1	5.9	4.9	6.7
Medicare benefits.....	75.3	195.7	393.8	900.0	7.5	11.7	14.5	18.8	10.0	7.2	8.6
Unemployment benefits.....	16.3	22.0	29.9	41.1	1.6	1.3	1.1	.9	3.0	3.1	3.2
Other benefits to persons .....	58.4	118.2	208.2	274.2	5.8	7.1	7.7	5.7	7.3	5.8	2.8
Benefits to the rest of the world.....	1.6	2.2	3.3	5.2	.2	.1	.1	.1	2.8	4.5	4.4
Other transfer payments .....	99.9	208.2	388.2	620.0	9.9	12.5	14.3	13.0	7.6	6.4	4.8
Grants-in-aid to State and local government.....	87.6	191.2	358.6	588.5	8.7	11.5	13.2	12.3	8.1	6.5	5.1
To the rest of the world .....	12.3	17.1	29.6	31.5	1.2	1.0	1.1	.7	3.4	5.7	.6
Interest payments.....	178.1	297.3	277.5	617.9	17.7	17.8	10.2	12.9	5.3	-.7	8.3
To persons and businesses .....	153.5	232.0	143.8	243.1	15.3	13.9	5.3	5.1	4.2	-4.7	5.4
To the rest of the world....	24.6	65.3	133.8	374.8	2.4	3.9	4.9	7.8	10.2	7.4	10.9
Subsidies.....	24.5	34.0	49.4	72.8	2.4	2.0	1.8	1.5	3.3	3.8	4.0
Less wage accruals less disbursements .....	.0	.0	.0	.0	...	...	...	...	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Net Federal Government saving .....	-190.8	-141.8	-220.0	-436.9	...	...	...	...	-2.9	4.5	7.1
Surplus or deficit as a percentage of gross domestic product .....	-4.3	-1.8	-1.7	-1.9	...	...	...	...	-8.2	-.9	1.5

<sup>1</sup> Data not computable.

SOURCE: Historical data, Bureau of Economic Analysis; projected

data, Bureau of Labor Statistics.

**Table 9. Government consumption expenditures and gross investment, 1986, 1996, 2006, and projected 2016**

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Government consumption expenditures and gross investment.....	\$1,392.5	\$1,564.9	\$1,981.4	\$2,286.6	1.2	2.4	1.4
Federal Government consumption and investment.....	623.7	573.5	742.3	795.6	-8	2.6	.7
Defense consumption and investment.....	462.4	383.8	491.5	542.3	-1.8	2.5	1.0
Consumption expenditures.....	391.5	332.2	416.6	452.5	-1.6	2.3	.8
Compensation, military.....	124.2	94.9	97.9	102.2	-2.7	.3	.4
Compensation, civilian.....	77.0	58.7	51.7	47.6	-2.7	-1.3	-8
Consumption of fixed capital.....	50.6	63.3	65.1	73.8	2.3	.3	1.3
Intermediate goods and services purchased.....	147.0	120.3	209.7	239.9	-2.0	5.7	1.4
Less own-account investment.....	1.6	1.7	1.6	1.7	.2	-6	.8
Less sales to other sectors.....	1.3	2.9	2.9	2.1	8.0	.0	-2.8
Gross investment.....	69.5	51.3	76.6	94.2	-3.0	4.1	2.1
Own-account investment.....	1.6	1.7	1.6	1.7	.2	-6	.8
Other investment.....	67.8	49.7	75.2	92.9	-3.1	4.2	2.1
Nondefense consumption and investment.....	160.1	189.6	250.7	253.1	1.7	2.8	.1
Consumption expenditures.....	142.2	161.1	212.5	215.3	1.3	2.8	.1
Compensation.....	90.0	91.3	97.6	89.9	.1	.7	-8
Consumption of fixed capital.....	10.7	17.0	25.6	29.6	4.8	4.1	1.5
Intermediate goods and services purchased:							
Commodity credit corporation purchases.....	7.3	-1	-1	.0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Other.....	45.8	61.2	96.7	104.7	2.9	4.7	.8
Less own-account investment.....	2.5	3.0	2.1	1.9	1.8	-3.6	-9
Less sales to other sectors.....	6.1	5.0	3.9	3.2	-1.9	-2.6	-1.9
Gross investment.....	19.3	28.6	38.5	37.9	4.0	3.0	-2
Own-account investment.....	2.5	3.0	2.1	1.9	1.8	-3.6	-9
Other investment.....	17.0	25.7	36.7	36.2	4.2	3.6	-1
State and local government consumption and investment.....	766.4	990.5	1,239.0	1,489.0	2.6	2.3	1.9
Consumption expenditures.....	641.9	812.8	990.9	1,183.1	2.4	2.0	1.8
Compensation.....	521.6	626.9	707.3	763.6	1.9	1.2	.8
Consumption of fixed capital.....	46.6	70.6	103.2	139.5	4.2	3.9	3.1
Intermediate goods and services purchased.....	226.4	317.4	446.5	556.6	3.4	3.5	2.2
Less own-account investment.....	9.1	12.1	17.5	20.0	2.9	3.7	1.3
Less sales to other sectors.....	141.3	189.7	247.8	255.2	3.0	2.7	.3
Gross investment.....	125.9	178.0	248.0	306.1	3.5	3.4	2.1
Own-account investment.....	9.1	12.1	17.5	20.0	2.9	3.7	1.3
Other investment.....	116.8	165.8	230.4	286.1	3.6	3.3	2.2
Residual <sup>2</sup> .....	82.5	91.2	90.2	74.5	...	...	...

<sup>1</sup> Data not computable.<sup>2</sup> The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

of Federal Government employees, capital spending on nondefense items, and gross investment in equipment and facilities, is anticipated to increase marginally at a rate of 0.1 percent per year between 2006 and 2016. This

figure contrasts with a 2.8-percent annual rate of growth between 1996 and 2006. As noted earlier, high-priority spending increases for national defense and homeland security are expected to squeeze Federal investments in

virtually all other research-and-development areas. In accordance with this assumption, the BLS projects that Federal nondefense spending will account for a nominal GDP share of 1.9 percent in 2016, below the 2.2-percent share attained in 1996 and 2.3-percent share reached in 2006. (See table 3.)

*State and local governments.* Under the assumption of general fiscal restraint on non-security-related discretionary spending, the BLS expects that State and local government receipts of grants-in-aid from the Federal Government for Medicaid and other programs will have grown much more slowly by 2016 than in the past.<sup>23</sup> Federal grants-in-aid, which represented 19.9 percent of State and local revenues in 2006, are projected to drop to 18.9 percent in 2016. The 18.9-percent figure translates to an average annual rate of growth of 5.1 percent from 2006 to 2016, well below the 8.1-percent annual rate of growth over the 1986–96 period and the 6.5-percent rate of growth during the 1996–2006 period. (See table 10.)

On the purchases side, current consumption expenditures are expected to continue to be the largest component of total State and local spending in 2016. Current consumption expenditures' share of total purchases of goods and services is projected to be 71.0 percent in 2016, down slightly from 71.2 percent in 1996 and 72.0 percent in 2006. In addition, due to increases in Medicaid services, it is expected to keep the total State and local government consumption expenditure share rising, from 17.6 percent in 2006 to 19.1 percent in 2016.

Real spending by State and local governments, which includes the salaries of State and local government employees, administrative expenses, and gross investment in equipment and facilities, is projected to increase 1.9 percent annually from 2006 to 2016. This rate is less than the 2.3-percent annual rate of growth posted for the 1996–2006 period and 2.6 percent for the 1986–96 period. (See table 9.) As a percentage of GDP, nominal consumption by State and local governments is projected to keep close to its 10-year trend in the economy, representing 11.8 percent of GDP in 2016, down moderately from 12.1 percent in 2006. (See table 3.) State and local governments are expected to run surpluses throughout most of the projection period, because their expenditures are tied closely to available revenues. (See table 10.)

## **GDP from the income side**

On the income side, the compensation of employees, or labor income, has remained a steady share of total personal

income over the past 20 years, accounting for 69.0 percent of personal income in 1986, 67.3 percent in 1996, and 67.7 percent in 2006. Similarly, wage and salary disbursements, the largest segment of labor income, have shown the same steady share, around 55 percent, during the same period. The BLS anticipates that over the next 10 years labor income will hold approximately the same portion of 68.3 percent of total income in 2016, accompanied by a 55.2-percent share for wage and salary disbursements. (See table 4.)

Another major component of personal income—business-related personal income, which includes proprietors' income, rental income, and personal income on assets—declined from a 27.0-percent share of personal income in 1986 and 1996 to 26.1 percent in 2006. The BLS projects that the decreasing trend in shares for this type of income will continue through the projection period, falling to 24.6 percent in 2016.

Substituting for the decline in business-related personal income, the receipt of transfer payments has become an increasingly substantial source of personal income over the past two decades. Transfer payments rose as a share of personal income from 12.1 percent in 1986 and 14.2 percent in 1996 to 14.7 percent in 2006. The BLS projects that this category of income receipts will continue to rise until it accounts for 15.7 percent of personal income in 2016, reflecting both per capita medical costs and the increasing elderly population, the most likely users of Medicare programs. Rising transfer payments also reflect increases in Social Security benefit payments to baby boomers as they count down to their retirement.

Traditionally, personal consumption is considered the most important indicator of how people spend their incomes and how lifestyles change as consumption's share of income increases over time. In 2006, this share increased rapidly to a historical high of 84.0 percent, resulting in record-low personal savings. Over the projection period, the trend of increased consumption is anticipated to ease and settle down to an 82.0-percent share in 2016, while the personal savings rate is projected to improve gradually, reaching 1.5 percent that same year.

Real disposable personal income is projected to increase at an average annual rate of 3.0 percent from 2006 to 2016. Real disposable income per capita is projected to reach a level around \$34,500 in 2016, a gain of \$6,500 over the projection span. Another way of interpreting this growth is that, measured on the basis of growth of disposable personal income, real standards of living will continue to rise over the projection period.

**Table 10. State and local government receipts and expenditures, 1986, 1996, 2006, and projected 2016**

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1986	1996	2006	2016	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Receipts .....	\$561.7	\$1,043.3	\$1,797.7	\$3,112.0	100.0	100.0	100.0	100.0	6.4	5.6	5.6
Tax receipts.....	389.5	709.6	1,232.3	2,186.3	69.4	68.0	68.6	70.3	6.2	5.7	5.9
Personal taxes .....	87.2	168.7	301.2	553.3	15.5	16.2	16.8	17.8	6.8	6.0	6.3
Corporate income taxes .....	22.7	33.0	62.4	71.7	4.0	3.2	3.5	2.3	3.8	6.6	1.4
Taxes on production and imports .....	279.7	507.9	868.8	1,561.3	49.8	48.7	48.3	50.2	6.1	5.5	6.0
Sales taxes and other .....	163.6	295.6	500.9	813.2	29.1	28.3	27.9	26.1	6.1	5.4	5.0
Property taxes.....	116.2	212.4	367.8	748.1	20.7	20.4	20.5	24.0	6.2	5.6	7.4
Contributions for social insurance .....	6.0	12.5	26.0	41.9	1.1	1.2	1.4	1.3	7.7	7.6	4.9
Income receipts on assets .....	58.4	73.3	87.1	135.5	10.4	7.0	4.8	4.4	2.3	1.7	4.5
Interest receipts .....	52.0	67.3	73.8	113.4	9.3	6.4	4.1	3.6	2.6	.9	4.4
Dividends .....	.2	1.4	2.6	4.2	.0	.1	.1	.1	24.6	6.8	4.9
Rents and royalties .....	6.2	4.6	10.7	18.0	1.1	.4	.6	.6	-2.9	8.7	5.3
Transfer receipts.....	105.0	234.1	462.9	748.3	18.7	22.4	25.8	24.0	8.3	7.1	4.9
Federal grants-in-aid.....	87.6	191.2	358.6	588.5	15.6	18.3	19.9	18.9	8.1	6.5	5.1
From businesses (net) .....	6.7	15.2	40.6	65.3	1.2	1.5	2.3	2.1	8.5	10.3	4.9
From persons.....	10.6	27.8	63.7	94.5	1.9	2.7	3.5	3.0	10.1	8.7	4.0
Surplus of government enterprises .....	2.8	13.9	-10.7	.0	.5	1.3	-6	.0	17.4	( <sup>1</sup> )	( <sup>1</sup> )
Expenditures .....	540.7	1,017.5	1,773.0	3,027.3	100.0	100.0	100.0	100.0	6.5	5.7	5.5
Consumption expenditures .....	417.9	724.8	1,276.5	2,149.1	77.3	71.2	72.0	71.0	5.7	5.8	5.3
Government social benefit payments to persons .....	84.3	224.2	400.8	714.1	15.6	22.0	22.6	23.6	10.3	6.0	5.9
Medicaid.....	46.9	163.6	312.1	578.9	8.7	16.1	17.6	19.1	13.3	6.7	6.4
Other.....	37.5	60.6	88.7	135.2	6.9	6.0	5.0	4.5	4.9	3.9	4.3
Interest payments .....	38.2	68.1	95.4	163.5	7.1	6.7	5.4	5.4	5.9	3.4	5.5
Subsidies .....	.3	.3	.4	.6	.1	.0	.0	.0	.8	2.1	4.8
Less wage accruals less disbursements .....	.0	.0	.0	.0	.0	.0	.0	.0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Net State and local government saving .....	21.0	25.8	24.6	84.7	...	...	...	...	2.1	-5	13.2

<sup>1</sup> Data not computable.

data, Bureau of Labor Statistics.

SOURCE: Historical data, Bureau of Economic Analysis; projected

## Productivity

Labor productivity, measured as output per hour in the private nonfarm business sector, is one of the critical components responsible for rising living standards. Growth in labor productivity allows companies to increase worker salaries on the basis of their greater efficiency, rather than

passing salary increases through to consumers in the form of higher prices for products, which would increase inflation. Historically, in periods of strong economic growth, gains in productivity accelerated as business orders increased, allowing workers and machines to be used at full efficiency. However, the surge in productivity after the mid-1990s has not been due simply to strong economic

growth. Rather, rapid advances in computing power, greater software efficiency, and more sophisticated communications capabilities have formed a set of powerful complementary innovations.

These productivity-enhancing technological innovations, along with a favorable U.S. economic environment, boosted productivity sharply. From 2001 to 2004, growth in productivity averaged 3.5 percent annually, far exceeding the pace in any other period of rapid productivity growth in U.S. history. However, the downside of that increased efficiency was that, by getting more output from their existing workforces, companies were able to avoid hiring new workers.

Since 2005, the contribution of productivity to overall economic growth appears to have decreased, while the share coming from additional hiring has picked up. In 2006, productivity growth was the weakest in 9 years, and unit labor costs surged.<sup>24</sup> With demand still strong, the recent job gains suggest that companies were ready to rely more on additional workers, and less on greater productivity, to meet increases in production.

Many economists believe that the technological and organizational innovations that contributed to higher productivity in the last decade will continue into the future and that a new round of business investment and improvements in productivity will begin.<sup>25</sup> Clearly, increases in productivity are an important driver of the long-term growth of GDP. With steady GDP growth projected over the next 10 years, the BLS anticipates that productivity will grow at a more “trendlike” 2.2 percent per year over the 2006–16 period, slower than the stellar 2.6-percent average annual growth achieved during the past decade, but faster than the rate posted in the two decades that preceded the boom. (See table 11.) This expected productivity growth in the aggregate economic projections stems in large part from the healthy growth of capital stocks resulting from projected rates of business investment, especially in efficiency-enhancing equipment and computer software.<sup>26</sup>

## Employment

During the most recent decade-long economic expansion, the civilian unemployment rate fell from 7.5 percent in 1992 to 4.0 percent in 2000, the lowest reading in 30 years. Nonfarm payroll employment expanded by about 23.1 million over the 1992–2000 period. By contrast, starting approximately with the recession of 2001, the country suffered about 3 years of declines in payroll employment. However, the ongoing recovery in output, combined with continued strong demand, finally caught

up with the robust growth in productivity, and employment increased by about 5.8 million workers on an annual average basis from 2002 to 2006.

The monthly unemployment rate has remained in a narrow band between 4.4 percent and 4.7 percent since the third quarter of 2006. Under the assumption of long-term economic stability, a 5.0-percent unemployment rate is assumed in the macroeconomic model in 2016. (See table 11.)

With the baby-boomer generation beginning to retire and leave the labor force, the civilian labor force is projected to grow at a rate of 0.8 percent per year from 2006 to 2016, 0.4 percentage point lower than the rate of growth over the preceding 10-year period. This rate translates into an increase of 12.8 million labor force participants over the projection period. The Census Bureau projects that the total U.S. population will increase at a 0.9-percent rate of growth over the period, 0.2 percentage point lower than the rate of growth between 1996 and 2006. The Census Bureau also estimates that the population aged 16 years and older will increase at the same rate of 0.9 percent over the projection span, 0.4 percentage point lower than the rate of growth in the earlier period. By contrast, the number of persons aged 65 years and older is projected to increase from 37.4 million in 2006 to nearly 48.7 million in 2016, accounting for 14.9 percent of the total population the latter year, up from 12.4 percent in 2006.<sup>27</sup>

Slower long-run increases in the labor force indicate more moderate long-run employment growth in the future. Total civilian household employment is projected to increase by 0.8 percent per year from 2006 to 2016, resulting in about 11.5 million employed persons being added to the economy over the 10-year projection period, less than the increase of 17.7 million over the 1996–2006 span. Nonfarm payroll employment is projected to grow at an annualized rate of 1.0 percent between 2006 and 2016, rising from 136.2 million to 151.1 million, an increase of 14.9 million jobs.<sup>28</sup>

## Uncertainty of the economic projections

Any look into the future must take uncertainties into account. Thus, the BLS must judge its work against an uncertain future. Although the use of the macroeconomic model to prepare the aggregate economic projections is a scientific approach, a divergent viewpoint about the assumptions would naturally lead to different economic projection paths. For instance, in the model, the population 16 years and older probably has the strongest influence upon real GDP. The demographic characteristics of this

**Table 11. Labor supply and factors affecting productivity, 1986, 1996, 2006, and projected 2016**

Category	Levels				Average annual rate of change		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16
Labor supply (millions, unless noted):							
Total population .....	240.4	269.8	300.5	327.0	1.2	1.1	0.9
Population aged 16 years and older .....	180.6	200.6	228.8	250.6	1.1	1.3	.9
Civilian labor force .....	117.8	133.9	151.4	164.2	1.3	1.2	.8
Civilian household employment .....	109.6	126.7	144.4	155.9	1.5	1.3	.8
Nonfarm payroll employment .....	99.5	119.7	136.2	151.1	1.9	1.3	1.0
Unemployment rate (percent) .....	7.0	5.4	4.6	5.0	-2.6	-1.5	.8
Productivity:							
Private nonfarm business output per hour (billions of chained 2000 dollars) .....	30.4	35.3	45.6	56.9	1.5	2.6	2.2

SOURCE: Historical data—Bureau of Economic Analysis, U.S. Census Bureau, and Bureau of Labor Statistics; projected data—Bureau of Labor Statistics.

population, along with certain other variables, are used to determine the size of the labor force in the model employed in the BLS economic projections. The labor force itself constitutes the most important element in determining the economy's ability to supply output.

Besides affecting the supply of output, an increase in the population 16 years and older has a significant impact upon various components of demand. For example, an increase in this population would result in a larger home-buying popu-

lation, which in turn would lead to more housing starts, along with a greater demand for residential construction.

In conclusion, a hallmark of the BLS projections is that the assumptions and model-based findings on which they are based are made explicit, although any number of unexpected key factors may modify the path of the 2016 projections. With these points in mind, readers will be better able to grasp and appreciate the projections and estimates presented in this issue of the *Review*. □

## Notes

<sup>1</sup> Baby boomers are the generation of Americans who were born between 1946 and 1964. For a full discussion of BLS population and labor force projections, see Mitra Toossi, "Labor force projections to 2016: more workers in their golden years," this issue, pp. 33–52.

<sup>2</sup> Currently, the Nation is in the throes of a housing slump whose effect on the economy is still unfolding. It is too early to assess just how deeply or adversely the economy will be affected.

<sup>3</sup> This model has been used to prepare BLS aggregate economic projections since May 2002. Macroeconomic Advisers developed and still supports the Washington University Macro Model, which the firm's team uses as a central analytical tool for its short- and long-term forecasts of the U.S. economy. The model operates and performs simulations on a Windows-based software program called WUMMSIM.

<sup>4</sup> Recently, much has happened in financial markets. Problems in the subprime lending market have spread to other structural credits. The Fed maintained the funds rate target at 5.25 percent at its August 2007 meeting, but turned quickly to concerns about the liquidity of short-term credit markets. Initially, the Fed intervened to pump in li-

quidity through open-market operations. Then, on August 17, the Fed announced a 50-basis-point cut in its discount rate (the rate at which the agency will lend to commercial banks), to 5.75 percent. Finally, the aforementioned half-percent funds rate cut to 4.75 percent came on September 18, followed by the cut to 4.50 percent in October.

<sup>5</sup> In recent years, Fed officials under then Chairman Alan Greenspan made it clear that they had an informal target, or "comfort zone," with respect to inflation, namely, 1 to 2 percent a year on core inflation. (Core inflation excludes food and energy prices, which tend to be volatile. Core inflation is thus less volatile than regular inflation and generally is viewed as a better reflection than the latter of the mix of supply and demand in domestic markets.) That is, any growth in core inflation of more than 1 to 2 percent a year would eventually trigger a hike in the funds rate, to keep inflation under control. Current Chairman Ben Bernanke appears to firmly endorse the Fed's longstanding practice of focusing more heavily on core price measures in setting monetary policy.

<sup>6</sup> In conformity with the Administration's policy to make tax re-

lief permanent, rather than allowing it to expire as scheduled at the end of this decade, the Macroeconomic Advisers' model assumes that the recent tax cuts will be permanent. In contrast, the Congressional Budget Office's 2007 baseline assumption is that the tax cuts and other expiring tax provisions will "sunset" beginning in 2011. (See notes 16 and 20 for further discussion.)

<sup>7</sup> Each year, the Energy Information Administration of the Department of Energy publishes a range of estimates regarding energy supply and demand over the coming 20 years. The Bureau's energy assumptions about nominal world oil prices are based on the Department of Energy's reference-case estimates. (See *Annual Outlook 2007 with Projections to 2030* (U.S. Department of Energy, February 2007), pp. 34–35.)

<sup>8</sup> The 2006–16 BLS projections of population and the labor force reflect the results of Census 2000 adjustments. The new BLS weighting procedures resulted in higher estimates of the U.S. population and civilian labor force, due to a major reevaluation of net international migration estimates. For a further discussion of population and labor force projections, see Toossi, "Labor force projections to 2016."

<sup>9</sup> For a further discussion of labor force projections, see Toossi, "Labor force projections to 2016."

<sup>10</sup> GDP growth slowed to a near-standstill 0.6-percent annual rate in the first quarter of 2007, the slowest pace in 5 years. The economy rebounded in the second quarter, growing at an annual rate of 3.8 percent, and edged up to 3.9 percent in the third quarter.

<sup>11</sup> For a further discussion of GDP per capita, see Richard B. Freeman, "Labor Market Imbalances: Shortages or Surpluses, or Fish Stories?" paper presented at the Boston Federal Reserve Economic Conference: "Global Imbalances—As Giants Evolve," Chatham, Massachusetts, June 14–16, 2006.

<sup>12</sup> In the National Income and Product Accounts, the personal savings rate is defined as the percentage of personal after-tax income that is not spent on consumption, paid out as interest, or given away to foreigners. The savings rate does not, however, take into account gains from rising stocks or the appreciation of owned homes. Thus, the values of people's assets are growing even as those people are spending more of their pay.

<sup>13</sup> Note that the extent to which the subprime crisis affects other parts of the mortgage finance sector currently is being heavily debated.

<sup>14</sup> The contributions to any percent change in a real aggregate, such as real GDP, provide a measure of the composition of growth in the aggregate, and that growth is not affected by the nonadditivity of its components. This property makes contributions to percent change a valuable tool for economic analysis. Contributions of subaggregates, such as goods purchased with personal consumption expenditures, to the percent change of the aggregate—say, total personal consumption expenditures or GDP—are calculated by summing the contributions of all the deflation-level components contained in the subaggregate. For a further discussion, see *Calculating the Contributions of Components to the Change in GDP and in other Major Aggregates, National Income and Product Accounts of the United States, 1929–97: Volume 1* (U. S. Department of Commerce, Bureau of Economic Analysis, September 2001), p. M-18.

<sup>15</sup> The average price of gasoline hit \$3.26 a gallon in May 2007, a record high in nominal dollars, just above the inflation-adjusted record, which was set in March 1981 at \$3.22 per gallon in today's dollars. Capacity in the U.S. refining industry is tight, and the tightness of supply set against continuing increases in demand keeps gasoline prices soaring as a result.

<sup>16</sup> The Congress enacted a tax reduction program in 2002 and 2003.

A provision to encourage small-business investment by raising the expensing limits for equipment purchases was extended through 2009, and a reduction in the capital gains and dividend tax rate was extended through 2010. For more information, see *Budget of United States Government, Fiscal Year 2008* (Office of Management and Budget, February 2007), pp. 7–14.

<sup>17</sup> On April 20, 2005, in his remarks to the Economics Club of the University of North Carolina at Chapel Hill, Federal Reserve Board member Roger W. Ferguson, Jr., presented the slump in foreign domestic demand as 1 of 5 possible explanations for the U.S. current-account deficit.

<sup>18</sup> For a further discussion of the U.S. current-account balance, see Sebastian Edwards, "Is the current account deficit sustainable? and if not, how costly is adjustment likely to be?" NBER working paper 11541 (National Bureau of Economic Research, August 2005); Marc Labonte, "Is the U.S. Current Account Deficit Sustainable?" *Congressional Research Service, CRS Report for Congress, Order Code RL33186*, December 2005; and Michael P. Dooley, Peter M. Garber, and David Folkerts-Landau, "The two crises of international economics," NBER working paper 13197 (National Bureau of Economic Research, June 2007).

<sup>19</sup> Based on national accounting identities, the national savings rate is calculated by adding the current-account balance (exports less imports, with net factor income added) to gross investment and dividing by GDP. In other words, the current-account balance is the mathematical difference of national savings and domestic investment. Thus, a decrease in the national savings rate reflects a widening of the external deficit.

<sup>20</sup> The President's 2008 budget shows the Federal deficit falling in each of the next 5 years and, by 2012, producing a \$61 billion surplus. (See *Budget of United States Government, Fiscal Year 2008* (Office of Management and Budget, February 2007).) Also, according to Congressional Budget Office baseline projections, the deficit will essentially reach a balance in 2011 and turn a \$170 billion surplus by 2012. However, the Congressional Budget Office projects that if the tax cuts and other expiring tax provisions are extended, the deficit would hit \$146 billion in 2012 and grow thereafter. (See *The Budget and Economic Outlook: Fiscal Years 2008 to 2017* (Congress of the United States, Congressional Budget Office, January 2007).) Note that, in this article, the budget surplus or deficit is measured in calendar-year terms and on the basis of the National Income and Product Accounts.

<sup>21</sup> The category of government consumption expenditures and gross investment, or government spending, consists of two components: (1) consumption expenditures by Federal and by State and local governments and (2) gross investment by government and government-owned enterprises. Government consumption expenditures consist of the goods and services that are produced by any level of government. The value of government production is measured as spending for labor and capital services and for intermediate goods and services. Gross investment consists of investment in new and used structures and equipment and in software purchased or produced by government and government-owned enterprises. (See "Government Spending," *Survey of Current Business*, June 2007, p. 7.)

<sup>22</sup> See Kasmira Smarzo, "Consideration for National Defense Projections," unpublished manuscript (Bureau of Labor Statistics, Division of Industry Employment Projections, February 2007). See also Robert A. Sunshire, "Issues in budgeting for operations in Iraq and the war on terrorism," CBO testimony before the Committee on the Budget, U.S. House of Representatives, Jan. 18, 2007. For a discussion of defense spending and estimates of military force levels, see *National Defense Budget Estimates For FY 2008* (Office of the Under Secretary of Defense (Comptroller), March 2007); and *Fiscal 2008 Department of Defense Budget Release* (Department of Defense, Feb. 5, 2007).

<sup>23</sup> For more information, see *Budget of United States Government, Fiscal Year 2008* (Office of Management of Budget, February 2007), pp. 15–16.

<sup>24</sup> In the first quarter of 2007, labor productivity growth was held down by the cyclical slowdown in the economy. Weak GDP growth of 0.6 percent in the first quarter translated into a slowdown in productivity growth of 0.7 percent. After this languid first quarter, productivity growth rebounded to 2.2 percent in the second quarter and then surged to a strong 4.9 percent in the third quarter.

<sup>25</sup> See, for example, Dale W. Jorgenson, Mun S. Ho, and Kevin J. Stiroh, “Potential Growth of the U.S. Economy: Will the Productivity Resurgence Continue,” Nov. 17, 2005, on the Internet at [post.economics.harvard.edu/faculty/jorgenson/papers/nabe.draft\\_41.pdf](http://post.economics.harvard.edu/faculty/jorgenson/papers/nabe.draft_41.pdf); and Anthony M. Santomero, “The U.S. Economy: How Fast Can We Grow?” paper presented before the CFA [Chartered Financial Analysts] Society of Philadelphia at the Racquet Club of Philadelphia, Feb. 23, 2006.

<sup>26</sup> For more detailed information on labor productivity and employment, see Rose A. Woods and Eric B. Figueroa, “Industry output and employment projections to 2016,” this issue, pp. 53–85. (See also *Labor Productivity: Developments Since 1995* (Congressional Budget

Office, March 2007); James A. Kahn and Robert W. Rich, “Tracking Productivity in Real Time,” *Current Issues in Economics and Finance, Federal Reserve Bank of New York*, November 2006; and “Productivity Growth,” *Economic Report of the President, the Annual Report of the Council of Economic Advisers*, chapter 2, February 2007, pp. 45–62.

<sup>27</sup> See note 8 for more information on population and labor force estimates.

<sup>28</sup> The measure of civilian employment used in the aggregate economic projections discussed in this article is a count of persons who are working. Estimates of civilian employment are derived from the Current Population Survey (CPS), a survey of households carried out for the Bureau of Labor Statistics by the Census Bureau. Payroll employment is a count of jobs and is based on the Current Employment Statistics survey (CES), a BLS survey of establishments. Although the employment measures from the two surveys show similar trends over the long term, shorter term discrepancies have arisen. For further information on these two employment measures and on employment growth discrepancies, see “Understanding the employment measures from the CPS and CES survey,” *Monthly Labor Review*, February 2006, pp. 23–38; on the Internet at [www.bls.gov/opub/mlr/2006/02/art2full.pdf](http://www.bls.gov/opub/mlr/2006/02/art2full.pdf) (visited Nov. 30, 2007). The BLS maintains a monthly update on CES-CPS employment trends, on the Internet at [www.bls.gov/web/ces\\_cps\\_trends.pdf](http://www.bls.gov/web/ces_cps_trends.pdf) (visited Nov. 30, 2007).

## ***Employment outlook: 2006–16***

# **Labor force projections to 2016: more workers in their golden years**

*As the U.S. population ages, the labor force will grow more slowly during the next decade; the older labor force is projected to grow more than 5 times faster than the overall labor force, which will become ever more racially and ethnically diverse*

Mitra Toossi

**F**or the past several decades, the U.S. labor force has consistently posted high growth rates. According to the Bureau of Labor Statistics (BLS), these elevated rates are likely to be replaced by a much lower growth rate over the 2006–16 decade, principally for two reasons: the baby-boom generation is aging and retiring, and the labor force participation rate of women appears to have peaked.

In the second half of the 20th century, labor force growth was especially rapid as the baby-boom generation reached working age and entered the labor market. At the same time, the labor force participation rate of women expanded rapidly. Both trends have run their course. However, due to significant increases in both the participation rate and the share of the older labor force, the growth of the older labor force in the next decade will be much higher than the labor force growth of the other age groups.<sup>1</sup>

The civilian labor force is projected to increase by nearly 13 million, reaching 164.2 million in 2016. This 0.8-percent annual growth rate is lower than the 1.2-percent annual growth rate registered during the previous 10-year period. (See table 1.) In addition, the labor force will continue to age: the 55-years-and-older workforce is expected to grow by 46.7 percent over the projection period, more than 5 times the growth projected for the aggregate labor force.

The BLS projects that the labor force

participation rate of the U.S. population will be 65.5 percent in 2016. After increasing for more than 50 years, the proportion of the population that participates in the labor force reached an all-time high of 67.1 percent in 1997.<sup>2</sup> The participation rate continued its high growth until 2001, when the U.S. economy entered a recession, causing the rate to fall. Unlike its behavior during previous downturns, in which it would soon return to the prerecession level, the labor force participation rate continued to decline long after the 2001 recession was over. After dropping to 66.0 percent in 2004 and 2005, the participation rate had a small increase of 0.2 percentage point in 2006.

A number of factors are responsible for overall changes in the labor force participation rate. Three demographic factors are that participation rates vary by sex, different age groups behave differently in the labor market, and not all race and ethnic groups are attached to the labor market in the same fashion. In sum, the ever-changing dynamics of the age, sex, race, and ethnic groups within the population affects the overall labor force participation rate over time.

Although this article focuses mostly on demographic factors, the impact of other variables cannot be ignored. The education and skill levels of the population are an important determinant of the labor force participation rate, with more years of schooling highly correlated with higher levels of participation in

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**Table 1. Civilian labor force, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	Level				Change			Percent change			Annual growth rate			Percent distribution				
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16	1986	1996	2006	2016	
Total, 16 years and older.....	117,834	133,943	151,428	164,232	16,109	17,485	12,804	13.7	13.1	8.5	1.3	1.2	0.8	100.0	100.0	100.0	100.0	
Age, years:																		
16 to 24 ..	23,367	21,183	22,394	20,852	-2,184	1,211	-1,542	-9.3	5.7	-6.9	-1.0	.6	-.7	19.8	15.8	14.8	12.7	
25 to 54 ..	79,563	96,786	103,566	106,026	17,223	6,780	2,460	21.6	7.0	2.4	2.0	.7	.2	67.5	72.3	68.4	64.6	
55 and older....	14,904	15,974	25,468	37,354	1,070	9,494	11,886	7.2	59.4	46.7	.7	4.8	3.9	12.6	11.9	16.8	22.7	
Sex:																		
Men.....	65,422	72,087	81,255	87,781	6,665	9,168	6,526	10.2	12.7	8.0	1.0	1.2	.8	55.5	53.8	53.7	53.4	
Women.....	52,413	61,857	70,173	76,450	9,444	8,316	6,277	18.0	13.4	8.9	1.7	1.3	.9	44.5	46.2	46.3	46.6	
Race:																		
White .....	101,801	113,108	123,834	130,665	11,307	10,726	6,831	11.1	9.5	5.5	1.1	.9	.5	86.4	84.4	81.8	79.6	
Black.....	12,654	15,134	17,314	20,121	2,480	2,180	2,807	19.6	14.4	16.2	1.8	1.4	1.5	10.7	11.3	11.4	12.3	
Asian.....	3,379	5,701	6,727	8,741	2,322	1,026	2,014	68.7	18.0	29.9	5.4	1.7	2.7	2.9	4.3	4.4	5.3	
All other groups <sup>1</sup> ..	-	-	3,553	4,705	-	-	1,152	-	-	32.4	-	-	2.8	-	-	2.3	2.9	
Ethnicity:																		
Hispanic origin .....	8,076	12,774	20,694	26,889	4,698	7,920	6,195	58.2	62.0	29.9	4.7	4.9	2.7	6.9	9.5	13.7	16.4	
Other than Hispanic origin....	109,758	121,169	130,734	137,343	11,411	9,565	6,609	10.4	7.9	5.1	1.0	.8	.5	93.1	90.5	86.3	83.6	
White non-Hispanic..	94,027	100,915	104,629	106,133	6,888	3,714	1,504	7.3	3.7	1.4	.7	.4	.1	79.8	75.3	69.1	64.6	
Age of baby boomers..	22 to 40	32 to 50	42 to 60	52 to 70	...	...	...	...	...	...	...	...	...	...	...	...	...	...

<sup>1</sup> The "all other groups" category includes (1) those classified as being of multiple racial origin and (2) the race categories of (2a)

American Indian and Alaska Native and (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

the labor force. In addition, health is of paramount importance for the labor force participation rates of individuals and certain groups in the population.<sup>3</sup> Also, cyclical changes such as economic expansions and recessions can cause short-term variations in labor force participation rates. Finally, long-term changes in tastes, preferences, and technology can affect the decision to participate in the labor force.

Several trends evident in past labor force participation rates are expected to continue to have an impact on the U.S. workforce over the next decade. A summary of those factors which are expected to affect the trend of the participation rate in the future follows.

*The labor force participation rate of youths decreased measurably before and after the recession of 2001.* The labor force

participation rate of the 16-to-24-year-old labor force has been on a declining trend since the end of the 1980s. Sixteen-to-24-year-olds are more vulnerable than other age groups during recessions. The first to be fired and the last to be hired, they tend to stay in school longer during economic downturns. In addition, school attendance, including attendance at summer school, has increased for the past two decades, decreasing the participation of the young in the labor force. Still, the participation rate of this age group has decreased both for those who are in school and for those who are not in school. The decline in labor force participation among youths—specifically, teens—may also include other factors, such as personal choice, rising family incomes, and competition for available jobs.<sup>4</sup> A projected continuation of the decrease in

the labor force participation rate of youths is one reason for the anticipated downward trend of the overall labor force participation rate.

*The aging of the baby-boom generation and its movement from the prime-age to the older labor force will decrease the overall labor force participation rate.* The age composition of the population and labor force is changing due to the increasing share of older age groups. The older age groups have significantly lower participation rates than the prime age groups, those between the ages of 25 and 54, which have strong attachments to the labor market. Once the baby boomers exit the last years of the prime age group and enter the 55-and-older age group, with participation rates roughly half that of the prime age group, the overall labor force participation rate will decline significantly.<sup>5</sup> The lower participation rate of the 55-and-older age group, coupled with the larger share of the older population in the future, is projected to decrease the overall participation rate.

*The labor force participation rate of the older workforce has increased considerably since the late 1980s.* The increase in the labor force participation of this group over the past several decades is expected to continue into the foreseeable future.

*The women's labor force participation rate peaked in 1999 after years of rapid growth.* Since then, their participation rate has been declining. On the basis of the current trend, the labor force participation rate of women reached its peak at 60 percent in 1999, and the trend will be at best flat in the future.

*The men's labor force participation rate has been steadily decreasing.* The men's participation rate peaked at 86.6 percent in 1948.<sup>6</sup> The rate is expected to continue declining for the foreseeable future.

*The labor force participation rate of Hispanics and Asians has increased substantially in the past several decades.* The BLS projects that the two groups will maintain their strong participation rates during the 2006–16 period. This trend will continue to change the composition and diversity of the future labor force.

## Major factors affecting labor force change

The BLS projects the future supply of labor by combining population projections with the projections of the labor

force participation rate. Growth of the labor force is vital for the creation of goods and services in the economy and for the long-term growth of gross domestic product (GDP).<sup>7</sup> All other things equal (including productivity), slower labor force growth means slower growth in the level of goods and services an economy can provide.

Although population growth and the changes in the participation rates are both determinants of labor force growth, the growth of the population has the stronger impact. Of course, a decreasing labor force participation rate hinders the labor force from growing more rapidly.

## Population projections

The Census Bureau's projection of the U.S. resident population is the basis for the BLS labor force projections. Resident population projections are provided by age, sex, race, and ethnic categories. The 2006–16 round of labor force projections uses the Census Bureau's most recent interim population projections.<sup>8</sup>

To take advantage of the latest published data, the Census Bureau's interim population projections have been benchmarked to the actual 2006 Current Population Survey (CPS) data.<sup>9</sup> The conversion from the resident population concept of the Census Bureau to the civilian noninstitutional population concept of the CPS takes place in three steps. First, the population of children younger than 16 years is taken out of the total resident population. Then, the population of the Armed Forces, broken down into different age, sex, race, and ethnic categories, is subtracted. Finally, the institutional population is subtracted from the civilian population for all the different categories.<sup>10</sup>

The civilian noninstitutional population is expected to continue to grow at 0.9 percent annually during the 2006–16 projection period, reaching 250.6 million in 2016. (See table 2.) This rate of growth is slower than the 1.3 percent posted during the previous decade.

The men's civilian noninstitutional population stood at 110.6 million in 2006 and is projected to reach 121.5 million in 2016. The women's civilian noninstitutional population was 118.2 million in 2006 and is expected to be 129.1 million in 2016.

The Census Bureau's projection of the resident population is based on the current size and composition of the population and on assumptions about future fertility, life expectancy, and net international migration. From the interplay among these components, different rates of population growth lead to different rates of labor force growth.

**Table 2. Civilian noninstitutional population, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	Level				Change			Annual growth rate (percent)			Percent distribution			
	1986	1996	2006	2016	1986-96	1996-2006	2006-16	1986-96	1996-2006	2006-16	1986	1996	2006	2016
Total, 16 years and older.....	180,587	200,591	228,815	250,597	20,004	28,224	21,782	1.1	1.3	0.9	100.0	100.0	100.0	100.0
16 to 24.....	34,065	32,343	36,943	36,539	-1,722	4,600	-404	-5	1.3	-1	18.9	16.1	16.1	14.6
16 to 19.....	14,496	14,934	16,678	15,717	438	1,744	-961	.3	1.1	-6	8.0	7.4	7.3	6.3
20 to 24.....	19,569	17,409	20,265	20,822	-2,160	2,856	557	-1.2	1.5	.3	10.8	8.7	8.9	8.3
25 to 54.....	97,013	115,505	124,884	126,806	18,492	9,379	1,922	1.8	.8	.2	53.7	57.6	54.6	50.6
25 to 34.....	41,731	40,252	39,230	43,684	-1,479	-1,022	4,454	-4	-3	1.1	23.1	20.1	17.1	17.4
35 to 44.....	32,550	43,086	42,753	40,401	10,536	-333	-2,352	2.8	-1	-6	18.0	21.5	18.7	16.1
45 to 54.....	22,732	32,167	42,901	42,721	9,435	10,734	-180	3.5	2.9	.0	12.6	16.0	18.7	17.0
55 and older.....	49,508	52,741	66,988	87,250	3,233	14,247	20,262	.6	2.4	2.7	27.4	26.3	29.3	34.8
55 to 64.....	22,011	20,990	31,375	40,893	-1,021	10,385	9,518	-5	4.1	2.7	12.2	10.5	13.7	16.3
65 to 74.....	17,039	18,244	18,685	27,371	1,205	441	8,686	.7	.2	3.9	9.4	9.1	8.2	10.9
75 and older....	10,458	13,507	16,928	18,986	3,049	3,421	2,058	2.6	2.3	1.2	5.8	6.7	7.4	7.6
Men, 16 years and older.....	85,798	96,206	110,605	121,454	10,408	14,399	10,849	1.2	1.4	.9	47.5	48.0	48.3	48.5
16 to 24.....	16,773	16,210	18,650	18,419	-563	2,440	-231	-3	1.4	-1	9.3	8.1	8.2	7.4
16 to 19.....	7,275	7,600	8,459	7,951	325	859	-508	.4	1.1	-6	4.0	3.8	3.7	3.2
20 to 24.....	9,498	8,611	10,191	10,467	-887	1,580	276	-1.0	1.7	.3	5.3	4.3	4.5	4.2
25 to 54.....	47,342	56,671	61,640	62,937	9,329	4,969	1,297	1.8	.8	.2	26.2	28.3	26.9	25.1
25 to 34.....	20,498	19,775	19,568	21,859	-723	-207	2,291	-4	-1	1.1	11.4	9.9	8.6	8.7
35 to 44.....	15,858	21,222	21,082	20,044	5,364	-140	-1,038	3.0	-1	-5	8.8	10.6	9.2	8.0
45 to 54.....	10,986	15,674	20,991	21,034	4,688	5,317	43	3.6	3.0	.0	6.1	7.8	9.2	8.4
55 and older.....	21,683	23,325	30,315	40,098	1,642	6,990	9,783	.7	2.7	2.8	12.0	11.6	13.2	16.0
55 to 64.....	10,336	9,997	15,095	19,767	-339	5,098	4,672	-3	4.2	2.7	5.7	5.0	6.6	7.9
65 to 74.....	7,490	8,194	8,574	12,686	704	380	4,112	.9	.5	4.0	4.1	4.1	3.7	5.1
75 and older....	3,857	5,134	6,646	7,645	1,277	1,512	999	2.9	2.6	1.4	2.1	2.6	2.9	3.1
Women, 16 years and older.....	94,789	104,385	118,210	129,143	9,596	13,825	10,933	1.0	1.3	.9	52.5	52.0	51.7	51.5
16 to 24.....	17,293	16,132	18,292	18,122	-1,161	2,160	-170	-7	1.3	-1	9.6	8.0	8.0	7.2
16 to 19.....	7,221	7,335	8,218	7,766	114	883	-452	.2	1.1	-6	4.0	3.7	3.6	3.1
20 to 24.....	10,072	8,798	10,074	10,356	-1,274	1,276	282	-1.3	1.4	.3	5.6	4.4	4.4	4.1
25 to 54.....	49,671	58,835	63,243	63,869	9,164	4,408	626	1.7	.7	.1	27.5	29.3	27.6	25.5
25 to 34.....	21,233	20,477	19,662	21,825	-756	-815	2,163	-4	-4	1.0	11.8	10.2	8.6	8.7
35 to 44.....	16,692	21,865	21,671	20,357	5,173	-194	-1,314	2.7	-1	-6	9.2	10.9	9.5	8.1
45 to 54.....	11,746	16,493	21,910	21,687	4,747	5,417	-223	3.5	2.9	-1	6.5	8.2	9.6	8.7
55 and older.....	27,825	29,418	36,675	47,152	1,593	7,257	10,477	.6	2.2	2.5	15.4	14.7	16.0	18.8
55 to 64.....	11,675	10,993	16,280	21,126	-682	5,287	4,846	-6	4.0	2.6	6.5	5.5	7.1	8.4
65 to 74.....	9,482	10,050	10,111	14,686	568	61	4,575	.6	.1	3.8	5.3	5.0	4.4	5.9
75 and older....	6,668	8,375	10,284	11,340	1,707	1,909	1,056	2.3	2.1	1.0	3.7	4.2	4.5	4.5
White, 16 years and older.....	155,432	168,317	186,264	199,493	12,885	17,947	13,229	.8	1.0	.7	86.1	83.9	81.4	79.6
Men.....	74,390	81,489	91,021	97,845	7,099	9,532	6,824	.9	1.1	.7	41.2	40.6	39.8	39.0
Women.....	81,042	86,828	95,243	101,648	5,786	8,415	6,405	.7	.9	.7	44.9	43.3	41.6	40.6
Black, 16 years and older.....	19,989	23,604	27,007	31,009	3,615	3,403	4,002	1.7	1.4	1.4	11.1	11.8	11.8	12.4
Men.....	8,956	10,575	12,130	14,044	1,619	1,555	1,914	1.7	1.4	1.5	5.0	5.3	5.3	5.6
Women.....	11,033	13,029	14,877	16,965	1,996	1,848	2,088	1.7	1.3	1.3	6.1	6.5	6.5	6.8
Asian, 16 years and older.....	5,166	8,671	10,155	13,268	3,505	1,484	3,113	5.3	1.6	2.7	2.9	4.3	4.4	5.3
Men.....	2,453	4,142	4,827	6,210	1,689	685	1,383	5.4	1.5	2.6	1.4	2.1	2.1	2.5
Women.....	2,713	4,529	5,328	7,058	1,816	799	1,730	5.3	1.6	2.9	1.5	2.3	2.3	2.8
All other groups <sup>1</sup> .	-	-	5,389	6,826	-	-	1,437	-	-	2.4	-	-	2.4	2.7
Men.....	-	-	2,627	3,472	-	-	845	-	-	2.8	-	-	1.1	1.4
Women.....	-	-	2,762	3,354	-	-	592	-	-	2.0	-	-	1.2	1.3

See footnote at end of table.

**Table 2. Continued—Civilian noninstitutional population, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	Level				Change			Annual growth rate (percent)			Percent distribution			
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16	1986	1996	2006	2016
Hispanic origin, 16 years and older.....	12,344	19,213	30,103	39,169	6,869	10,890	9,066	4.5	4.6	2.7	6.8	9.6	13.2	15.6
Men.....	6,105	9,604	15,473	19,995	3,499	5,869	4,522	4.6	4.9	2.6	3.4	4.8	6.8	8.0
Women.....	6,238	9,610	14,630	19,174	3,372	5,020	4,544	4.4	4.3	2.7	3.5	4.8	6.4	7.7
Other than Hispanic origin, 16 years and older.....	168,243	181,378	198,712	211,428	13,135	17,334	12,716	.8	.9	.6	93.2	90.4	86.8	84.4
Men.....	79,693	86,602	95,132	101,459	6,909	8,530	6,327	.8	.9	.6	44.1	43.2	41.6	40.5
Women.....	88,551	94,775	103,580	109,969	6,224	8,805	6,389	.7	.9	.6	49.0	47.2	45.3	43.9
White non-Hispanic, 16 years and older.....	143,566	150,024	158,308	163,224	6,458	8,284	4,916	.4	.5	.3	79.5	74.8	69.2	65.1
Men.....	68,587	72,319	76,597	79,267	3,732	4,278	2,670	.5	.6	.3	38.0	36.1	33.5	31.6
Women.....	74,980	77,706	81,711	83,957	2,726	4,005	2,246	.4	.5	.3	41.5	38.7	35.7	33.5
Age of baby boomers.....	22 to 40	32 to 50	42 to 60	52 to 70	...	...	...	...	...	...	...	...	...	...

<sup>1</sup> The "All other groups" category includes (1) those classified as being of multiple racial origin and (2) the race categories of (2a) American Indian and Alaska Native and (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

*Fertility.* Of the three factors affecting population growth, the fertility rate has the most significant impact on long-term population growth. However, as regards the 2006–16 labor force projection, it is not the fertility rate itself, but the *consequence of past* fertility rates, that has the most impact on labor force growth. The fertility rate is the average total number of children a woman will have in the future. In the Census Bureau projections, the level of child bearing is assumed to remain close to the present level, near the replacement rate of 2.1, with differences by race and ethnic origin diminishing over time. Compared with other developed countries, the United States has a high fertility rate, which can be partly explained by the number of young immigrants entering the country.

*Mortality.* The Census Bureau projection of mortality is based on the average number of years a child born in a given year can expect to live. The mortality rate is projected to decline gradually from 2006 to 2016, with less variation by race and Hispanic origin than at present.

*Immigration.* International migration has played a vital role in the composition and size of the U.S. population. Of all the assumptions about the future growth of the population, assumptions about migration affect the size and composition of the future population the most. Because they are greatly affected by public policy, these assumptions are also the most uncertain of all.<sup>11</sup> Immigration has had a significant impact on the demographic composition of the population over the past decades and will likely continue to do so in the future. The rapid growth of some of the racial and ethnic groups, such as Hispanics, will increase their share of the population. Over the 2006–16 period, overall net migration is expected to account for a sizable proportion of the net U.S. population growth.

*Historic and future trends.* Beginning in the 20th century, several key demographic events had major impacts on the size, composition, and growth of the population:

- *High fertility rates and high immigration*, the latter

mainly from Europe, prior to the 1920s.

- The “*birth dearth*” of the late 1920s and early 1930s.
- The “*baby boom*,” a period of high birthrates starting in 1946 and lasting until 1964.
- The “*baby bust*,” reflecting a decline in birthrates after 1965 and through the 1970s.
- The “*baby-boom echo*,” reflecting a modest increase in births from the late 1970s through the early 1990s.
- *Immigration to the United States*, which increased substantially in the 1970s and is continuing today. The rise in the immigrant population has resulted in higher growth rates for the U.S. population. Also, because children born to immigrants in the United States are, by definition, natives, immigration has resulted in increased fertility rates for specific groups, again adding to the growth of the population.

As a result of declining fertility rates, increasing life expectancies, and longer and healthier lives, the population is getting older. The older age groups are projected to make up an increasing share of the population in the next decade.

Those aged 16 to 24 years represented 16.1 percent of the civilian noninstitutional population in 2006 and are projected to represent 14.6 percent of that population in 2016. The prime-aged population constituted 54.6 percent of the civilian noninstitutional population in 2006 and is projected to decrease to 50.6 percent in 2016. The older population increased its relative share of the civilian noninstitutional population from 26.3 percent in 1996 to 29.3 percent in 2006. The BLS projects that this group will account for nearly 35.0 percent of the civilian noninstitutional population in 2016. The 55- to 64-year age group is expected to increase its share to more than 16.0 percent during the next decade, a share comparable to that held by 16- to 24-year-olds in the 2006 civilian noninstitutional population. The 65- to 74-year age group is projected to increase its share to nearly 11 percent of the total civilian noninstitutional population in 2016.

The 55-years-and-older age group will likely be the fastest-growing segment of the population, with a projected annual growth rate of 2.7 percent during the next decade. The fastest-growing age group within this category will likely be the 65- to 74-year-olds, with a projected growth rate of nearly 4.0 percent per year, followed by

the 55- to 64-year-olds, with an anticipated 2.7-percent annual growth rate. In 2016, baby boomers will be mostly out of the prime age group and will be between 52 and 70 years old.

Since the passage of the Immigration and Naturalization Act of 1965, immigration has been the major source of racial and ethnic diversity in the U.S. population. Hispanics and Asians have seen their shares of the population increase through immigration in the past several decades. These two groups, which have grown the fastest in the past, are projected to continue to grow at higher rates over the next 10 years. Much as in 2004–14, the growth rates of these groups are expected to be much faster than the rates for white non-Hispanics. Over the 2006–16 decade, the Asian and Hispanic civilian noninstitutional populations are each anticipated to grow at an annual rate of 2.7 percent. The black civilian noninstitutional population is projected to grow at an annual rate of 1.4 percent, while the white non-Hispanic population is expected to trail, with a projected annual growth rate of 0.3 percent.

### Labor force participation rates

The aggregate labor force participation rate is the weighted sum of all the age-specific rates, in which the weights are the population distributions of each group. At 67.1 percent, the aggregate participation rate of the labor force was highest between 1997 and 2000. Every year after 2000, the rate declined gradually, from 66.8 percent in 2001 to 66.0 percent in 2004 and 2005. In 2006, it edged up by 0.2 percent. According to BLS projections, the overall participation rate will continue its gradual decrease, reaching 65.5 percent in 2016. (See table 3.)

Age, sex, race, and ethnicity are among the main factors responsible for the changes in the labor force participation rate. The remainder of this section discusses each in turn.

*Participation rate by age: youths (16 to 24 years).* The youth labor market consists of teenagers and young adults, two groups that have experienced different labor force participation rates in the past. In one respect, however, both groups are the same: the long-term trends in their participation rates have been on a continual decline.

The 16- to 24-year age group had a participation rate of 68.6 percent in 1986. The rate decreased by 3.1 percentage points, to 65.5, by 1996. Ten years later, in 2006, it again declined, this time by nearly 5 percentage points, to 60.6 percent.

Among youths, the 16- to 19-year age group’s participation rate declined from 52.3 percent in 1996 to 43.7

**Table 3. Civilian labor force participation rates, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[In percent]

Group	Participation rate				Percentage-point change			Annual growth rate		
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16
Total, 16 years and older.....	65.3	66.8	66.2	65.5	1.5	-0.6	-0.7	0.2	-0.1	-0.1
16 to 24.....	68.6	65.5	60.6	57.1	-3.1	-4.9	-3.5	-5	-8	-6
16 to 19.....	54.7	52.3	43.7	37.5	-2.4	-8.6	-6.2	-4	-1.8	-1.5
20 to 24.....	78.9	76.8	74.6	71.8	-2.1	-2.2	-2.8	-3	-3	-4
25 to 54.....	82.0	83.8	82.9	83.6	1.8	-9	.7	.2	-1	.1
25 to 34.....	82.9	84.1	83.0	85.4	1.2	-1.1	2.4	.1	-1	.3
35 to 44.....	83.7	84.6	83.8	83.3	.9	-8	-5	.1	-1	-1
45 to 54.....	78.0	82.1	81.9	82.1	4.1	-2	.2	.5	.0	.0
55 and older.....	30.1	30.3	38.0	42.8	.2	7.7	4.8	.1	2.3	1.2
55 to 64.....	54.0	57.9	63.7	66.7	3.9	5.8	3.0	.7	1.0	.5
65 to 74.....	15.2	17.5	23.6	29.5	2.3	6.1	5.9	1.4	3.0	2.3
75 and older.....	4.0	4.7	6.4	10.5	.7	1.7	4.1	1.6	3.1	5.1
Men, 16 years and older.....	76.3	74.9	73.5	72.3	-1.4	-1.4	-1.2	-2	-2	-2
16 to 24.....	73.0	68.8	63.3	59.3	-4.2	-5.5	-4.0	-6	-8	-7
16 to 19.....	56.4	53.2	43.7	36.8	-3.2	-9.5	-6.9	-6	-1.9	-1.7
20 to 24.....	85.8	82.5	79.6	76.4	-3.3	-2.9	-3.2	-4	-4	-4
25 to 54.....	93.8	91.8	90.6	91.3	-2.0	-1.2	.7	-2	-1	.1
25 to 34.....	94.6	93.2	91.7	95.7	-1.4	-1.5	4.0	-1	-2	.4
35 to 44.....	94.8	92.4	92.1	91.7	-2.4	-3	-4	-3	.0	.0
45 to 54.....	91.0	89.1	88.1	86.6	-1.9	-1.0	-1.5	-2	-1	-2
55 and older.....	40.4	38.3	44.9	48.3	-2.1	6.6	3.4	-5	1.6	.7
55 to 64.....	67.3	67.0	69.6	70.1	-.3	2.6	.5	.0	.4	.1
65 to 74.....	20.5	22.9	28.8	34.6	2.4	5.9	5.8	1.1	2.3	1.8
75 and older.....	6.7	7.3	9.5	14.7	.6	2.2	5.2	.9	2.7	4.5
Women, 16 years and older.....	55.3	59.3	59.4	59.2	4.0	.1	-2	.7	.0	.0
16 to 24.....	64.3	62.2	57.9	54.8	-2.1	-4.3	-3.1	-3	-7	-5
16 to 19.....	53.0	51.3	43.7	38.3	-1.7	-7.6	-5.4	-3	-1.6	-1.3
20 to 24.....	72.4	71.3	69.5	67.2	-1.1	-1.8	-2.3	-2	-3	-3
25 to 54.....	70.8	76.1	75.5	76.0	5.3	-6	.5	.7	-1	.1
25 to 34.....	71.6	75.2	74.4	75.0	3.6	-8	.6	.5	-1	.1
35 to 44.....	73.1	77.5	75.9	75.1	4.4	-1.6	-8	.6	-2	-1
45 to 54.....	65.9	75.4	76.0	77.8	9.5	.6	1.8	1.4	.1	.2
55 and older.....	22.1	23.9	32.3	38.1	1.8	8.4	5.8	.8	3.1	1.7
55 to 64.....	42.3	49.6	58.2	63.5	7.3	8.6	5.3	1.6	1.6	.9
65 to 74.....	11.0	13.1	19.2	25.1	2.1	6.1	5.9	1.8	3.9	2.7
75 and older.....	2.4	3.1	4.4	7.6	.7	1.3	3.2	2.6	3.6	5.7
White, 16 years and older.....	65.5	67.2	66.3	65.5	1.7	-9	-8	.3	-1	-1
Men.....	76.9	75.8	74.1	72.9	-1.1	-1.7	-1.2	-1	-2	-2
Women.....	55.0	59.1	58.9	58.4	4.1	-2	-5	.7	.0	-1
Black, 16 years and older.....	63.3	64.1	63.8	64.9	.8	-3	1.1	.1	.0	.2
Men.....	71.2	68.7	66.7	67.1	-2.5	-2.0	.4	-4	-3	.1
Women.....	56.9	60.4	61.5	63.1	3.5	1.1	1.6	.6	.2	.3
Asian, 16 years and older.....	65.5	65.8	65.9	65.9	.3	.1	.0	.0	.0	.0
Men.....	75.0	73.4	75.0	74.1	-1.6	1.6	-9	-2	.2	-1
Women.....	57.0	58.8	57.6	58.7	1.8	-1.2	1.1	.3	-2	.2
All other race groups <sup>1</sup> .....	-	-	67.0	68.9	-	-	1.9	-	-	.3
Men.....	-	-	74.0	71.4	-	-	-2.6	-	-	-4
Women.....	-	-	60.3	66.4	-	-	6.1	-	-	1.0
Hispanic origin, 16 years and older.....	65.4	66.5	68.6	68.6	1.1	2.1	.0	.2	.3	.0
Men.....	81.0	79.6	80.4	79.0	-1.4	.8	-1.4	-2	.1	-2
Women.....	50.1	53.4	56.1	57.8	3.3	2.7	1.7	.6	.5	.3
Other than Hispanic origin, 16 years and older.....	65.2	66.8	65.8	65.0	1.6	-1.0	-8	.2	-2	-1
Men.....	75.9	74.4	72.3	70.9	-1.5	-2.1	-1.3	-2	-3	-2
Women.....	55.7	59.9	59.8	59.4	4.2	.0	-4	.7	.0	-1
White non-Hispanic, 16 years and older.....	65.5	67.3	65.9	65.0	1.8	-1.4	-9	.3	-2	-1
Men.....	76.5	75.3	73.0	71.6	-1.2	-2.3	-1.4	-2	-3	-2
Women.....	55.4	59.8	59.3	58.8	4.4	-5	-5	.8	-1	-1

<sup>1</sup> The "All other groups" category includes (1) those classified as being of multiple racial origin and (2) the race categories of (2a)

American Indian and Alaska Native and (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

percent in 2006, a considerable decrease of 8.6 percentage points. The rate for 20- to 24-year-olds also declined, but not as sharply, moving from 76.8 percent in 1996 to 74.6 percent in 2006. The difference in the two groups' rates of nearly 31 percentage points in 2006 was the result of differing shares of those enrolled in school and those not enrolled in school.

Two factors have played a major role in youths' falling labor force participation rates. First, increasing school attendance at all levels, especially secondary schools and colleges, has resulted in decreases in the participation rate of the student portion of the youth population.<sup>12</sup> Second, business cycle downturns have contributed to the declining participation rate of the *nonstudent* segment of the youth labor force. In general, having too little experience makes youths vulnerable during recessions, and they usually are the first group to be fired and the last to be hired.

The BLS projects that the downward trend in the participation rates of 16- to 19-year-olds and 20- to 24-year-olds will continue. As a result, the participation rate of the former group is expected to decline further, to 37.5 percent, and the participation rate of the latter group is anticipated to decline as well, to 71.8 percent. Because of these declining rates, the participation rate of the overall group of 16- to 24-year-olds is projected to decrease to 57.1 percent in 2016.

*Participation rate by age: prime-aged workers (25 to 54 years).* Historically, all age groups within the prime-working-age group have the strongest attachment to the labor market. Over the 1986–2006 period, the overall labor force participation rate of this group fluctuated between a low of 82 percent and a high of nearly 84 percent. This trend is projected to continue, with the rate standing at an expected 83.6 percent in 2016. The most active age group in the prime-aged group is the 25- to 34-year-olds, whose participation rate was 83.0 percent in 2006 and is projected to increase to 85.4 percent in 2016.

Both men and women have contributed to the strong labor force participation rate of the prime-aged group in the past. The activity rate of 25-to 54-year-old men was 90.6 percent in 2006 and is projected to increase to 91.3 percent in 2016. The participation rate of 25-to 54-year-old women was 75.5 percent in 2006 and is expected to rise to 76.0 percent in the next decade.

*Participation rate by age: older age group (55 years and older).* This group is the only one among all the age groups that has experienced strong growth in its participation rate in the labor market during the last two decades.

The labor force participation rate of the group was relatively flat in the 1970s and much of the 1980s. By 1986, however, as well as in 1996, the activity rate of the group was about 30.0 percent. A decade later, in 2006, the rate was a significantly higher 38.0 percent. The BLS projects that the labor force participation rate of this age group will continue to exhibit strong growth, reaching nearly 42.8 percent in 2016. The two age groups of 65- to 74-year-olds and those 75 years and older had significantly strong growth in their participation rates during the 1996–2006 timeframe. Both subgroups are projected to continue to show a strong presence in the future labor force.

The increase in the participation rate of the mature worker can be traced to a number of reasons:

- Older individuals are leading healthier and much longer lives than in the past. Both the likelihood of working and the opportunity to work longer years increase with longer, healthier lives.
- Today's older individuals are more educated than their counterparts of the past. Higher education levels result in higher participation in the labor market.
- The trend away from defined benefit pension plans and toward defined contribution plans<sup>13</sup> acts as an incentive for the older workforce to stay in the labor market for longer intervals. Defined benefit pension plans encourage early retirement, before the plan's normal retirement age. By contrast, defined contribution plans are based on an individual's contribution, the employer's contribution, and the investment returns on those contributions. Also, defined contribution plans are indifferent to the worker's retirement age. Hence, workers have more of an incentive to remain working and continue contributing to those plans, putting off their retirement so that they can reap greater rewards in the future.
- In 2000, the full retirement age for Social Security benefits began a scheduled increase. The recent changes in Social Security laws delayed the eligible age for full retirement benefits for certain birth dates and decreased the benefits for early retirement. These changes are intended to discourage workers from retiring earlier and to encourage the continuation of their labor market activity.
- The high cost of health insurance and a decrease in health benefits, especially at older ages, has obliged

many mature workers to remain working in order to keep their employer-based health insurance or to go back to work after retirement in order to obtain health insurance through their work.<sup>14</sup>

In the 1970s and 1980s, the entry of young baby boomers into the labor market in large numbers and their subsequent staying on as prime-age workers made for rapid growth in the labor force. The retirement of older workers made room for the employment of these younger workers. Now, as the growth of the labor force slows, the increase in the labor force participation rate of older workers may keep labor force growth from slowing even further in the future.

*Participation rate by sex.* The participation rates of men and women have historically followed different trends. Until 1999, the men's participation rate was continually decreasing, while the women's rate was continually increasing. The men's rate was higher not only in the aggregate, but also for every detailed age group, up until 2006. That year, the labor force participation rates of 16- to 19-year-old men and women were the same: 43.7. The labor force participation of 16- to 19-year-old women is projected to surpass that of men of the same age by 2016.

*Men.* Continuing its decreasing trend, the men's participation rate registered 74.9 percent in 1996 and 73.5 percent in 2006. The rate is expected to decline further, to 72.3 percent in 2016. (See chart 1.)

Men 16 to 24 years old also experienced significant reductions in their participation rates, from 68.8 percent in 1996 to 63.3 percent in 2006. The rate for this group of men is expected to decline yet further, to 59.3 percent by 2016.

The participation rate of 25- to 54-year-old men has been relatively flat, registering 91.8 percent in 1996 and 90.6 percent in 2006. The rate is projected to increase to 91.3 percent in 2016.

The participation rate of men 55 years and older has been accelerating since 1998. In 1996, their rate stood at 38.3 percent. Over the next 10 years, it increased by 6.6 percentage points, to 44.9 percent in 2006. The rate is expected to continue increasing, until it reaches 48.3 percent in 2016.

*Women.* Continuing its historical increase, the labor force participation rate of women registered 55.3 percent in 1986, 59.3 percent in 1996, and 59.4 percent in 2006. The trend, however, appears to have reached its peak, and the rapid

increase of the 1970–90 era is over. The rate is projected to fall slightly, to 59.2 percent in 2016. (See chart 2.)

Women 16 to 24 years old had a labor force participation rate of 64.3 percent in 1986. The rate fell to 62.2 percent in 1996 and then to 57.9 percent in 2006. This decline is projected to continue, so that, in 2016, the rate is anticipated to be 54.8 percent.

Women aged 25 to 54 years experienced a slight decrease in their labor force participation rate, from 76.1 percent in 1996 to 75.5 percent in 2006. The rate is projected to be 76.0 percent in 2016.

The only statistically significant change in the participation rate of women occurred among those 55 years and older. The participation rate of this age group was 22.1 percent in 1986 and 23.9 percent in 1996. Then, over the next decade, it rose by 8.4 percentage points, registering 32.3 percent in 2006. This rapid increase is projected to continue, but at a lesser pace of 5.8 percentage points, from 2006 to 2016, reaching 38.1 percent the latter year.

Since the seventies, the strong expansion of the labor force participation rate of women has compensated for the declining activity rate of men, pushing the overall labor force participation rate upward on an increasing trend. The women's participation rate having reached its peak is another reason that the overall labor force participation rate is expected to decline gradually in the future.

*Participation rate by race and Hispanic origin.* The change in the labor force participation rate over the past couple of decades has been different among the various race groups, as well as for the Hispanic ethnic group.

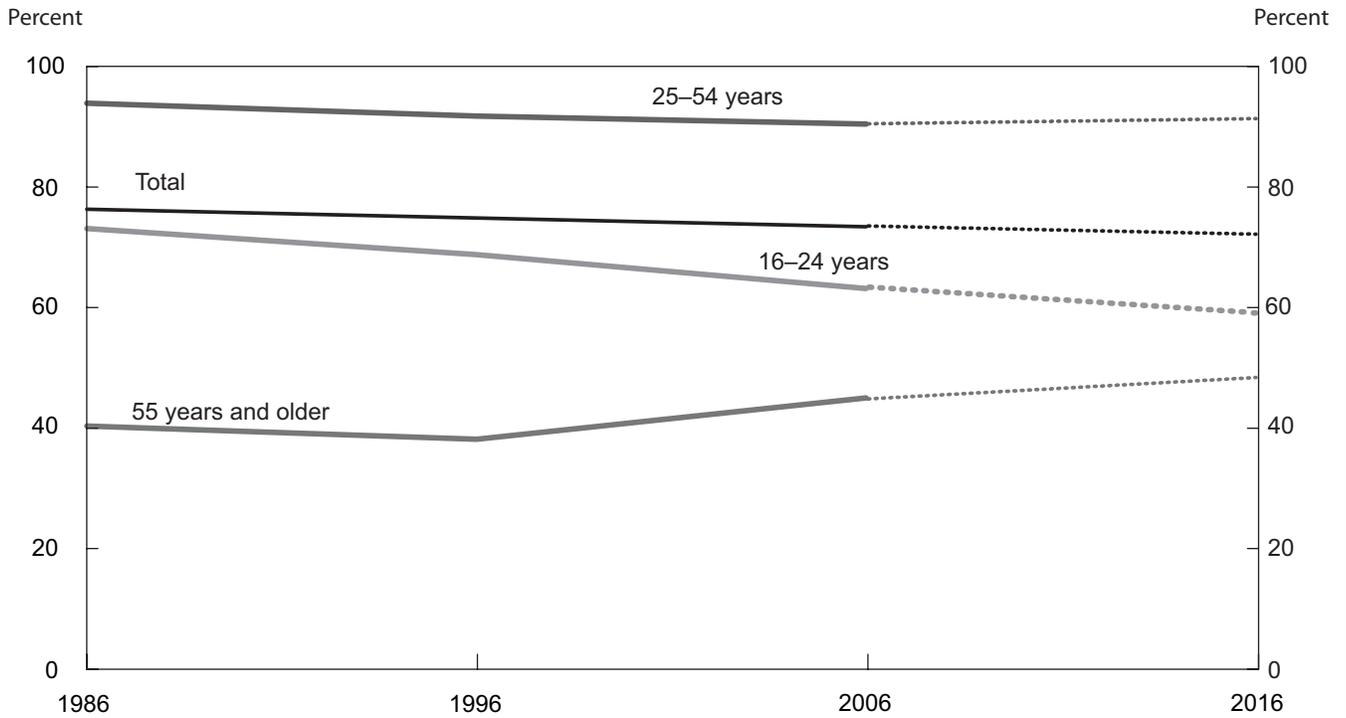
*Whites.* Among whites, the labor force participation rate increased by 1.7 percentage points from 1986, reaching 67.2 percent in 1996. By 2006, the rate had fallen to 66.3 percent. The rate is projected to decrease further, to 65.5 percent in 2016, the same as it was in 1986.

*Blacks.* The labor force participation rate of blacks, which was 63.3 percent in 1986, rose to 64.1 percent in 1996. By 2006, it had decreased to 63.8 percent. BLS projects that the rate will increase during the next decade, reaching 64.9 percent in 2016.

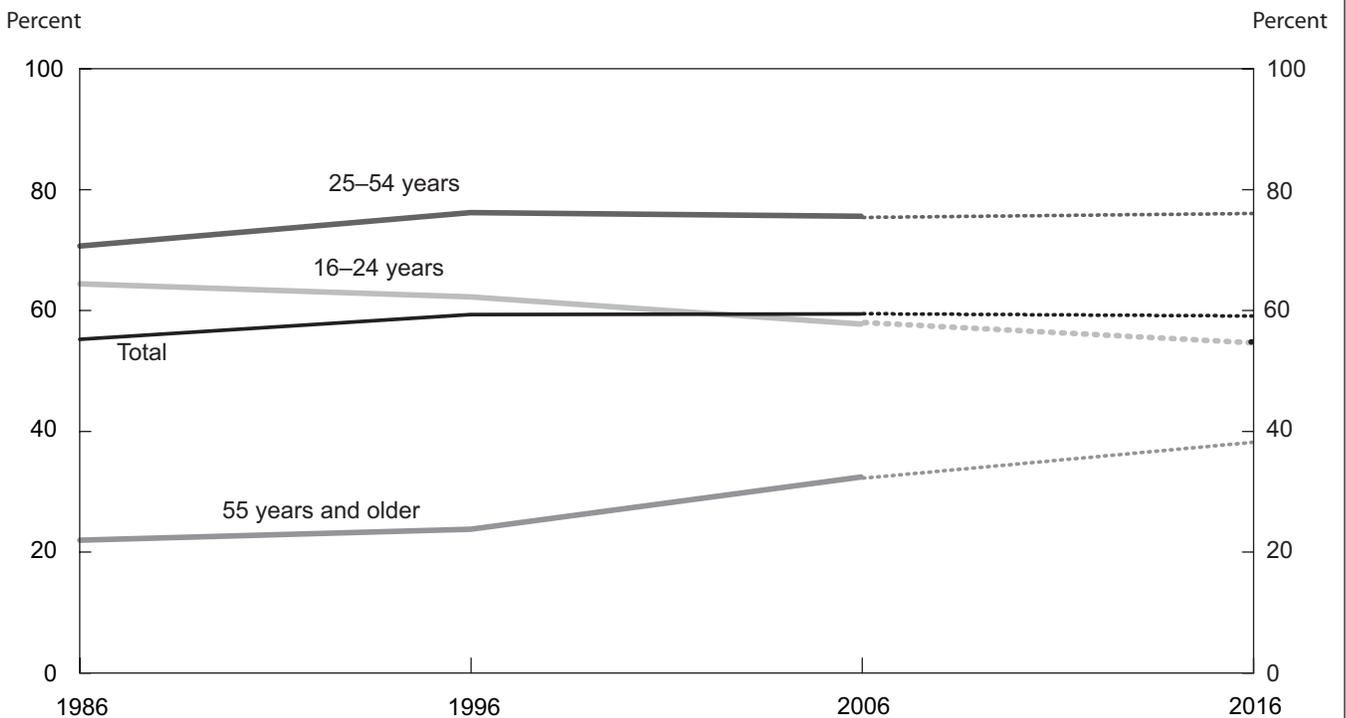
*Asians.* The labor force participation rate of Asians was 65.5 percent in 1986, the same as that for whites. The rate increased to 65.9 percent in 2006, and BLS projects that it will be the same in 2016.

*White non-Hispanics.* Among white non-Hispanics, the

**Chart 1. Labor force participation rates of men, 1986–2006 and projected 2016**



**Chart 2. Labor force participation rates of women, 1986–2006 and projected 2016**



labor force participation rate, 65.5 percent in 1986, increased by 1.8 percentage points and reached 67.3 percent in 1996. By 2006, the white non-Hispanic labor force participation rate had fallen to 65.9 percent. The rate of this group is projected to decline further, to 65.0 percent in 2016.

*Hispanics.* From 1986 to 2006, Hispanics experienced the largest increase in their labor force participation rate. At 65.4 percent in 1986, the rate increased by a significant 1.1 percentage points, to 66.5 percent in 1996. Then, during the 1996–2006 period, Hispanics increased their participation rate by another 2.1 percentage points, to 68.6 percent. The labor force participation rate of Hispanics is projected to continue to be strong over the next decade.

Among the different racial and ethnic groups, Hispanics will have one of the highest labor force participation rates in 2016. Large numbers of immigrants coming to the United States today and into the foreseeable future are Hispanics. Because immigrants generally come in search of better job opportunities and higher wages, they have high labor force participation rates. Both factors—the huge numbers of Hispanics entering the country in search of better and higher paying jobs and their higher participation rates—make for a higher growth rate of the Hispanic labor force in the 2006–16 decade.

### **Projected changes in the labor force**

In 1980, the baby boomers were between 16 and 34 years old and were entering the labor market in large numbers. As a result, the U.S. labor force experienced a significant annual growth rate of 1.3 percent during the 1986–96 decade. (See table 4.) In addition, over the same time span, the women's labor force participation rate expanded significantly, causing the overall participation rate, as well as the overall labor force, to rise dramatically. In the next decade, from 1996 to 2006, the annual growth rate of the labor force declined to 1.2 percent. BLS labor force projections point to a significantly lower labor force growth of 0.8 percent per year for the 2006–16 period.

Labor force growth is derived from a combination of changes in the overall labor force participation rate and changes in population. As a result of the aging of the population, population growth has slowed down in the past decade. In addition, the labor force participation rate has decreased in recent years. The result is that, although the rate of growth of the population for the 2006–16 period is projected to be 0.9 percent, because of the decrease in the labor force participation rate, the labor force is projected

to grow at a slower rate (0.8 percent) than the working-age population.

The labor force increased from 117.8 million in 1986 to 133.9 million in 1996, an increase of 16.1 million. During the 1996–2006 period, the labor force rose by another 17.5 million, reaching 151.4 million in 2006. Over the next 10 years, on the basis of population projections from the Census Bureau, it is expected that the workforce will increase by nearly 13 million, to reach 164.2 million in 2016.

*Age.* The youth labor force declined from 23.4 million in 1986 to 22.4 million in 2006. The BLS projects that, by 2016, the youth labor force will decrease further, to 20.9 million, a level much lower than any registered at any time during the previous three decades.

The prime-aged labor force was 79.6 million in 1986 and 96.8 million in 1996, an increase of more than 17 million. Over the 1996–2016 period, 6.8 million workers were added to this group, for a total of 103.6 million. It is projected that over the next decade the prime-aged labor force will increase by 2.5 million more, reaching 106.0 million. This age group's share of the total labor force has been on a declining trend since 1996. Prime-aged workers accounted for 72.3 percent of the labor force in 1996 and 68.4 percent in 2006; their share is projected to decrease to 64.6 percent in 2016. The annual growth rate of the group is expected to be 0.2 percent during the next decade.

As a result of the relatively rapid growth of the older population and considerable increases in their labor force participation rates, the labor force of the 55-years-and-older age group has been growing significantly in the past two decades. The labor force will continue to age, with the number of workers in the 55-years-and-older group projected to grow by 46.7 percentage points, more than 5 times the 8.5-percent-age-point growth projected for the overall labor force. The number of workers in the older age group is anticipated to grow by nearly 12 million during the 2006–16 period, the fastest growth among all age groups and an increase representing a 3.9-percent annual growth rate.

Within the 55-years-and-older group, 55- to 64-year-olds are expected to add 7.3 million workers to their numbers during the 2006–16 decade. Nearly 20 million in the 2006 labor force, they are projected to number more than 27 million in the labor force of 2016. As a result, the annual labor force growth rate of this age group will be 3.2 percent over the next decade. Similarly growing, the 65- to 74-year age group is expected to increase its number in the labor force from 4.4 million in 2006 to more than 8.0

**Table 4. Civilian labor force, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	Level				Change			Percent change			Annual growth rate (percent)			Percent distribution			
	1986	1996	2006	2016	1986-96	1996-2006	2006-16	1986-96	1996-2006	2006-16	1986-96	1996-2006	2006-16	1986	1996	2006	2016
Total, 16 years and older.....	117,834	133,943	151,428	164,232	16,109	17,485	12,804	13.7	13.1	8.5	1.3	1.2	0.8	100.0	100.0	100.0	100.0
16 to 24.....	23,367	21,183	22,394	20,852	-2,184	1,211	-1,542	-9.3	5.7	-6.9	-1.0	.6	-.7	19.8	15.8	14.8	12.7
16 to 19..	7,926	7,806	7,281	5,896	-120	-525	-1,385	-1.5	-6.7	-19.0	-2	-7	-2.1	6.7	5.8	4.8	3.6
20 to 24..	15,441	13,377	15,113	14,955	-2,064	1,736	-158	-13.4	13.0	-1.0	-1.4	1.2	-.1	13.1	10.0	10.0	9.1
25 to 54....	79,563	96,786	103,566	106,026	17,223	6,780	2,460	21.6	7.0	2.4	2.0	.7	.2	67.5	72.3	68.4	64.6
25 to 34...	34,591	33,833	32,573	37,289	-758	-1,260	4,716	-2.2	-3.7	14.5	-2	-4	1.4	29.4	25.3	21.5	22.7
35 to 44..	27,232	36,556	35,848	33,654	9,324	-708	-2,194	34.2	-1.9	-6.1	3.0	-2	-6	23.1	27.3	23.7	20.5
45 to 54..	17,739	26,397	35,146	35,083	8,658	8,749	-63	48.8	33.1	-2	4.1	2.9	.0	15.1	19.7	23.2	21.4
55 and older.....	14,904	15,974	25,468	37,354	1,070	9,494	11,886	7.2	59.4	46.7	.7	4.8	3.9	12.6	11.9	16.8	22.7
55 to 64..	11,894	12,146	19,984	27,288	252	7,838	7,304	2.1	64.5	36.5	.2	5.1	3.2	10.1	9.1	13.2	16.6
65 to 74..	2,594	3,194	4,404	8,076	600	1,210	3,672	23.1	37.9	83.4	2.1	3.3	6.3	2.2	2.4	2.9	4.9
75 and older.....	417	634	1,080	1,990	217	446	910	52.0	70.3	84.3	4.3	5.5	6.3	.4	.5	.7	1.2
Men, 16 years and older.....	65,422	72,087	81,255	87,781	6,665	9,168	6,526	10.2	12.7	8.0	1.0	1.2	.8	55.5	53.8	53.7	53.4
16 to 24.....	12,250	11,147	11,810	10,915	-1,103	663	-895	-9.0	5.9	-7.6	-9	.6	-.8	10.4	8.3	7.8	6.6
16 to 19..	4,102	4,043	3,693	2,923	-59	-350	-770	-1.4	-8.7	-20.9	-1	-9	-2.3	3.5	3.0	2.4	1.8
20 to 24..	8,148	7,104	8,116	7,992	-1,044	1,012	-124	-12.8	14.2	-1.5	-1.4	1.3	-.2	6.9	5.3	5.4	4.9
25 to 54....	44,406	51,999	55,840	57,491	7,593	3,841	1,651	17.1	7.4	3.0	1.6	.7	.3	37.7	38.8	36.9	35.0
25 to 34...	19,383	18,430	17,944	20,913	-953	-486	2,969	-4.9	-2.6	16.5	-5	-3	1.5	16.4	13.8	11.8	12.7
35 to 44..	15,029	19,602	19,407	18,373	4,573	-195	-1,034	30.4	-1.0	-5.3	2.7	-1	-5	12.8	14.6	12.8	11.2
45 to 54..	9,994	13,967	18,489	18,205	3,973	4,522	-284	39.8	32.4	-1.5	3.4	2.8	-.2	8.5	10.4	12.2	11.1
55 and older.....	8,765	8,941	13,605	19,376	176	4,664	5,771	2.0	52.2	42.4	.2	4.3	3.6	7.4	6.7	9.0	11.8
55 to 64..	6,954	6,693	10,509	13,865	-261	3,816	3,356	-3.8	57.0	31.9	-4	4.6	2.8	5.9	5.0	6.9	8.4
65 to 74..	1,552	1,872	2,466	4,387	320	594	1,921	20.6	31.7	77.9	1.9	2.8	5.9	1.3	1.4	1.6	2.7
75 and older.....	260	375	630	1,124	115	255	494	44.2	68.0	78.4	3.7	5.3	6.0	.2	.3	.4	.7
Women, 16 years and older.....	52,413	61,856	70,173	76,450	9,443	8,317	6,277	18.0	13.4	8.9	1.7	1.3	.9	44.5	46.2	46.3	46.6
16 to 24.....	11,117	10,036	10,584	9,937	-1,081	548	-647	-9.7	5.5	-6.1	-1.0	.5	-.6	9.4	7.5	7.0	6.1
16 to 19..	3,824	3,763	3,588	2,974	-61	-175	-614	-1.6	-4.7	-17.1	-.2	-5	-1.9	3.2	2.8	2.4	1.8
20 to 24..	7,293	6,273	6,997	6,963	-1,020	724	-34	-14.0	11.5	-5	-1.5	1.1	.0	6.2	4.7	4.6	4.2
25 to 54....	35,158	44,787	47,726	48,534	9,629	2,939	808	27.4	6.6	1.7	2.5	.6	.2	29.8	33.4	31.5	29.6
25 to 34...	15,208	15,403	14,628	16,376	195	-775	1,748	1.3	-5.0	11.9	.1	-5	1.1	12.9	11.5	9.7	10.0
35 to 44..	12,204	16,954	16,441	15,281	4,750	-513	-1,160	38.9	-3.0	-7.1	3.3	-3	-7	10.4	12.7	10.9	9.3
45 to 54..	7,746	12,430	16,656	16,877	4,684	4,226	221	60.5	34.0	1.3	4.8	3.0	.1	6.6	9.3	11.0	10.3
55 and older.....	6,139	7,033	11,863	17,979	894	4,830	6,116	14.6	68.7	51.6	1.4	5.4	4.2	5.2	5.3	7.8	10.9
55 to 64..	4,940	5,452	9,475	13,423	512	4,023	3,948	10.4	73.8	41.7	1.0	5.7	3.5	4.2	4.1	6.3	8.2
65 to 74..	1,042	1,321	1,937	3,689	279	616	1,752	26.8	46.6	90.4	2.4	3.9	6.7	.9	1.0	1.3	2.2
75 and older.....	159	260	451	867	101	191	416	63.5	73.5	92.2	5.0	5.7	6.8	.1	.2	.3	.5
White.....	101,801	113,108	123,834	130,665	11,307	10,726	6,831	11.1	9.5	5.5	1.1	.9	.5	86.4	84.4	81.8	79.6
Men.....	57,217	61,783	67,613	71,283	4,566	5,830	3,670	8.0	9.4	5.4	.8	.9	.5	48.6	46.1	44.7	43.4
Women.....	44,584	51,325	56,221	59,382	6,741	4,896	3,161	15.1	9.5	5.6	1.4	.9	.5	37.8	38.3	37.1	36.2
Black.....	12,654	15,134	17,314	20,121	2,480	2,180	2,807	19.6	14.4	16.2	1.8	1.4	1.5	10.7	11.3	11.4	12.3
Men.....	6,373	7,264	8,128	9,420	891	864	1,292	14.0	11.9	15.9	1.3	1.1	1.5	5.4	5.4	5.4	5.7
Women.....	6,281	7,869	9,186	10,701	1,588	1,317	1,515	25.3	16.7	16.5	2.3	1.6	1.5	5.3	5.9	6.1	6.5

See footnote at end of table.

**Table 4. Continued—Civilian labor force, by age, sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	Level				Change			Percent change			Annual growth rate (percent)			Percent distribution			
	1986	1996	2006	2016	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16	1986–96	1996–2006	2006–16	1986	1996	2006	2016
Asian .....	3,379	5,701	6,727	8,741	2,322	1,026	2,014	68.7	18.0	29.9	5.4	1.7	2.7	2.9	4.3	4.4	5.3
Men .....	1,831	3,039	3,621	4,600	1,208	582	979	66.0	19.2	27.0	5.2	1.8	2.4	1.6	2.3	2.4	2.8
Women.....	1,548	2,662	3,106	4,141	1,114	444	1,035	72.0	16.7	33.3	5.6	1.6	2.9	1.3	2.0	2.1	2.5
All other groups <sup>1</sup> ....	–	–	3,553	4,705	–	–	1,152	–	–	32.4	–	–	2.8	–	–	2.3	2.9
Men .....	–	–	1,893	2,478	–	–	585	–	–	30.9	–	–	2.7	–	–	1.3	1.5
Women.....	–	–	1,660	2,227	–	–	567	–	–	34.2	–	–	3.0	–	–	1.1	1.4
Hispanic origin .....	8,076	12,774	20,694	26,889	4,698	7,920	6,195	58.2	62.0	29.9	4.7	4.9	2.7	6.9	9.5	13.7	16.4
Men .....	4,948	7,646	12,488	15,802	2,698	4,842	3,314	54.5	63.3	26.5	4.4	5.0	2.4	4.2	5.7	8.2	9.6
Women.....	3,128	5,128	8,206	11,087	2,000	3,078	2,881	63.9	60.0	35.1	5.1	4.8	3.1	2.7	3.8	5.4	6.8
Other than Hispanic origin .....	109,758	121,169	130,734	137,343	11,411	9,565	6,609	10.4	7.9	5.1	1.0	.8	.5	93.1	90.5	86.3	83.6
Men .....	60,474	64,441	68,767	71,979	3,967	4,326	3,212	6.6	6.7	4.7	.6	.7	.5	51.3	48.1	45.4	43.8
Women.....	49,285	56,728	61,967	65,363	7,443	5,239	3,396	15.1	9.2	5.5	1.4	.9	.5	41.8	42.4	40.9	39.8
White non-Hispanic ...	94,027	100,915	104,629	106,133	6,888	3,714	1,504	7.3	3.7	1.4	.7	.4	.1	79.8	75.3	69.1	64.6
Men .....	52,447	54,451	55,953	56,791	2,004	1,502	838	3.8	2.8	1.5	.4	.3	.1	44.5	40.7	37.0	34.6
Women.....	41,579	46,464	48,676	49,342	4,885	2,212	666	11.7	4.8	1.4	1.1	.5	.1	35.3	34.7	32.1	30.0

<sup>1</sup> The “All other groups” category includes (1) those classified as of being of multiple racial origin and (2) the race categories of

(2a) American Indian and Alaska Native and (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

million in 2016, due to significant increases in the group’s participation rates. The annual labor force growth rate of this age group will be 6.3 percent over the next decade. The 75-years-and-older labor force also is expected to grow at a significant annual growth rate of 6.3 percent, to a total of nearly 2 million in 2016.

*Sex.* The labor force of women grew much faster (at an annual rate of 1.7 percent) than that of men (1.0 percent) in the 1986–96 period. In the decade that followed, the growth rate of the women’s labor force declined substantially, to 1.3 percent, while the growth rate of the men’s labor force rose to 1.2 percent. The BLS projects that the labor force growth rate of women will be 0.9 percent in 2006–16, a figure slightly higher than that of men, which is expected to be 0.8 percent. The growth rate of the women’s labor force during the past three decades has greatly increased

the share of women in the labor force. The slight difference between the projected growth rates of men and women will result in the women’s share of the labor force rising to 46.6 percent, and the men’s share declining to 53.4 percent, from 2006 to 2016. This small difference also has contributed to a narrowing of the gender gap in both the labor force participation rate and overall labor force numbers.

*Race and ethnicity.* The growing labor force shares of Hispanics, Asians, blacks, and the category “all other groups” has been an important development of the past several decades. As a result of continued immigration, both the population and the labor force are expected to diversify further. The BLS projects a continuation of this trend during the next 10 years.

White non-Hispanics, who accounted for nearly 80 percent of the labor force in 1986 and 75 percent in 1996,

are projected to still be the largest group in 2016. However, their share is expected to fall to nearly 65 percent of the labor force that year. The white non-Hispanic labor force is anticipated to increase by 1.5 million over the 2006–16 period, reaching 106 million at the end of the decade.

Blacks, Hispanics, and Asians are projected to increase their labor force numbers at faster rates than White non-Hispanics and to constitute a larger share of the labor force in 2016. Asians are expected to be one of the fastest growing groups, with a 2.7-percent annual growth rate over the 2006–16 period. The Asian share of the labor force is projected to expand from 4.4 percent in 2006 to 5.3 percent in 2016. Still, their share of the total labor force is expected to remain the smallest among the four major race and ethnic groups.

The black share of the labor force is projected to expand from 11.4 percent in 2006 to 12.3 percent in 2016, representing an annual growth rate of 1.5 percent over the 2006–16 decade.

The Hispanic labor force grew at comparatively high annual growth rates of 4.7 percent during 1986–96 and 4.9 percent over the 1996–2006 period. Their share is expected to more than double, from nearly 7 percent of the labor force in 1986 to more than 16 percent in 2016. On the basis of the most recent immigration trends, the largest share of immigrants to the United States has been of Hispanic origin. Hispanics are projected to increase their numbers in the 2016 labor force by more than 6 million over the 2006 figure, so that by 2016 there will be nearly 27 million Hispanics in the labor force.

## Labor force dynamics

The labor force is expected to grow by nearly 13 million during the 2006–16 timeframe. This increase is based on dynamic changes that underlie the movement of workers into and out of the labor force. (See table 5.) The dynamics of labor force change from 2006 through 2016 emerge from three distinct groups—entrants, leavers, and stayers:

- Entrants are those who were not in the labor force in 2006, but who will enter during the period and will be in the labor force in 2016.
- Leavers are those who were in the labor force in 2006, but who will leave during the period and will not be in the labor force in 2016.
- Stayers are those who were in the labor force in 2006 and will remain in it through 2016.<sup>15</sup>

To the extent that the demographic composition of entrants and leavers between 2006 and 2016 is different from the composition of those now in the labor force, the 2016 labor force will be different from today's labor force. Thus, the labor force of 2016 may be regarded as consisting of the labor force of 2006, plus the entrants minus the leavers.

The BLS projects that, between 2006 and 2016, 37.3 million workers will enter the labor force and 24.2 million will leave. These figures compare with 35.8 million entrants and 19.6 million leavers over the 1996–2006 period. Therefore, in the 2006–16 period, about 1.5 million more people would be entering the labor force compared with the previous period. However, around 4.6 million more people are expected to leave the workforce in the 2006–16 period than left during the 1996–2006 period.

In the 1996–2006 period, 54.2 percent of the entrants were men and 45.8 percent women. This trend is expected to continue during the 2006–16 period as the number of men entering the labor force exceeds the number of women. The leavers are more likely to be men, because the men's labor force is older than the women's and more of the men are of retirement age. According to BLS projections, by the end of the 2006–16 decade, 20.4 million men will have joined, and nearly 14 million men will have left, the labor force, resulting in a labor force of nearly 88 million men in 2016. Similarly, nearly 17 million women will have joined, and 10.3 million women will have left, the labor force, resulting in a labor force of 76.5 million women in 2016, or a gain of 6.3 million since 2006.

*Race and Hispanic origin.* Of all entrants to the labor force during the 2006–16 period, nearly 56 percent are expected to be white non-Hispanics. This proportion is smaller than the group's share of the workforce in 2006 (69.1 percent), reflecting its lesser population growth and labor force growth. With 20.8 million white non-Hispanics entering the labor force and 19.2 million leaving during the same timeframe, white non-Hispanics' share of the labor force is projected to be 64.6 percent in 2016, a drop of 4.5 percentage points.

The slower growth reflects this demographic group's low migration rates to the United States and lower birthrates in the past several decades, compared with other population groups. The result is relatively fewer labor force entrants and relatively more labor force leavers, which in turn reflects the aging and the retirement of the white non-Hispanic labor force, particularly white non-Hispanic men.

Hispanic entrants are projected to account for 22 percent of all entrants during the 2006–16 timeframe, with

**Table 5. Civilian labor force, entrants and leavers, 1996, 2006, and projected 2016**

[Numbers in thousands]

Group	1996	1996–2006			2006	2006–16			2016
		Entrants	Leavers	Stayers		Entrants	Leavers	Stayers	
<b>Number, 16 years and older</b>									
Total.....	133,943	35,799	19,616	114,327	151,428	37,305	24,202	127,226	164,231
Men.....	72,087	19,408	11,033	61,054	81,255	20,447	13,921	67,334	87,781
Women.....	61,856	16,391	8,583	53,273	70,173	16,858	10,281	59,892	76,450
White.....	113,108	28,374	16,553	96,555	123,834	27,920	20,707	103,127	130,665
Men.....	61,783	15,815	9,441	52,342	67,613	15,814	12,241	55,372	71,283
Women.....	51,325	12,559	7,112	44,213	56,221	12,106	8,466	47,755	59,382
Black.....	15,134	5,229	2,308	12,826	17,314	5,398	2,584	14,730	20,121
Men.....	7,264	2,360	1,196	6,068	8,128	2,500	1,201	6,927	9,420
Women.....	7,870	2,869	1,112	6,758	9,186	2,898	1,383	7,803	10,701
Asian.....	5,701	2,196	755	4,946	6,727	2,617	694	6,033	8,741
Men.....	3,039	1,233	396	2,643	3,621	1,383	367	3,254	4,600
Women.....	2,662	963	359	2,303	3,106	1,234	327	2,779	4,141
All other groups <sup>1</sup> .....	–	–	–	–	3,553	1,370	217	3,336	4,705
Men.....	–	–	–	–	1,893	750	112	1,781	2,478
Women.....	–	–	–	–	1,660	620	105	1,555	2,227
Hispanic origin.....	12,774	8,759	839	11,935	20,694	8,316	2,121	18,573	26,889
Men.....	7,646	5,344	502	7,144	12,488	4,668	1,354	11,134	15,802
Women.....	5,128	3,415	337	4,791	8,206	3,648	767	7,439	11,087
Other than Hispanic origin.....	121,169	27,040	18,777	102,392	130,734	28,989	22,081	108,653	137,343
Men.....	64,441	14,064	10,531	53,910	68,767	15,779	12,567	56,200	71,979
Women.....	56,728	12,976	8,246	48,482	61,967	13,210	9,514	52,453	65,364
White non-Hispanic.....	100,915	19,707	15,993	84,922	104,629	20,811	19,201	85,428	106,133
Men.....	54,451	10,525	9,023	45,428	55,953	11,843	10,899	45,054	56,791
Women.....	46,464	9,182	6,970	39,494	48,676	8,968	8,302	40,374	49,342
<b>Share (percent), 16 years and older</b>									
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men.....	53.8	54.2	56.2	53.4	53.7	54.8	57.5	52.9	53.4
Women.....	46.2	45.8	43.8	46.6	46.3	45.2	42.5	47.1	46.6
White.....	84.4	79.3	84.4	84.5	81.8	74.8	85.6	81.1	79.6
Men.....	46.1	44.2	48.1	45.8	44.7	42.4	50.6	43.5	43.4
Women.....	38.3	35.1	36.3	38.7	37.1	32.5	35.0	37.5	36.2
Black.....	11.3	14.6	11.8	11.2	11.4	14.5	10.7	11.6	12.3
Men.....	5.4	6.6	6.1	5.3	5.4	6.7	5.0	5.4	5.7
Women.....	5.9	8.0	5.7	5.9	6.1	7.8	5.7	6.1	6.5
Asian.....	4.3	6.1	3.8	4.3	4.4	7.0	2.9	4.7	5.3
Men.....	2.3	3.4	2.0	2.3	2.4	3.7	1.5	2.6	2.8
Women.....	2.0	2.7	1.8	2.0	2.1	3.3	1.4	2.2	2.5
All other groups <sup>1</sup> .....	–	–	–	–	2.3	3.7	.9	2.6	2.9
Men.....	–	–	–	–	1.3	2.0	.5	1.4	1.5
Women.....	–	–	–	–	1.1	1.7	.4	1.2	1.4
Hispanic origin.....	9.5	24.5	4.3	10.4	13.7	22.3	8.8	14.6	16.4
Men.....	5.7	14.9	2.6	6.2	8.2	12.5	5.6	8.8	9.6
Women.....	3.8	9.5	1.7	4.2	5.4	9.8	3.2	5.8	6.8
Other than Hispanic origin.....	90.5	75.5	95.7	89.6	86.3	77.7	91.2	85.4	83.6
Men.....	48.1	39.3	53.7	47.2	45.4	42.3	51.9	44.2	43.8
Women.....	42.4	36.2	42.0	42.4	40.9	35.4	39.3	41.2	39.8
White non-Hispanic.....	75.3	55.0	81.5	74.3	69.1	55.8	79.3	67.1	64.6
Men.....	40.7	29.4	46.0	39.7	37.0	31.7	45.0	35.4	34.6
Women.....	34.7	25.6	35.5	34.5	32.1	24.0	34.3	31.7	30.0

<sup>1</sup> The "All other groups" category includes (1) those classified as of multiple racial origin and (2) the race categories of (2a) American

Indian and Alaska Native and (2b) Native Hawaiian and Other Pacific Islanders. Dash indicates no data collected for category.

more Hispanic men than women entering the labor force. Hispanics are more likely to be in the younger age groups and least likely to be of retirement age and thus are projected to make up a smaller proportion of the leavers, around 8.8 percent. Blacks are expected to constitute 14.5 percent of the entrants between 2006 and 2016, with black women providing more entrants than black men. Asians are anticipated to make up 7.0 percent of labor force entrants during the 2006–16 decade, more than their 6.1 percent of entrants during the 1996–2006 timeframe.

### Implications of aging

The aging of the population has a significant impact on the labor force and its growth. Populations age as the result of either an increase in their life expectancies or a decrease in their fertility rates. The age of the labor force and that of the population can be measured in various ways. The median age, an index that summarizes age distributions, is one way by which the ages of both the population and the labor force can be measured. The other measure is the relative shares of younger workers (16 to 24 years) and older workers (55 years and older) in the labor force. Both measures indicate that the labor force will be aging quite rapidly from 2006 to 2016.

*Median age.* Populations are aging in the United States and all other industrialized countries, and the ratio of people older than 65 years to those between 20 and 64 years could double between now and the middle of the century.<sup>16</sup> However, the U.S. population is still relatively young compared with the populations of other industrialized nations. The relative youth of both the population and the labor force in this country is mainly the result of high numbers of immigrants entering the United States, compared with immigration to other industrialized countries. Immigrants are mostly in younger age groups, and their entry into the U.S. workforce decreases its median age. In addition, immigrants have higher fertility rates than those of the native population, a phenomenon that also causes a decline in the median age of the population.

As the boomers entered the labor force, the median age of the labor force declined steadily until 1980. With the passage of the baby boomers into higher age groups, the median age of the labor force has increased since then. (See chart 3.)

In 1986, the median age of the U.S. labor force was 35.4 years. It increased to 38.3 years in 1996 and 40.8 years in 2006. The BLS projects that the median age of the labor force will increase to 42.1 years in 2016. (See table 6.)

Until the beginning of the 1990s, the median age of

the men’s labor force was higher than that of the women’s labor force. Gradually, as significant numbers of men in older age groups retired, women’s median age started to rise. Also, the difference in the men’s and women’s median ages reflected a pattern of women entering the labor force, leaving for some time after childbirth, and then reentering. The median age of men increased from 38.3 years in 1996 to 40.6 years in 2006 and is projected to be 41.6 years in 2016. It is expected that the median age of women in the labor force, which was 38.2 years in 1996 and increased to 41.0 years in 2006, will be 42.8 years in 2016.

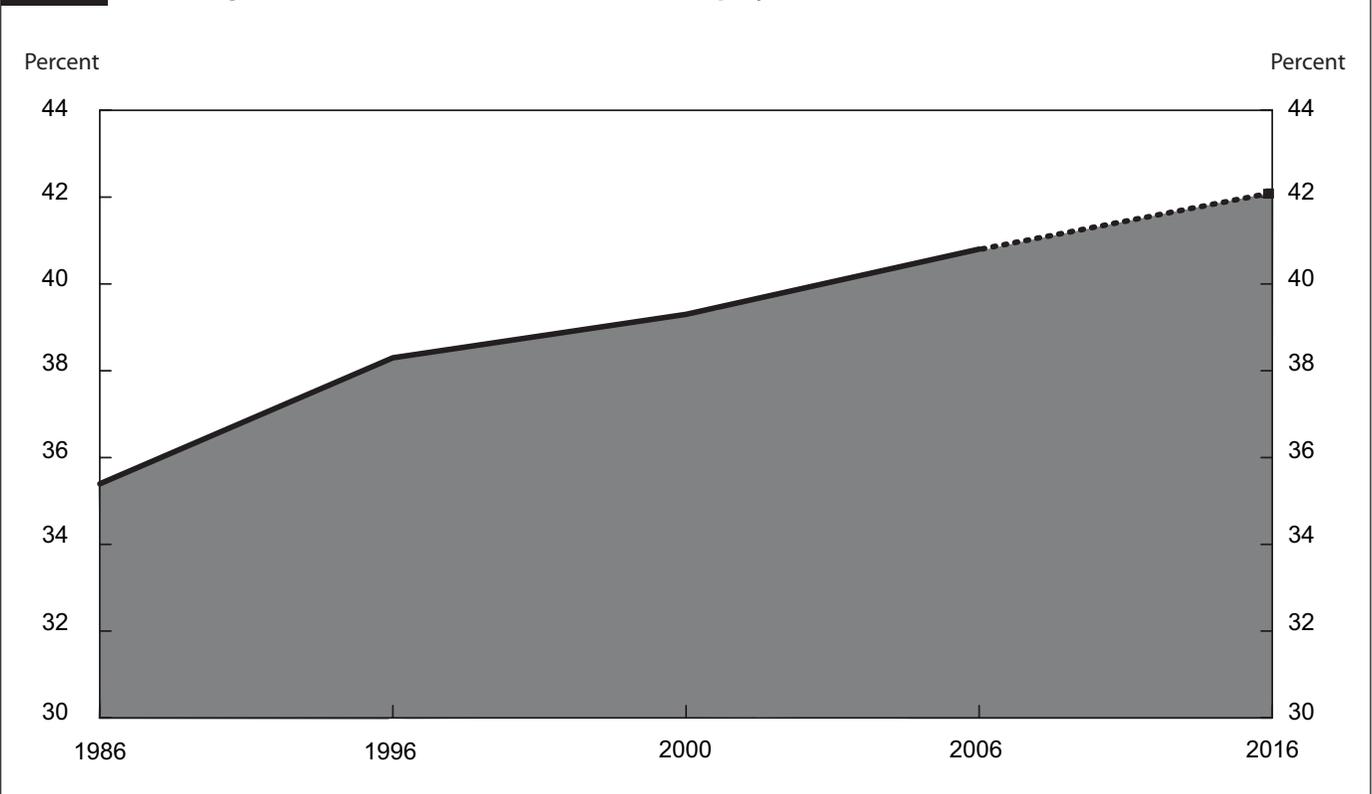
The aging pattern is different among the major race and ethnic groups. Historically, the white labor force has been older than those of the nonwhite groups. This trend is expected to continue. The Hispanic labor force is younger than all the other race groups, reflecting higher birthrates. However, the median age of the Hispanic labor force, 31.3 years in 1986, increased to 34.5 years in 1996. The BLS projects that the median age of the Hispanic labor force will increase from 36.4 years in 2006 to 38.0 years in 2016. This trend also reflects the aging of the earlier immigrants to the United States. White non-Hispanics are the oldest group in the labor force; their median age increased rapidly, from 35.9 years in 1986 to 39.1 years in 1996 and 42.4 years in 2006. The BLS projects that the median age of the white non-Hispanic labor force will increase to 44.2 years in 2016.

*Relative share of the labor force.* The following tabulation shows the age of the baby-boom cohort—those born between 1946 and 1964—in different years:

Year	Youngest	Oldest
1950 .....	0	4
1960 .....	4	14
1970 .....	6	24
1980 .....	16	34
1990 .....	26	44
2000 .....	36	54
2010 .....	46	64
2016 .....	52	70

The boomer generation started entering the labor force at the beginning of the 1960s. In 1980, the share of the labor force held by baby boomers was at its all-time high. In 1990 and 2000, the entirety of the baby-boom generation was in the prime age group—the group with the highest attachment to the labor market and with the highest labor force participation rate. Every year after 2000, some of the baby boomers exited the group with the highest attach-

**Chart 3. Median age of the U. S. labor force, 1986–2006 and projected 2016**



ment to the labor market—the prime age group—and entered the 55-years-and-older age group—the group with participation rates approximately half those of the prime age group. This transformation was one of the causes of the drop in the overall labor force participation rate, a decline that reversed the trend of previous decades wherein the baby-boom generation moved from ages with lower labor force participation rates to ages with higher rates, increasing the rate of growth of the labor force.

The oldest of the boomers celebrated their sixtieth birthdays in 2006 and will turn 62 in 2008, when they will become eligible for early retirement benefits. In 2011, the midpoint of the BLS 2006–16 projection timeframe, they will turn 65. Other things remaining equal, as the baby-boom generation retires or moves to age groups with lower participation, the rate of growth of the labor force will slow down significantly, implying a slower growth of GDP.

*Economic dependency.* The economic dependency ratio is measured by estimating the number of persons in the total population (including the Armed Forces and children) who are *not* in the labor force, per hundred of those who are.

In 2006, for every 100 persons in the labor force, 96

were not. (See table 7.) Of those 96, 43 were children, 31 were 16 to 64 years of age, and 22 were 65 years and older. The ratio of 96 persons not in the labor force to 100 who were is expected to increase during the projection period, reaching almost 98 per 100 in 2016. Economic dependency is directly related to the number of children and the number of persons in the 65-years-and-older age group. Since the 1970s, as the number of births fell and the boomer generation moved to ages greater than 16 years, the economic dependency ratio has declined. The decline in the economic dependency ratio also is attributable to the increases in the labor force participation rate of women. The only part of the dependency ratio that has been steadily increasing is the portion attributable to those in the 65-years-and-older age group. In 1975, the ratio for this group was by far the smallest economic dependency ratio for any of the age groups that year. From 1975 to 1996, the dependency ratio of the older age group increased from 20 per 100 in the labor force to 22; it is expected to increase to 23 in 2016.

### Changes in underlying assumptions

In preparing economic projections, the biggest challenge is always uncertainty as to what changes the future will

**Table 6. Median age of the labor force, by sex, race, and ethnicity, 1986, 1996, 2006, and projected 2016**

Group	1986	1996	2006	2016
Total .....	35.4	38.3	40.8	42.1
Men .....	35.7	38.3	40.6	41.6
Women .....	34.9	38.2	41.0	42.8
White .....	35.6	38.6	41.3	42.7
Black .....	33.3	36.4	38.7	39.8
Asian .....	35.3	37.0	40.6	42.9
Hispanic origin.....	31.3	34.5	36.4	38.0
White non-Hispanic.....	35.9	39.1	42.4	44.2

bring. The foremost question facing the BLS in this regard is, Which trends are likely to continue into the future and which trends may change over time?<sup>17</sup>

One of the main underlying issues bearing on the accuracy of the BLS labor force projections is the future size and composition of the population, because it is chiefly the size and composition of the population that drives the future labor force. The components that make up the future population involve assumptions about fertility rates, mortality rates, and the number of immigrants entering the country. Given that people who will be joining the labor force by 2016 are already born, the projection of fertility is not that important for the 2006–16 labor force projections. The mortality rate also is projected to have very gradual changes from one year to the other, and these insignificant changes can be disregarded for that timeframe as well.

The greatest uncertainty in population projection is, and always has been, immigration, which has a paramount impact on the size, composition, and growth rate of both the population and the labor force.

As noted earlier, the latest available population projections by the Census Bureau are the basis for the BLS labor force projections. To the extent that any underlying assumptions about immigration are changed when the Census Bureau publishes new population projections, the labor force projections presented in this article may need to be revised.

The Census Bureau's estimates indicate that the number of immigrants to the United States has been around 1.2 million a year for the first 6 years since Census 2000.<sup>18</sup> There is a difference of 400,000 immigrants per year between the Census Bureau's estimates of the population and its projection of the number of immigrants in the resident population. That net difference over the 10-year span from 2006 to 2016 would add 4.0 million more people to

the resident population. The addition of a number of that magnitude would increase the estimate of the 2016 resident population from 325 million to 329 million. All other things being equal, with the projected trends in the labor force participation rates over the 2006–16 decade, this revision would mean a labor force of nearly 167 million in 2016, as opposed to the 164.2 million currently projected.

In addition to necessitating changes in the level and growth of the resident population, the civilian noninstitutional population, and the labor force, changes in assumptions about the number of immigrants would entail changes in the racial and ethnic composition of the labor force. A significant amount of immigration to the United States, both legal and illegal, consists of Hispanic immigrants. A change in the Census Bureau's assumptions about immigration would alter the BLS projections of the future ethnic diversity of the population and labor force. Moreover, immigrants are mostly in the younger and prime age groups, so a change in the assumptions about immigration also would affect estimates of the age structure of the labor force. Because the immigrant workforce is mostly men, the gender structure of the labor force would be affected as well.<sup>19</sup> The entry of more immigrants into the labor force would further diversify the race, ethnicity, age, and sex composition of the labor force.

THE PRESENT BLS LABOR FORCE PROJECTIONS are based on the most recent population projections of the Census Bureau. The 2006–16 BLS labor force projections point to several key trends that will likely take place in the U.S. labor force during the next decade. These trends, which are a reflection of demographic changes in the size and composition of the population and projected changes in the labor force participation rate of various sex, age, race, and ethnic groups, are as follows:

**Table 7. Economic dependency ratio, by age, 1975–2006 and projected 2016**

[Per hundred in the labor force]					
Group	1975	1986	1996	2006	2016
Total population.....	126.3	103.8	97.9	96.0	97.9
Under 16 years .....	61.4	47.0	46.6	43.0	42.4
16 to 64 years .....	44.2	34.7	29.1	31.0	32.3
65 years and older .....	20.7	22.1	22.2	22.0	23.2

- As the baby boomers age and move into their “golden years,” the growth rate of the labor force will slow significantly over the next 10 years.
- The aging of the population and the labor force as a result of decreasing fertility rates and increasing life expectancies will continue, and the median age of the labor force will increase.
- The labor force will continue to grow more diverse. With high fertility rates and increasing participation rates, minorities in the workforce are projected to expand their shares substantially. The share of Hispanics in the labor force will rise steadily.
- The rate of growth of women in the labor force is expected to slow, but will still increase at a slightly faster rate than that of men.
- The participation rate of youths (16 to 24 years old) and their share of the labor force are projected to decrease.
- The participation rate of prime-age workers (those 25 to 54 years old) is expected to increase slightly, while their share of the labor force is projected to decline.
- The labor force participation rate of older workers (55 years and older) is projected to increase significantly in the next decade. In addition, as the U.S. population ages, the share of this age group will increase in the civilian noninstitutional population. As a result of both the growing participation and the growing share of this group, the labor force of the future will have a bigger share of older workers. In a sense, then, the workforce of the coming decade will be more “age diverse.” Since the end of the 1980s, the labor force participation rate of older workers has been on the rise, and it is projected to continue to do so in the next decade. However, the older workers’ rate is still half the participation rate of the prime age group, portending slower growth of the future labor force. □

## Notes

<sup>1</sup> The older age group is defined as all those 55 years and older.

<sup>2</sup> The labor force consists of all employed persons and unemployed persons actively looking for a job. The labor force participation rate is the ratio of the labor force to the civilian noninstitutional population.

<sup>3</sup> See John Bound, Michael Schoenbaum, and Timothy Waidmann, “Race differences in labor force attachment and disability status,” *The Gerontologist*, June 1996, pp. 311–21.

<sup>4</sup> See Abraham Mosisa and Steven Hipple, “Trends in labor force participation in the United States,” *Monthly Labor Review*, October 2006, pp. 35–57.

<sup>5</sup> Baby boomers are those born between 1946 and 1964, a period during which the U.S. birthrate rose significantly, with the peak birth year being 1957.

<sup>6</sup> That was the first time that data for the 16-years-and-older group were tabulated.

<sup>7</sup> Gross domestic product (GDP) is a measure of the production of

goods and services in the economy. For a detailed discussion of BLS projections of the U.S. economy to 2016, see Betty Su, “The U.S. economy to 2016,” this issue, pp. 13–32.

<sup>8</sup> Subsequent information about the Census Bureau’s interim population projections is from the agency’s Population Projections Program homepage; click on the link “Interim Projections consistent with Census 2000,” on the Internet at [www.census.gov/population/www/projections/popproj.html](http://www.census.gov/population/www/projections/popproj.html) (visited Nov. 30, 2007).

<sup>9</sup> The Current Population Survey (CPS) is a program of personal interviews conducted monthly by the Bureau of Census for the BLS. The sample consists of about 60,000 households selected to represent the U.S. population 16 years and older.

<sup>10</sup> The projections of the Armed Forces and institutional population according to age, sex, race, and ethnicity for 2006–16 are based on BLS assumptions.

<sup>11</sup> See Abraham Mosisa, “Labor force characteristics of second-

generation Americans,” *Monthly Labor Review*, September 2006, pp. 10–19.

<sup>12</sup> Katie Kirkland, “Declining teen labor force participation,” *Issues in Labor Statistics*, Summary 02–06 (Bureau of Labor Statistics, September 2002).

<sup>13</sup> During the past decade, the percentage of workers participating in defined benefit pension plans remained flat, whereas the percentage participating in defined contribution pension plans increased. (See Bureau of Labor Statistics, *Employee Benefits Survey*, on the Internet at [data.bls.gov/cgi-bin/surveymost?eb](http://data.bls.gov/cgi-bin/surveymost?eb) (visited Nov. 30, 2007).)

<sup>14</sup> For more information on health benefits and retirement, see Richard W. Johnson, “What happens to health benefits after retirement?” *Issue in Brief* (Chestnut Hill, MA, Center for Retirement Research at Boston College, February 2007).

<sup>15</sup> Entrants and leavers are computed by comparing the labor force numbers for birth cohorts at two points in time. If the labor force numbers at the second point are larger, the difference is termed the

“entrants”; if the labor force numbers at the second point are smaller, the difference is the “leavers.” These concepts understate the numbers likely to enter and leave the labor force over the period covered by the two points in time, but are still a valid comparison. For a further discussion of the methods, see Howard N Fullerton, Jr., “Measuring Rates of Labor Force Dynamics,” *Proceedings of the Social Statistics Section, American Statistical Association, 1993* (Alexandria, VA, American Statistical Association, 1993).

<sup>16</sup> Jean-Philippe Cotis, *Population aging: facing the challenge* (Paris, OECD, September 2003).

<sup>17</sup> See Ronald Kutscher, “Historical trends, 1950–92, and current uncertainties,” *Monthly Labor Review*, November 1993, pp. 3–10, especially p. 7.

<sup>18</sup> Visit the Census Bureau’s Web site at [www.census.gov/popest/estimates.php](http://www.census.gov/popest/estimates.php) (visited Nov. 30, 2007).

<sup>19</sup> Abraham T. Mosisa, “The role of foreign-born workers in the U.S. economy,” *Monthly Labor Review*, May 2002, pp. 3–14.

Data in table 3 (page 58), table 4 (page 60), and the appendix (page 84) were corrected online June 4, 2008. See Errata online at [www.bls.gov/opub/mlr/2008/05/errata.pdf](http://www.bls.gov/opub/mlr/2008/05/errata.pdf)

### ***Employment outlook: 2006–2016***

## **Industry output and employment projections to 2016**

*Professional and business services and the health care and social assistance sectors account for more than half of the projected new jobs from 2006 to 2016; construction also is expected to add jobs, while employment in agriculture and manufacturing is expected to decline over the period*

Eric B. Figueroa  
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The most recent BLS projections have the labor force reaching 164.2 million by 2016, and Gross Domestic Product (GDP) growing at 2.8 percent annually. How do these predictions affect specific industries? With the foundation for the macroeconomy laid, the BLS develops industry employment projections every 2 years, which in turn, are used to project growth for detailed occupations. This article examines and reports on the results for detailed industry employment and output projections from 2006 to 2016.

These results project total employment in the United States to increase by 15.6 million over the 2006–16 period, rising from 150.6 million to 166.2 million.<sup>1</sup> This represents a 1.0-percent average annual growth rate, which is slightly lower than the 1.1-percent annual rate experienced during the 1996–2006 period, when employment increased by 15.9 million jobs. Nonagricultural wage and salary employment accounts for about 9 out of 10 projected jobs.<sup>2</sup> Within this broad category, most growth is expected within service-providing industries, in which employment is projected to increase by 15.8 million, rising to 130.2 million by 2016. In contrast, jobs in goods-producing industries are projected to decrease by 732,300, fall-

ing to 21.8 million in 2016. The number of agriculture workers—which includes self-employed persons, unpaid family workers, and wage and salary workers—is projected to decline by 173,100. Most remaining job growth is accounted for by a projected increase of 689,800 jobs among nonagricultural self-employed and unpaid family workers, raising the employment level to 10.5 million by 2016. (See table 1.)

Projected employment is determined by a number of inputs, including projected industry output. BLS projects real industry output to expand to \$27.1 trillion by 2016, an increase of \$6.8 trillion from 2006.<sup>3</sup> The resulting average annual growth rate of 2.9 percent is about the same as the 3.0-percent rate experienced during the previous decade. Most growth is expected to come from service-providing sectors. Real output in these sectors is projected to increase to \$19.0 trillion by 2016, an average annual growth rate of 3.3 percent. Although this growth rate is somewhat slower than the 3.6-percent rate of the 1996–2006 period, the service-providing sectors are expected to increase their share of nominal output from 66.7 percent in 2006 to 71.7 percent in 2016.<sup>4</sup> Real output in the goods-producing sectors, excluding agriculture, and

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**Table 1. Employment by major industry sector, 1996, 2006, and 2016**

Industry sector	Thousands of jobs			Change		Percent distribution			Average annual rate of change	
	1996	2006	2016	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
Total <sup>1</sup> .....	134,690.4	150,620.1	166,220.3	15,929.7	15,600.2	100.0	100.0	100.0	1.1	1.0
Nonagriculture wage and salary <sup>2</sup> .....	120,371.4	136,912.2	151,962.3	16,540.8	15,050.1	89.4	90.9	91.4	1.3	1.0
Goods-producing, excluding agriculture .....	23,328.5	22,504.9	21,772.6	-823.6	-732.3	17.3	14.9	13.1	-.4	-.3
Mining.....	556.4	618.7	608.5	62.3	-10.2	.4	.4	.4	1.1	-.2
Construction.....	5,535.5	7,688.9	8,469.6	2,153.4	780.7	4.1	5.1	5.1	3.3	1.0
Manufacturing.....	17,236.6	14,197.3	12,694.5	-3,039.3	-1,502.8	12.8	9.4	7.6	-1.9	-1.1
Services-providing.....	97,042.9	114,407.3	130,189.7	17,364.4	15,782.4	72.0	76.0	78.3	1.7	1.3
Utilities.....	639.5	548.5	517.6	-91.0	-30.9	.5	.4	.3	-1.5	-.6
Wholesale trade.....	5,522.1	5,897.7	6,326.2	375.6	428.5	4.1	3.9	3.8	.7	.7
Retail trade.....	14,142.6	15,319.4	16,006.4	1,176.8	687.0	10.5	10.2	9.6	.8	.4
Transportation and warehousing.....	3,935.5	4,465.8	4,962.0	530.3	496.2	2.9	3.0	3.0	1.3	1.1
Information.....	2,940.0	3,054.9	3,266.7	114.9	211.8	2.2	2.0	2.0	.4	.7
Financial activities.....	6,968.6	8,363.2	9,570.1	1,394.6	1,206.9	5.2	5.6	5.8	1.8	1.4
Professional and business services.....	13,461.8	17,551.6	21,643.7	4,089.8	4,092.1	10.0	11.7	13.0	2.7	2.1
Educational services.....	2,077.5	2,918.4	3,527.4	840.9	609.0	1.5	1.9	2.1	3.5	1.9
Health care and social assistance.....	11,604.8	14,919.8	18,954.1	3,315.0	4,034.3	8.6	9.9	11.4	2.5	2.4
Leisure and hospitality.....	10,776.5	13,143.4	15,016.7	2,366.9	1,873.3	8.0	8.7	9.0	2.0	1.3
Other services.....	5,434.9	6,234.6	7,077.2	799.7	842.6	4.0	4.1	4.3	1.4	1.3
Federal government .....	2,877.0	2,728.3	2,625.7	-148.7	-102.6	2.1	1.8	1.6	-.5	-.4
State and local government.....	16,662.1	19,261.7	20,696.1	2,599.6	1,434.4	12.4	12.8	12.5	1.5	.7
Agriculture, forestry, fishing, and hunting <sup>3</sup> .....	2,730.9	2,138.6	1,965.5	-592.3	-173.1	2.0	1.4	1.2	-2.4	-.8
Agriculture wage and salary.....	1,389.7	1,219.5	1,114.3	-170.2	-105.2	1.0	.8	.7	-1.3	-.9
Agriculture self-employed and unpaid family workers.....	1,341.2	919.1	851.1	-422.1	-68.0	1.0	.6	.5	-3.7	-.8
Nonagriculture self-employed and unpaid family workers.....	9,367.9	9,772.2	10,462.0	404.3	689.8	7.0	6.5	6.3	.4	.7
Secondary wage and salary jobs in agriculture and private household industries <sup>4</sup> .....	176.9	178.4	185.0	1.5	6.6	.1	.1	.1	.1	.4
Secondary jobs as a self-employed or unpaid family worker <sup>5</sup> .....	2,043.3	1,618.7	1,645.5	-424.6	26.8	1.5	1.1	1.0	-2.3	.2

<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 the 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.

in the agriculture, forestry, fishing, and hunting sector is projected to grow faster than it did in the previous decade. Output in goods-producing sectors, excluding agriculture, is projected to grow at a 2.1-percent annual rate to reach \$6.5 trillion by 2016. Output in the agriculture, forestry, fishing, and hunting sector is projected to grow at a 2.2-percent annual rate to reach \$330.8 billion. Despite accelerating 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 most recent BLS projections of the aggregate economy have the labor force growing at an annual rate of 0.8 percent in the coming period, which is somewhat slower than the 1.2-percent growth rate experienced during the 1996–2006 period. The growth rate of the nonfarm labor productivity index is projected to average 2.2 percent annually over the projection period, which departs from the rate of 2.6 percent experienced in the previous decade. The resulting projected annual growth in GDP is expected to slow relative to its history, from 3.1 percent per year to 2.8 percent per year. These macroeconomic constraints, along with the industry models, shape the final projections of industry employment and output. Slower growth in both the labor supply and productivity will exert downward pressure on the rate of growth of output in the economy. These effects can be seen in the present set of projections, as the growth rates for economy-wide output and employment are slightly lower than they were during the 1996–2006 period.

In addition, changes within the various GDP components can directly influence employment and output projections. For example, as globalization and international competition continue to take on greater significance, the GDP component with the fastest projected growth in the coming period is exports (5.5 percent). 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 likely to lead to an increase in imports, which is expected to continue to adversely affect other industries, such as apparel and textiles.

## 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 health care and social assistance sector<sup>5</sup> is projected to have the most rapid growth in the economy, adding 4.0 million jobs

by 2016, an annual average growth rate of 2.4 percent. (See table 1.) Within the service-providing sectors, professional and business services is projected to generate the greatest number of jobs, with employment increasing by 4.1 million during 2006–16 period (2.1 percent per year). In terms of output, the information sector is projected to have the fastest growth, increasing by 5.3 percent per year and reaching \$1.7 trillion by 2016. (See table 2.)

Within the goods-producing sectors, the only sector projected to exhibit positive employment growth over the projection period is construction, which is expected to add 780,700 jobs and reach 8.5 million by 2016. The job gains in the construction sector will be more than offset by the projected 1.5-million decline in manufacturing employment during the 2006–16 period. The manufacturing sector's seemingly large employment loss, which projects an employment level of 12.7 million in 2016, still represents a contrast to what was experienced during the previous decade when the sector lost 3.0 million jobs. Employment in mining is projected to decline from its 2006 level of 618,700, shedding jobs at a rate of 0.2 percent per year to reach 608,500 by 2016.

Due to continued productivity gains, output in the goods-producing sector is expected to paint a different picture than is employment, as every major sector within the goods-producing sector is expected to have rising output. Specifically, output for the goods-producing sector is projected to increase 2.1 percent annually and reach \$6.5 trillion by 2016. Manufacturing, the dominant major industry in the goods-producing sector, is projected to expand output 2.4 percent annually, reaching \$5.3 trillion in 2016.

## Service-providing sectors

Service-providing sectors will generate nearly all of the employment gain from 2006 to 2016. Two of these sectors—professional and business services and health care and social assistance services—are expected to generate 8.1 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 and financial activities sectors will contribute an additional 4.5 million jobs by 2016. Employment declines are projected in only two service-providing sectors, utilities and the Federal government. (See table 1.)

Service-providing sectors are also expected to produce strong gains in output, which is projected to grow by \$5.2 trillion over the 2006–16 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 21.6 million by 2016, an increase of 4.1 million jobs—more than in 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, slowing from the 2.7-percent rate experienced from 1996 to 2006, mainly

due to productivity gains and offshore outsourcing. As demand for professional and business services remains strong, output in the sector is projected to increase by 3.4 percent (\$860.0 billion) per year, reaching a level of \$3.0 trillion by 2016.

Much of the employment growth in the professional and business services sector will be seen in management, scientific, and technical consulting services. This industry is projected to have the fastest employment growth of all industries and the fourth largest employment increase. (See tables 3 and 4.) Employment in the industry is projected to increase by 717,800 jobs (5.9 percent annually),

**Table 2. Output by major industry sector (gross duplicated output), 1996, 2006, and projected 2016**

Industry sector	Billion of chained 2000 dollars			Average annual rate of change		Billions of dollars			Percent distribution		
	1996	2006	2016	1996–2006	2006–16	1996	2006	2016	1996	2006	2016
Total.....	15,119.5	20,265.3	27,093.7	3.0	2.9	14,244.8	23,901.6	40,281.0	100.0	100.0	100.0
Goods-producing, excluding agriculture.....	4,556.2	5,297.3	6,535.0	1.5	2.1	4,350.5	6,561.9	9,737.5	30.5	27.5	24.2
Mining.....	213.0	242.2	268.6	1.3	1.0	161.8	465.8	554.3	1.1	1.9	1.4
Construction.....	740.6	899.1	1,031.1	2.0	1.4	637.2	1,238.9	2,041.1	4.5	5.2	5.1
Manufacturing.....	3,610.5	4,145.8	5,263.6	1.4	2.4	3,551.5	4,857.2	7,142.1	24.9	20.3	17.7
Service-providing .....	9,648.7	13,778.0	18,992.2	3.6	3.3	9,021.5	15,930.6	28,874.2	63.3	66.7	71.7
Utilities.....	308.7	323.4	353.5	.5	.9	288.2	424.7	505.7	2.0	1.8	1.3
Wholesale trade.....	654.3	1,041.9	1,702.7	4.8	5.0	704.5	1,164.8	2,011.5	4.9	4.9	5.0
Retail trade.....	824.2	1,305.3	1,892.1	4.7	3.8	799.5	1,385.9	2,573.2	5.6	5.8	6.4
Transportation and warehousing.....	522.6	669.9	889.9	2.5	2.9	480.0	692.9	1,157.4	3.4	2.9	2.9
Information.....	633.8	1,006.2	1,682.8	4.7	5.3	608.4	1,046.1	2,129.4	4.3	4.4	5.3
Financial activities.....	1,726.4	2,621.1	3,761.6	4.3	3.7	1,658.5	2,987.3	5,741.1	11.6	12.5	14.3
Professional and business services.....	1,342.4	2,130.7	2,990.7	4.7	3.4	1,202.9	2,425.5	5,035.8	8.4	10.1	12.5
Educational services.....	123.8	157.1	190.9	2.4	2.0	107.2	203.3	343.0	.8	.9	.9
Health care and social assistance.....	864.8	1,210.9	1,720.2	3.4	3.6	779.3	1,451.7	2,753.1	5.5	6.1	6.8
Leisure and hospitality....	557.8	739.3	909.4	2.9	2.1	499.3	873.7	1,470.1	3.5	3.7	3.6
Other services.....	370.2	439.1	550.5	1.7	2.3	333.2	533.9	904.8	2.3	2.2	2.2
Federal government.....	580.4	715.1	760.7	2.1	.6	530.2	912.0	1,313.2	3.7	3.8	3.3
State and local government.....	1,159.1	1,435.9	1,748.7	2.2	2.0	1,030.3	1,828.8	2,935.9	7.2	7.7	7.3
Agriculture, forestry, fishing, and hunting.....	235.6	267.2	330.8	1.3	2.2	268.3	296.3	375.5	1.9	1.2	.9
Special Industries <sup>1</sup> .....	679.9	919.8	1,229.4	3.1	2.9	604.5	1,112.9	1,293.7	4.2	4.7	3.2
Residual <sup>2</sup> .....	-.9	2.9	6.2	—	—	—	—	—	—	—	—

<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.

reaching a level of 1.6 million by 2016. Strong job growth is expected due to continued business demand for advice on planning and logistics, implementation of new technologies, and compliance with tax, environmental, and employment regulations. Increasing globalization, trends towards outsourcing and mergers, and a heightened need for security also provide opportunities for consulting firms. Within the management, scientific and technical consulting services industry, output is projected to rise by \$146.8 billion (6.4 percent annually) and reach \$317.8 billion by 2016, 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 489,400 jobs, bringing the level of employment to 1.8 million by 2016. This represents an average annual growth rate of 3.3 percent, which is less robust than the rate experienced during the previous decade, largely due to productivity increases and offshore outsourcing.<sup>6</sup> 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 and increasing requirements for computer-related security services such as disaster recovery and security programming and software installation. These demands are expected to increase output by \$73.8 billion (4.0 percent annually), raising the level to \$229.5 billion by 2016.

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 691,500 jobs and reach an employment level of 4.3 million by 2016, an average annual growth rate of 1.7 percent. Output is projected to increase by \$52.4 billion (3.4 percent annually) and reach \$186.3 billion by 2016. 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 in the economy. Employment is projected to reach 19.0 million in 2016, growing at an average annual rate of 2.4 percent, the 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 35.6 million in 2006 to nearly 46.4 million in 2016; this age group will account for 18.5 percent of the civilian noninstitutional population in 2016, up from 15.6 percent in 2006.<sup>7</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>8</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 857,100 jobs (2.2 percent, annually) and reach an employment level of 4.4 million by 2016. Output is projected to grow by \$210.2 billion (4.0 percent annually) and reach \$643.0 billion by 2016. 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 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 office of health practitioners.

The home health care services industry is also projected to see strong employment growth over the projection peri-

<b>Table 3. Industries with the fastest growing and most rapidly declining wage and salary employment, 2006–16</b>						
2002 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
<b>Fastest growing</b>						
5416	Management, scientific, and technical consulting services.....	Professional and business services	920.9	1,638.7	717.8	5.9
6241	Individual and family services.....	Health care and social assistance	973.6	1,687.0	713.4	5.7
6216	Home health care services.....	Health care and social assistance	867.1	1,347.6	480.5	4.5
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	816.3	1,192.4	376.1	3.9
5612	Facilities support services.....	Professional and business services	122.8	179.1	56.3	3.8
6232, 6233, 6239	Residential care facilities.....	Health care and social assistance	1,316.7	1,829.2	512.5	3.3
7115	Independent artists, writers, and performers.....	Leisure and hospitality	46.8	64.8	18.0	3.3
5415	Computer systems design and related services.....	Professional and business services	1,278.2	1,767.6	489.4	3.3
712	Museums, historical sites, and similar institutions.....	Leisure and hospitality	123.9	167.4	43.5	3.1
6244	Child day care services.....	Health care and social assistance	806.7	1,078.4	271.7	2.9
713	Amusement, gambling, and recreation industries.....	Leisure and hospitality	1,404.4	1,876.8	472.4	2.9
5414	Specialized design services.....	Professional and business services	135.8	179.3	43.5	2.8
5112	Software publishers.....	Information	243.4	321.3	77.9	2.8
525	Funds, trusts, and other financial vehicles.....	Financial activities	93.1	122.4	29.3	2.8
6114–6117	Other educational services.....	Educational services	534.2	702.5	168.3	2.8
7113, 7114	Promoters of events, and agents and managers.....	Leisure and hospitality	100.0	131.3	31.3	2.8
5619	Other support services.....	Professional and business services	305.4	399.0	93.6	2.7
487	Scenic and sightseeing transportation.....	Transportation and warehousing	27.0	34.7	7.7	2.5
533	Lessors of nonfinancial intangible assets (except copyrighted works).....	Financial activities	28.9	36.6	7.7	2.4
5611	Office administrative services.....	Professional and business services	363.4	456.4	93.0	2.3
5413	Architectural, engineering, and related services.....	Professional and business services	1,385.6	1,731.0	345.4	2.3
<b>Most rapidly declining</b>						
3152	Cut and sew apparel manufacturing.....	Manufacturing	185.5	77.2	–108.3	–8.4
3162	Footwear manufacturing.....	Manufacturing	17.4	8.1	–9.3	–7.3
NA	Federal enterprises except the Postal Service and electric utilities.....	Federal government	45.1	26.5	–18.6	–5.2

**Table 3. Continued—Industries with the fastest growing and most rapidly declining wage and salary employment, 2006–16**

2002 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
3151	Apparel knitting mills.....	Manufacturing	34.0	20.1	-13.9	-5.1
3133	Textile and fabric finishing and fabric coating mills.....	Manufacturing	57.6	34.4	-23.2	-5.0
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing	Manufacturing	20.0	12.1	-7.9	-4.9
3159	Apparel accessories and other apparel manufacturing.....	Manufacturing	18.9	12.4	-6.5	-4.1
3122	Tobacco manufacturing.....	Manufacturing	23.4	15.5	-7.9	-4.0
3341	Computer and peripheral equipment manufacturing.....	Manufacturing	198.8	132.3	-66.5	-4.0
3311	Iron and steel mills and ferroalloy manufacturing.....	Manufacturing	94.4	63.7	-30.7	-3.9
486	Pipeline transportation.....	Transportation and warehousing	39.0	26.4	-12.6	-3.8
3132	Fabric mills.....	Manufacturing	89.9	61.2	-28.7	-3.8
3314	Nonferrous metal (except aluminum) production and processing.....	Manufacturing	73.0	50.3	-22.7	-3.7
3221	Pulp, paper, and paperboard mills.....	Manufacturing	136.0	93.8	-42.2	-3.6
3325	Hardware manufacturing.....	Manufacturing	34.0	23.5	-10.5	-3.6
3313	Alumina and aluminum production and processing.....	Manufacturing	72.7	50.3	-22.4	-3.6
3262	Rubber product manufacturing.....	Manufacturing	159.3	113.8	-45.5	-3.3
3351	Electric lighting equipment manufacturing.....	Manufacturing	58.9	42.5	-16.4	-3.2
3326	Spring and wire product manufacturing.....	Manufacturing	58.2	42.1	-16.1	-3.2
3322	Cutlery and handtool manufacturing.....	Manufacturing	54.1	39.7	-14.4	-3.0
3315	Foundries.....	Manufacturing	162.1	119.8	-42.3	-3.0

NOTE: Data in this table reflect revisions made in May 2008. For a description of the revisions, see Errata, May 2008, pp. 40–42, online at <http://www.bls.gov/opub/mlr/2008/05/contents.htm>.

od. This industry provides skilled nursing or other medical care to patients in their homes. The industry is expected to add 480,500 jobs and reach an employment level of 1.3 million by 2016. This represents an annual growth rate of 4.5 percent, making it the third fastest among all industries. (See table 3.) The rate of output growth in home health care services also is projected to be among the fastest, increasing by \$35.2 billion and reaching \$83.4 billion by 2016, an average annual growth rate of 5.6 percent. (See table 5.) Strong growth is expected due to the rising population of elderly persons, for whom most home health services are provided, as well as the lower cost of delivering some services in a home health care setting, compared with more costly inpatient facilities.

The residential care facilities industry is projected to be among the industries with the fastest and largest employ-

ment increases during the projection period. (See tables 3 and 4.) This industry is expected to add 512,500 jobs and reach an employment level of 1.8 million by 2016, an average annual growth rate of 3.3 percent. Output in this industry is projected to increase by \$15.3 billion from 2006 to 2016, reaching \$62.4 billion by the end of the period, an annual growth rate of 2.9 percent. Residential care facilities provide social and personal care to children, the elderly, and others who have limited ability to care for themselves. 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 residential care.

Employment growth in private hospitals, an industry facing cost pressures, is expected to increase at an average annual rate of only 1.5 percent during the projection

2002 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
<b>Largest growth</b>						
722	Food services and drinking places.....	Leisure and hospitality	9,382.9	10,406.5	1,023.6	1.0
6211–6213	Offices of health practitioners.....	Health care and social assistance	3,508.3	4,365.4	857.1	2.2
23	Construction.....	Construction	7,688.9	8,469.6	780.7	1.0
5416	Management, scientific, and technical consulting services.....	Professional and business services	920.9	1,638.7	717.8	5.9
6241	Individual and family services.....	Health care and social assistance	973.6	1,687.0	713.4	5.7
622	Hospitals, private.....	Health care and social assistance	4,427.1	5,118.9	691.8	1.5
5613	Employment services.....	Professional and business services	3,656.6	4,348.1	691.5	1.7
44, 45	Retail trade.....	Retail trade	15,319.4	16,006.4	687.0	.4
6232, 6233, 6239	Residential care facilities.....	Health care and social assistance	1,316.7	1,829.2	512.5	3.3
NA	Local government educational services.....	State and local government	7,938.5	8,450.1	511.6	.6
5415	Computer systems design and related services.....	Professional and business services	1,278.2	1,767.6	489.4	3.3
6216	Home health care services.....	Health care and social assistance	867.1	1,347.6	480.5	4.5
713	Amusement, gambling, and recreation industries.....	Leisure and hospitality	1,404.4	1,876.8	472.4	2.9
NA	Local government excluding enterprises, educational services, and hospitals.....	State and local government	4,071.8	4,541.9	470.1	1.1
42	Wholesale trade.....	Wholesale trade	5,897.7	6,326.2	428.5	.7
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	816.3	1,192.4	376.1	3.9
5617	Services to buildings and dwellings.....	Professional and business services	1,797.0	2,160.8	363.8	1.9
5413	Architectural, engineering, and related services.....	Professional and business services	1,385.6	1,731.0	345.4	2.3
8131	Religious organizations.....	Other services	1,665.9	1,981.4	315.5	1.7
531	Real estate.....	Financial activities	1,503.3	1,796.2	292.9	1.8
<b>Largest declines</b>						
111	Crop production.....	Agriculture	897.9	758.5	–139.4	–1.7
323	Printing and related support activities.....	Manufacturing	635.9	497.4	–138.5	–2.4
3363	Motor vehicle parts manufacturing.....	Manufacturing	654.1	515.8	–138.3	–2.3
3152	Cut and sew apparel manufacturing.....	Manufacturing	185.5	77.2	–108.3	–8.4
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing.....	Manufacturing	352.0	283.0	–69.0	–2.2
3341	Computer and peripheral equipment manufacturing.....	Manufacturing	198.8	132.3	–66.5	–4.0

**Table 4. Continued—Industries with the largest wage and salary employment growth and declines, 2006–16**

2002 NAICS	Industry description	Sector	Thousands of jobs		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
3344	Semiconductor and other electronic component manufacturing.....	Manufacturing	462.8	399.2	-63.6	-1.5
3222	Converted paper product manufacturing.....	Manufacturing	333.3	273.5	-59.8	-2.0
NA	Federal defense government.....	Federal government	492.1	433.6	-58.5	-1.3
3399	Other miscellaneous manufacturing.....	Manufacturing	342.8	287.1	-55.7	-1.8
5111	Newspaper, periodical, book, and directory publishers.....	Information	660.3	610.9	-49.4	-8
3262	Rubber product manufacturing.....	Manufacturing	159.3	113.8	-45.5	-3.3
3315	Foundries.....	Manufacturing	162.1	119.8	-42.3	-3.0
3221	Pulp, paper, and paperboard mills.....	Manufacturing	136.0	93.8	-42.2	-3.6
3335	Metalworking machinery manufacturing.....	Manufacturing	202.6	165.8	-36.8	-2.0
3329	Other fabricated metal product manufacturing.....	Manufacturing	287.0	251.5	-35.5	-1.3
3311	Iron and steel mills and ferroalloy manufacturing.....	Manufacturing	94.4	63.7	-30.7	-3.9
3353	Electrical equipment manufacturing.....	Manufacturing	155.6	126.3	-29.3	-2.1
3328	Coating, engraving, heat treating, and allied activities.....	Manufacturing	149.0	119.7	-29.3	-2.2
3132	Fabric mills.....	Manufacturing	89.9	61.2	-28.7	-3.8

NOTE: Data in this table reflect revisions made in May 2008. For a description of the revisions, see Errata, May 2008, pp. 40–42, online at <http://www.bls.gov/opub/mlr/2008/05/contents.htm>.

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 691,800 jobs and reach an employment level of 5.1 million by 2016. Over the same period, output is projected to increase by \$145.4 billion to reach \$542.6 billion, a 3.2-percent average annual growth rate. 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 second-fastest in terms of employment growth over the projection period, increasing at a 5.7-percent average annual rate. (See table 3.) This rate of growth represents an additional 713,400 jobs by 2016, which is the fifth larg-

est projected increase among all industries, bringing the employment level to 1.7 million. (See table 4.) Output in individual and family services is expected to grow by \$24.3 billion to reach \$68.0 billion in 2016, an average annual growth rate of 4.5 percent, which makes it also one of the fastest growing industries in terms of output. (See table 5.) 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.

Child day care services provide day care for infants and children and include prekindergarten educational services. This industry is projected to be one of the fastest growing in terms of employment, adding 271,700 jobs to reach 1.1 million in 2016, or 2.9 percent annually. (See table 3.) Output in the industry is expected to grow by \$12.1 billion over the projection period, reaching \$50.2 billion in 2016, an average annual growth rate of 2.8 percent.

Factors driving growth in this industry include an increased emphasis on early childhood education, which has

<b>Table 5. Industries with the fastest growing and most rapidly declining output growth, 2006–16</b>						
2002 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
<b>Fastest growing</b>						
3341	Computer and peripheral equipment manufacturing.....	Manufacturing	134.5	867.0	732.5	20.5
3344	Semiconductor and other electronic component manufacturing.....	Manufacturing	162.6	543.4	380.8	12.8
5112	Software publishers.....	Information	153.3	419.8	266.5	10.6
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	351.2	958.3	607.1	10.6
516, 518, 519	Internet and other information services.....	Information	109.4	248.2	138.8	8.5
533	Lessors of nonfinancial intangible assets (except copyrighted works).....	Financial activities	138.6	278.4	139.8	7.2
5416	Management, scientific, and technical consulting services.....	Professional and business services	171.0	317.8	146.8	6.4
5611	Office administrative services.....	Professional and business services	73.7	128.7	55.0	5.7
6216	Home health care services.....	Health care and social assistance	48.2	83.4	35.2	5.6
5417	Scientific research and development services.....	Professional and business services	126.8	216.1	89.3	5.5
3369	Other transportation equipment manufacturing.....	Manufacturing	13.7	23.0	9.3	5.3
481	Air transportation.....	Transportation and warehousing	144.4	236.5	92.0	5.1
42	Wholesale trade.....	Wholesale trade	1,041.9	1,702.7	660.8	5.0
3366	Ship and boat building.....	Manufacturing	21.2	34.6	13.4	5.0
5616	Investigation and security services.....	Professional and business services	35.7	57.7	22.0	4.9
517	Telecommunications.....	Information	469.6	758.5	288.9	4.9
713	Amusement, gambling, and recreation industries.....	Leisure and hospitality	115.7	181.6	66.0	4.6
6241	Individual and family services.....	Health care and social assistance	43.7	68.0	24.3	4.5
7115	Independent artists, writers, and performers.....	Leisure and hospitality	15.7	24.4	8.7	4.5
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance.....	Other services	29.1	44.7	15.6	4.4
5617	Services to buildings and dwellings.....	Professional and business services	105.6	162.2	56.6	4.4
<b>Most rapidly declining</b>						
3162	Footwear manufacturing.....	Manufacturing	1.8	.7	-1.0	-8.4
3152	Cut and sew apparel manufacturing.....	Manufacturing	27.6	15.1	-12.5	-5.9
3122	Tobacco manufacturing.....	Manufacturing	39.2	22.1	-17.1	-5.6
3151	Apparel knitting mills.....	Manufacturing	5.4	3.3	-2.1	-4.8
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing..	Manufacturing	3.4	2.1	-1.2	-4.5
3159	Apparel accessories and other apparel manufacturing.....	Manufacturing	2.6	1.8	-.8	-3.8

**Table 5. Continued—Industries with the fastest growing and most rapidly declining output growth, 2006–16**

2002 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
3132	Fabric mills.....	Manufacturing	15.0	10.6	-4.4	-3.4
3133	Textile and fabric finishing and fabric coating mills.....	Manufacturing	8.6	6.4	-2.2	-3.0
114	Fishing, hunting and trapping.....	Agriculture	5.7	4.2	-1.5	-2.9
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing.....	Manufacturing	20.8	16.7	-4.1	-2.1
486	Pipeline transportation.....	Transportation and warehousing	23.8	20.7	-3.1	-1.4
2212	Natural gas distribution.....	Utilities	51.9	45.4	-6.5	-1.3
323	Printing and related support activities.....	Manufacturing	83.6	73.2	-10.4	-1.3
3325	Hardware manufacturing.....	Manufacturing	9.6	8.4	-1.1	-1.3
3332	Industrial machinery manufacturing.....	Manufacturing	34.4	30.4	-3.9	-1.2
3333	Commercial and service industry machinery manufacturing.....	Manufacturing	21.7	19.6	-2.0	-1.0
1133	Logging.....	Agriculture	25.0	22.9	-2.1	-0.9
3149	Other textile product mills.....	Manufacturing	9.0	8.3	-0.7	-0.8
3322	Cutlery and handtool manufacturing.....	Manufacturing	9.3	8.6	-0.7	-0.8
1131, 1132	Forestry.....	Agriculture	4.7	4.5	-0.2	-0.4

led to increased government funding for preschool programs, more employer support for day care, and subsidies to provide services to children from low-income families. Another factor is the increasing number of single-parent families, which in recent years has grown at a faster rate than the general population.<sup>9</sup>

*Information.* The information sector is projected to experience output growth at an average annual rate of 5.3 percent during the projection period, faster than any other sector in the economy. (See table 2.) Output in the information sector is expected to increase by \$676.6 billion over the projection period, reaching \$1.7 trillion in 2016. Most of this projected growth is expected in three industries: telecommunications, software publishing, and Internet and other related 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 0.7 percent, which is lower than the expected growth rate of total (economy-wide) employment. Slow job growth is expected as a result of increasingly reliable equipment, consolidation and competition, and outsourcing of jobs offshore. The information sector is expected to add 211,800 jobs during the projec-

tion period, raising the employment level to 3.3 million by 2016.

Within the information sector, the telecommunications industry accounted for about a third of employment in 2006. Over the projection period, telecommunications employment is projected to increase at a 0.5-percent average annual rate, increasing by 48,600 jobs to reach 1.0 million in 2016. The construction and installation of advanced communications networks, including fiber optic lines and advanced switching equipment, is expected to drive job growth. Growth will be dampened by productivity improvements such as increasingly reliable network equipment, which reduces the need for maintenance 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 \$288.9 billion over the projection period, reaching \$758.5 billion by 2016, an average annual growth rate of 4.9 percent.

In terms of output, software publishing is expected to be the third-fastest growing industry. (See table 5.) Real output is expected to grow over the projection period at a rate of 10.6 percent, increasing by \$266.5 billion to reach \$419.8 billion by 2016. Employment is expected to in-

<b>Table 6. Industries with the largest output growth and declines, 2006–16</b>						
2002 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
<b>Largest growth</b>						
3341	Computer and peripheral equipment manufacturing.....	Manufacturing	134.5	867.0	732.5	20.5
42	Wholesale trade.....	Wholesale trade	1,041.9	1,702.7	660.8	5.0
523	Securities, commodity contracts, and other financial investments and related activities.....	Financial activities	351.2	958.3	607.1	10.6
44, 45	Retail trade.....	Retail trade	1,305.3	1,892.1	586.8	3.8
3344	Semiconductor and other electronic component manufacturing.....	Manufacturing	162.6	543.4	380.8	12.8
NA	Owner-occupied dwellings.....	NA	919.8	1,229.4	309.6	2.9
517	Telecommunications.....	Information	469.6	758.5	288.9	4.9
521, 522	Monetary authorities, credit intermediation, and related activities.....	Financial activities	659.5	946.0	286.5	3.7
5112	Software publishers.....	Information	153.3	419.8	266.5	10.6
6211, 6212, 6213	Offices of health practitioners.....	Health care and social assistance	432.8	643.0	210.2	4.0
531	Real estate.....	Financial activities	847.0	1,007.4	160.4	1.7
55	Management of companies and enterprises.....	Professional and business services	435.0	591.7	156.7	3.1
5416	Management, scientific, and technical consulting services.....	Professional and business services	171.0	317.8	146.8	6.4
622	Hospitals, private.....	Health care and social assistance	397.2	542.6	145.4	3.2
533	Lessors of nonfinancial intangible assets (except copyrighted works).....	Financial activities	138.6	278.4	139.8	7.2
516, 518, 519	Internet and other information services.....	Information	109.4	248.2	138.8	8.5
23	Construction.....	Construction	899.1	1,031.1	131.9	1.4
3361	Motor vehicle manufacturing.....	Manufacturing	277.6	384.7	107.1	3.3
481	Air transportation.....	Transportation and warehousing	144.4	236.5	92.0	5.1
5417	Scientific research and development services.....	Professional and business services	126.8	216.1	89.3	5.5
<b>Largest declines</b>						
3122	Tobacco manufacturing.....	Manufacturing	39.2	22.1	-17.1	-5.6
3152	Cut and sew apparel manufacturing.....	Manufacturing	27.6	15.1	-12.5	-5.9
323	Printing and related support activities.....	Manufacturing	83.6	73.2	-10.4	-1.3
2212	Natural gas distribution.....	Utilities	51.9	45.4	-6.5	-1.3
3132	Fabric mills.....	Manufacturing	15.0	10.6	-4.4	-3.4
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing.....	Manufacturing	20.8	16.7	-4.1	-2.1
3332	Industrial machinery manufacturing.....	Manufacturing	34.4	30.4	-3.9	-1.2
486	Pipeline transportation.....	Transportation and warehousing	23.8	20.7	-3.1	-1.4

2002 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2006	2016	2006–16	2006–16
3133	Textile and fabric finishing and fabric coating mills.....	Manufacturing	8.6	6.4	-2.2	-3.0
3222	Converted paper product manufacturing.....	Manufacturing	77.3	75.1	-2.2	-3
1133	Logging.....	Agriculture	25.0	22.9	-2.1	-9
3151	Apparel knitting mills.....	Manufacturing	5.4	3.3	-2.1	-4.8
3221	Pulp, paper, and paperboard mills.....	Manufacturing	70.2	68.1	-2.1	-3
3333	Commercial and service industry machinery manufacturing.....	Manufacturing	21.7	19.6	-2.0	-1.0
114	Fishing, hunting and trapping.....	Agriculture	5.7	4.2	-1.5	-2.9
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing.....	Manufacturing	3.4	2.1	-1.2	-4.5
3325	Hardware manufacturing.....	Manufacturing	9.6	8.4	-1.1	-1.3
3162	Footwear manufacturing.....	Manufacturing	1.8	.7	-1.0	-8.4
3159	Apparel accessories and other apparel manufacturing.....	Manufacturing	2.6	1.8	-.8	-3.8
3322	Cutlery and handtool manufacturing.....	Manufacturing	9.3	8.6	-.7	-8
3149	Other textile product mills.....	Manufacturing	9.0	8.3	-.7	-8

crease at an annual rate of 2.8 percent, placing this industry among those with the fastest employment growth. (See table 3.) Software publishers are expected to add 77,900 jobs over the period, reaching an employment level of 321,300 in 2016. Relative to the previous decade, slower employment growth is expected as the industry matures and cost pressures lead to further outsourcing of routine tasks offshore.<sup>10</sup>

The Internet and other information services industry is also projected to be among those with the strongest output growth. Included in this industry are Internet service providers (ISPs) and Web search portals; and data processing, hosting and related services. Real output in the industry is projected to grow at an average annual rate of 8.5 percent, the fifth-fastest increase among all industries. (See table 5.) Output is expected to increase by \$138.8 billion over the projection period, placing this industry among those with the largest output increases and bringing output to \$248.2 billion in 2016. (See table 6.) The proliferation of Web sites and the growing need to work with large amounts of data are expected to create demand for services such as data processing and analysis, Web hosting, and information security.

Relative to the previous decade, employment growth in Internet and other information services is expected to slow over the projection period, adding 67,200 jobs to

reach a level of 536,400 in 2016, an average annual rate of 1.3 percent. The demand for workers to provide data processing, Web hosting, and related services is expected to drive employment growth in the industry. Factors expected to dampen growth include consolidation among Internet service providers and increasing competition from telecommunications and broadcasting establishments that also provide Internet services.

*Financial activities.* This sector includes industries related to finance, insurance, real estate, and renting and leasing. One of these—securities, commodity contracts, and other financial investments and related activities—is projected to be among the fastest growing industries in terms of employment and output. This industry comprises a diverse group of companies that manage the issue, purchase, and sale of financial instruments. Employment is projected to grow at a 3.9-percent annual rate, making this the fourth fastest-growing industry in terms of employment. (See table 3.) The industry is expected to add 376,100 jobs over the projection period and reach an employment level of 1.2 million by 2016. Output in the industry is expected to grow 10.6 percent per year, making securities, commodity contracts, and other financial investments and related activities the fourth fastest-growing industry in terms of output. (See table 5.) This represents an output increase of

\$607.1 billion, which is the third largest increase among all industries, bringing the 2016 level to \$958.3 billion. One factor expected to drive growth in the industry 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 grow at a 1.9-percent average annual rate, adding 609,000 jobs to reach a level of 3.5 million in 2016. Accounting for nearly half of the projected increase, the number of jobs at private junior colleges, colleges, universities, and professional schools is projected to increase by 286,700, an average annual growth rate of 1.7 percent. As more high school graduates attend college, and more working adults return to school, employment at these postsecondary institutions is projected to grow to 1.8 million by 2016.<sup>11</sup>

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 2.8 percent during the 2006–16 period, one of the fastest rates among all industries. (See table 3.) The industry is expected to add 168,300 jobs and reach an employment level of 702,500 in 2016. Increasing emphasis on structured activities for children, as well as growing consumption of leisure activities, is expected to drive growth in such educational services as exam preparation, sports and recreation instruction, and fine arts schools. In addition, educational reforms are expected to increase demand for educational consultants who advise school districts on how to improve test scores and other achievement measures.

*Wholesale and retail trade.* Employment in wholesale trade is projected to increase at a 0.7-percent average annual rate over the 2006–16 period. Although this is 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 428,500 jobs,

reaching an employment level of 6.3 million in 2016. Relatively slow employment growth is expected as a result of continued consolidation and increased productivity. Globalization and increased competition among wholesale distributors, manufacturers' representatives, and logistics companies are expected to encourage consolidation. Technologies such as electronic data interchange that allow better tracking of product information, radio frequency identification that streamlines the distribution process, and electronic commerce are expected to increase productivity.

Output in wholesale trade is projected to grow by \$660.8 billion over the projection period, the second largest increase among all industries. (See table 6.) This represents a 5.0-percent average annual growth rate, bringing output to \$1.7 trillion in 2016. 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 687,000 jobs over the projection period, growing at an average annual rate of 0.4 percent and reaching an employment level of 16.0 million in 2016. Although the projected increase is one of the largest among all industries, the projected rate of growth is slower than it was during the previous decade. (See table 4.) The expected slower growth is due to continued consolidation and slower projected growth in personal consumption than in the previous decade.<sup>12</sup> Real output in the retail trade industry is projected to increase by \$586.8 billion over the projection period, bringing the level to \$1.9 trillion by 2016, an annual average growth rate of 3.8 percent. The output increase is the fourth largest among all industries. (See table 6.)

*Leisure and hospitality.* The leisure and hospitality sector is projected to have the third-largest employment increase among all sectors. (See table 1.) More than half of the projected growth is found in a single industry—food services and drinking places—which is projected to generate 1.0 million jobs, the largest increase among all industries. (See table 4.) This represents a 1.0-percent annual growth rate, resulting in an employment level of 10.4 million jobs in 2016. Output is projected to grow at a 1.1-percent annual rate over the projection period, increasing by \$50.1 billion to reach \$465.4 billion in 2016. Factors driving growth in this industry include the increasing population of the elderly and the growing demand for more convenient dining options.

The amusement, gambling and recreation industry is expected to add 472,400 jobs during the projection period, rising at an average annual rate of 2.9 percent and

reaching an employment level of 1.9 million in 2016. This represents one of the fastest growth rates and one of the largest increases among all industries. (See tables 3 and 4.) Output growth in the industry is also projected to be strong, rising at an annual rate of 4.6 percent, which is one of the fastest rates among all industries. (See table 5.) Several factors are expected to drive growth in this industry, including an increase in the number of casinos, the introduction of slot machines at racetracks, and a relaxation of government gaming regulations as States attempt to increase revenues. In addition, fitness centers and similar establishments are expected to see increasing demand from a variety of consumers. These range from children of parents concerned about their children's obesity and other childhood health risks to aging baby boomers concerned with staying fit and retaining their independence.

*Utilities.* The utilities sector is expected to experience the most rapid employment decline among all service-providing sectors during the 2006–16 period. The sector is projected to shed 30,900 jobs, declining at a 0.6-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 20,900 jobs over the projection period, an average annual rate of decline of 0.5 percent, resulting in an employment level of 376,100 by 2016. The median age of utilities workers is the second highest among all sectors.<sup>13</sup> Difficulties finding trained replacements for retirees from the relatively small pool of younger workers is expected to force continued growth in productivity. Job losses are projected to occur even as increasing demand for electricity leads to output increasing at an average annual rate of 1.3 percent to reach a level of \$303.3 billion by 2016.

Natural gas distribution is expected to lose 18,600 jobs over the projection period, resulting in an employment level of 87,400 in 2016, or an average annual rate of decline of 1.9 percent. The projected job losses are partly the result of declining output in the industry, which forces distributors to contain costs. Real output in the industry is expected to fall by \$6.5 billion over the period (–1.3 percent per year), reaching a level of \$45.4 billion in 2016. This decline continues the trend of the previous decade, when regulations limited the amount that natural gas distributors could charge their customers.

The expected job losses among electric utilities and natural gas distributors are offset by an expected job gain in water, sewage, and other systems due to the rising demand for water and rapid expansion of water systems. Output in the industry is expected to grow at an average

annual rate of 2.7 percent over the projection period, an increase of \$2.2 billion, which will raise the level of output to \$9.5 billion by 2016.

*Government.* Public sector employment is expected to grow by 1.3 million jobs over the projection period, reaching a level of 23.3 million in 2016. This represents an average annual growth rate of 0.6 percent, half the rate of the previous decade. Projected gains in State and local government employment more than offset projected declines in Federal government.

Federal government employment is expected to decrease over the projection period by 102,600 jobs, an average annual rate of –0.4 percent, lowering the employment level to 2.6 million in 2016. The largest decline is expected in Federal defense government, in which employment is projected to fall at an average annual rate of 1.3 percent. This represents a job loss of 58,500 over the projection period, which is one of the largest declines among all industries. (See table 4.) As projected defense spending slows,<sup>14</sup> current employment levels are not expected to be sustained. Other factors dampening growth in Federal government include budgetary constraints, the growing use of private contractors, and the transfer of some functions to State and local government.

The State and local government sector is projected to add 1.4 million jobs during the 2006–16 period, an average annual growth rate 0.7 percent, raising the employment level in the sector to 20.7 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 2006. (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 511,600 jobs, an average annual growth rate of 0.6 percent. (See table 4.) While slowing enrollments for preschool, elementary, and secondary classes are expected to dampen job growth,<sup>15</sup> proposed government initiatives such as universal preschool and all-day kindergarten are expected to increase demand for teachers.

State government educational services are expected to see faster employment growth, increasing at a 1.2-percent annual average 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 291,200 jobs over the period, reaching 2.6 million in 2016.

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 expected to add 29,500 jobs over the projection period, growing at a 0.4-percent average annual rate to reach a level of 679,100 in 2016. State government hospitals, which are mostly psychiatric and substance abuse hospitals, are projected to shed 14,500 jobs over the period; this represents an average annual rate of -0.4 percent, which would lower the employment level to 346,400 in 2016. Patients now served by these hospitals are expected to increasingly obtain treatment in outpatient care centers and residential care facilities.

The rest of State and local government is projected to experience employment growth during the 2006–16 period, 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 previously provided at the Federal level, 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. Resistance to tax increases and the move to outsource jobs to the private sector are expected to limit employment growth, although to a lesser degree than health-related cost pressures.

### Goods-producing sector

The goods-producing sector comprises agriculture, mining, construction, and manufacturing. Employment in this sector decreased over the 1996–2006 period and is expected to continue falling, from 24.6 million jobs in 2006 to 23.7 million jobs in 2016. Labor-saving techniques and productivity improvements in manufacturing and other goods-producing sectors have historically played a prominent role in these declines and will continue to be a driving force in the reduction of employment in this sector. As a percent of total (economy-wide) employment, the goods-producing sector is projected to fall from 16.4 percent in 2006 to 14.3 percent in 2016. Demand for the goods produced by these sectors (excluding agriculture) grew at a rate of 1.5 percent per year over the 1996–2006 period and is expected to grow at a slightly faster rate of 2.1 percent per year through 2016, although this is still somewhat slower than the 2.9-percent growth rate of

output for the overall economy. Consequently, the share of total nominal output for the goods-producing sector is also expected to fall, from 28.7 percent to 25.1 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 173,100 over the 2006–16 period, an average annual rate of -0.8 percent. Overall, employment in the sector is expected to decline to a level of 2.0 million by 2016. Employment is projected to decrease at approximately the same rate for wage and salary workers and for self-employed and unpaid family workers, resulting in employment declines of 105,200 and 68,000, respectively.

Despite the declines in employment, however, real output in the sector is projected to expand by 2.2 percent per year to reach \$330.8 billion in 2016, up from \$267.2 billion in 2006. According to the Department of Agriculture,<sup>16</sup> demand for biofuels, particularly in the United States and the European Union, is expected to lead to large increases in corn-based ethanol production, which affects the production, use, and prices of farm commodities throughout the sector. 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 during the projection period, as technological improvements in farm equipment continue to reduce the number of workers needed in the sector.

The downward trend in employment in agriculture, forestry, fishing, and hunting is dominated by declines in the crop production industry, which is projected to post the largest industry employment decline in the economy over the 2006–16 period. (See table 4.) Crop production alone is projected to decline by 139,400 jobs during the period, an average annual rate of -1.7 percent. Other industries expected to contribute to the decline in agricultural employment are animal production; logging; and fishing, hunting, and trapping. Employment in these four industries is expected to decline by a combined 186,000 jobs during the

projection period, or by 1.0 percent annually. The forestry industry and the support activities for agriculture and forestry industries are expected to be the only components of the sector posting employment gains. Employment in these two industries is expected to reach 187,600 by 2016, rising by 0.7 percent annually over the 10-year period.

Crop production and animal production make up the vast majority of output in the agriculture, forestry, fishing, and hunting sector: 83 percent of nominal output in 2006. These two industries are expected to expand production through 2016. 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 3.3 percent, which is somewhat faster than the 2.9-percent annual rate of output growth projected for the overall economy during the projection period. Output in animal production is projected to grow 2.1 percent annually, up from the 1.6 percent growth rate experienced during the 1996–2006 period, but still less than the rate of output growth in the overall economy.

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 remain flat or decline over the projection period. Due to increased competition from imports, real output in fishing, hunting, and trapping is expected to decline at an annual rate of 2.9 percent, which is somewhat faster than in the previous decade. Historical declines in logging and in forestry are expected to continue, with output projected to fall at an annual rate of 0.9 percent and 0.4 percent, respectively. In terms of real output growth, these three industries are expected to be among those declining most rapidly during the 2006–16 period. (See table 5.)

*Mining.* Employment in the mining sector is expected to reach 608,500 by 2016, down 10,200 from its 2006 level. As a whole, the mining sector is expected to experience an average annual decline in employment of 0.2 percent. Conversely, real output is expected to increase at an average annual rate of 1.0 percent, to reach \$268.6 billion by 2016, as the U.S. and other economies continue to demand larger quantities of raw materials. Even with growing demand on the world market, the use of new mining techniques and greater applications of technologies such as automatic and computer-based control rooms, as well as increased utilization of lasers and robotics, are expected to eliminate many jobs in the sector over the 2006–16 period.

Employment in the oil and gas extraction industry—which accounted for almost 60 percent of the nominal output and 22 percent of employment within the mining sector

in 2006—is expected to decline over the projection period by 2,300 jobs. This represents an annual rate of decline of 0.2 percent, which is an improvement over the 0.8-percent annual decline that occurred during the 1996–2006 period. Real output in oil and gas extraction is projected to increase at an annual rate of 0.7 percent, from \$142.4 billion in 2006 to \$152.1 billion in 2016. Growing demand for oil and gas, especially from larger developing countries, will provide incentives for further exploration and developing of oil reserves. At the same time, however, environmental restrictions on drilling in certain areas are expected to limit this exploration and development to some extent.

Industries within the mining sector expected to remain flat or add jobs are coal mining, metal ore mining, and nonmetallic mineral mining and quarrying. Coal mining is expected to show virtually no growth in employment over the projection period, although real output is expected to increase by 1.4 percent per year to reach \$26.8 billion in 2016. Demand for coal is expected to continue to increase because it remains a primary fuel source for generating electric power. In addition, recent price increases in natural gas have delayed the conversion to natural gas for some electricity producers, further strengthening the demand for coal. In spite of the projected increased demand, greater use of advancements in longwall and surface mining, as well as improvements in transportation and processing, will likely result in the need for fewer employees.

Metal ore mining is projected to gain 2,900 employees over the projection period, an annual growth rate of 0.8 percent. Continued high prices for metals and rising demand from other industries including telecommunications, construction, steel, aerospace, and automobile manufacturing will result in increased production. Moreover, the growing demand from developing countries will help to strengthen the metal ore market. Because of these market improvements, real output is projected to grow 4.3 percent annually, up substantially from the average annual growth rate of –2.2 percent that occurred during the 1996–2006 period.

The growth of the construction industry has and will continue to support the demand for production and employment in the nonmetallic mineral mining and quarrying industry, which is projected to post the largest employment gain within the mining sector, increasing from 109,800 employees in 2006 to 116,300 in 2016. Specifically, residential and nonresidential investment in building and road construction is expected to continue to stimulate growth in real output in the industry, where it is projected to grow 2.2 percent annually. Overall, real output in these three industries is projected to reach \$66.5 billion in 2016, up from \$52.2 billion in 2006, for an annual growth rate of 2.4 percent.

In support activities for mining, which include work done by contract and specialty drilling companies, employment is projected to decrease from 261,700 jobs in 2006 to 244,300 by 2016. However, real output in the industry is expected to increase by \$5.8 billion over the projection period, or 1.2 percent annually.

*Construction.* The construction sector, which is projected to add 780,700 jobs by 2016 (1.0 percent annually), is the only major sector within the goods-producing sector in which positive employment growth is expected to occur over the projection period. In fact, with employment expected to reach a level of 8.5 million in 2016, the construction sector is among the industries with the 10 largest projected increases in terms of employment growth. (See table 4.) During the 1996–2006 period, the share of total employment allocated to the construction industry rose from 4.1 percent to 5.1 percent. Because employment in the construction industry is expected to grow at the same rate as overall employment, the percent of all employees in the construction industry will likely remain at 5.1 percent in 2016.

Construction is also expected to be among the largest sources of output growth in the economy over the projection period, with real output projected to increase at a rate of 1.4 percent per year to reach \$1.0 trillion by 2016. Construction was also one of two major industry sectors within the goods-producing sector whose share of nominal output increased during the 1996–2006 period, rising from 4.5 percent of total expenditures to 5.2 percent. This share is expected to remain about the same: 5.1 percent of nominal output in 2016.

Investment in residential and nonresidential structures strongly influences output growth in construction. While there was only minimal growth in nonresidential investment during the previous decade (0.3 percent annually), it is expected to grow at a rate of 1.5 percent annually over the 2006–16 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 2016, as changing demographics play a greater role in nonresidential investment. Continued work to improve roads and bridges across the country and the replacement and remodeling of industrial plants, which will require improvements for a large number of structures, is expected to provide further support for the expansion of construction output during the projection period.

Investment in residential construction is projected to grow at an annual rate of 1.7 percent throughout the 2006–16 period. Although this represents a deceleration from the rapid growth experienced during the previous

decade, long-term growth is expected to continue and 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>17</sup>

*Manufacturing.* Led by demand from consumers, businesses, and exports, real output in manufacturing is expected to increase by \$1.1 trillion over the projection period, reaching \$5.3 trillion by 2016, an average annual growth rate of 2.4 percent. Although the projected growth rate for manufacturing is slightly slower than that of the overall economy during the 2006–16 period, it is considerably faster than it was during the 1996–2006 period (1.4 percent). The share of total nominal output allocated to manufacturing is expected to continue to drop; after falling from 24.9 percent in 1996 to 20.3 percent in 2006, the share is projected to be 17.7 percent by 2016. As demand and the share of expenditures increase for service-providing sectors of the economy, the manufacturing sector will likely continue to account for a smaller percentage of total nominal output.

Employment in manufacturing will continue to fall over the 2006–16 period, but at a slower rate than in the preceding decade: the average annual decline is expected to be 1.1 percent through 2016, compared with 1.9 percent during the 1996–2006 period. In 1996, manufacturing wage and salary employment was 17.2 million, accounting for 12.8 percent of all jobs in the economy. By 2006, employment in this sector had fallen to 14.2 million, or 9.4 percent of economy-wide employment. The projected loss of 1.5 million jobs from 2006 to 2016, in addition to the 15.8 million jobs gained in the service-providing sectors, will result in the manufacturing sector's share of employment falling to 7.6 percent by 2016.

Within the manufacturing sector, 69 of the 84 manufacturing industries reviewed are expected to experience employment declines over the projection period. The remaining 15 industries are projected to gain only 252,000 jobs from a base of 3.9 million jobs in 2006. Declining product demand in some of these industries will contribute to the employment loss; 20 of the 84 manufacturing industries reviewed are expected to see a decrease in real output during the 2006–16 period. As mentioned previously, real output growth for the manufacturing sector during the projection period is expected to increase at an average annual rate of 2.4 percent. Consequently, the 64 manufacturing industries projected to increase output will account for this growth, although much of it will be

concentrated within the computer and electronic product manufacturing subsector. Among the 64 industries expected to expand output during the projection period, 49 are projected to decrease employment, as improvements in their production processes will allow them to yield more output with fewer workers.

The manufacturing subsectors that are expected to lead the pace of output growth are computer and electronic product manufacturing, plastics and rubber products manufacturing, miscellaneous manufacturing, and transportation equipment manufacturing. The industry subsectors that are projected to experience the fastest declines in employment are apparel manufacturing; primary metal manufacturing; textile mills; paper manufacturing; and electronic equipment, appliance, and component manufacturing.

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; real output is projected to grow at an annual rate of 9.4 percent, up substantially from the 4.4-percent rate experienced during the 1996–2006 period. The well-known productivity improvements associated with this subsector are expected to continue, resulting in employment falling from 1.3 million in 2006 to slightly less than 1.2 million in 2016. This corresponds to an average annual employment decline of 1.3 percent, which is an improvement over the 2.8-percent annual rate of decline experienced during the 1996–2006 period.

In 2006, the computer and peripheral equipment manufacturing industry accounted for 15 percent of employment and 17 percent of nominal output within the computer and electronic product manufacturing subsector. This 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>18</sup> With a 20.5-percent projected growth rate, output in the industry is expected to reach \$867 billion (in chained 2000 dollars) by 2016. 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 4.0 percent, which is slightly slower than the 4.2-percent annual rate of decline experienced during the 1996–2006 period. Employment is expected to

reach 132,300 in 2016, down 66,500 from 2006. 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 is expected to keep employment from rising in spite of rapidly rising output.

Semiconductor and other electronic component manufacturing is also among the fastest and largest growing industries for real output. Ranked second fastest and fifth largest in terms of real output growth, the industry is projected to increase output from \$162.6 billion in 2006 to \$543.4 billion in 2016, an annual growth rate of 12.8 percent. Continued technological advancements are also expected in this industry, such that employment is expected to fall over the projection period, down 63,600 from the 2006 level of 462,800. (See table 4.) This corresponds to an average decline of 1.5 percent per year, an improvement over the 2.7-percent annual decline that occurred during the 1996–2006 period. 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, and it is expected to continue through 2016. The semiconductor and other electronic component industry accounted for approximately 35 percent of the 2006 employment within the computer and electronic product manufacturing subsector, and its share of nominal output was about 33 percent. These shares are not expected to change over the 2006–16 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. Communications equipment is projected to increase its output 4.1 percent annually, as demand for wireless phones along with enhanced wireless applications continues to expand. Employment, however, is expected to show no growth, maintaining a level of 145,000 employees. The navigational, measuring, electromedical, and control instruments industry, which accounted for approximately 33 percent of employment within this subsector in 2006, is expected to decrease its employment slightly over the projection period (–0.5 percent annually). Real output is expected to increase 2.7 percent per year, on average, up somewhat from the 2.1-percent annual growth rate that occurred during the 1996–2006 period.

The transportation equipment manufacturing subsector,

which includes motor vehicle and parts manufacturing, aerospace, railroad, and ship production, represented the largest share of employment (12.4 percent) and nominal output (14.1 percent) in 2006. By 2016, this subsector's share of employment is expected to increase to 13.0 percent and its share of nominal output is expected to increase to 15.6 percent. The subsector is expected to continue to account for the largest share of nominal output and employment within manufacturing. Overall, employment in transportation equipment manufacturing is projected to fall by 114,100 jobs from 2006 to 2016, an annual growth rate of  $-0.7$  percent per year. Real output is expected to expand at a rate of 2.8 percent per year over the 2006–16 period, which is slightly faster than it grew during the previous decade.

The motor vehicle manufacturing industry was one of the largest manufacturing industries in 2006, and it is ranked among the industries with the largest projected output growth over the 2006–16 period. (See table 6.) Real output in the industry is expected to increase from \$277.6 billion in 2006 to \$384.7 billion in 2016, an annual growth rate of 3.3 percent. The need to replace existing vehicles and the continued growth in the driving-age population are expected to help stimulate the industry; however, output growth is expected to be limited by competition from foreign producers. Employment in the motor vehicle manufacturing industry is expected to continue its downward trend, declining by 0.4 percent per year over the 2006–16 period, compared with 1.9 percent annually during the 1996–2006 period. Still, the 0.4-percent annual rate of decline is expected to result in more than 10,000 jobs lost in this industry by 2016. Having to confront the ongoing intensity of international and domestic competition, companies are expected to continue to implement quality- and productivity-enhancing technologies, such as robotics, computer-assisted design, and factory automation. Companies are also expected to continue to evaluate offshore production as a means of reducing costs.

The motor vehicle parts manufacturing industry accounts for the largest share (37 percent) of employment within the transportation subsector. Real output growth in the industry is projected to slow to 0.7 percent over the 2006–16 projection period, down from the 1.3-percent growth rate that occurred during the previous decade. Employment is expected to decrease from 654,100 in 2006 to 515,800 in 2016, 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, in terms of both output and employment growth.

Other industries within the transportation subsector expected to expand their production 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 robust 3.1 percent per year during the projection period; this will translate into an employment increase of 25,300 jobs, or an average annual growth rate of 0.5 percent. Output growth in ship and boat building and in other transportation equipment—which includes motorcycles, bicycles, military armored vehicles, ATVs, and golf carts—is expected to be among the fastest from 2006 to 2016. (See table 5.) Although employment in the other transportation equipment industry is expected to remain at 39,600, approximately 18,000 new jobs are expected in ship and boat building by 2016, as construction, repair, and conversion will become necessary for the aging U.S. Navy fleet.

Falling employment has been one of the main stories in the manufacturing sector for the last several decades, and that trend is expected to continue during the 2006–16 period. 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 228,000 from their 2006 level of 633,000 employees. Even larger reductions occurred during the previous period, when combined employment in these industries fell by 864,000 from 1996 to 2016. 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 2.4 percent annually in the textile mills subsector, 5.5 percent annually for apparel manufacturing, and 5.7 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, 108,300 jobs, an annual rate of  $-8.4$  percent. Output for this industry is expected to continue to fall over the projection period, averaging  $-5.9$  percent per year. The second largest decline in employment within these subsectors is expected to occur in the fabric mills industry, which is projected to lose 28,700 jobs, an average annual growth rate of  $-3.8$  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 15 percent of the overall employment decrease in the manufacturing sector over the projection period.

Fabricated metal product manufacturing is projected to lose 189,000 jobs by 2016. This corresponds to an average annual decline of 1.3 percent, which is somewhat faster than the 0.6-percent annual decline that occurred during the 1996–2006 period. Industries within this subsector contributing to the large projected employment decline include machine shops; turned product; and screw, nut, and bolt manufacturing (–69,000); other fabricated metal product manufacturing (–35,500); and coating, engraving, heat treating, and allied activities (–29,300). Increased output growth in the computer, motor vehicle, and aerospace products manufacturing industries is expected to spur additional output growth in machine shops; turned product; and screw, nut, and bolt manufacturing. Although output in this industry is projected to grow at an annual rate of 3.0 percent, greater use of robotics and computer numerically controlled machine improvements is expected to result in the relatively large employment downturn. Real output in the other fabricated metal industry is expected to remain flat over the projection period, but improved robotic welding and other heat treating processes are expected to eliminate many jobs.

Machinery manufacturing is projected to lose 146,300 jobs by 2016, declining at a rate of 1.3 percent annually. This is an improvement from the previous decade, when employment in this subsector fell at a rate of 2.1 percent per year. Output growth of 1.8 percent per year during the 1996–2006 period helped moderate the historical employment declines. Over the 2006–16 projection period, the cutbacks in employment are expected to be spread across seven industries, with the largest drop coming in the metalworking machinery manufacturing industry, which is expected to lose 36,800 jobs.

Overall, demand for the goods produced in most machinery manufacturing industries is expected to increase during the projection period. Higher crop prices are expected to generate demand for agriculture machinery, and growth in commercial construction and infrastructure will advance the use of heavy equipment. As a result, output in the agriculture, construction, and mining machinery manufacturing industry is expected to outpace that of the overall economy, growing at a rate of 3.4 percent annually. Strong demand for truck engine manufacturing, in addition to electric power generation and new energy methods, is expected to strengthen the market for engine, turbine,

and power transmission equipment manufacturing, which is projected to grow 2.4 percent annually. In spite of the seemingly healthy market in machinery manufacturing, intense international competition and labor-saving improvements are expected to cause large workforce reductions in these industries.

The printing and related support activities industry is projected to post the second largest decline in employment of any of the industries reviewed. (See table 4.) Declining at a rate of 2.4 percent per year, employment in this industry is expected to fall from 635,900 in 2006 to 497,400 in 2016. Much of the employment decline is expected to result from shrinking output, as other industries such as newspapers, periodicals, book, and directory publishers increasingly undertake these types of activities internally and thus no longer require the products of printing and related support activities. The rate of decline in real output in the industry is projected to slow during the 2006–16 projection period, but still remain negative: output declined by 1.7 percent per year from 1996 to 2006, and it is expected to decline by 1.3 percent per year from 2006 to 2016.

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 the diffusion of technology and future demand. Because of the uncertainty associated with these assumptions, actual outcomes are likely to differ from these projections.

In sum, BLS projects employment growth to slow over the coming decade due to slower growth of both the labor force and industry output. This will be seen in the service-providing sectors, which will grow more slowly over the projection period than in the previous decade. While historical rates of job loss will moderate in the goods-producing and agricultural sectors, declining more slowly over the projection period, these sectors will continue to shed 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 2016. Professional business services and health care and social assistance services—the sectors with the fastest-growing employment—will add half of the new jobs and represent nearly a quarter of all employment in 2016. Industries with the fastest growth in employment are projected to come from within the service-providing sectors, in contrast to the goods-producing sectors, which contain many of the industries with the most rapidly declining employment. □

## NOTES

<sup>1</sup> Total employment is a summation of nonagricultural wage and salary workers from the BLS Current Employment Statistics (CES) survey combined with self-employed workers; unpaid family workers; and agriculture, forestry, fishing, and hunting workers from the BLS Current Population Survey (CPS).

<sup>2</sup> Nonagricultural wage and salary employment includes data from the Current Employment Statistics survey, except private households; data on private households are from the Current Population Survey. Logging workers are excluded.

<sup>3</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 for individual industries does not sum to higher level industry aggregates because of chain weighting. For more information, 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>4</sup> Because they provide 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* (Bureau of Economic Analysis, November 2003), pp. 8–16.

<sup>5</sup> This set of BLS projections is based on the 2002 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>6</sup> William Aspray, Frank Mayadas, and Moshe Y. Vardi, *Globalization and Offshoring of Software: A report of the ACM Job Migration Task Force* (New York, Association for Computing Machinery, 2006); on the Internet at <http://www.acm.org/globalizationreport/pdf/full-final.pdf> (visited Nov. 30, 2007).

<sup>7</sup> For a further discussion of population and labor force projections, see Mitra Toossi, "Labor force projections to 2016," this issue, pp. 33–52.

<sup>8</sup> Kara Olsen, "Outpatient outlook," *Health Care Strategic Management*, March 2007, p. 7.

<sup>9</sup> Based on a comparison of 2000 and 2006 population data from the Bureau of the Census Web site. Data on the U.S. population are available at <http://www.census.gov/popest/national/>; data on one-parent family groups are available at <http://www.census.gov/population/www/socdemo/hh-fam.html> (visited Nov. 30, 2007).

<sup>10</sup> See William Aspray and others, *Globalization and Offshoring of Software*.

<sup>11</sup> For additional information see, Tabitha M. Bailey and William J. Hussar, "Projections of Education Statistics to 2015" (National Center for Education Statistics, September 2006).

<sup>12</sup> For a further discussion of personal consumption projections, see Betty Su, "The U.S. economy to 2016," this issue, pp. 13–32.

<sup>13</sup> Authors' calculations using data from the Bureau of Labor Statistics Current Population Survey (CPS). For more information on this survey, visit the CPS page of the BLS Web site at <http://www.bls.gov/cps/home.htm#overview>.

<sup>14</sup> For a further discussion of defense spending projections, see Betty Su, "The U.S. economy to 2016," this issue, pp. 13–32.

<sup>15</sup> See Bailey and Hussar, "Projections of Education Statistics to 2015."

<sup>16</sup> *USDA Agricultural Projections to 2016*, Long-term Projections Report OCE-2007-1 (U.S. Department of Agriculture, World Agricultural Outlook Board, February 2007).

<sup>17</sup> For a further discussion of macroeconomic projections, see Betty Su, "The U.S. economy to 2016," this issue, pp. 13–32.

<sup>18</sup> Note that 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. 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 and other industries 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* (Bureau of Economic Analysis, July 1998), pp. 108–115.

Data in table 3 (page 58), table 4 (page 60), and the appendix (page 84) were corrected online May 30, 2008. See Errata online at [www.bls.gov/opub/mlr/2008/05/errata.pdf](http://www.bls.gov/opub/mlr/2008/05/errata.pdf)

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
NA	Nonagriculture wage and salary <sup>1</sup> .....	120,371.4	136,912.2	151,962.3	16,540.8	15,050.1	1.3	1.0	14,880.2	19,997.5	26,756.9	3.0	3.0
21	Mining .....	556.4	618.7	608.5	62.3	-10.2	1.1	-2	213.0	242.2	268.6	1.3	1.0
211	Oil and gas extraction .....	146.9	135.9	133.6	-11.0	-2.3	-8	-2	143.5	142.4	152.1	-1	.7
212	Mining, except oil and gas .....	249.4	221.1	230.6	-28.3	9.5	-1.2	.4	47.2	52.2	66.5	1.0	2.4
2121	Coal mining .....	90.5	78.8	79.0	-11.7	.2	-1.4	.0	20.9	23.2	26.8	1.1	1.4
2122	Metal ore mining .....	50.5	32.5	35.4	-18.0	2.9	-4.3	.8	9.3	7.5	11.4	-2.2	4.3
2123	Nonmetallic mineral mining and quarrying .....	108.4	109.8	116.3	1.4	6.5	.1	.6	16.9	21.4	26.6	2.4	2.2
213	Support activities for mining .....	160.1	261.7	244.3	101.6	-17.4	5.0	-7	24.4	45.9	51.7	6.5	1.2
22	Utilities .....	639.5	548.5	517.6	-91.0	-30.9	-1.5	-6	308.7	323.4	353.5	.5	.9
2211	Electric power generation, transmission and distribution .....	464.1	397.0	376.1	-67.1	-20.9	-1.5	-5	229.6	266.0	303.3	1.5	1.3
2212	Natural gas distribution .....	136.5	106.0	87.4	-30.5	-18.6	-2.5	-1.9	73.7	51.9	45.4	-3.4	-1.3
2213	Water, sewage and other systems .....	38.9	45.5	54.0	6.6	8.5	1.6	1.7	6.5	7.3	9.5	1.2	2.7
23	Construction .....	5,535.5	7,688.9	8,469.6	2,153.4	780.7	3.3	1.0	740.6	899.1	1,031.1	2.0	1.4
31-33	Manufacturing .....	17,236.6	14,197.3	12,694.5	-3,039.3	-1,502.8	-1.9	-1.1	3,610.5	4,145.8	5,263.6	1.4	2.4
311	Food manufacturing .....	1,562.1	1,484.3	1,489.3	-77.8	5.0	-5	.0	384.9	460.7	550.9	1.8	1.8
3111	Animal food manufacturing .....	55.8	50.3	42.5	-5.5	-7.8	-1.0	-1.7	19.9	26.2	35.1	2.8	3.0
3112	Grain and oilseed milling .....	69.0	60.5	51.4	-8.5	-9.1	-1.3	-1.6	38.1	43.1	51.7	1.2	1.8
3113	Sugar and confectionery product manufacturing .....	99.4	74.9	61.4	-24.5	-13.5	-2.8	-2.0	22.7	24.3	28.2	.7	1.5
3114	Fruit and vegetable preserving and specialty food manufacturing .....	209.9	177.4	155.5	-32.5	-21.9	-1.7	-1.3	45.9	52.5	65.7	1.4	2.3
3115	Dairy product manufacturing .....	133.5	131.7	126.6	-1.8	-5.1	-1	-4	57.8	65.1	76.4	1.2	1.6
3116	Animal slaughtering and processing .....	486.3	509.0	569.2	22.7	60.2	.5	1.1	98.6	126.8	154.7	2.6	2.0
3117	Seafood product preparation and packaging .....	52.8	40.0	35.6	-12.8	-4.4	-2.7	-1.2	8.6	10.1	11.4	1.6	1.2
3118	Bakeries and tortilla manufacturing .....	306.3	280.5	284.7	-25.8	4.2	-9	.1	43.0	51.9	58.4	1.9	1.2
3119	Other food manufacturing .....	149.1	160.0	162.5	10.9	2.5	.7	.2	51.5	61.1	70.0	1.7	1.4
312	Beverage and tobacco product .....	204.4	194.7	171.1	-9.7	-23.6	-5	-1.3	134.5	118.3	108.7	-1.3	-8
3121	Beverage manufacturing .....	166.0	171.3	155.6	5.3	-15.7	.3	-1.0	69.9	80.1	89.0	1.4	1.1
3122	Tobacco manufacturing .....	38.4	23.4	15.5	-15.0	-7.9	-4.8	-4.0	65.9	39.2	22.1	-5.1	-5.6
313	Textile mills .....	443.2	195.7	133.8	-247.5	-61.9	-7.8	-3.7	51.8	32.0	25.1	-4.7	-2.4
3131	Fiber, yarn, and thread mills .....	86.6	48.2	38.3	-38.4	-9.9	-5.7	-2.3	11.5	8.4	8.2	-3.1	-3
3132	Fabric mills .....	233.1	89.9	61.2	-143.2	-28.7	-9.1	-3.8	28.0	15.0	10.6	-6.0	-3.4
3133	Textile and fabric finishing and fabric coating mills .....	123.5	57.6	34.4	-65.9	-23.2	-7.3	-5.0	12.2	8.6	6.4	-3.4	-3.0

See footnotes at end of table

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
314	Textile product mills .	216.3	161.1	141.1	-55.2	-20.0	-2.9	-1.3	28.8	30.0	31.2	0.4	0.4
3141	Textile furnishings mills.....	125.8	90.1	78.9	-35.7	-11.2	-3.3	-1.3	18.6	21.0	22.9	1.3	.8
3149	Other textile product mills.....	90.5	71.0	62.2	-19.5	-8.8	-2.4	-1.3	10.2	9.0	8.3	-1.3	-.8
315	Apparel manufacturing .....	743.0	238.4	109.7	-504.6	-128.7	-10.7	-7.5	67.3	35.6	20.2	-6.2	-5.5
3151	Apparel knitting mills	97.9	34.0	20.1	-63.9	-13.9	-10.0	-5.1	11.9	5.4	3.3	-7.6	-4.8
3152	Cut and sew apparel manufacturing .....	604.6	185.5	77.2	-419.1	-108.3	-11.1	-8.4	50.7	27.6	15.1	-5.9	-5.9
3159	Apparel accessories and other apparel manufacturing .....	40.5	18.9	12.4	-21.6	-6.5	-7.3	-4.1	4.7	2.6	1.8	-5.8	-3.8
316	Leather and allied product.....	94.2	37.4	20.2	-56.8	-17.2	-8.8	-6.0	9.8	5.1	2.9	-6.2	-5.7
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing <sup>2</sup> ....	46.0	20.0	12.1	-26.0	-7.9	-8.0	-4.9	5.6	3.4	2.1	-5.0	-4.5
3162	Footwear manufacturing .....	48.2	17.4	8.1	-30.8	-9.3	-9.7	-7.3	4.1	1.8	.7	-8.2	-8.4
321	Wood product manufacturing .....	582.8	560.3	526.9	-22.5	-33.4	-.4	-.6	85.1	94.6	104.5	1.1	1.0
3211	Sawmills and wood preservation.....	133.4	118.5	94.1	-14.9	-24.4	-1.2	-2.3	26.0	27.4	27.2	.5	.0
3212	Veneer, plywood, and engineered wood product manufacturing .....	110.2	120.3	130.6	10.1	10.3	.9	.8	18.7	20.5	24.4	1.0	1.7
3219	Other wood product manufacturing .....	339.2	321.5	302.3	-17.7	-19.2	-.5	-.6	40.4	46.7	52.8	1.5	1.2
322	Paper manufacturing	631.3	469.3	367.3	-162.0	-102.0	-2.9	-2.4	159.1	147.4	143.2	-.8	-.3
3221	Pulp, paper, and paperboard mills ...	216.1	136.0	93.8	-80.1	-42.2	-4.5	-3.6	71.7	70.2	68.1	-.2	-.3
3222	Converted paper product manufacturing .....	415.2	333.3	273.5	-81.9	-59.8	-2.2	-2.0	87.4	77.3	75.1	-1.2	-.3
323	Printing and related support activities ...	815.8	635.9	497.4	-179.9	-138.5	-2.5	-2.4	99.2	83.6	73.2	-1.7	-1.3
324	Petroleum and coal products manufacturing .....	137.3	114.3	87.9	-23.0	-26.4	-1.8	-2.6	223.2	268.4	295.3	1.9	1.0
325	Chemical manufacturing .....	984.5	868.7	847.8	-115.8	-20.9	-1.2	-.2	398.4	449.6	556.0	1.2	2.1
3251	Basic chemical manufacturing .....	224.4	147.5	124.2	-76.9	-23.3	-4.1	-1.7	102.2	115.4	129.5	1.2	1.2
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing .....	140.9	105.1	83.7	-35.8	-21.4	-2.9	-2.3	62.3	62.9	67.4	.1	.7
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing .....	49.5	38.7	30.2	-10.8	-8.5	-2.4	-2.4	21.2	20.8	16.7	-.2	-2.1
3254	Pharmaceutical and medicine manufacturing .....	228.7	292.4	361.8	63.7	69.4	2.5	2.2	99.2	122.6	186.0	2.1	4.3
3255	Paint, coating, and adhesive manufacturing .....	76.3	67.4	62.1	-8.9	-5.3	-1.2	-0.8	26.0	25.1	27.4	-.3	.9

See footnotes at end of table

**APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016**

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
3256	Soap, cleaning compound, and toilet preparation manufacturing .....	127.4	112.6	104.1	-14.8	-8.5	-1.2	-.8	51.8	66.8	87.4	2.6	2.7
3259	Other chemical product and preparation manufacturing .....	137.3	105.0	81.7	-32.3	-23.3	-2.6	-2.5	35.9	37.2	41.2	.4	1.0
326	Plastics and rubber products manufacturing .....	920.0	796.9	764.3	-123.1	-32.6	-1.4	-.4	150.3	168.2	239.1	1.1	3.6
3261	Plastics product manufacturing .....	708.4	637.6	650.5	-70.8	12.9	-1.0	.2	118.5	138.9	208.3	1.6	4.1
3262	Rubber product manufacturing .....	211.6	159.3	113.8	-52.3	-45.5	-2.8	-3.3	31.8	29.2	30.0	-.9	.3
327	Nonmetallic mineral product manufacturing .....	517.2	507.8	507.1	-9.4	-.7	-.2	.0	87.5	98.2	114.5	1.2	1.5
3271	Clay product and refractory manufacturing .....	83.7	60.7	54.4	-23.0	-6.3	-3.2	-1.1	9.6	8.6	9.7	-1.1	1.2
3272	Glass and glass product manufacturing .....	141.7	103.0	87.4	-38.7	-15.6	-3.1	-1.6	21.4	24.8	27.9	1.5	1.2
3273	Cement and concrete product manufacturing .....	200.3	248.4	266.0	48.1	17.6	2.2	.7	36.4	43.0	51.6	1.7	1.8
3274, 3279	Lime, gypsum and other nonmetallic mineral product manufacturing <sup>1</sup> .....	91.5	95.7	99.3	4.2	3.6	.4	.4	20.0	22.4	25.7	1.1	1.4
331	Primary metal manufacturing .....	639.4	462.1	335.9	-177.3	-126.2	-3.2	-3.1	156.8	149.7	156.6	-.5	.5
3311	Iron and steel mills and ferroalloy manufacturing .....	152.6	94.4	63.7	-58.2	-30.7	-4.7	-3.9	51.5	54.8	58.1	.6	.6
3312	Steel product manufacturing from purchased steel ....	70.1	59.9	51.8	-10.2	-8.1	-1.6	-1.4	18.3	15.2	16.4	-1.8	.8
3313	Alumina and aluminum production and processing .....	98.7	72.7	50.3	-26.0	-22.4	-3.0	-3.6	33.4	33.9	33.3	.1	-.2
3314	Nonferrous metal (except aluminum) production and processing .....	102.2	73.0	50.3	-29.2	-22.7	-3.3	-3.7	27.0	18.5	18.9	-3.7	.2
3315	Foundries .....	215.8	162.1	119.8	-53.7	-42.3	-2.8	-3.0	26.7	29.3	30.4	.9	.4
332	Fabricated metal product manufacturing .....	1,647.6	1,553.9	1,364.9	-93.7	-189.0	-.6	-1.3	234.5	246.5	277.9	.5	1.2
3321	Forging and stamping .....	139.3	113.3	86.0	-26.0	-27.3	-2.0	-2.7	22.7	24.5	25.0	.8	.2
3322	Cutlery and handtool manufacturing .....	77.8	54.1	39.7	-23.7	-14.4	-3.6	-3.0	11.9	9.3	8.6	-2.5	-.8
3323	Architectural and structural metals manufacturing .....	369.8	414.5	437.2	44.7	22.7	1.1	.5	48.9	59.3	71.0	2.0	1.8
3324	Boiler, tank, and shipping container manufacturing .....	107.3	91.8	82.2	-15.5	-9.6	-1.5	-1.1	22.4	20.9	22.3	-.7	.6
3325	Hardware manufacturing .....	53.2	34.0	23.5	-19.2	-10.5	-4.4	-3.6	11.2	9.6	8.4	-1.5	-1.3

See footnotes at end of table

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
3326	Spring and wire product manufacturing .....	81.5	58.2	42.1	-23.3	-16.1	-3.3	-3.2	8.2	8.1	8.3	-0.1	0.2
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	342.6	352.0	283.0	9.4	-69.0	.3	-2.2	41.8	45.3	60.9	.8	3.0
3328	Coating, engraving, heat treating, and allied activities .....	158.4	149.0	119.7	-9.4	-29.3	-.6	-2.2	17.8	20.4	23.5	1.4	1.4
3329	Other fabricated metal product manufacturing .....	317.7	287.0	251.5	-30.7	-35.5	-1.0	-1.3	49.6	49.2	50.1	-.1	.2
333	Machinery manufacturing .....	1,466.7	1,191.5	1,045.2	-275.2	-146.3	-2.1	-1.3	248.2	281.0	334.8	1.3	1.8
3331	Agriculture, construction, and mining machinery manufacturing .....	220.2	221.5	206.6	1.3	-14.9	.1	-.7	47.8	60.4	84.4	2.4	3.4
3332	Industrial machinery manufacturing .....	169.3	122.9	100.8	-46.4	-22.1	-3.2	-2.0	36.4	34.4	30.4	-.6	-1.2
3333	Commercial and service industry machinery manufacturing .....	145.5	111.0	96.9	-34.5	-14.1	-2.7	-1.3	25.3	21.7	19.6	-1.5	-1.0
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	187.1	159.8	145.2	-27.3	-14.6	-1.6	-1.0	29.6	35.2	46.0	1.8	2.7
3335	Metalworking machinery manufacturing .....	280.0	202.6	165.8	-77.4	-36.8	-3.2	-2.0	29.4	27.4	28.7	-.7	.5
3336	Engine, turbine, and power transmission equipment manufacturing .....	112.7	100.4	83.9	-12.3	-16.5	-1.1	-1.8	23.2	37.7	47.9	5.0	2.4
3339	Other general purpose machinery manufacturing .....	351.9	273.3	246.0	-78.6	-27.3	-2.5	-1.0	56.5	64.0	76.0	1.3	1.7
334	Computer and electronic product manufacturing .....	1,746.6	1,316.3	1,159.0	-430.3	-157.3	-2.8	-1.3	321.3	493.1	1,213.6	4.4	9.4
3341	Computer and peripheral equipment manufacturing .....	304.6	198.8	132.3	-105.8	-66.5	-4.2	-4.0	52.3	134.5	867.0	9.9	20.5
3342	Communications equipment manufacturing .....	237.6	144.4	145.0	-93.2	.6	-4.9	.0	66.4	77.5	115.5	1.6	4.1
3343	Audio and video equipment manufacturing .....	52.9	31.7	25.0	-21.2	-6.7	-5.0	-2.3	8.0	9.5	12.8	1.8	3.1
3344	Semiconductor and other electronic component manufacturing .....	606.6	462.8	399.2	-143.8	-63.6	-2.7	-1.5	106.8	162.6	543.4	4.3	12.8
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	489.1	437.5	417.8	-51.6	-19.7	-1.1	-.5	86.6	107.0	140.2	2.1	2.7

See footnotes at end of table

**APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016**

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
3346	Manufacturing and reproducing magnetic and optical media.....	55.8	41.1	39.6	-14.7	-1.5	-3.0	-0.4	8.3	12.0	15.2	3.7	2.3
335	Electrical equipment, appliance, and component manufacturing .....	591.0	435.6	354.5	-155.4	-81.1	-3.0	-2.0	105.5	104.6	116.4	-.1	1.1
3351	Electric lighting equipment manufacturing .....	81.7	58.9	42.5	-22.8	-16.4	-3.2	-3.2	11.5	12.7	13.5	1.0	.6
3352	Household appliance manufacturing .....	111.1	82.3	61.1	-28.8	-21.2	-3.0	-2.9	19.8	25.1	30.0	2.4	1.8
3353	Electrical equipment manufacturing .....	217.0	155.6	126.3	-61.4	-29.3	-3.3	-2.1	35.1	29.9	31.7	-1.6	.6
3359	Other electrical equipment and component manufacturing .....	181.2	138.8	124.6	-42.4	-14.2	-2.6	-1.1	39.1	37.0	41.8	-.5	1.2
336	Transportation equipment manufacturing .....	1,973.8	1,765.1	1,651.0	-208.7	-114.1	-1.1	-.7	525.1	657.2	862.9	2.3	2.8
3361	Motor vehicle manufacturing .....	285.3	236.1	225.8	-49.2	-10.3	-1.9	-.4	192.9	277.6	384.7	3.7	3.3
3362	Motor vehicle body and trailer manufacturing .....	155.1	180.2	176.1	25.1	-4.1	1.5	-.2	22.4	26.6	35.5	1.7	2.9
3363	Motor vehicle parts manufacturing .....	799.9	654.1	515.8	-145.8	-138.3	-2.0	-2.3	166.2	189.9	204.5	1.3	.7
3364	Aerospace product and parts manufacturing .....	514.2	471.6	496.9	-42.6	25.3	-.9	.5	111.3	122.5	165.8	1.0	3.1
3365	Railroad rolling stock manufacturing .....	33.4	28.0	23.3	-5.4	-4.7	-1.7	-1.8	7.1	6.8	9.9	-.4	3.9
3366	Ship and boat building .....	145.4	155.5	173.5	10.1	18.0	.7	1.1	16.2	21.2	34.6	2.8	5.0
3369	Other transportation equipment manufacturing .....	40.5	39.6	39.6	-.9	.0	-.2	.0	9.2	13.7	23.0	4.1	5.3
337	Furniture and related product manufacturing .....	603.8	556.4	520.6	-47.4	-35.8	-.8	-.7	58.4	79.2	92.9	3.1	1.6
3371	Household and institutional furniture and kitchen cabinet manufacturing .....	397.0	373.5	345.6	-23.5	-27.9	-.6	-.8	34.7	45.7	51.3	2.8	1.2
3372	Office furniture (including fixtures) manufacturing .....	157.5	132.4	123.4	-25.1	-9.0	-1.7	-.7	17.7	25.5	31.2	3.7	2.0
3379	Other furniture related product manufacturing .....	49.3	50.5	51.6	1.2	1.1	.2	.2	5.9	7.9	10.3	2.9	2.6
339	Miscellaneous manufacturing .....	715.6	651.6	599.5	-64.0	-52.1	-.9	-.8	100.7	147.2	218.9	3.9	4.0
3391	Medical equipment and supplies manufacturing .....	297.6	308.8	312.4	11.2	3.6	.4	.1	43.5	76.7	116.6	5.8	4.3
3399	Other miscellaneous manufacturing .....	418.0	342.8	287.1	-75.2	-55.7	-2.0	-1.8	57.2	70.4	102.0	2.1	3.8
42	Wholesale trade.....	5,522.1	5,897.7	6,326.2	375.6	428.5	.7	.7	654.3	1,041.9	1,702.7	4.8	5.0
44, 45	Retail trade .....	14,142.6	15,319.4	16,006.4	1,176.8	687.0	.8	.4	824.2	1,305.3	1,892.1	4.7	3.8

See footnotes at end of table

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
48, 492, 493	Transportation and warehousing .....	3,935.5	4,465.8	4,962.0	530.3	496.2	1.3	1.1	522.6	669.9	889.9	2.5	2.9
481	Air transportation .....	525.7	486.5	521.8	-39.2	35.3	-0.8	0.7	97.1	144.4	236.5	4.0	5.1
482	Rail transportation .....	225.2	225.3	213.3	.1	-12.0	0.0	-0.5	42.9	37.3	48.8	-1.4	2.7
483	Water transportation .....	51.0	64.1	76.2	13.1	12.1	2.3	1.7	29.1	22.5	29.3	-2.6	2.7
484	Truck transportation .....	1,282.4	1,437.2	1,594.9	154.8	157.7	1.1	1.0	179.4	261.3	338.2	3.8	2.6
485	Transit and ground passenger transportation .....	339.0	394.2	437.8	55.2	43.6	1.5	1.1	25.7	32.3	38.7	2.3	1.8
486	Pipeline transportation .....	51.4	39.0	26.4	-12.4	-12.6	-2.7	-3.8	27.3	23.8	20.7	-1.4	-1.4
487	Scenic and sightseeing transportation .....	23.2	27.0	34.7	3.8	7.7	1.5	2.5	2.1	2.2	2.5	.8	1.1
488	Support activities for transportation .....	445.9	570.7	667.7	124.8	97.0	2.5	1.6	41.3	48.5	54.3	1.6	1.1
492	Couriers and messengers .....	539.9	585.4	603.3	45.5	17.9	.8	.3	47.1	63.0	82.7	2.9	2.8
493	Warehousing and storage .....	451.8	636.4	785.9	184.6	149.5	3.5	2.1	31.3	39.8	57.7	2.4	3.8
51	Information .....	2,940.0	3,054.9	3,266.7	114.9	211.8	.4	.7	633.8	1,006.2	1,682.8	4.7	5.3
511	Publishing industries .....	927.2	903.7	932.2	-23.5	28.5	-0.3	0.3	164.9	274.2	461.3	5.2	5.3
5111	Newspaper, periodical, book, and directory publishers .....	752.4	660.3	610.9	-92.1	-49.4	-1.3	-0.8	117.7	131.5	167.2	1.1	2.4
5112	Software publishers .....	174.8	243.4	321.3	68.6	77.9	3.4	2.8	49.2	153.3	419.8	12.0	10.6
512	Motion picture, video, and sound recording industries .....	334.7	377.6	413.9	42.9	36.3	1.2	.9	69.7	81.0	116.4	1.5	3.7
515	Broadcasting (except internet) .....	309.1	331.4	362.6	22.3	31.2	.7	.9	58.9	72.7	98.7	2.1	3.1
517	Telecommunications .....	997.0	973.0	1,021.6	-24.0	48.6	-0.2	.5	300.7	469.6	758.5	4.6	4.9
516, 518, 519	Internet and other information services .....	372.0	469.2	536.4	97.2	67.2	2.3	1.3	41.2	109.4	248.2	10.3	8.5
52-53	Financial activities .....	6,968.6	8,363.2	9,570.1	1,394.6	1,206.9	1.8	1.4	1,726.4	2,621.1	3,761.6	4.3	3.7
521, 522	Monetary authorities, credit intermediation, and related activities .....	2,391.1	2,958.3	3,196.1	567.2	237.8	2.2	.8	414.7	659.5	946.0	4.7	3.7
523	Securities, commodity contracts, and other financial investments and related activities .....	589.6	816.3	1,192.4	226.7	376.1	3.3	3.9	112.0	351.2	958.3	12.1	10.6
5241	Insurance carriers .....	1,381.6	1,427.7	1,462.9	46.1	35.2	.3	.2	288.5	354.9	405.5	2.1	1.3
5242	Agencies, brokerages, and other insurance related activities .....	726.4	888.2	1,024.9	161.8	136.7	2.0	1.4	88.0	103.5	152.6	1.6	4.0
525	Funds, trusts, and other financial vehicles .....	65.6	93.1	122.4	27.5	29.3	3.6	2.8	57.2	72.2	90.1	2.4	2.2
531	Real estate .....	1,205.8	1,503.3	1,796.2	297.5	292.9	2.2	1.8	664.5	847.0	1,007.4	2.5	1.7
5321	Automotive equipment rental and leasing .....	179.8	199.5	229.1	19.7	29.6	1.0	1.4	26.2	29.6	33.5	1.2	1.2
5322, 5323	Consumer goods rental and general rental centers .....	320.1	326.3	361.0	6.2	34.7	.2	1.0	20.3	23.9	34.1	1.7	3.6

See footnotes at end of table

**APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016**

2002 NAICS	Industry	Employment							Output					
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change		
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16	
5324	Commercial and industrial machinery and equipment rental and leasing .	87.8	121.6	148.4	33.8	26.8	3.3	2.0	32.6	43.2	54.1	2.9	2.3	
533	Lessors of nonfinancial intangible assets (except copyrighted works) .....	20.8	28.9	36.6	8.1	7.7	3.3	2.4	62.6	138.6	278.4	8.3	7.2	
54	Professional, scientific, and technical services .	5,337.2	7,371.8	9,493.7	2,034.6	2,121.9	3.3	2.6	769.5	1,148.9	1,606.7	4.1	3.4	
5411	Legal services.....	968.4	1,173.4	1,284.7	205.0	111.3	1.9	.9	171.7	191.5	214.4	1.1	1.1	
5412	Accounting, tax preparation, bookkeeping, and payroll services .....	729.8	889.3	1,072.2	159.5	182.9	2.0	1.9	82.3	97.1	110.1	1.7	1.3	
5413	Architectural, engineering, and related services.....	1,024.6	1,385.6	1,731.0	361.0	345.4	3.1	2.3	136.1	210.3	276.3	4.4	2.8	
5414	Specialized design services.....	106.9	135.8	179.3	28.9	43.5	2.4	2.8	18.1	26.8	40.3	4.0	4.2	
5415	Computer systems design and related services.....	701.4	1,278.2	1,767.6	576.8	489.4	6.2	3.3	97.3	155.7	229.5	4.8	4.0	
5416	Management, scientific, and technical consulting services.....	517.1	920.9	1,638.7	403.8	717.8	5.9	5.9	86.6	171.0	317.8	7.0	6.4	
5417	Scientific research and development services.....	472.5	593.4	648.8	120.9	55.4	2.3	.9	59.4	126.8	216.1	7.9	5.5	
5418	Advertising and related services.....	414.1	458.1	520.2	44.0	62.1	1.0	1.3	56.8	77.3	97.1	3.1	2.3	
5419	Other professional, scientific, and technical services .	402.4	537.1	651.1	134.7	114.0	2.9	1.9	62.8	95.5	132.0	4.3	3.3	
55	Management of companies and enterprises .....	1,702.7	1,809.4	2,079.6	106.7	270.2	.6	1.4	226.5	435.0	591.7	6.7	3.1	
56	Administrative and support and waste management and remediation services.....	6,421.9	8,370.4	10,070.4	1,948.5	1,700.0	2.7	1.9	347.7	553.0	800.0	4.8	3.8	
561	Administrative and support services....	6,139.9	8,023.2	9,646.5	1,883.3	1,623.3	2.7	1.9	302.1	493.6	724.0	5.0	3.9	
5611	Office administrative services.....	247.4	363.4	456.4	116.0	93.0	3.9	2.3	30.5	73.7	128.7	9.2	5.7	
5612	Facilities support services.....	79.7	122.8	179.1	43.1	56.3	4.4	3.8	8.4	11.2	12.1	3.0	.8	
5613	Employment services	2,600.8	3,656.6	4,348.1	1,055.8	691.5	3.5	1.7	83.2	133.9	186.3	4.9	3.4	
5614	Business support services.....	678.3	790.6	950.1	112.3	159.5	1.5	1.9	40.9	60.9	92.6	4.1	4.3	
5615	Travel arrangement and reservation services.....	294.3	226.9	229.7	-67.4	2.8	-2.6	.1	25.5	29.6	29.9	1.5	.1	
5616	Investigation and security services ...	611.9	760.5	923.3	148.6	162.8	2.2	2.0	22.5	35.7	57.7	4.7	4.9	
5617	Services to buildings and dwellings .....	1,361.5	1,797.0	2,160.8	435.5	363.8	2.8	1.9	61.6	105.6	162.2	5.5	4.4	
5619	Other support services.....	266.0	305.4	399.0	39.4	93.6	1.4	2.7	29.7	42.8	55.2	3.7	2.6	

See footnotes at end of table

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996-2006	2006-16	1996-2006	2006-16	1996	2006	2016	1996-2006	2006-16
562	Waste management and remediation services.....	282.0	347.2	423.9	65.2	76.7	2.1	2.0	45.8	59.3	75.0	2.6	2.4
5621	Waste collection .....	92.5	130.3	156.8	37.8	26.5	3.5	1.9	23.6	30.0	36.0	2.4	1.8
5622, 5629	Waste treatment and disposal and waste management services.....	189.5	216.9	267.1	27.4	50.2	1.4	2.1	22.2	29.3	39.0	2.8	2.9
61	Education services ..	2,077.5	2,918.4	3,527.4	840.9	609.0	3.5	1.9	123.8	157.1	190.9	2.4	2.0
6111	Elementary and secondary schools	599.1	847.0	1,000.9	247.9	153.9	3.5	1.7	25.6	29.8	33.5	1.5	1.2
6112, 6113	Junior colleges, colleges, universities, and professional schools.....	1,169.5	1,537.2	1,823.9	367.7	286.7	2.8	1.7	71.9	94.6	113.6	2.8	1.8
6114-7	Other educational services.....	308.9	534.2	702.5	225.3	168.3	5.6	2.8	26.1	33.0	43.7	2.4	2.9
62	Health care and social assistance...	11,604.8	14,919.8	18,954.1	3,315.0	4,034.3	2.5	2.4	864.8	1,210.9	1,720.2	3.4	3.6
621	Ambulatory health care services.....	3,939.9	5,282.9	6,843.5	1,343.0	1,560.6	3.0	2.6	401.1	593.1	889.5	4.0	4.1
6211, 6212, 6213	Offices of health practitioners .....	2,629.2	3,508.3	4,365.4	879.1	857.1	2.9	2.2	286.0	432.8	643.0	4.2	4.0
6216	Home health care services.....	667.2	867.1	1,347.6	199.9	480.5	2.7	4.5	35.8	48.2	83.4	3.0	5.6
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services.....	643.5	907.5	1,130.5	264.0	223.0	3.5	2.2	79.4	112.5	163.9	3.5	3.8
622	Hospitals, private.....	3,772.8	4,427.1	5,118.9	654.3	691.8	1.6	1.5	291.8	397.2	542.6	3.1	3.2
623	Nursing and residential care facilities .....	2,379.9	2,900.9	3,587.8	521.0	686.9	2.0	2.1	98.3	118.9	146.0	1.9	2.1
6231	Nursing care facilities	1,448.4	1,584.2	1,758.5	135.8	174.3	.9	1.0	64.0	71.8	84.1	1.2	1.6
6232, 6233, 6239	Residential care facilities .....	931.5	1,316.7	1,829.2	385.2	512.5	3.5	3.3	34.3	47.1	62.4	3.2	2.9
624	Social assistance.....	1,512.2	2,308.9	3,404.0	796.7	1,095.1	4.3	4.0	73.6	103.2	149.1	3.4	3.8
6241	Individual and family services.....	544.8	973.6	1,687.0	428.8	713.4	6.0	5.7	30.3	43.7	68.0	3.7	4.5
6242, 6243	Community, and vocational rehabilitation services.....	408.2	528.6	638.5	120.4	109.9	2.6	1.9	14.3	21.5	31.8	4.2	4.0
6244	Child day care services.....	559.2	806.7	1,078.4	247.5	271.7	3.7	2.9	29.0	38.1	50.2	2.8	2.8
71	Arts, entertainment, and recreation.....	1,522.1	1,927.1	2,522.4	405.0	595.3	2.4	2.7	130.5	184.6	274.2	3.5	4.0
711	Performing arts, spectator sports, and related industries .....	328.7	398.8	478.1	70.1	79.3	2.0	1.8	55.6	62.2	83.7	1.1	3.0
7111	Performing arts companies .....	115.4	120.7	119.9	5.3	-8	.5	-.1	10.0	9.2	9.9	-.8	.8
7112	Spectator sports .....	109.3	131.3	162.2	22.0	30.9	1.9	2.1	18.4	23.5	31.0	2.5	2.8
7113, 7114	Promoters of events, and agents and managers.....	72.1	100.0	131.3	27.9	31.3	3.3	2.8	11.4	13.8	18.3	2.0	2.9
7115	Independent artists, writers, and performers .....	31.9	46.8	64.8	14.9	18.0	3.9	3.3	15.9	15.7	24.4	-.1	4.5

See footnotes at end of table

**APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016**

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
712	Museums, historical sites, and similar institutions .....	88.9	123.9	167.4	35.0	43.5	3.4	3.1	5.4	7.0	10.1	2.8	3.7
713	Amusement, gambling, and recreation industries .....	1,104.5	1,404.4	1,876.8	299.9	472.4	2.4	2.9	69.8	115.7	181.6	5.2	4.6
72	Accommodation and food services .....	9,254.4	11,216.3	12,494.3	1,961.9	1,278.0	1.9	1.1	427.3	554.7	635.2	2.6	1.4
721	Accommodation .....	1,698.9	1,833.4	2,087.7	134.5	254.3	.8	1.3	114.7	139.3	169.9	2.0	2.0
722	Food services and drinking places .....	7,555.5	9,382.9	10,406.5	1,827.4	1,023.6	2.2	1.0	312.5	415.3	465.4	2.9	1.1
81	Other services .....	5,434.9	6,234.6	7,077.2	799.7	842.6	1.4	1.3	370.2	439.1	550.5	1.7	2.3
811	Repair and maintenance .....	1,135.6	1,248.5	1,452.6	112.9	204.1	1.0	1.5	143.9	175.7	222.7	2.0	2.4
8111	Automotive repair and maintenance ..	781.4	887.4	1,094.2	106.0	206.8	1.3	2.1	89.8	106.4	132.4	1.7	2.2
8112	Electronic and precision equipment repair and maintenance ..	110.2	104.4	94.3	-5.8	-10.1	-5	-1.0	18.2	19.7	20.0	.8	.2
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance ..	160.2	178.7	191.0	18.5	12.3	1.1	.7	17.0	29.1	44.7	5.5	4.4
8114	Personal and household goods repair and maintenance .....	83.8	78.0	73.2	-5.8	-4.8	-7	-6	19.1	20.6	25.5	.7	2.2
812	Personal and laundry services .....	1,165.8	1,284.2	1,414.8	118.4	130.6	1.0	1.0	95.6	122.4	166.6	2.5	3.1
8121	Personal care services .....	454.4	585.2	649.0	130.8	63.8	2.6	1.0	28.7	40.4	55.9	3.5	3.3
8122	Death care services ..	126.3	136.6	154.2	10.3	17.6	.8	1.2	13.1	11.3	11.9	-1.5	.6
8123	Drycleaning and laundry services .....	378.4	344.0	346.3	-34.4	2.3	-9	.1	20.3	20.9	23.0	.3	1.0
8129	Other personal services .....	206.7	218.4	265.3	11.7	46.9	.6	2.0	33.4	50.0	76.5	4.1	4.3
813	Religious, grantmaking, civic, professional, and similar organizations .....	2,389.2	2,899.4	3,373.1	510.2	473.7	2.0	1.5	118.2	127.6	147.1	.8	1.4
8131	Religious organizations .....	1,310.2	1,665.9	1,981.4	355.7	315.5	2.4	1.7	46.6	49.2	56.1	.5	1.3
8132, 8133	Grantmaking and giving services and social advocacy organizations .....	250.9	320.6	366.8	69.7	46.2	2.5	1.4	14.7	18.4	22.2	2.3	1.9
8134, 8139	Civic, social, professional, and similar organizations .....	828.1	912.9	1,024.9	84.8	112.0	1.0	1.2	57.0	60.0	68.9	.5	1.4
814	Private households ..	744.3	802.5	836.7	58.2	34.2	.8	.4	12.9	13.4	14.6	.4	.9
NA	Federal government	2877.0	2728.3	2625.7	-148.7	-102.6	-5	-4	580.4	715.1	760.7	2.1	.6
491	Postal Service .....	867.2	770.1	757.2	-97.1	-12.9	-1.2	-2	58.1	57.6	62.0	-.1	.7
NA	Federal electric utilities .....	26.2	22.5	22.8	-3.7	.3	-1.5	.1	8.9	10.2	11.8	1.4	1.5
NA	Federal enterprises except the Postal Service and electric utilities .....	96.6	45.1	26.5	-51.5	-18.6	-7.3	-5.2	7.8	6.9	7.7	-1.3	1.2

See footnotes at end of table

APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016													
2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
NA	Federal government except enterprises	1,887.0	1,890.6	1,819.2	3.6	-71.4	0.0	-0.4	505.9	640.5	679.5	2.4	0.6
NA	Federal defense government.....	597.2	492.1	433.6	-105.1	-58.5	-1.9	-1.3	273.5	358.0	385.4	2.7	.7
NA	Federal non-defense government except enterprises.....	1289.8	1398.5	1385.6	108.7	-12.9	.8	-1	152.1	191.9	192.2	2.4	.0
NA	Federal government capital services.....	-	-	-	-	-	-	-	80.4	89.7	101.9	1.1	1.3
NA	State and local government.....	16,662.1	19,261.7	20,696.1	2,599.6	1,434.4	1.5	.7	1,159.1	1,435.9	1,748.7	2.2	2.0
NA	Local government passenger transit..	205.9	255.6	317.0	49.7	61.4	2.2	2.2	7.4	8.7	10.4	1.6	1.8
NA	Local government enterprises except passenger transit..	1,092.9	1,266.1	1,347.0	173.2	80.9	1.5	.6	110.7	131.7	176.0	1.8	2.9
NA	Local government hospitals.....	648.1	649.6	679.1	1.5	29.5	.0	.4	46.6	65.4	87.2	3.4	2.9
NA	Local government educational services.....	6,592.3	7,938.5	8,450.1	1,346.2	511.6	1.9	.6	348.6	417.5	448.6	1.8	.7
NA	Local government excluding enterprises, educational services, and hospitals.....	3,517.2	4,071.8	4,541.9	554.6	470.1	1.5	1.1	276.6	349.7	436.8	2.4	2.2
NA	State government enterprises.....	495.8	548.8	549.3	53.0	.5	1.0	.0	15.2	19.0	25.4	2.2	2.9
NA	State government hospitals.....	375.7	360.9	346.4	-14.8	-14.5	-4	-4	33.6	47.2	60.7	3.5	2.5
NA	State government educational services.....	1,910.7	2,294.9	2,586.1	384.2	291.2	1.8	1.2	125.4	158.9	189.0	2.4	1.8
NA	State government excluding enterprises, educational services, and hospitals.....	1,823.5	1,875.5	1,879.3	52.0	3.8	.3	.0	124.5	134.6	179.1	.8	2.9
NA	State and local government capital services.....	-	-	-	-	-	-	-	70.6	103.4	139.5	3.9	3.0
NA	Owner-occupied dwellings.....	-	-	-	-	-	-	-	679.9	919.8	1,229.4	3.1	2.9
11	Agriculture, forestry, fishing, and hunting <sup>3</sup>	2,730.9	2,138.6	1,965.5	-592.3	-173.1	-2.4	-.8	235.6	267.2	330.8	1.3	2.2
111	Crop production.....	1,165.8	897.9	758.5	-267.9	-139.4	-2.6	-1.7	88.5	106.9	147.5	1.9	3.3
112	Animal production....	1,237.9	921.9	904.2	-316.0	-17.7	-2.9	-.2	95.7	112.1	137.5	1.6	2.1
1131, 1132	Forestry.....	18.3	19.3	20.6	1.0	1.3	.5	.6	5.4	4.7	4.5	-1.4	-4
1133	Logging.....	120.8	95.0	76.1	-25.8	-18.9	-2.4	-2.2	27.4	25.0	22.9	-.9	-.9
114	Fishing, hunting and trapping.....	62.1	49.1	39.1	-13.0	-10.0	-2.3	-2.2	6.6	5.7	4.2	-1.5	-2.9
115	Support activities for agriculture and forestry.....	126.0	155.4	167.0	29.4	11.6	2.1	.7	12.8	12.3	13.7	-.4	1.1
	Nonagriculture self-employed and unpaid family worker <sup>4</sup> .....	9,367.9	9,772.2	10,462.0	404.3	689.8	.4	.7	-	-	-	-	-

See footnotes at end of table

**APPENDIX: Employment and output by industry, 1996, 2006, and projected 2016**

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 2000 dollars			Average annual rate of change	
		1996	2006	2016	1996–2006	2006–16	1996–2006	2006–16	1996	2006	2016	1996–2006	2006–16
	Secondary wage and salary jobs in agriculture and private household industries <sup>5</sup> .....	176.9	178.4	185.0	1.5	6.6	0.1	0.4	—	—	—	—	—
	Secondary jobs as a self-employed or unpaid family worker <sup>6</sup> .....	2,043.3	1,618.7	1,645.5	–424.6	26.8	–2.3	.2	—	—	—	—	—
	Total <sup>7,8</sup> .....	134,690.4	150,620.1	166,220.3	15,929.7	15,600.2	1.1	1.0	15,119.5	20,265.3	27,093.7	3.0	2.9

<sup>1</sup> Includes wage and salary data from the Current Employment Statistics survey, except private households, which are from the Current Population Survey. Logging workers are excluded.

<sup>2</sup> Employment data are based on estimates from the BLS Current Employment Statistics survey.

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

<sup>4</sup> A comparable estimate of output growth is not available.

<sup>5</sup> Workers who hold a secondary wage and salary job in agricultural production, forestry, fishing, and private household industries.

<sup>6</sup> Wage and salary workers who hold a secondary job as a self-employed or unpaid family worker.

<sup>7</sup> Employment data for wage and salary workers are from the BLS Current Employment Statistics survey (establishment 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>8</sup> Output subcategories do not necessarily add to higher categories as a by-product of chain weighting.

Note: Dash indicates data not available.

n.e.c. = not elsewhere classified.

### *Employment outlook: 2006–16*

# Occupational employment projections to 2016

*A projected slowdown in labor force growth is expected to generate fewer new jobs during 2006–16 than in 1996–2006; replacement needs are anticipated to produce almost twice as many job openings as growth in the economy will, and occupations that provide services to the elderly are expected to be among the fastest growing*

Arlene Dohm  
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Changes to the U.S. population and economy through 2016 will affect both employment in general and employment by occupation. During 2006–16, the civilian noninstitutional population aged 16 years or older is projected to increase by about 22 million, from 229 million to 251 million.<sup>1</sup> As the baby-boom generation ages, the segment of that population aged 55 years and older is expected to increase by 20 million—nearly as much as the increase in the total population—reaching 87 million by 2016. The swell in the 55-years-and-older group will lead to an increase in the proportion of the population in older age groups, with the share of those 55 years and older rising from 29.3 percent in 2006 to 34.8 percent in 2016. The latter age group is anticipated to be the fastest growing segment of the population between 2006 and 2016, with an annual growth rate of 2.7 percent, compared with 0.9 percent for the population 16 years and older.

Over the 2006–16 projection period, growth in the labor force is projected to slow significantly, for two reasons: the baby-boom generation is aging and retiring, and the labor force participation rates of women have peaked.<sup>2</sup> The labor force is expected to grow at an annual rate of 0.8 percent during 2006–16, compared with a rate of 1.2 percent in 1996–2006. Although the labor force participation rate for those aged 55 years and older is anticipated to jump from 38.0 percent to 42.8 percent during the coming decade, a large number of persons aged 55 years and older are expected to retire and leave the labor force.

The retirements of baby boomers will have a substantial impact on job openings over the coming decade. Net replacement needs are defined as job openings generated due to the necessity of replacing workers who permanently leave an occupation. Except in occupations that employ large numbers of young workers, such as waiters and waitresses, a large number of the job openings due to net replacement needs are expected to come from occupations that will lose workers to retirement.<sup>3</sup> Replacement needs are anticipated to generate 33.4 million job openings. In contrast,

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economic growth is projected to generate 17.4 million job openings.<sup>4</sup>

The sizes of the labor force and population have an effect on the overall magnitude of the economy. Gross domestic product (GDP) is projected to rise at an average annual rate of 2.8 percent over 2006–16, reflecting increasing demand for goods and services.<sup>5</sup> Globalization is expected to lead to increases in both imports and exports. Although the rising demand for goods and services will continue to boost overall employment, a slowdown in both labor force and productivity growth will constrain employment growth.<sup>6</sup>

The Bureau of Labor Statistics (BLS) projects that total employment will increase from 150.6 million in 2006 to 166.2 million by 2016.<sup>7</sup> This increase of 15.6 million jobs is slightly less than the 15.9 million increase over the previous 10-year period and represents a slightly slower 10-year growth rate (10 percent, as opposed to 12 percent) than the rate registered over the 1996–2006 period.

In 2006, almost 92 percent of all jobs were held by wage and salary workers, while about 8 percent of all jobs were held by the self-employed. Self-employment is projected to increase 5.5 percent over the 2006–16 decade, from 12.2 million to 12.9 million jobs.<sup>8</sup> Although that percentage is just half the 11-percent growth projected for wage and salary workers, it reverses the downward trend represented by the 3-percent decline in self-employment seen between 1996 and 2006. During 2006–16, aging baby boomers are expected to become entrepreneurs, driving growth in self-employment.

Projecting employment for specific occupations involves evaluating many factors, including the demand for goods and services, which in turn is driven in part by population growth and changing demographics. Occupations that normally grow with the population in general, such as hairdressers and police officers, usually grow at the average rate for all occupations. By contrast, occupations that cater to a certain demographic group will grow or shrink on the basis of population projections for that group. The demand for teachers, for example, is correlated with projections of enrollments of school-age children. In the coming decade, the trend with the most implications for occupational change is the aging of the population. The 55-years-and-older age group consumes significantly more health care and social assistance services than any other age group. As a result, jobs in health care and social assistance are expected to have the fastest rate of growth over the next 10 years, adding a projected 4.0 million new wage and salary jobs, or 27 percent of all new nonagricultural wage and salary jobs.<sup>9</sup>

Maintaining competitiveness by cutting costs, offering better quality products, and implementing the latest technological improvements will continue to play a large role in occupational growth and decline over the coming decade. Cost cutting by U.S. industries in almost every sector of the economy will continue to change the workforce. To reduce labor costs, some jobs are being sent offshore while others are being replaced by technology or are being filled with lower cost workers. As a result, information technology-related jobs are expected to be among the fastest and largest growing jobs in the economy, and the category of health care support occupations, for example, will grow faster than health care practitioner and technical occupations.

As companies continue to produce more with fewer workers, labor productivity is projected to increase, although at a slightly lower rate than in the previous decade. Private nonfarm business productivity is projected to grow by 2.2 percent annually from 2006 to 2016, compared with the 2.6-percent annual rate of growth posted over the 1996–2006 period. Workers in production-related occupations, agriculture, and office and administrative-related occupations will be particularly affected by rises in productivity and the implementation of new technology.

Occupations that typically require a bachelor's degree or higher for an entry-level position will generally grow faster than the average for all occupations. Occupations that typically require a bachelor's degree or higher are expected to increase by 15.3 percent, or about 5 million new jobs, by 2016. Many of these new jobs will come about due to increases in professional and related occupations, particularly computer software applications engineers, elementary school teachers, and accountants and auditors, all of which are projected to be among the largest growing occupations during 2006–16. Still, occupations that usually require only short- or moderate-term on-the-job training, while not growing as quickly as those usually requiring more formal education, will continue to account for about half of all jobs by 2016. These occupations require little, if any, postsecondary training. Among such occupations are retail salespersons, food preparation workers, and personal and home care aides, all of which are expected to add numerous jobs over the coming decade.

This article discusses the following aspects of the BLS projections:

- changes in the structure of employment at the major occupational group level;<sup>10</sup>

- the detailed occupations that are projected to grow the fastest, as well as those with the largest numerical increases and decreases;
- the total job openings projected to occur due to growth in the economy, and the need to replace workers who (1) leave their occupations to transfer to other occupations, (2) retire, or (3) stop working for other reasons; and
- employment, wages, and job openings by education and training category.

## Major occupational groups

Among the 10 major occupational groups, employment change between 2006 and 2016 is projected to vary from an increase of nearly 17 percent for professional and related occupations and for service occupations to a decline of nearly 5 percent for production occupations, which are highly concentrated in declining manufacturing industries. (See table 1.) Because employment in professional and related occupations and in service occupations is so large, the projected 17-percent growth rates entail numeric increases of nearly 5 million jobs in each group over the projection period. Production occupations will experience the largest numeric decline—more than half a million jobs—followed by farming, fishing, and forestry occupations, which are projected to lose nearly 29,000 jobs.

Although the growth rates vary among the groups, the distribution of total employment will shift only slightly by the year 2016, as will the ranking of groups by em-

ployment size. Professional and related occupations and service occupations held the largest shares of total 2006 employment: 19.8 percent and 19.2 percent, respectively. Each of these groups is expected to increase its share of total employment by about 1 percentage point. Farming, forestry, and fishing occupations, which had the smallest share of employment—less than 1.0 percent—in 2006, are projected to retain that share in 2016.

The growth of occupational groups—and occupations—is determined, in large part, by varying rates of growth in industries in which they are concentrated. Professional and related occupations are projected to grow the fastest, largely because they are concentrated in some fast-growing industry sectors, such as health care and social assistance and professional, scientific, and technical services, while production occupations are projected to decline, largely because most of these jobs are in the declining manufacturing sector.

The discussion that follows examines employment growth in each major group.

*Management, business, and financial occupations.* The number of jobs within this group is projected to grow by 1.6 million from 2006 to 2016. About 493,000 of these new jobs are expected to be in the professional, scientific, and technical services industry sector, which includes the management, scientific, and technical consulting; and accounting, tax preparation, bookkeeping, and payroll services industries. The finance and insurance sector is projected to

**Table 1. Employment by major occupational group, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment number		Percent distribution		Change, 2006–16	
		2006	2016	2006	2016	Number	Percent
00–0000	Total, all occupations.....	150,620	166,220	100.0	100.0	15,600	10.4
11–1300	Management, business, and financial occupations <sup>1</sup> ..	15,397	16,993	10.2	10.2	1,596	10.4
15–2900	Professional and related occupations <sup>2</sup> .....	29,819	34,790	19.8	20.9	4,970	16.7
31–3900	Service occupations <sup>3</sup> .....	28,950	33,780	19.2	20.3	4,830	16.7
41–0000	Sales and related occupations.....	15,985	17,203	10.6	10.3	1,218	7.6
43–0000	Office and administrative support occupations.....	24,344	26,089	16.2	15.7	1,745	7.2
45–0000	Farming, fishing, and forestry occupations.....	1,039	1,010	.7	.6	–29	–2.8
47–0000	Construction and extraction occupations.....	8,295	9,079	5.5	5.5	785	9.5
49–0000	Installation, maintenance, and repair occupations....	5,883	6,433	3.9	3.9	550	9.3
51–0000	Production occupations.....	10,675	10,147	7.1	6.1	–528	–4.9
53–0000	Transportation and material moving occupations.....	10,233	10,695	6.8	6.4	462	4.5

<sup>1</sup> Major occupational groups 11–0000 through 13–0000 in the 2000 *Standard Occupational Classification* (soc).

<sup>2</sup> Major occupational groups 15–0000 through 29–0000 in the

2000 *Standard Occupational Classification* (soc)

<sup>3</sup> Major occupational groups 31–0000 through 39–0000 in the 2000 *Standard Occupational Classification* (soc).

generate another 297,000 new jobs.

Self-employed management, business, and financial workers accounted for one-fifth of all the jobs in this group in 2006, or about 3 million jobs. The number of self-employed is expected to change little by 2016, primarily because declines in the number of farmers and ranchers, most of whom are self-employed, will reduce overall growth in jobs for the self-employed among management, business, and financial workers. Construction managers are projected to have the greatest increase in self-employment.

The environment for consulting is likely to be strong as more businesses look to consultants to provide needed assistance in cutting costs and in performing other key business functions, such as improving the security of network systems.

Business and financial occupations are projected to grow faster than management occupations, with a 16-percent increase, representing 1.1 million new jobs. More businesses and an increasing number of financial reporting requirements will lead to greater demand for accountants and auditors to prepare financial documents and monitor and update business processes. Also, as more people purchase stocks and invest in individual retirement accounts, the demand for financial analysts and personal financial advisors to provide financial advice and manage retirement funds will grow.

Management occupations, by contrast, are expected to grow by a lesser 6 percent, or 533,000 new jobs, by 2016, mainly because little to no growth is expected among general and operations managers, one of the largest detailed occupations of the managerial group. General and operations managers will continue to lose jobs to specialists, and the consolidation of firms will eliminate many of their positions.

*Professional and related occupations.* This group is projected to add more jobs (5.0 million) than any other major group and to share the fastest growth rate with the services major occupational group. BLS projects about 1.7 million new professional and related jobs in the health care and social assistance industry sector; 1.1 million in educational services, public and private; and another 1 million in professional, scientific, and technical services. An aging population means more people in the 55-years-and-older age group, a group that uses more health care and social assistance than any other age group. Also, the need to improve educational services, along with the need to teach a greater number of students who have more learning and language issues than in the past, will result in faster-than-average growth among education, training, and library occupations.

Of the eight subgroups constituting professional and

related occupations, health care practitioners and technical occupations are projected to add the most new jobs (1.4 million), while computer and mathematical occupations are expected to grow the most quickly (with a 24.8-percent growth rate). Each subgroup is anticipated to grow at least as fast as the 10.4-percent average for all occupations, as shown in the following tabulation:

	<i>Numeric change (thousands)</i>	<i>Percent change</i>
Professional and related occupations.....	4,970	16.7
Health care practitioners and technical occupations.....	1,423	19.8
Education, training, and library.....	1,265	14.0
Computer and mathematical science.....	822	24.8
Community and social services.....	541	22.7
Arts, design, entertainment, sports, and media.....	305	11.4
Architecture and engineering.....	268	10.4
Life, physical, and social science.....	203	14.4
Legal.....	145	11.8

Health care practitioners and technical occupations are projected to grow almost twice as fast as the average for all occupations. Registered nurses—by far the largest detailed occupation among professional and related occupations—alone will add about 587,000 new jobs. The increase in demand for health care practitioners and technical occupations is primarily the result of a growing and aging population. Technological advances in the medical field will lead to increased demand for more medical procedures and the workers who perform them. Medical advances also mean greater accident and illness survival rates and longer lives—sometimes with more health issues—so growth in health care service occupations will remain strong. The growth rates of occupations in this subgroup reflect the trend in the health care industry toward having assistants and technicians perform more of the procedures that health care practitioners traditionally have performed (but under the supervision of those same health care practitioners). Thus, although the number of physicians and surgeons is expected to increase by 14 percent, registered nurses and physician assistants, for example, are projected to grow by 23 percent and 27 percent, respectively. Other health care functions will be transferred to those in the health care support occupations in the services major occupational group. The distribution of workers in health care practitioners and technical occupations also is changing, with more jobs opening up in offices of health practitioners, in home health services, and in individual and family services, rather than in costly inpatient facilities such as hospitals.

With an expected 1.3 million new jobs, education,

training, and library occupations are projected to grow 14 percent, faster than the average for all occupations. Primary school, secondary school, and special education teachers will grow as the school-age population increases, as a greater proportion of students receives special education, and as more funding is provided for all-day kindergarten and preschool classes. Employment of postsecondary teachers is projected to grow rapidly as the population of 18- to 24-year-olds increases, as a greater proportion of high school graduates attends college, and as more adults return to college to enhance their career prospects or update their skills. A significant proportion of new postsecondary teaching jobs will be part time, as institutions seek flexibility in handling both rising costs and changing student interests. About three-quarters of the new jobs are expected to occur in the public and private educational services industry sector, with 517,000 new jobs anticipated in elementary and secondary schools. Self-employment among self-enrichment education teachers is projected to grow 27 percent, adding 15,000 jobs as retirees and others use their increased leisure time to learn.

Computer and mathematical science occupations are projected to add 822,000 jobs—at 24.8 percent, the fastest growth among the eight professional subgroups. The demand for computer-related occupations will increase in almost all industries as organizations continue to adopt and integrate increasingly sophisticated and complex technologies. Growth will not be as rapid as during the previous decade, however, as the software industry begins to mature and as routine work is outsourced overseas. About 291,000—or 35 percent—of all new computer and mathematical science jobs are anticipated to be in the computer systems design and related services industry. The management, scientific, and technical consulting services industry is projected to add another 86,000 computer and mathematical science jobs. This expected 93-percent increase is due to the growing need for consultants to handle issues such as computer network security. Self-employment among computer and mathematical workers is anticipated to increase 19 percent, with most growth appearing among network systems and data communications analysts.

Community and social services occupations are projected to add 541,000 jobs and grow more than twice as fast as the average for all occupations. Such growth will result as the elderly population increases rapidly and as greater efforts are made to provide services for the disabled, the sick, substance abusers, and individuals and families in crisis. Within this occupational group, about 363,000 new jobs are expected to be in the health care

and social assistance industry and 104,000 in religious organizations. The government sector accounted for 1 out of 5 jobs in the community and social services subgroup in 2006, but growth will be slow through 2016 as State governments face budget pressures and more of this kind of work is performed by nonprofit organizations.

Arts, design, entertainment, sports, and media occupations are projected to add 305,000 jobs, 1 in 5 of which is expected to be held by self-employed workers. Writers and authors, photographers, and multimedia animators and artists are all anticipated to have significant gains in self-employment as more companies purchase these workers' services as they are needed, rather than hire them on a full-time basis. Industries that are likely to add substantially more wage and salary workers in this subgroup are advertising and related services and computer systems design and related services, as well as the motion picture industry. Employment of these workers by newspaper publishers is expected to decline as more people access news through other media and as freelancers do more of this kind of work.

Architecture and engineering occupations are projected to add 268,000 jobs, the vast majority of which are expected to arise in the professional, scientific, and technical services industry sector. The new jobs in the sector will owe their existence to engineering consulting firms benefiting from the growing trend toward subcontracting engineering services out of house. Engineers, with approximately 1.5 million jobs, are expected to add 160,000 more. Although the projections show a decline of about 15,000 engineers in the manufacturing sector, engineers will account for an increasing share of manufacturing employment, because these workers remain essential to modernizing production facilities and keeping products new and technologically current.

Life, physical, and social scientists are projected to add 203,000 jobs. Many of the new jobs will arise in the professional, scientific, and technical services sector, in which much of the private sector's scientific research and testing is conducted. Innovative technologies, such as gene-based therapies, will boost demand for medical scientists, and environmental scientists are projected to grow faster than the average for all occupations as concerns over the environment increase. Market research analysts also will benefit from many new jobs, the creation of which is driven by the need to develop products and services that respond to consumer demands. Finally, clinical, counseling, and school psychologists are expected to add 24,000 jobs; many of the workers in these jobs will be self-employed.

Legal occupations are projected to add 145,000 jobs,

with lawyers accounting for 84,000 of them and paralegals and legal assistants 53,000. Demand for legal services will rise in the areas of corporate, intellectual property, energy, elder, antitrust, and environmental law. Employers are seeking to reduce costs and increase the availability and efficiency of legal services by hiring paralegals to perform some routine tasks formerly carried out by lawyers. Most new legal jobs are expected to be in the legal services industry and in State and local government.

*Service occupations.* As people's basic needs are satisfied, more of their income is spent on services to make life easier, safer, and more pleasurable. Moreover, a growing elderly population generates demand for services to help them stay in their homes or in residential housing. These factors, plus the reality that services are difficult to automate, will cause employment in the service occupational group to increase by a projected 4.8 million, or 17 percent, over the 2006–16 period.

By 2016, of the five subgroups making up the service occupational group, food preparation and serving related occupations are expected to generate the most new jobs (1.4 million), and health care support is projected to grow the fastest (27 percent). Each subgroup is anticipated to grow faster than the average for all occupations and is expected to add at least 450,000 jobs. The following tabulation shows the projected numeric and percent change in employment of the five subgroups from 2006 to 2016:

	<i>Numeric change (in thousands)</i>	<i>Percent change</i>
Service occupations.....	4,830	16.7
Food preparation and serving related.....	1,436	12.7
Personal care and service.....	1,094	22.0
Health care support.....	997	26.8
Building and grounds cleaning and maintenance.....	850	14.8
Protective service.....	453	14.3

Employment in food preparation and serving related occupations is expected to increase by about 1.4 million jobs, or 12.7 percent. Approximately 1 million of the new jobs are anticipated to be in the food services and drinking places industry, particularly in limited-service (fast-food) eating places. Food preparation and serving workers also will be needed in a growing number of other industries, such as grocery stores and residential housing for the elderly.

Personal care and service occupations are projected to

add 1.1 million jobs, about a third of which will be filled by personal and home care aides who provide needed care to elderly and disabled stay-at-homes. The number of jobs for childcare workers, personal appearance workers, and recreation and fitness workers is expected to increase with the demand for these services. Many of these workers will be self-employed.

Health care support occupations are projected to add 997,000 jobs, growing 26.8 percent, the fastest rate among the service occupation subgroups. The broad occupation of nursing, psychiatric, and home health aides is alone expected to add 647,000 jobs as demand increases for these cost-effective workers. Other large and fast-growing occupations in this subgroup include medical assistants and dental assistants.

Building and grounds cleaning and maintenance occupations are expected to add 850,000 jobs. These workers are found in almost all industries, cleaning, mowing lawns, and making small repairs, but they are increasingly being hired by residential customers to handle cleaning and landscaping work. As cleaning and maintenance services remain difficult to automate, the demand for such services will continue to rise along with the number of buildings and premises. Self-employment among these workers is projected to grow by 8 percent, with about 15,000 of the 54,000 new self-employed jobs expected to go to landscaping and groundskeeping workers.

Protective service occupations are projected to add 453,000 jobs to meet population growth and to address continuing concerns about crime and security. Security guards will provide nearly 40 percent of the additional jobs. Approximately 218,000 new jobs are projected to be in the State and local government sector, and 123,000 jobs are expected to be in the investigation and security services industry.

*Sales and related occupations.* Employment is projected to increase by 1.2 million. Around 440,000 of these new jobs are expected to be in retail trade. The steady expansion of stores will increase demand for retail salespersons by an expected 557,000, but the number of cashier jobs is anticipated to drop by 116,000 with the appearance of more self-service checkout machines. The finance and insurance industry will see some of the fastest growth of sales workers as the demand for financial products rises due to the increased responsibility of individuals to manage their own retirement and insurance accounts.

*Office and administrative support occupations.* This major occupational group includes some of the largest growing

occupations, as well as some of the largest declining. Overall, employment in the occupational group is projected to increase by 1.7 million new jobs, or 7 percent. Among the largest declining occupations will be stock clerks and order fillers, file clerks, and order clerks, whose jobs will be affected by automation and the introduction of more efficient inventory control methods. However, an increasing emphasis on customer service and the continued need for people to handle routine administrative, correspondence, and accounting tasks will increase the demand for other office and administrative support occupations, some of which will have faster-than-average growth. Four occupations—customer service representatives; general office clerks; receptionists and information clerks; and book-keeping, accounting, and auditing clerks—are expected to account for more than 1.4 million of the 1.7 million new office and administrative support jobs as more businesses start up and expand. About 427,000 of the new jobs are projected to be concentrated in the health care and social assistance industry sector, while another 390,000 are anticipated to be in the professional, scientific, and technical services industry sector.

*Farming, fishing, and forestry occupations.* Increased mechanization, rising imports of food and fish, and consolidation of the agriculture industry are projected to result in an employment decline of 29,000 jobs. However, growing demand for crop-based ethanol is expected to have a generally positive effect on crop-producing farms and will likely keep some marginal producers in business because of the higher price that ethanol commands. Although all minor groups are projected to decline, fishing and hunting workers are expected to decline the most quickly, dropping by 16 percent. (Agricultural managers, including farmers and ranchers, are classified with management, business, and financial occupations.)

*Construction and extraction occupations.* Employment in this major group is projected to grow by 785,000, with most new jobs arising in the construction industry (535,000). On the one hand, a larger population that requires homes, stores, and schools to be built, plus repair and renovation work to be performed, together with the need to build and replace roads and other deteriorating components of the Nation's infrastructure, will generate average growth of these mostly skilled occupations. On the other hand, extraction occupations are expected to decline by 2,000 jobs as mechanization increases in the mining industry and as more coal is surface mined, a more productive type of mining that requires fewer workers. By contrast, oil

and gas exploration will generate an increasing number of jobs in the next few years, due chiefly to currently high prices for these products, enabling companies to invest more in exploration. However, exploration is expected to taper off by 2016 as drilling slows down from the current high levels and as restrictions on where drilling can take place put a limit on new locales to explore. Self-employment, which represents almost 1 in 5 construction and extraction jobs, is projected to increase 7 percent, with self-employed painters and carpenters exhibiting the largest increases.

*Installation, maintenance, and repair occupations.* The complexity of modern machinery and equipment often requires specialized workers with the proper education and tools to make even the simplest repairs. This requirement, together with the ubiquity of such machines, is projected to result in employment growth of 550,000 in installation, maintenance, and repair occupations—a 9-percent growth rate. Workers in nearly one-third of the jobs in these occupations install, maintain, and repair vehicles and other mobile equipment, including automobiles, boats, farm equipment, and trucks. Thus, the broad occupation of vehicle and mobile equipment mechanics, installers, and repairers is expected to increase by 232,000 jobs. The largest detailed occupation in this group, general maintenance and repair workers, employs 1.4 million and is anticipated to add 140,000 jobs. Although these workers are found in almost all industries, most are involved in maintaining properties, such as schools, hotels, and office or residential buildings.

*Production occupations.* This occupational group is projected to decline by 528,000 jobs. More strikingly, production occupations within the manufacturing sector, which employs about 70 percent of workers in all production occupations, are expected to lose nearly 843,000 jobs, but growth in production occupations elsewhere, particularly in the employment services, construction, and wholesale trade industries, will partially offset the manufacturing decline. Many of the job losses in production occupations will be due to the increased use of automated machinery by manufacturers and rising imports of manufactured goods, both of which factors will reduce the need for production workers over the next decade. Thus, even though real output in the manufacturing sector is anticipated to increase by \$1.1 trillion and grow at an average annual rate of 2.4 percent, employment in the sector is expected to decline by 1.5 million jobs from 2006 to 2016.<sup>11</sup> Employment in production occupations would decline even more if not for expected growth

in the employment services industry, which is projected to add 148,000 jobs for production workers, as manufacturers and others increasingly hire these workers on a temporary basis. In addition, wholesalers will be employing increasing numbers of assemblers and fabricators to assemble items that were shipped in pieces from abroad.

*Transportation and material moving occupations.* About 462,000 new jobs are expected in this major occupational group. Driver/sales worker and truckdriver jobs are projected to account for more than half the increase. However, water transportation occupations will be the fastest growing category in the group as expansion in global trade and shipping increases the demand for more tugboat and barge operators at U.S. ports. Material moving occupations will likely show little employment change. This labor-intensive occupational group is increasingly becoming automated, particularly in manufacturing, where hand packers and packagers are expected to lose 62,000 jobs. However, the number of jobs for hand laborers and freight, stock, and material movers is anticipated to increase by 30,000 in the transportation and warehousing industry.

## Detailed occupations

This section focuses on occupations that are the fastest growing, have the largest numeric increases, or have the largest numeric declines. Projected employment is analyzed from the two perspectives of numeric change and percent change, because one can be large and the other small, depending on the size of employment in the base year. For example, employment of financial analysts is projected to grow almost twice as fast (33.8 percent) as employment of accountants and auditors (17.7 percent) over the 2006–16 period, but because employment was so much larger for accountants and auditors (1,274,000) than for financial analysts (221,000) in 2006, the occupation of accountants and auditors is projected to add about 3 times more new jobs—226,000 compared with 75,000). (Data on numeric and percent change for about 750 detailed occupations are presented in the appendix.)

The projected 2006–16 growth rates for detailed occupations range from an increase of 53 percent for network systems and data communication analysts to a decline of 50 percent for photographic processing machine operators. Projected numeric growth ranges from 587,000 additional jobs for registered nurses to a decline of 131,000 jobs for stock clerks and order fillers.

The projected 2006–16 increase of 15.6 million jobs for all occupations is actually the result of 580 of the approxi-

mately 750 detailed occupations growing by an expected 17.4 million jobs, while the remaining detailed occupations are anticipated to decline by 1.8 million jobs. The 30 occupations with the largest numeric increase account for nearly half (8.1 million) of the projected 17.4 million increase in jobs among detailed occupations that will grow over the period. The 30 occupations with the largest numeric declines account for 1.2 million, or two-thirds, of the projected 1.8 million job losses among detailed occupations that will decline by 2016.

The 30 occupations that are projected to be the fastest growing have growth rates of 27 percent or greater, much faster than the 10-percent average for all occupations. Six occupations—three computer related, two health related, and one personal care and service occupation—will be among both the fastest growing occupations and the occupations that register the largest numeric growth:

- Computer software engineers, application
- Computer systems analysts
- Network systems and data communication analysts
- Home health aides
- Medical assistants
- Personal and home care aides

*Fastest growing occupations.* Professional and related occupations, many of which are associated with health care and the provision of social and mental health services, dominate the fastest growing occupations. (See table 2.) Eighteen of the 30 fastest growing occupations are in professional and related occupations; another 10 are in the service occupations group. Five from the computer specialists subgroup, including the fastest growing occupation, network systems and data communication analysts, show up in the top 30. Other trends reflected by the fastest growing occupations are an increasing emphasis on personal appearance, financial well-being, the environment, and gaming. Altogether, the 30 fastest growing occupations are expected to add 2.3 million jobs over the 2006–16 period, while growing by at least 27 percent, a rate much faster than the average for all occupations.

Fifteen of the 30 fastest growing occupations generally require a bachelor's degree or higher as their most significant source of education and training.<sup>12</sup> Another 7 occupations on the list typically require a postsecondary vocational award or an associate degree. Most of the 30 fastest growing occupations fall under the major group titled "professional and related occupations," in which most of the health care, education, and science related occupations are found. Professional and related occupations normally

have higher entry-level requirements for education and training. Eleven of the fastest growing occupations are concentrated in the very high wage quartile, and 8 are in the high wage quartile. This distribution means that wages are generally higher for the fastest growing occupations.

Computer specialists in general, and especially the five such occupations listed in table 2, are expected to grow very rapidly as organizations continue to adopt and invest in increasingly sophisticated information technologies. Robust demand for efficient communication systems and new Internet and mobile technologies will spur strong growth in these areas, as will the need for more secure computer networks. The three fastest growing computer-related occupations—network systems and data communications analysts, computer systems analysts, and computer software applications engineers—also are among the occupations with the largest projected numerical job growth.

Increasing demand for health care will generate significant growth in almost all occupations in that field. However, cost-containment pressures by the health care industry will concentrate faster-than-average growth primarily among those health care workers who assist health care practitioners and have fewer qualifications, such as medical assistants, physical therapy assistants, pharmacy technicians, dental hygienists, and dental assistants—five fast-growing occupations. There are several reasons for growth in health care occupations, but an increased share of the population aged 55 and older is a primary one: that demographic group uses proportionally more health care resources than any other group.

Two of the fastest growing occupations—personal and home care aides (classified as a personal care and service occupation) and home health aides (a health care support occupation)—are projected to grow by about 50 percent each. An emphasis on less costly home care and outpatient treatment of the elderly population, rather than expensive institutional care, will lead to growing numbers of aides who provide in-home personal care and housekeeping assistance, as well as health care. In addition, patients of all ages are being sent home from hospitals and nursing facilities more quickly, and they may need continued health and personal care at home.

A growing demand for pet health care services will spur employment growth of both veterinarians and veterinary technologists and technicians as pet owners spend more on advanced animal care services, such as preventive dental care and surgical procedures. Veterinary technologists and technicians will receive an extra boost as their employers replace veterinary assistants with these more

highly trained workers.

Greater acceptance in treating mental health and substance abuse problems, and wider coverage of mental illness by insurers, as well as courts increasingly ordering treatment instead of jail for drug-related crimes, will cause much faster than average increases in occupations that deal with mental health and substance abuse issues. Many of these fast-growing occupations, such as counselors, are less costly alternatives to psychiatric and psychological care. Mental health counselors, mental health and substance abuse social workers, and marriage and family therapists are three such fast-growing occupations. In addition, social and human service assistants, another fast-growing occupation, will be needed in greater numbers to help the elderly and disabled with their problems.

An aging and wealthier population—and one that increasingly cares about personal appearance—will generate much faster than average employment increases for skin care specialists and for manicurists and pedicurists. In addition, fitness trainers and aerobics instructors, though not in the top 30, will grow much faster than average as more people seek to improve their appearance and health.

Personal financial advisors and financial analysts also are projected to be among the fastest growing occupations, increasing their numbers by 41.0 percent and 33.8 percent, respectively. As retirement savings continue to shift from defined benefit plans to defined contribution plans, and as people increasingly take on the responsibility of managing their own retirement savings, they will seek personal financial advisors to help them decide how to invest their assets. Then, after they retire, the growing number of retirees will use an advisor's help to make their savings last. The demand for financial analysts will grow as the number and complexity of securities products increases. Overall growth in the number of investors and their need for specialized financial information also will be a factor.

Greater public awareness of the environment and the need by businesses to adhere to a growing number of regulations to protect it will likely play a large role in spurring all four environment-related occupations to increase by more than 24 percent each, although only one—environmental science and protection technicians, including health—falls into the 30 fastest growing occupations. The other three are environmental engineers; environmental scientists and specialists, including health; and environmental engineering technicians. These workers will be needed to monitor the quality of the environment and interpret the impact that human actions are having on terrestrial, atmospheric, and aquatic ecosystems. They also

**Table 2. Fastest growing occupations, 2006–16**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
15–1081	Network systems and data communications analysts.....	262	402	140	53.4	VH	Bachelor's degree
39–9021	Personal and home care aides.....	767	1,156	389	50.6	VL	Short-term on-the-job training
31–1011	Home health aides.....	787	1,171	384	48.7	VL	Short-term on-the-job training
15–1031	Computer software engineers, applications.....	507	733	226	44.6	VH	Bachelor's degree
29–2056	Veterinary technologists and technicians.....	71	100	29	41.0	L	Associate degree
13–2052	Personal financial advisors.....	176	248	72	41.0	VH	Bachelor's degree
39–5091	Makeup artists, theatrical and performance.....	2	3	1	39.8	H	Postsecondary vocational award
31–9092	Medical assistants.....	417	565	148	35.4	L	Moderate-term on-the-job training
29–1131	Veterinarians.....	62	84	22	35.0	VH	First professional degree
21–1011	Substance abuse and behavioral disorder counselors.....	83	112	29	34.3	H	Bachelor's degree
39–5094	Skin care specialists.....	38	51	13	34.3	L	Postsecondary vocational award
13–2051	Financial analysts.....	221	295	75	33.8	VH	Bachelor's degree
21–1093	Social and human service assistants.....	339	453	114	33.6	L	Moderate-term on-the-job training
33–9031	Gaming surveillance officers and gaming investigators.....	9	12	3	33.6	L	Moderate-term on-the-job training
31–2021	Physical therapist assistants.....	60	80	20	32.4	H	Associate degree
29–2052	Pharmacy technicians.....	285	376	91	32.0	L	Moderate-term on-the-job training
19–4092	Forensic science technicians.....	13	17	4	30.7	H	Bachelor's degree
29–2021	Dental hygienists.....	167	217	50	30.1	VH	Associate degree
21–1014	Mental health counselors.....	100	130	30	30.0	H	Master's degree
21–1023	Mental health and substance abuse social workers.....	122	159	37	29.9	H	Master's degree
21–1013	Marriage and family therapists.....	25	32	7	29.8	H	Master's degree
31–9091	Dental assistants.....	280	362	82	29.2	L	Moderate-term on-the-job training
15–1051	Computer systems analysts.....	504	650	146	29.0	VH	Bachelor's degree
15–1061	Database administrators.....	119	154	34	28.6	VH	Bachelor's degree
15–1032	Computer software engineers, systems software.....	350	449	99	28.2	VH	Bachelor's degree
39–3012	Gaming and sports book writers and runners.....	18	24	5	28.0	VL	Short-term on-the-job training
19–4091	Environmental science and protection technicians, including health.....	36	47	10	28.0	H	Associate degree

See footnotes at end of table.

**Table 2. Continued—Fastest growing occupations, 2006–16**

[Numbers in thousands]							
2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
39–5092	Manicurists and pedicurists.....	78	100	22	27.6	VL	Postsecondary vocational award
29–1123	Physical therapists.....	173	220	47	27.1	VH	Master's degree
29–1071	Physician assistants.....	66	83	18	27.0	VH	Master's degree

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual wages data are presented in the following categories: VH = very high (\$46,360 or more), H = high (\$30,630 to \$46,300), L = low (\$21,260 to \$30,560), and VL = very low (up to \$21,220). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Wages are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data, 2006–07* edition, Bulletin 2602 (Bureau of Labor Statistics, February 2006), and *Occupational Projections and Training Data, 2008–09* edition, Bulletin 2702 (Bureau of Labor Statistics, forthcoming).

will be asked to devise strategies to restore damaged ecosystems and protect water resources.

Greater legalization of the gaming industry, a growing acceptance of gaming by the general population, and more leisure time, particularly among the growing number of retirees, will boost employment in all gaming occupations. Gaming surveillance officers and gaming investigators, as well as gaming and sports book writers and runners, will be among the fastest growing occupations.

*Occupations with the largest job growth.* The 30 occupations with the largest job growth account for about half of all job openings due to growth: 8.1 million of the projected total 17.4 million openings. (See table 3.) These 8.1 million new jobs represent a much larger number of new jobs, compared with the top 30 fastest growing occupations, which account for a lesser 2.3 million jobs. Each of the 30 occupations with the largest job growth is projected to increase by at least 10 percent by 2016, about the average for all occupations. Because these occupations generally have large employment bases, even average growth rates can yield large numeric employment changes.

Many of the occupations in this category—for example, retail salespersons; truckdrivers, heavy and tractor-trailer; waiters and waitresses; and carpenters—are occupations in which employment gains are dependent primarily on population growth and growth in businesses. Others are large and growing faster than the average because they are critical to productivity and technological growth or are vital to the health care industry.

Almost half of the 30 occupations with the largest nu-

merical job growth generally require short-term on-the-job training for a jobholder to become proficient in the job. Seven generally require at least a bachelor's degree, if not a doctoral degree or additional work experience in a related area. Of those occupations with the largest numeric increases, 10 are in the lowest (very low) wage quartile while 7 are in the highest (very high).

The 30 occupations with the largest job growth are much less concentrated in the professional and related or service occupations than are the 30 fastest growing occupations. Seven of the 30 occupations with the largest job growth are in professional and related occupations, including registered nurses, the occupation with the largest numeric increase. Retail salespersons, the only occupation from the sales and related major group, are expected to have nearly as large a gain in jobs. Another 5 occupations are in the major group titled “office and administrative support occupations.” Twelve of the 30 occupations fall into the service occupational subgroup, and the remaining 5 are distributed among four other occupational groups.

Registered nurses are projected to experience the largest numeric increase, 587,000 new jobs. The growing and aging U.S. population will boost the health care sector, of which these well-trained and versatile workers are an integral part. Demand for registered nurses will be greater in offices of physicians and home health care service providers. Also, those with advanced degrees, such as nurse practitioners, will be needed in greater numbers as they increasingly serve as lower cost primary care providers in rural areas and inner cities.

Postsecondary teachers make up another occupation

**Table 3. Occupations with the largest job growth, 2006–16**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
29–1111	Registered nurses.....	2,505	3,092	587	23.5	VH	Associate degree
41–2031	Retail salespersons.....	4,477	5,034	557	12.4	VL	Short-term on-the-job training
43–4051	Customer service representatives.....	2,202	2,747	545	24.8	L	Moderate-term on-the-job training
35–3021	Combined food preparation and serving workers, including fast food.....	2,503	2,955	452	18.1	VL	Short-term on-the-job training
43–9061	Office clerks, general.....	3,200	3,604	404	12.6	L	Short-term on-the-job training
39–9021	Personal and home care aides.....	767	1,156	389	50.6	VL	Short-term on-the-job training
31–1011	Home health aides.....	787	1,171	384	48.7	VL	Short-term on-the-job training
25–1000	Postsecondary teachers.....	1,672	2,054	382	22.9	VH	Doctoral degree
37–2011	Janitors and cleaners, except maids and housekeeping cleaners.....	2,387	2,732	345	14.5	VL	Short-term on-the-job training
31–1012	Nursing aides, orderlies, and attendants.....	1,447	1,711	264	18.2	L	Postsecondary vocational award
43–3031	Bookkeeping, accounting, and auditing clerks.....	2,114	2,377	264	12.5	L	Moderate-term on-the-job training
35–3031	Waiters and waitresses.....	2,361	2,615	255	10.8	VL	Short-term on-the-job training
39–9011	Child care workers.....	1,388	1,636	248	17.8	VL	Short-term on-the-job training
43–6011	Executive secretaries and administrative assistants.....	1,618	1,857	239	14.8	H	Work experience in a related occupation
15–1031	Computer software engineers, applications.....	507	733	226	44.6	VH	Bachelor's degree
13–2011	Accountants and auditors.....	1,274	1,500	226	17.7	VH	Bachelor's degree
37–3011	Landscaping and groundskeeping workers.....	1,220	1,441	221	18.1	L	Short-term on-the-job training
25–2021	Elementary school teachers, except special education.....	1,540	1,749	209	13.6	H	Bachelor's degree
43–4171	Receptionists and information clerks.....	1,173	1,375	202	17.2	L	Short-term on-the-job training
53–3032	Truck drivers, heavy and tractor-trailer.....	1,860	2,053	193	10.4	H	Moderate-term on-the-job training
37–2012	Maids and housekeeping cleaners.....	1,470	1,656	186	12.7	VL	Short-term on-the-job training
33–9032	Security guards.....	1,040	1,216	175	16.9	L	Short-term on-the-job training
47–2031	Carpenters.....	1,462	1,612	150	10.3	H	Long-term on-the-job training

See footnotes at end of table.

**Table 3. Continued—Occupations with the largest job growth, 2006–16**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
13–1111	Management analysts.....	678	827	149	21.9	VH	Bachelor's or higher degree, plus work experience
31–9092	Medical assistants.....	417	565	148	35.4	L	Moderate-term on-the-job training
15–1051	Computer systems analysts.....	504	650	146	29.0	VH	Bachelor's degree
49–9042	Maintenance and repair workers, general.....	1,391	1,531	140	10.1	H	Moderate-term on-the-job training
15–1081	Network systems and data communications analysts.....	262	402	140	53.4	VH	Bachelor's degree
35–2021	Food preparation workers.....	902	1,040	138	15.3	VL	Short-term on-the-job training
25–9041	Teacher assistants.....	1,312	1,449	137	10.4	VL	Short-term on-the-job training

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual wages data are presented in the following categories: VH = very high (\$46,360 or more), H = high (\$30,630 to \$46,300), L = low (\$21,260 to \$30,560), and VL = very low (up to \$21,220). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Wages are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data, 2006–07* edition, Bulletin 2602 (Bureau of Labor Statistics, February 2006), and *Occupational Projections and Training Data, 2008–09* edition, Bulletin 2702 (Bureau of Labor Statistics, forthcoming).

from professional and related occupations that will see large gains in employment. The increasing population of 18- to 24-year-olds, a larger proportion of high school graduates attending college, and a greater number of adults returning to college to enhance their career prospects or update skills will drive demand for postsecondary teachers. Similarly, elementary school teachers, except special education, will see employment gains due to a rise in student enrollments, although the rise will be more moderate than in the past. Over the next decade, the mounting enrollment of students with special education needs or of those who are learning English as a second language will boost the demand for teacher assistants. Legislation requires both students with disabilities and nonnative English speakers to receive an education equal to that of other students, and teacher assistants play a central role in meeting this requirement.

The three computer specialist occupations that appear in table 3 (computer applications software engineers, computer systems analysts, and network systems and data communications analysts) will experience large employment gains as individuals and organizations continue to invest in information technology. These three occupations also were among the fastest growing. The growth of electronic commerce and the integration of Internet technologies into

business have resulted in an increasing need for specialists who can develop and support Internet and intranet applications. The introduction of the wireless Internet, known as WiFi, and of personal mobile computers has created a need for specialists who can integrate these technologies into existing networks. Explosive growth in these areas is expected to fuel demand for knowledgeable analysts.

Retail salespersons, the only occupation from the sales and related major group on the list of occupations with the largest employment gains, is projected to increase by 557,000. Population growth will generate new and expanding outlets that will need more retail salespersons. In addition, because these workers, who assist customers and answer their questions, are more difficult to replace by technology, they are less subject to job loss than are workers in other occupations. Finally, although it might be thought otherwise, the growing popularity of purchasing goods over the Internet is expected to have only a minimal detrimental effect on this occupation.

Although many workplaces will continue to computerize tasks or outsource routine administrative tasks to foreign countries with competitive wages, certain office and administrative support occupations—particularly those dealing with people and office-related technology—will

**Table 4. Occupations with the largest job declines, 2006–16**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
43–5081	Stock clerks and order fillers.....	1,705	1,574	–131	–7.7	VL	Short-term on-the-job training
41–2011	Cashiers, except gaming.....	3,500	3,382	–118	–3.4	VL	Short-term on-the-job training
53–7064	Packers and packagers, hand.....	834	730	–104	–12.4	VL	Short-term on-the-job training
43–4071	File clerks.....	234	137	–97	–41.3	L	Short-term on-the-job training
11–9012	Farmers and ranchers.....	1,058	969	–90	–8.5	H	Long-term on-the-job training
43–4151	Order clerks.....	271	205	–66	–24.3	L	Short-term on-the-job training
51–6031	Sewing machine operators.....	233	170	–63	–27.2	VL	Moderate-term on-the-job training
51–2022	Electrical and electronic equipment assemblers.....	213	156	–57	–26.8	L	Short-term on-the-job training
51–4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic....	272	231	–40	–14.9	L	Moderate-term on-the-job training
41–9041	Telemarketers.....	395	356	–39	–9.9	VL	Short-term on-the-job training
51–9061	Inspectors, testers, sorters, samplers, and weighers.....	491	457	–35	–7.0	L	Moderate-term on-the-job training
51–1011	First-line supervisors/managers of production and operating workers..	699	665	–34	–4.8	VH	Work experience in a related occupation
43–9011	Computer operators.....	130	98	–32	–24.7	H	Moderate-term on-the-job training
51–9132	Photographic processing machine operators.....	49	25	–25	–49.8	VL	Short-term on-the-job training
53–3031	Driver/sales workers.....	445	421	–24	–5.3	VL	Short-term on-the-job training
53–7063	Machine feeders and offbearers.....	148	125	–22	–15.2	L	Short-term on-the-job training
51–9111	Packaging and filling machine operators and tenders.....	386	365	–21	–5.4	L	Short-term on-the-job training
43–9022	Word processors and typists.....	179	158	–21	–11.6	L	Moderate-term on-the-job training
51–9196	Paper goods machine setters, operators, and tenders.....	113	93	–21	–18.2	H	Moderate-term on-the-job training
45–2092	Farmworkers and laborers, crop, nursery, and greenhouse.....	603	583	–20	–3.4	VL	Short-term on-the-job training
51–4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic.....	157	137	–20	–12.8	L	Moderate-term on-the-job training
15–1021	Computer programmers.....	435	417	–18	–4.1	VH	Bachelor's degree
43–9051	Mail clerks and mail machine operators, except postal service....	152	134	–18	–11.6	L	Short-term on-the-job training
43–5053	Postal service mail sorters, processors, and processing machine operators.....	198	181	–17	–8.4	H	Short-term on-the-job training

See footnotes at end of table.

**Table 4. Continued—Occupations with the largest job declines, 2006–16**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment		Change, 2006–16		Quartile rank by 2006 median annual wages <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
		2006	2016	Number	Percent		
51–4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic.....	101	85	–16	–15.7	L	Moderate-term on-the-job training
51–4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic.....	68	52	–16	–23.3	H	Moderate-term on-the-job training
51–5022	Prepress technicians and workers.....	71	56	–15	–21.1	H	Postsecondary vocational award
43–2011	Switchboard operators, including answering service.....	177	163	–15	–8.4	L	Short-term on-the-job training
43–9021	Data entry keyers.....	313	299	–15	–4.7	L	Moderate-term on-the-job training
51–5011	Bindery workers.....	65	51	–14	–21.8	L	Short-term on-the-job training

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual wages data are presented in the following categories: VH = very high (\$46,360 or more), H = high (\$30,630 to \$46,300), L = low (\$21,260 to \$30,560), and VL = very low (up to \$21,220). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Wages are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data, 2006–07* edition, Bulletin 2602 (Bureau of Labor Statistics, February 2006), and *Occupational Projections and Training Data, 2008–09* edition, Bulletin 2702 (Bureau of Labor Statistics, forthcoming).

generate numerous job openings. Customer service representatives; general office clerks; bookkeeping, accounting, and auditing clerks; executive secretaries and administrative assistants; and receptionists and information clerks are expected to see increases of 200,000 or more jobs. The overall rise in business activity and the difficulty in computerizing or outsourcing certain key tasks will keep these workers in demand. Customer service representatives in particular are projected to add more than 500,000 jobs as businesses realize that good customer service is often key to getting and retaining business and developing a loyal clientele. The Internet has caused the volume of e-mails to businesses and organizations to grow, requiring more customer service representatives to respond to them. Receptionists and information clerks also will be affected by the need to provide more personal service and information. Employment growth will be driven by gains in the industries that employ these workers, such as the very fast growing management, scientific, and technical consulting services industry.

Jobs will continue to be generated for those who perform basic, but needed, tasks, such as preparing and serving food or cleaning offices and buildings. New construction of office buildings, shopping malls, residential housing, highways, and parks is expected to increase demand for janitors and cleaners, landscaping and ground-

keeping workers, and general maintenance and repair workers. In addition, the need to protect offices and people from harm is expected to lead to more than 175,000 new jobs for security guards. Concern about crime, vandalism, and terrorism continues to increase the need for security. Demand for guards will grow as private security firms increasingly take on more security functions, such as providing security at public events and in residential neighborhoods and business establishments.

Employment of personal and home care aides and home health aides will grow very rapidly, with both occupations projected to add more than 380,000 jobs each. As the elderly population grows, and as efforts to contain health care costs by minimizing inpatient treatments continue, the need for these two occupations will expand greatly. Medical assistants will add many new jobs as well, as the growing health care industry, particularly outpatient facilities and clinics, increasingly demands the services of these workers to perform a number of administrative and basic clinical duties.

Childcare workers, also from the services occupational group, are expected to add nearly 250,000 jobs. More children in general and a greater preference for formal childcare settings will continue to spur demand for these workers. Further, as more States and localities add pre-

school and before- and afterschool programs to their list of services, demand for childcare workers who staff these programs will increase.

Accountants and auditors, as well as management analysts, will see employment gains as a growing number of companies step up efforts to meet regulations and streamline operations. Job growth for management analysts is projected in consulting firms with international expertise and in firms that specialize in specific areas, such as biotechnology, health care, or information technology.

Truckdrivers will be needed to transport a growing amount of goods between ports, rail depots, airports, warehouses, retail establishments, and consumers. Because they provide one of the fastest modes of transport, truckdrivers are needed particularly to transport perishable and time-sensitive commodities.

*Declining occupations.* This section focuses on those occupations with the largest *numerical* job declines over the period from 2006 to 2016. (See table 4.) A few of the occupations with the fastest *rates* of decline also rank among the top 30 occupations in terms of numerical decline. However, other rapidly declining occupations are small and play a minor role in job loss. The 30 occupations with the largest declines will account for about 1.2 million job losses, the majority of the 1.8 million job losses projected among declining occupations.

Only two among the largest declining occupations typically require postsecondary education as their primary method of entry: computer programmers and press technicians. Most of the remaining occupations can be learned through on-the-job training or related work experience. Sixteen of the 30 occupations with the largest numerical declines generally require short-term (1 month or less) on-the-job training, and 10 require moderate-term (from 1 month to 1 year) on-the-job training, for a worker to become proficient in the job. Fourteen of the occupations with the largest declines are in the next-to-lowest (low) wage quartile, and 8 are in the lowest (very low) quartile.

Of the 30 occupations with the largest numerical decline, 9 are office and administrative occupations, 2 belong in the sales and related major group, and another 3 fall into the transportation and material moving major group. Two more are related to agriculture—one in the management major group and the other in the farming, fishing, and forestry major group—and 13 are in the production major group, more than any other major group. The last occupation is computer programmers, which is the only one on the list of 30 that is from professional and

related occupations. Changes in technology or business practices, and outsourcing to foreign countries, will reduce demand in most of the 30 occupations. No occupations in the table are from the services group, the construction and extraction group, or the installation, maintenance, and repair group, which together represent the more difficult occupations to automate or move overseas.

Nine of the occupations with the largest declines are in the office and administrative support major group, including stock clerks and order fillers, the occupation with the largest decline of all, 131,000 jobs. Advances in information technologies have automated many clerical tasks and raised the productivity of these workers, causing fewer workers to be needed. For example, order clerks are projected to lose 66,000 jobs due to growth in electronic commerce and the use of automated ordering systems. Orders are now more easily placed without human intervention, and advances in voice recognition technology will hasten the process. In addition, there will be fewer clerical workers with very limited duties, such as file clerks, word processors and typists, and data entry keyers, and more workers with broader duties, such as general office clerks and executive secretaries and administrative assistants, two of the largest growing occupations.

The occupation titled “cashiers, except gaming,” is projected to lose 118,000 jobs as more customers shop online and use automated checkout machines for their purchases. Telemarketers’ employment also will decrease, as more people opt out of receiving telephone calls from salespersons and as blocking technology improves.

Three transportation and material moving occupations are on the list of the largest declining occupations. Much of the work done by material moving workers, particularly those working in manufacturing, will be increasingly automated and performed by industrial robots. Hand packers and packagers will decline as businesses rely more and more on machines to do these workers’ routine tasks. Drivers/sales workers will decline as deliveries are made more efficient and are increasingly carried out by employees other than sales workers.

Two agriculture-related occupations will see large declines: farmers and ranchers; and farmworkers and laborers, crop, nursery, and greenhouse. Farmers and ranchers will decline by 90,000 jobs, farmworkers and laborers by 20,000, as market pressures and improved farm technology result in the consolidation of farms into fewer and larger units. Rising imports of agricultural products also will reduce demand for these workers. The continuing ability of the agriculture sector to produce more with fewer workers will cause some farmers to go out of business

as market pressures leave little room for the marginally successful farmer. As land, machinery, seed, and chemicals become more expensive, only well-capitalized farmers and corporations will be able to acquire many of the farms that become available. These larger, more productive farms are better able to withstand the adverse effects of climate and price fluctuations on farm output and income. Larger farms also have the advantage of being able to obtain government subsidies and payments more readily, because these payments are usually based on acreage owned and per unit production.

Thirteen of the occupations with the largest declines are production occupations. Advances in manufacturing technology, such as faster machines and more automated processes, and a shift of assembly and other production activities to countries with lower labor costs will decrease employment in a number of production and related occupations, such as sewing machine operators and electrical and electronic equipment assemblers. Desktop publishing software will adversely affect the demand for prepress technicians and workers, who will switch to performing many of the same duties as customer service representatives. Also, machines with sophisticated scanning technology are doing a better job of inspecting goods during the manufacturing process, thereby eliminating the need for some human inspectors, testers, sorters, samplers, and weighers. More widespread use of digital photography will reduce the need for photographic processing machine operators.

Computer programmers, the only occupation from professional and related occupations on the list of the largest declining occupations, is expected to decline moderately as workers in other occupations acquire programming skills, as work is outsourced to foreign countries, and as some basic programming functions are automated.

### **Job openings from replacement needs**

Although analyzing job growth and decline is important in identifying hiring trends, the need to replace workers who move to different occupations, who retire, or who stop working for other reasons is often the more significant source of job openings. In most occupations, job openings due to replacement needs exceed those resulting from employment growth. For occupations that are projected to decline in employment, such as farmers and ranchers or stock clerks and order fillers, all job openings will be due to replacement needs. (See appendix.)<sup>13</sup>

Net replacement needs for all occupations over the 2006–16 period are expected to total 33.4 million job openings, as opposed to 17.4 million due to growth.

While most replacement openings are generated when workers change occupations either through a promotion or a career change, or when they simply leave the workforce, in the coming decade a greater number of openings than usual will result from baby boomers retiring. However, because replacement needs data are calculated on the basis of past trends, projected replacement needs may be fewer should larger-than-anticipated numbers of older Americans choose or be forced to delay their retirement over the next decade.

The measurement of replacement needs is complex because of the continuous movement of workers into and out of occupations. The replacement needs cited in this article are based on the net change in employment (entrants minus separations) in each age group of an occupation over the projection period. Although there are other measures that reflect the number of job openings for new and experienced entrants to an occupation, the measure used in this article—job openings due to growth and net replacements—best represents the job openings for new entrants to the occupation through 2016.<sup>14</sup>

For most occupations listed in the appendix, net replacement needs exceed job openings due to growth. In general, only the fastest growing occupations and those occupations which include highly specialized workers with high education and training requirements, who usually stay in their profession until they retire, have more job openings due to growth. Computer specialists and health care practitioners and technical occupations are two subgroups in the professional and related group with more job openings due to growth than to replacement needs.

Management occupations, in which 52 percent of workers are 45 years and older, are projected to have more than 1.7 million job openings due to the need to replace workers, compared with 632,000 jobs created due to growth in the occupation. Primary, secondary, and special education teachers also will have very large replacement needs. This broad occupation has an older-than-average workforce, as well as a high number of workers who leave the profession after only a few years of teaching. Thus, replacement needs will generate 1 million job openings, as opposed to 555,000 due to employment growth.

Low-paying entry-level occupations employing large numbers of youths often generate the highest replacement needs. The food preparation and serving workers occupation will generate close to 4 million jobs to replace current workers who leave the occupation, but only 1.4 million jobs due to growth. Cashier occupations, with 50 percent of workers between the ages of 16 and 24 years, will need 1.7 million new workers to replace those who

leave the occupation. However, except for gaming cashier jobs, there will be no new cashier jobs due to growth, because the occupation is expected to decline overall.

Although, as previously discussed, production occupations will see some of the biggest employment declines, the need to replace workers who leave or retire is expected to generate more than 2.1 million jobs in this major group. Office and administrative support workers, another occupational group often considered on the decline, is projected to create more than 5 million job openings to replace those who leave the field.

## Employment growth, and education or training

The BLS assigns each occupation to an education and training category that represents the most common entry requirement for the occupation. The categories range from “short-term on-the-job training” to “first professional degree.” (See box on page 104 for descriptions.) Although there has been a slight increase in the education required to enter some occupations in recent years, about half of all jobs will continue to typically require short-term on-the-job training or moderate-term on-the-job training for a worker to become fully qualified in the occupation. The total percentage of jobs in

these two categories, however, is projected to decline from 52.8 percent to 51.9 percent by 2016. (See table 5.)

Nearly one-third of all new jobs—more than 4.6 million—are projected to fall into the short-term on-the-job-training category. This category dominates the list of the 30 largest growing occupations, with 14 of the 30 occupations listed, including retail salespersons, the largest occupation in the category. From the perspective of total job openings, the number of openings falling into the short-term on-the-job-training category is 20.1 million, or 40 percent of all job openings due to growth and net replacement needs. Some workers whose training falls into this category, such as childcare workers or retail salespersons, perform duties that require a great deal of personal attention. The relative ease of training workers for such practical tasks helps the category account for such a substantial share of jobs.

The doctoral degree category is expected to increase the fastest of all the education and training categories over the 2006–16 period, growing at a 22-percent rate. Most of this change will be due to the fast-growing occupation of postsecondary teachers. Despite such growth, jobs generally needing a doctoral degree for qualification will still account for just 1.5 percent of total jobs in 2016.

The education and training category with the smallest

**Table 5. Employment and total job openings, by education and training category, 2006 and projected 2016**

[Numbers in thousands]

Most significant source of education and training	Employment				Change, 2006–16		Total job openings due to growth and net replacement needs, 2006–16 <sup>1</sup>		May 2006 median annual wages <sup>2</sup>
	Number		Percent distribution		Number	Percent	Number	Percent distribution	
	2006	2016	2006	2016					
Total, all occupations.....	150,620	166,220	100.0	100.0	15,600	10.4	50,732	100.0	\$30,400
First professional degree.....	1,970	2,247	1.3	1.4	277	14.0	638	1.3	112,070
Doctoral degree.....	2,025	2,462	1.3	1.5	437	21.6	793	1.6	57,640
Master's degree.....	2,167	2,575	1.4	1.5	409	18.9	819	1.6	51,380
Bachelor's or higher degree, plus work experience.....	6,524	7,117	4.3	4.3	592	9.1	2,008	4.0	81,280
Bachelor's degree.....	18,585	21,659	12.3	13.0	3,074	16.5	6,706	13.2	53,550
Associate degree.....	5,812	6,899	3.9	4.2	1,087	18.7	2,240	4.4	50,240
Postsecondary vocational award.....	7,901	8,973	5.2	5.4	1,072	13.6	2,491	4.9	29,520
Work experience in a related occupation.....	14,579	15,889	9.7	9.6	1,310	9.0	4,126	8.1	43,480
Long-term on-the-job training.....	11,489	12,200	7.6	7.3	711	6.2	3,272	6.5	37,360
Moderate-term on-the-job training.....	27,230	29,248	18.1	17.6	2,018	7.4	7,516	14.8	29,100
Short-term on-the-job training.....	52,339	56,951	34.7	34.3	4,613	8.8	20,123	39.7	19,620

<sup>1</sup> Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

<sup>2</sup> For wage and salary workers, from the Occupational Employment Statistics survey.

### Classification of occupations by most significant source of education or training

Occupations are classified into 1 of 11 categories according to the following principles:

- An occupation is placed into the category that best describes the education or training needed by most workers to become fully qualified in that occupation.
- If generally needed for entry into an occupation, postsecondary awards take precedence over work-related training, even though additional skills or experience may be needed for a worker to become fully qualified in the occupation.
- The length of time an average worker generally needs to become fully qualified in an occupation through a combination of on-the-job training and experience is used to categorize occupations in which a postsecondary award generally is not needed for entry into the occupation.

#### Postsecondary awards

*First professional degree.* Completion of the degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree. Examples are lawyers; and physicians and surgeons.

*Doctoral degree.* Completion of a Ph.D. or other doctoral degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree. Examples are postsecondary teachers; and medical scientists, except epidemiologists.

*Master's degree.* Completion of the degree usually requires 1 or 2 years of full-time academic study beyond a bachelor's degree. Examples are educational, vocational, and school counselors; and clergy.

*Bachelor's or higher degree, plus work experience.* Most occupations in this category are management occupations. All require experience in a related nonmanagement position for which a bachelor's or higher degree is usually required. Examples are general and operations managers; and judges, magistrate judges, and magistrates.

*Bachelor's degree.* Completion of the degree generally requires at least 4 years, but not more than 5 years, of full-time academic study. Examples are accountants and auditors; and elementary school teachers, except special education.

*Associate degree.* Completion of the degree usually requires at least 2 years of full-time academic study. Examples are paralegals and legal

assistants; and medical records and health information technicians.

*Postsecondary vocational award.* Some programs last only a few weeks, while others last more than a year. Programs lead to a certificate or other award, but not a degree. Examples are nursing aides, orderlies, and attendants; and hairdressers, hairstylists, and cosmetologists.

#### Work-related training

*Work experience in a related occupation.* Most of the occupations in this category are first-line supervisors or managers of service, sales and related, production, or other occupations; or are management occupations.

*Long-term on-the-job training.* Occupations in this category require more than 12 months of on-the-job training or require combined work experience and formal classroom instruction for workers to develop the skills necessary to be fully qualified in the occupation. These occupations include formal and informal apprenticeships that may last up to 5 years. Long-term on-the-job training also includes intensive occupation-specific, employer-sponsored programs that workers must complete. Among such programs are those conducted by fire and police academies and by schools for air traffic controllers and flight attendants. In other occupations—insurance sales and securities sales, for example—trainees take formal courses, often provided on the jobsite, to prepare for the required licensing exams. Individuals undergoing training generally are considered to be employed in the occupation. Also included in this category is the development of a natural ability—such as that possessed by musicians, athletes, actors, and other entertainers—that must be cultivated over several years, frequently in a nonwork setting.

*Moderate-term on-the-job training.* In this category of occupations, the skills needed to be fully qualified in the occupation can be acquired during 1 to 12 months of combined on-the-job experience and informal training. Examples are truckdrivers, heavy and tractor-trailer; and secretaries, except legal, medical, and executive.

*Short-term on-the-job training.* In occupations in this category, the skills needed to be fully qualified in the occupation can be acquired during a short demonstration of job duties or during 1 month or less of on-the-job experience or instruction. Examples of these occupations are retail salespersons; and waiters and waitresses.

percent increase in new jobs (6.2 percent) during 2006–16 will be long-term on-the-job training. Many in this category are in construction or production occupations, such as plumbers and tool and die makers, that require several years of on-the-job and classroom training or formal apprenticeships for the worker to become fully proficient. As more companies become reluctant to provide long-term training to workers out of the concern that they will leave once they are trained, the burden of becoming trained in a profession will increasingly rest on the individual. Thus, jobs typically requiring a postsecondary award or college degree will account for a greater proportion of all jobs. Between 2006 and

2016, the share of all jobs generally requiring a postsecondary vocational award or higher is projected to go from 29.9 percent of all jobs to 31.2 percent.

Occupations in the bachelor's degree category are expected to add the second-largest number of new jobs, 3.1 million, by 2016. Most jobs in this category are among the professional and related occupations. Also, occupations in the bachelor's degree category make up the plurality of new jobs on the list of fastest growing occupations, which includes information technology-related and finance-related occupations.

Note that, for most occupations that are assigned an education and training category, some of the jobs in that

category usually are filled by people with higher or lower levels of education and training than that specified by the category. For example, although, presumably, most retail salespersons can learn their job in less than 1 month, 55 percent of retail salespersons had some college or higher in 2006, suggesting that some employers prefer to hire salespersons with more than a high school diploma. Many occupations have multiple paths of entry, with education often being a substitute for experience. An example of an occupation with multiple paths of entry is police and sheriff's patrol officers. The most significant source of education or training for this occupation is long-term on-the-job training, which may involve an apprenticeship as a cadet lasting 1 or 2 years. However, many police officers have a bachelor's degree in a related field. Those who do may have an edge in landing a job or earning a promotion.

In general, occupations requiring more formal education or training have higher pay and benefits than occupations with less stringent entry requirements. Although the

annual median wage for all occupations was \$30,400 in 2006, occupations that generally require a college degree or extensive work experience in a related occupation had much higher median wages. Occupations that generally require short-term on-the-job training had median annual wages of \$19,620, while occupations that generally require a first professional degree, such as lawyers and physicians and surgeons, had median annual wages of \$112,070.

In projecting occupational growth and decline, the BLS makes many assumptions about the size and makeup of the population, its demand for goods and services, and how governments and businesses react in delivering those goods and services. Changes in laws, preferences, and technology may alter the BLS projections over time. However, given the set of assumptions found in the articles in this issue of the *Review*, the BLS attempts to provide the reader with the best estimate of job growth and decline over the next decade. □

## Notes

<sup>1</sup> For more information on the population and labor force projections cited throughout this article, see Mitra Toossi, "Labor force projections to 2016: more workers in their golden years," this issue, pp. 33–52.

<sup>2</sup> These projections assume that the current immigration policy and levels of immigration will remain constant.

<sup>3</sup> For more information on the methodology used to calculate net replacement needs, see *Occupational Projections and Training Data*, 2006–07 edition, Bulletin 2602 (Bureau of Labor Statistics, February 2006), Chapter VI; and 2008–09 edition, Bulletin 2702, forthcoming.

<sup>4</sup> The number of job openings generated due to growth is expected to be greater than the overall employment change between 2006 and 2016 (15.6 million new jobs), because occupations with declining employment do not create any job openings due to growth.

<sup>5</sup> See Betty W. Su, "The U.S. economy to 2016: slower growth as boomers begin to retire," this issue, pp. 13–32, for more information on economic projections pertaining to the U.S. economy.

<sup>6</sup> See Rose A. Woods and Eric B. Figueroa, "Industry output and employment projections to 2016," this issue, pp. 53–96, for more information on the employment, output, and productivity projections, by industry, cited throughout this article.

<sup>7</sup> Occupational projections presented in this article provide information to those interested in labor market issues. They also provide the background for analyses of future employment opportunities described in the forthcoming 2008–09 *Occupational Outlook Handbook*. The Internet version of this edition of the *Handbook*, which will be accessible at [www.bls.gov/oco/](http://www.bls.gov/oco/), is expected to be available in late December 2007; the print version of the 2008–09 *Handbook*, BLS Bulletin 2700, should be available in the spring of 2008. Job outlook information in the 2008–09 *Handbook* will use the projections presented in each of the articles in this issue of the *Monthly Labor Review*. For a description of the methodology used to develop employment projections, see *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), pp. 122–29, on the Internet at [www.bls.gov/emp/nioem/empioan.htm](http://www.bls.gov/emp/nioem/empioan.htm) (visited Nov. 30, 2007).

<sup>8</sup> Those who are self-employed in their primary job are expected to add

643,000 of the 675,000 new jobs for all self-employed workers. Those who are self-employed in their secondary jobs are expected to add the remaining 32,000 new jobs.

<sup>9</sup> Woods and Figueroa, "Industry output and employment projections to 2016."

<sup>10</sup> For more information on the occupational classification system used in this article, see Executive Office of the President, Office of Management and Budget, *Standard Occupation Classification Manual 2000* (Lanham, MD, Bernan Associates, 2000).

<sup>11</sup> Woods and Figueroa, "Industry output and employment projections to 2016."

<sup>12</sup> The education and training categories listed in the tables in this article show the category that best describes the most significant source of postsecondary education or training needed by most workers in a given occupation to become fully qualified in that occupation. However, in many occupations that require a range of education and training, there is more than one way to become qualified. For more information on education and training categories and the educational attainment of workers in occupations, see *Occupational Projections and Training Data*, 2006–07 edition, Bulletin 2602 (Bureau of Labor Statistics, February 2006), and *Occupational Projections and Training Data*, 2008–09 edition, Bulletin 2702 (Bureau of Labor Statistics, forthcoming).

<sup>13</sup> For detailed occupations that are growing, net replacement needs equal the number of job openings due to growth and net replacements, minus the number of job openings due to growth (numeric change). For detailed occupations that are declining, all job openings are due to replacement needs.

<sup>14</sup> Net separations do not count all movements of workers out of an occupation—a measure termed *total separations*. For example, an opening caused by a worker who stops working for a time and then gets another job in his or her previous occupation would be counted in the measure of total separations, but not in net separations. (See the discussion of the uses of replacement needs information developed in Bureau of Labor Statistics, *Occupational Projections and Training Data*.)

<b>APPENDIX: Employment by occupation, 2006 and projected 2016</b>							
<b>[Numbers in thousands]</b>							
2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
00-0000 Total, all occupations .....	150,620	166,220	100.0	100.0	15,600	10.4	50,732
11-1300 Management, business, and financial occupations <sup>2</sup> .....	15,397	16,993	10.2	10.2	1,596	10.4	4,575
11-0000 Management occupations.....	8,789	9,322	5.8	5.6	533	6.1	2,373
11-1000 Top executives .....	2,187	2,222	1.5	1.3	35	1.6	572
11-1011 Chief executives.....	402	410	.3	.2	8	2.1	118
11-1021 General and operations managers .....	1,720	1,746	1.1	1.1	26	1.5	441
11-1031 Legislators.....	65	65	.0	.0	1	1.0	13
11-2000 Advertising, marketing, promotions, public relations, and sales managers .....	583	651	.4	.4	68	11.7	198
11-2011 Advertising and promotions managers .....	47	50	.0	.0	3	6.2	13
11-2020 Marketing and sales managers .....	486	542	.3	.3	57	11.7	165
11-2021 Marketing managers .....	167	192	.1	.1	24	14.4	61
11-2022 Sales managers .....	318	351	.2	.2	33	10.2	103
11-2031 Public relations managers.....	50	58	.0	.0	8	16.9	20
11-3000 Operations specialties managers .....	1,474	1,628	1.0	1.0	154	10.5	473
11-3011 Administrative services managers .....	247	276	.2	.2	29	11.7	94
11-3021 Computer and information systems managers .....	264	307	.2	.2	43	16.4	86
11-3031 Financial managers.....	506	570	.3	.3	64	12.6	138
11-3040 Human resources managers.....	136	153	.1	.1	17	12.5	43
11-3041 Compensation and benefits managers .....	49	55	.0	.0	6	12.0	15
11-3042 Training and development managers.....	29	33	.0	.0	5	15.6	10
11-3049 Human resources managers, all other.....	58	65	.0	.0	7	11.4	18
11-3051 Industrial production managers.....	157	148	.1	.1	-9	-5.9	54
11-3061 Purchasing managers .....	70	72	.0	.0	2	3.4	22
11-3071 Transportation, storage, and distribution managers .....	94	102	.1	.1	8	8.4	36
11-9000 Other management occupations.....	4,545	4,821	3.0	2.9	276	6.1	1,130
11-9010 Agricultural managers .....	1,317	1,230	.9	.7	-87	-6.6	117
11-9011 Farm, ranch, and other agricultural managers .....	258	261	.2	.2	3	1.1	22
11-9012 Farmers and ranchers.....	1,058	969	.7	.6	-90	-8.5	95
11-9021 Construction managers.....	487	564	.3	.3	77	15.7	152
11-9030 Education administrators .....	443	496	.3	.3	53	11.9	176
11-9031 Education administrators, preschool and child care center/program .....	56	69	.0	.0	13	23.5	29
11-9032 Education administrators, elementary and secondary school .....	226	243	.1	.1	17	7.6	80
11-9033 Education administrators, postsecondary .....	131	150	.1	.1	19	14.2	55
11-9039 Education administrators, all other.....	30	33	.0	.0	4	12.6	12
11-9041 Engineering managers.....	187	201	.1	.1	14	7.3	51
11-9051 Food service managers .....	350	368	.2	.2	18	5.0	100
11-9061 Funeral directors .....	29	32	.0	.0	4	12.5	10
11-9071 Gaming managers .....	4	5	.0	.0	1	24.4	2
11-9081 Lodging managers .....	71	80	.0	.0	9	12.2	24
11-9111 Medical and health services managers.....	262	305	.2	.2	43	16.4	92
11-9121 Natural sciences managers .....	41	45	.0	.0	5	11.4	14
11-9131 Postmasters and mail superintendents.....	26	26	.0	.0	0	-8	6
11-9141 Property, real estate, and community association managers .....	329	379	.2	.2	50	15.1	95
11-9151 Social and community service managers .....	130	162	.1	.1	32	24.7	57
11-9199 Managers, all other .....	870	930	.6	.6	60	6.9	233
13-0000 Business and financial operations occupations .....	6,608	7,671	4.4	4.6	1,063	16.1	2,203
13-1000 Business operations specialists.....	3,860	4,466	2.6	2.7	606	15.7	1,276
13-1011 Agents and business managers of artists, performers, and athletes .....	25	27	.0	.0	2	9.6	9
13-1020 Buyers and purchasing agents .....	460	459	.3	.3	-1	-3	99
13-1021 Purchasing agents and buyers, farm products .....	16	15	.0	.0	-1	-8.6	2
13-1022 Wholesale and retail buyers, except farm products .....	157	156	.1	.1	0	-1	35
13-1023 Purchasing agents, except wholesale, retail, and farm products .....	287	288	.2	.2	0	.1	62
13-1030 Claims adjusters, appraisers, examiners, and investigators .....	319	347	.2	.2	29	9.1	110
13-1031 Claims adjusters, examiners, and investigators.....	305	332	.2	.2	27	8.9	105

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
13-1032	Insurance appraisers, auto damage.....	13	15	0.0	0.0	2	12.5	5
13-1041	Compliance officers, except agriculture, construction, health and safety, and transportation .....	237	249	.2	.1	12	4.9	39
13-1051	Cost estimators .....	221	262	.1	.2	41	18.5	86
13-1061	Emergency management specialists .....	12	13	.0	.0	1	12.3	3
13-1070	Human resources, training, and labor relations specialists.....	732	862	.5	.5	130	17.8	288
13-1071	Employment, recruitment, and placement specialists.....	197	233	.1	.1	36	18.4	79
13-1072	Compensation, benefits, and job analysis specialists.....	110	130	.1	.1	20	18.4	44
13-1073	Training and development specialists .....	210	249	.1	.1	38	18.3	84
13-1079	Human resources, training, and labor relations specialists, all other.....	214	250	.1	.2	35	16.5	81
13-1081	Logisticians .....	83	98	.1	.1	14	17.3	27
13-1111	Management analysts.....	678	827	.5	.5	149	21.9	264
13-1121	Meeting and convention planners.....	51	61	.0	.0	10	19.9	20
13-1199	Business operation specialists, all other.....	1,043	1,261	.7	.8	218	20.9	330
13-2000	Financial specialists.....	2,748	3,204	1.8	1.9	457	16.6	927
13-2011	Accountants and auditors .....	1,274	1,500	.8	.9	226	17.7	450
13-2021	Appraisers and assessors of real estate.....	101	118	.1	.1	17	16.9	37
13-2031	Budget analysts .....	62	66	.0	.0	4	7.1	19
13-2041	Credit analysts .....	67	68	.0	.0	1	1.9	27
13-2050	Financial analysts and advisors .....	501	655	.3	.4	153	30.6	210
13-2051	Financial analysts.....	221	295	.1	.2	75	33.8	87
13-2052	Personal financial advisors .....	176	248	.1	.1	72	41.0	88
13-2053	Insurance underwriters.....	104	111	.1	.1	7	6.3	35
13-2061	Financial examiners .....	26	28	.0	.0	3	10.7	7
13-2070	Loan counselors and officers .....	406	450	.3	.3	44	10.8	88
13-2071	Loan counselors.....	33	35	.0	.0	1	4.0	5
13-2072	Loan officers.....	373	415	.2	.2	43	11.5	83
13-2080	Tax examiners, collectors, preparers, and revenue agents .....	181	174	.1	.1	-7	-3.7	40
13-2081	Tax examiners, collectors, and revenue agents.....	81	82	.1	.0	2	2.1	22
13-2082	Tax preparers .....	100	92	.1	.1	-8	-8.4	18
13-2099	Financial specialists, all other .....	129	144	.1	.1	15	11.8	50
15-2900	Professional and related occupations <sup>3</sup> .....	29,819	34,790	19.8	20.9	4,970	16.7	11,067
15-0000	Computer and mathematical science occupations .....	3,313	4,135	2.2	2.5	822	24.8	1,568
15-1000	Computer specialists.....	3,200	4,006	2.1	2.4	807	25.2	1,524
15-1011	Computer and information scientists, research.....	25	31	.0	.0	5	21.5	12
15-1021	Computer programmers.....	435	417	.3	.3	-18	-4.1	91
15-1030	Computer software engineers.....	857	1,181	.6	.7	324	37.9	449
15-1031	Computer software engineers, applications.....	507	733	.3	.4	226	44.6	300
15-1032	Computer software engineers, systems software .....	350	449	.2	.3	99	28.2	150
15-1041	Computer support specialists.....	552	624	.4	.4	71	12.9	242
15-1051	Computer systems analysts.....	504	650	.3	.4	146	29.0	280
15-1061	Database administrators .....	119	154	.1	.1	34	28.6	47
15-1071	Network and computer systems administrators.....	309	393	.2	.2	83	26.9	154
15-1081	Network systems and data communications analysts .....	262	402	.2	.2	140	53.4	193
15-1099	Computer specialists, all other.....	136	157	.1	.1	21	15.1	57
15-2000	Mathematical science occupations .....	114	129	.1	.1	15	13.2	44
15-2011	Actuaries .....	18	22	.0	.0	4	23.7	11
15-2021	Mathematicians.....	3	3	.0	.0	0	10.2	1
15-2031	Operations research analysts .....	58	65	.0	.0	6	10.6	18
15-2041	Statisticians.....	22	24	.0	.0	2	8.5	9
15-2090	Miscellaneous mathematical science occupations .....	12	14	.0	.0	2	19.8	5
15-2091	Mathematical technicians.....	1	1	.0	.0	0	7.9	0
15-2099	Mathematical scientists, all other .....	10	13	.0	.0	2	21.3	5
17-0000	Architecture and engineering occupations.....	2,583	2,852	1.7	1.7	268	10.4	852

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
17-1000 Architects, surveyors, and cartographers .....	232	277	0.2	0.2	45	19.2	97
17-1010 Architects, except naval .....	160	188	.1	.1	28	17.5	58
17-1011 Architects, except landscape and naval .....	132	155	.1	.1	23	17.7	48
17-1012 Landscape architects .....	28	32	.0	.0	5	16.4	10
17-1020 Surveyors, cartographers, and photogrammetrists .....	72	89	.0	.1	17	23.1	39
17-1021 Cartographers and photogrammetrists .....	12	15	.0	.0	2	20.3	6
17-1022 Surveyors .....	60	74	.0	.0	14	23.7	33
17-2000 Engineers .....	1,512	1,671	1.0	1.0	160	10.6	505
17-2011 Aerospace engineers .....	90	99	.1	.1	9	10.2	27
17-2021 Agricultural engineers .....	3	3	.0	.0	0	8.6	1
17-2031 Biomedical engineers .....	14	17	.0	.0	3	21.1	6
17-2041 Chemical engineers .....	30	33	.0	.0	2	7.9	10
17-2051 Civil engineers .....	256	302	.2	.2	46	18.0	114
17-2061 Computer hardware engineers .....	79	82	.1	.0	4	4.6	28
17-2070 Electrical and electronics engineers .....	291	306	.2	.2	15	5.0	82
17-2071 Electrical engineers .....	153	163	.1	.1	10	6.3	45
17-2072 Electronics engineers, except computer .....	138	143	.1	.1	5	3.7	37
17-2081 Environmental engineers .....	54	68	.0	.0	14	25.4	30
17-2110 Industrial engineers, including health and safety .....	227	270	.2	.2	43	19.1	98
17-2111 Health and safety engineers, except mining safety engineers and inspectors .....	25	28	.0	.0	2	9.6	9
17-2112 Industrial engineers .....	201	242	.1	.1	41	20.3	89
17-2121 Marine engineers and naval architects .....	9	10	.0	.0	1	10.9	3
17-2131 Materials engineers .....	22	22	.0	.0	1	4.0	6
17-2141 Mechanical engineers .....	226	235	.1	.1	9	4.2	58
17-2151 Mining and geological engineers, including mining safety engineers .....	7	8	.0	.0	1	10.0	2
17-2161 Nuclear engineers .....	15	16	.0	.0	1	7.2	5
17-2171 Petroleum engineers .....	17	18	.0	.0	1	5.2	5
17-2199 Engineers, all other .....	170	180	.1	.1	9	5.5	29
17-3000 Drafters, engineering, and mapping technicians .....	840	904	.6	.5	64	7.6	250
17-3010 Drafters .....	253	268	.2	.2	15	6.0	88
17-3011 Architectural and civil drafters .....	116	123	.1	.1	7	6.1	40
17-3012 Electrical and electronics drafters .....	35	36	.0	.0	1	4.1	11
17-3013 Mechanical drafters .....	78	82	.1	.0	4	5.2	26
17-3019 Drafters, all other .....	25	27	.0	.0	3	11.0	10
17-3020 Engineering technicians, except drafters .....	511	545	.3	.3	34	6.7	134
17-3021 Aerospace engineering and operations technicians .....	9	9	.0	.0	1	10.4	3
17-3022 Civil engineering technicians .....	91	100	.1	.1	9	10.2	27
17-3023 Electrical and electronic engineering technicians .....	170	177	.1	.1	6	3.6	39
17-3024 Electro-mechanical technicians .....	16	16	.0	.0	0	2.7	3
17-3025 Environmental engineering technicians .....	21	26	.0	.0	5	24.8	9
17-3026 Industrial engineering technicians .....	75	82	.0	.0	7	9.9	22
17-3027 Mechanical engineering technicians .....	48	51	.0	.0	3	6.4	12
17-3029 Engineering technicians, except drafters, all other .....	82	83	.1	.1	2	2.0	18
17-3031 Surveying and mapping technicians .....	76	90	.1	.1	15	19.4	29
19-0000 Life, physical, and social science occupations .....	1,407	1,610	.9	1.0	203	14.4	538
19-1000 Life scientists .....	258	292	.2	.2	33	12.8	103
19-1010 Agricultural and food scientists .....	33	36	.0	.0	3	9.3	13
19-1011 Animal scientists .....	5	6	.0	.0	1	9.9	2
19-1012 Food scientists and technologists .....	12	13	.0	.0	1	10.4	5
19-1013 Soil and plant scientists .....	16	17	.0	.0	1	8.4	6
19-1020 Biological scientists .....	87	95	.1	.1	8	9.2	26
19-1021 Biochemists and biophysicists .....	20	23	.0	.0	3	15.9	7
19-1022 Microbiologists .....	17	19	.0	.0	2	11.2	5
19-1023 Zoologists and wildlife biologists .....	20	22	.0	.0	2	8.7	6
19-1029 Biological scientists, all other .....	29	30	.0	.0	1	3.7	7
19-1030 Conservation scientists and foresters .....	33	35	.0	.0	2	5.3	11
19-1031 Conservation scientists .....	20	21	.0	.0	1	5.3	7
19-1032 Foresters .....	13	14	.0	.0	1	5.2	5
19-1040 Medical scientists .....	92	110	.1	.1	18	19.9	47
19-1041 Epidemiologists .....	5	5	.0	.0	1	13.6	2

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
19-1042 Medical scientists, except epidemiologists.....	87	105	0.1	0.1	18	20.2	45
19-1099 Life scientists, all other.....	14	16	.0	.0	2	15.3	6
19-2000 Physical scientists.....	267	309	.2	.2	42	15.7	109
19-2010 Astronomers and physicists.....	18	19	.0	.0	1	6.7	6
19-2011 Astronomers.....	2	2	.0	.0	0	5.5	0
19-2012 Physicists.....	17	18	.0	.0	1	6.8	5
19-2021 Atmospheric and space scientists.....	9	10	.0	.0	1	10.6	3
19-2030 Chemists and materials scientists.....	93	102	.1	.1	8	9.1	33
19-2031 Chemists.....	84	91	.1	.1	8	9.1	30
19-2032 Materials scientists.....	10	11	.0	.0	1	8.7	3
19-2040 Environmental scientists and geoscientists.....	123	152	.1	.1	30	24.2	61
19-2041 Environmental scientists and specialists, including health.....	83	104	.1	.1	21	25.1	42
19-2042 Geoscientists, except hydrologists and geographers.....	31	38	.0	.0	7	21.9	15
19-2043 Hydrologists.....	8	10	.0	.0	2	24.3	4
19-2099 Physical scientists, all other.....	24	25	.0	.0	1	6.2	6
19-3000 Social scientists and related occupations.....	530	616	.4	.4	86	16.3	160
19-3011 Economists.....	15	16	.0	.0	1	7.5	5
19-3020 Market and survey researchers.....	261	313	.2	.2	51	19.7	69
19-3021 Market research analysts.....	234	281	.2	.2	47	20.1	63
19-3022 Survey researchers.....	27	31	.0	.0	4	15.9	6
19-3030 Psychologists.....	166	191	.1	.1	25	15.3	51
19-3031 Clinical, counseling, and school psychologists.....	152	176	.1	.1	24	15.8	47
19-3032 Industrial-organizational psychologists.....	2	2	.0	.0	0	21.3	1
19-3039 Psychologists, all other.....	12	13	.0	.0	1	7.9	3
19-3041 Sociologists.....	4	4	.0	.0	0	10.0	1
19-3051 Urban and regional planners.....	34	39	.0	.0	5	14.5	15
19-3090 Miscellaneous social scientists and related workers.....	51	54	.0	.0	3	6.1	19
19-3091 Anthropologists and archeologists.....	6	6	.0	.0	1	15.0	3
19-3092 Geographers.....	1	1	.0	.0	0	6.1	0
19-3093 Historians.....	3	4	.0	.0	0	7.8	1
19-3094 Political scientists.....	5	5	.0	.0	0	5.3	2
19-3099 Social scientists and related workers, all other.....	36	38	.0	.0	2	4.7	13
19-4000 Life, physical, and social science technicians.....	351	393	.2	.2	42	11.8	165
19-4011 Agricultural and food science technicians.....	26	28	.0	.0	2	6.6	6
19-4021 Biological technicians.....	79	91	.1	.1	13	16.0	41
19-4031 Chemical technicians.....	61	65	.0	.0	4	5.8	24
19-4041 Geological and petroleum technicians.....	12	13	.0	.0	1	8.6	5
19-4051 Nuclear technicians.....	7	7	.0	.0	0	6.7	3
19-4061 Social science research assistants.....	18	20	.0	.0	2	12.4	9
19-4090 Other life, physical, and social science technicians.....	150	170	.1	.1	20	13.4	78
19-4091 Environmental science and protection technicians, including health.....	37	47	.0	.0	10	27.9	24
19-4092 Forensic science technicians.....	13	17	.0	.0	4	30.7	9
19-4093 Forest and conservation technicians.....	34	33	.0	.0	-1	-2.0	13
19-4099 Life, physical, and social science technicians, all other.....	66	73	.0	.0	7	9.9	32
21-0000 Community and social services occupations.....	2,386	2,927	1.6	1.8	541	22.7	945
21-1000 Counselors, social workers, and other community and social service specialists.....	1,843	2,280	1.2	1.4	438	23.8	760
21-1010 Counselors.....	635	771	.4	.5	136	21.3	261
21-1011 Substance abuse and behavioral disorder counselors.....	83	112	.1	.1	29	34.4	45
21-1012 Educational, vocational, and school counselors.....	260	292	.2	.2	33	12.6	84
21-1013 Marriage and family therapists.....	25	32	.0	.0	7	29.8	12
21-1014 Mental health counselors.....	100	130	.1	.1	30	30.0	50
21-1015 Rehabilitation counselors.....	141	173	.1	.1	32	23.0	60
21-1019 Counselors, all other.....	27	32	.0	.0	5	16.6	10
21-1020 Social workers.....	595	727	.4	.4	132	22.2	258
21-1021 Child, family, and school social workers.....	282	336	.2	.2	54	19.1	114
21-1022 Medical and public health social workers.....	124	154	.1	.1	30	24.2	56

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
21-1023	Mental health and substance abuse social workers	122	159	0.1	0.1	37	29.9	62
21-1029	Social workers, all other .....	66	78	.0	.0	12	17.8	26
21-1090	Miscellaneous community and social service specialists.....	613	783	.4	.5	170	27.7	241
21-1091	Health educators.....	62	78	.0	.0	16	26.2	23
21-1092	Probation officers and correctional treatment specialists.....	94	105	.1	.1	10	10.9	21
21-1093	Social and human service assistants.....	339	453	.2	.3	114	33.6	153
21-1099	Community and social service specialists, all other.....	118	148	.1	.1	30	25.1	43
21-2000	Religious workers.....	543	646	.4	.4	104	19.1	185
21-2011	Clergy.....	404	481	.3	.3	76	18.9	130
21-2021	Directors, religious activities and education.....	99	119	.1	.1	20	19.7	42
21-2099	Religious workers, all other.....	39	47	.0	.0	8	19.7	12
23-0000	Legal occupations.....	1,222	1,367	.8	.8	145	11.8	360
23-1000	Lawyers, judges, and related workers .....	812	898	.5	.5	86	10.6	240
23-1011	Lawyers.....	761	844	.5	.5	84	11.0	228
23-1020	Judges, magistrates, and other judicial workers.....	51	53	.0	.0	2	4.5	12
23-1021	Administrative law judges, adjudicators, and hearing officers.....	15	15	.0	.0	0	.1	3
23-1022	Arbitrators, mediators, and conciliators.....	8	9	.0	.0	1	10.6	3
23-1023	Judges, magistrate judges, and magistrates.....	27	29	.0	.0	1	5.1	7
23-2000	Legal support workers .....	410	469	.3	.3	59	14.3	120
23-2011	Paralegals and legal assistants .....	238	291	.2	.2	53	22.2	84
23-2090	Miscellaneous legal support workers .....	173	179	.1	.1	6	3.4	36
23-2091	Court reporters.....	19	24	.0	.0	5	24.6	8
23-2092	Law clerks .....	37	36	.0	.0	0	-1.2	6
23-2093	Title examiners, abstractors, and searchers .....	69	68	.0	.0	-1	-1.2	11
23-2099	Legal support workers, all other.....	48	50	.0	.0	2	5.1	10
25-0000	Education, training, and library occupations.....	9,034	10,298	6.0	6.2	1,265	14.0	3,050
25-1000	Postsecondary teachers .....	1,672	2,054	1.1	1.2	382	22.9	662
25-2000	Primary, secondary, and special education teachers.....	4,413	4,963	2.9	3.0	550	12.5	1,578
25-2010	Preschool and kindergarten teachers .....	607	750	.4	.5	143	23.5	243
25-2011	Preschool teachers, except special education .....	437	552	.3	.3	115	26.3	187
25-2012	Kindergarten teachers, except special education .....	170	198	.1	.1	28	16.3	56
25-2020	Elementary and middle school teachers.....	2,214	2,496	1.5	1.5	282	12.7	766
25-2021	Elementary school teachers, except special education.....	1,540	1,749	1.0	1.1	209	13.6	545
25-2022	Middle school teachers, except special and vocational education .....	658	732	.4	.4	74	11.2	217
25-2023	Vocational education teachers, middle school .....	16	15	.0	.0	-1	-5.1	3
25-2030	Secondary school teachers.....	1,133	1,187	.8	.7	54	4.8	396
25-2031	Secondary school teachers, except special and vocational education .....	1,038	1,096	.7	.7	59	5.6	368
25-2032	Vocational education teachers, secondary school .....	96	91	.1	.1	-4	-4.6	28
25-2040	Special education teachers.....	459	530	.3	.3	71	15.5	173
25-2041	Special education teachers, preschool, kindergarten, and elementary school.....	219	262	.1	.2	43	19.6	92
25-2042	Special education teachers, middle school.....	102	118	.1	.1	16	15.8	39
25-2043	Special education teachers, secondary school.....	138	150	.1	.1	12	8.5	42
25-3000	Other teachers and instructors .....	1,078	1,214	.7	.7	136	12.6	251
25-3011	Adult literacy, remedial education, and GED teachers and instructors.....	76	87	.1	.1	11	14.2	19
25-3021	Self-enrichment education teachers .....	261	322	.2	.2	60	23.1	88
25-3099	Teachers and instructors, all other .....	741	805	.5	.5	64	8.7	144
25-4000	Librarians, curators, and archivists .....	307	328	.2	.2	21	6.9	135
25-4010	Archivists, curators, and museum technicians.....	27	33	.0	.0	5	18.3	17
25-4011	Archivists.....	6	7	.0	.0	1	14.4	4
25-4012	Curators .....	10	13	.0	.0	2	23.3	7
25-4013	Museum Technicians and Conservators .....	11	12	.0	.0	2	15.9	6
25-4021	Librarians .....	158	164	.1	.1	6	3.6	49
25-4031	Library technicians .....	121	132	.1	.1	10	8.5	69

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
25-9000 Other education, training, and library occupations	1,563	1,739	1.0	1.0	176	11.2	425
25-9011 Audio-visual collections specialists .....	7	6	.0	.0	-1	-13.8	1
25-9021 Farm and home management advisors .....	15	16	.0	.0	1	5.1	3
25-9031 Instructional coordinators .....	129	159	.1	.1	29	22.5	47
25-9041 Teacher assistants .....	1,312	1,449	.9	.9	137	10.4	350
25-9099 Education, training, and library workers, all other .....	99	110	.1	.1	10	10.5	24
27-0000 Arts, design, entertainment, sports, and media occupations .....	2,677	2,982	1.8	1.8	305	11.4	968
27-1000 Art and design occupations .....	821	905	.5	.5	84	10.2	303
27-1010 Artists and related workers .....	218	253	.1	.2	34	15.8	85
27-1011 Art directors .....	78	85	.1	.1	7	9.0	25
27-1012 Craft artists .....	9	10	.0	.0	1	8.0	3
27-1013 Fine artists, including painters, sculptors, and illustrators .....	30	33	.0	.0	3	9.9	10
27-1014 Multi-media artists and animators .....	87	110	.1	.1	23	25.8	43
27-1019 Artists and related workers, all other .....	14	15	.0	.0	1	8.4	4
27-1020 Designers .....	603	653	.4	.4	50	8.2	218
27-1021 Commercial and industrial designers .....	48	51	.0	.0	3	7.2	16
27-1022 Fashion designers .....	20	21	.0	.0	1	5.0	6
27-1023 Floral designers .....	87	79	.1	.0	-8	-8.9	23
27-1024 Graphic designers .....	261	286	.2	.2	26	9.8	95
27-1025 Interior designers .....	72	86	.0	.1	14	19.5	33
27-1026 Merchandise displayers and window trimmers .....	87	96	.1	.1	9	10.7	32
27-1027 Set and exhibit designers .....	12	14	.0	.0	2	17.8	5
27-1029 Designers, all other .....	16	18	.0	.0	2	11.8	6
27-2000 Entertainers and performers, sports and related occupations .....	798	897	.5	.5	100	12.5	307
27-2010 Actors, producers, and directors .....	163	182	.1	.1	18	11.3	60
27-2011 Actors .....	70	78	.0	.0	8	11.6	23
27-2012 Producers and directors .....	93	103	.1	.1	10	11.1	38
27-2020 Athletes, coaches, umpires, and related workers .....	253	291	.2	.2	38	15.1	103
27-2021 Athletes and sports competitors .....	18	21	.0	.0	3	19.2	8
27-2022 Coaches and scouts .....	217	249	.1	.1	32	14.7	87
27-2023 Umpires, referees, and other sports officials .....	19	22	.0	.0	3	16.0	8
27-2030 Dancers and choreographers .....	40	43	.0	.0	2	5.9	25
27-2031 Dancers .....	20	22	.0	.0	2	9.5	13
27-2032 Choreographers .....	20	21	.0	.0	0	2.4	12
27-2040 Musicians, singers, and related workers .....	264	293	.2	.2	29	10.8	82
27-2041 Music directors and composers .....	68	77	.0	.0	9	12.9	23
27-2042 Musicians and singers .....	196	216	.1	.1	20	10.1	60
27-2099 Entertainers and performers, sports and related workers, all other .....	77	89	.1	.1	12	15.8	37
27-3000 Media and communication occupations .....	764	847	.5	.5	83	10.8	245
27-3010 Announcers .....	71	66	.0	.0	-5	-6.9	24
27-3011 Radio and television announcers .....	59	54	.0	.0	-5	-8.3	20
27-3012 Public address system and other announcers .....	12	12	.0	.0	0	-2	4
27-3020 News analysts, reporters and correspondents .....	67	68	.0	.0	1	1.8	22
27-3021 Broadcast news analysts .....	8	8	.0	.0	0	6.0	3
27-3022 Reporters and correspondents .....	59	60	.0	.0	1	1.2	19
27-3031 Public relations specialists .....	243	286	.2	.2	43	17.6	61
27-3040 Writers and editors .....	306	336	.2	.2	30	9.7	105
27-3041 Editors .....	122	124	.1	.1	3	2.3	39
27-3042 Technical writers .....	49	59	.0	.0	10	19.5	24
27-3043 Writers and authors .....	135	153	.1	.1	17	12.8	42
27-3090 Miscellaneous media and communications workers .....	77	91	.1	.1	14	18.1	32
27-3091 Interpreters and translators .....	41	51	.0	.0	10	23.6	20
27-3099 Media and communication workers, all other .....	36	40	.0	.0	4	11.7	13
27-4000 Media and communication equipment occupations .....	294	332	.2	.2	38	13.0	113
27-4010 Broadcast and sound engineering technicians and radio operators .....	105	123	.1	.1	18	17.0	52
27-4011 Audio and video equipment technicians .....	50	62	.0	.0	12	24.2	28

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
27-4012	Broadcast technicians .....	38	42	0.0	0.0	5	12.1	17
27-4013	Radio operators.....	2	1	.0	.0	0	-16.3	1
27-4014	Sound engineering technicians.....	16	18	.0	.0	1	9.1	7
27-4021	Photographers .....	122	135	.1	.1	13	10.3	40
27-4030	Television, video, and motion picture camera operators and editors .....	47	53	.0	.0	6	12.0	15
27-4031	Camera operators, television, video, and motion picture .....	27	30	.0	.0	3	11.5	8
27-4032	Film and video editors .....	21	23	.0	.0	3	12.7	6
27-4099	Media and communication equipment workers, all other .....	19	21	.0	.0	2	10.2	7
29-0000	Healthcare practitioners and technical occupations .....	7,198	8,620	4.8	5.2	1,423	19.8	2,785
29-1000	Health diagnosing and treating practitioners .....	4,460	5,383	3.0	3.2	923	20.7	1,670
29-1011	Chiropractors .....	53	60	.0	.0	8	14.4	13
29-1020	Dentists .....	161	176	.1	.1	15	9.1	46
29-1021	Dentists, general .....	136	149	.1	.1	13	9.2	39
29-1022	Oral and maxillofacial surgeons.....	8	8	.0	.0	1	9.1	2
29-1023	Orthodontists.....	9	10	.0	.0	1	9.2	3
29-1024	Prosthodontists .....	1	1	.0	.0	0	10.7	0
29-1029	Dentists, all other specialists.....	7	7	.0	.0	0	6.8	2
29-1031	Dietitians and nutritionists .....	57	62	.0	.0	5	8.6	19
29-1041	Optometrists.....	33	36	.0	.0	4	11.3	9
29-1051	Pharmacists .....	243	296	.2	.2	53	21.7	95
29-1060	Physicians and surgeons .....	633	723	.4	.4	90	14.2	204
29-1071	Physician assistants.....	66	83	.0	.1	18	27.0	27
29-1081	Podiatrists .....	12	13	.0	.0	1	9.5	5
29-1111	Registered nurses.....	2,505	3,092	1.7	1.9	587	23.4	1,001
29-1120	Therapists .....	570	684	.4	.4	114	19.9	197
29-1121	Audiologists.....	12	13	.0	.0	1	9.8	3
29-1122	Occupational therapists.....	99	122	.1	.1	23	23.1	37
29-1123	Physical therapists .....	173	220	.1	.1	47	27.1	68
29-1124	Radiation therapists .....	15	18	.0	.0	4	24.8	6
29-1125	Recreational therapists .....	25	26	.0	.0	1	3.7	5
29-1126	Respiratory therapists .....	102	126	.1	.1	23	22.6	38
29-1127	Speech-language pathologists.....	110	121	.1	.1	12	10.6	33
29-1129	Therapists, all other.....	35	38	.0	.0	3	10.0	8
29-1131	Veterinarians .....	62	84	.0	.1	22	35.0	34
29-1199	Health diagnosing and treating practitioners, all other .....	65	73	.0	.0	8	11.8	19
29-2000	Health technologists and technicians .....	2,612	3,094	1.7	1.9	482	18.5	1,074
29-2010	Clinical laboratory technologists and technicians .....	319	362	.2	.2	43	13.6	92
29-2011	Medical and clinical laboratory technologists .....	167	188	.1	.1	21	12.4	46
29-2012	Medical and clinical laboratory technicians.....	151	174	.1	.1	23	15.0	46
29-2021	Dental hygienists.....	167	217	.1	.1	50	30.1	82
29-2030	Diagnostic related technologists and technicians .....	307	360	.2	.2	53	17.2	95
29-2031	Cardiovascular technologists and technicians .....	45	57	.0	.0	12	25.5	18
29-2032	Diagnostic medical sonographers.....	46	54	.0	.0	9	19.1	15
29-2033	Nuclear medicine technologists .....	20	23	.0	.0	3	14.8	6
29-2034	Radiologic technologists and technicians .....	196	226	.1	.1	30	15.1	56
29-2041	Emergency medical technicians and paramedics.....	201	240	.1	.1	39	19.2	62
29-2050	Health diagnosing and treating practitioner support technicians .....	549	692	.4	.4	143	26.1	313
29-2051	Dietetic technicians .....	25	29	.0	.0	4	14.8	11
29-2052	Pharmacy technicians.....	285	376	.2	.2	91	32.0	178
29-2053	Psychiatric technicians.....	62	60	.0	.0	-2	-3.3	19
29-2054	Respiratory therapy technicians.....	19	19	.0	.0	0	.9	6
29-2055	Surgical technologists .....	86	107	.1	.1	21	24.4	47
29-2056	Veterinary technologists and technicians.....	71	100	.0	.1	29	41.0	51
29-2061	Licensed practical and licensed vocational nurses.....	749	854	.5	.5	105	14.0	309
29-2071	Medical records and health information technicians.....	170	200	.1	.1	30	17.8	76
29-2081	Opticians, dispensing.....	66	72	.0	.0	6	8.7	27

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
29-2090	Miscellaneous health technologists and technicians ..	85	98	0.1	0.1	13	14.7	19
29-2091	Orthotists and prosthetists .....	6	6	.0	.0	1	11.8	1
29-2099	Healthcare technologists and technicians, all other .....	79	91	.1	.1	12	15.0	18
29-9000	Other healthcare practitioners and technical occupations .....	126	143	.1	.1	17	13.7	41
29-9010	Occupational health and safety specialists and technicians .....	56	61	.0	.0	5	9.3	16
29-9011	Occupational health and safety specialists .....	45	49	.0	.0	4	8.1	12
29-9012	Occupational health and safety technicians .....	10	12	.0	.0	2	14.6	4
29-9090	Miscellaneous health practitioners and technical workers .....	70	82	.0	.0	12	17.1	25
29-9091	Athletic trainers .....	17	21	.0	.0	4	24.3	7
29-9099	Healthcare practitioners and technical workers, all other .....	53	61	.0	.0	8	14.8	18
31-3900	Service occupations <sup>4</sup> .....	28,950	33,780	19.2	20.3	4,830	16.7	12,218
31-0000	Healthcare support occupations .....	3,724	4,721	2.5	2.8	997	26.8	1,399
31-1000	Nursing, psychiatric, and home health aides .....	2,296	2,944	1.5	1.8	647	28.2	853
31-1011	Home health aides .....	787	1,171	.5	.7	384	48.7	454
31-1012	Nursing aides, orderlies, and attendants .....	1,447	1,711	1.0	1.0	264	18.2	393
31-1013	Psychiatric aides .....	62	62	.0	.0	0	-1	6
31-2000	Occupational and physical therapist assistants and aides .....	140	179	.1	.1	39	27.9	58
31-2010	Occupational therapist assistants and aides .....	33	41	.0	.0	8	24.5	13
31-2011	Occupational therapist assistants .....	25	31	.0	.0	6	25.4	10
31-2012	Occupational therapist aides .....	8	10	.0	.0	2	21.9	3
31-2020	Physical therapist assistants and aides .....	107	137	.1	.1	31	28.9	44
31-2021	Physical therapist assistants .....	60	80	.0	.0	20	32.4	27
31-2022	Physical therapist aides .....	46	58	.0	.0	11	24.4	17
31-9000	Other healthcare support occupations .....	1,287	1,598	.9	1.0	311	24.2	489
31-9011	Massage therapists .....	118	142	.1	.1	24	20.3	37
31-9090	Miscellaneous healthcare support occupations .....	1,170	1,457	.8	.9	287	24.5	452
31-9091	Dental assistants .....	280	362	.2	.2	82	29.2	130
31-9092	Medical assistants .....	417	565	.3	.3	148	35.4	199
31-9093	Medical equipment preparers .....	45	52	.0	.0	6	14.2	12
31-9094	Medical transcriptionists .....	98	112	.1	.1	13	13.5	26
31-9095	Pharmacy aides .....	50	45	.0	.0	-6	-11.1	6
31-9096	Veterinary assistants and laboratory animal caretakers .....	75	86	.0	.1	12	15.7	21
31-9099	Healthcare support workers, all other .....	204	236	.1	.1	32	15.6	57
33-0000	Protective service occupations .....	3,163	3,616	2.1	2.2	453	14.3	1,327
33-1000	First-line supervisors/managers, protective service workers .....	233	260	.2	.2	26	11.4	91
33-1010	First-line supervisors/managers, law enforcement workers .....	133	146	.1	.1	13	10.2	53
33-1011	First-line supervisors/managers of correctional officers .....	40	45	.0	.0	5	12.5	16
33-1012	First-line supervisors/managers of police and detectives .....	93	102	.1	.1	9	9.2	38
33-1021	First-line supervisors/managers of fire fighting and prevention workers .....	52	58	.0	.0	6	11.5	22
33-1099	First-line supervisors/managers, protective service workers, all other .....	48	55	.0	.0	7	14.5	15
33-2000	Fire fighting and prevention workers .....	308	345	.2	.2	37	12.0	147
33-2011	Fire fighters .....	293	328	.2	.2	35	12.1	142
33-2020	Fire inspectors .....	16	17	.0	.0	2	10.0	5
33-2021	Fire inspectors and investigators .....	14	15	.0	.0	2	11.0	5
33-2022	Forest fire inspectors and prevention specialists .....	2	2	.0	.0	0	2.1	0
33-3000	Law enforcement workers .....	1,239	1,406	.8	.8	167	13.5	475
33-3010	Bailiffs, correctional officers, and jailers .....	460	537	.3	.3	77	16.6	182
33-3011	Bailiffs .....	19	21	.0	.0	2	11.2	6
33-3012	Correctional officers and jailers .....	442	516	.3	.3	75	16.9	175

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
33-3021	Detectives and criminal investigators.....	106	125	0.1	0.1	18	17.3	42
33-3031	Fish and game wardens.....	8	8	.0	.0	0	–.2	2
33-3041	Parking enforcement workers.....	11	12	.0	.0	1	12.3	4
33-3050	Police officers.....	654	724	.4	.4	70	10.8	245
33-3051	Police and sheriff's patrol officers.....	648	719	.4	.4	70	10.8	243
33-3052	Transit and railroad police.....	6	6	.0	.0	0	6.4	2
33-9000	Other protective service workers.....	1,382	1,605	.9	1.0	223	16.1	615
33-9011	Animal control workers.....	15	17	.0	.0	2	12.5	5
33-9021	Private detectives and investigators.....	52	61	.0	.0	9	18.2	19
33-9030	Security guards and gaming surveillance officers.....	1,049	1,227	.7	.7	178	17.0	391
33-9031	Gaming surveillance officers and gaming investigators.....	9	12	.0	.0	3	33.6	5
33-9032	Security guards.....	1,040	1,216	.7	.7	175	16.9	387
33-9090	Miscellaneous protective service workers.....	266	299	.2	.2	33	12.4	199
33-9091	Crossing guards.....	69	71	.0	.0	1	1.9	21
33-9092	Lifeguards, ski patrol, and other recreational protective service workers.....	114	136	.1	.1	21	18.7	106
33-9099	Protective service workers, all other.....	83	93	.1	.1	10	12.6	72
35-0000	Food preparation and serving related occupations.....	11,352	12,789	7.5	7.7	1,436	12.7	5,382
35-1000	Supervisors, food preparation and serving workers.....	932	1,033	.6	.6	101	10.9	177
35-1011	Chefs and head cooks.....	115	124	.1	.1	9	7.6	23
35-1012	First-line supervisors/managers of food preparation and serving workers.....	817	909	.5	.5	92	11.3	154
35-2000	Cooks and food preparation workers.....	2,998	3,340	2.0	2.0	342	11.4	1,223
35-2010	Cooks.....	2,097	2,301	1.4	1.4	204	9.7	772
35-2011	Cooks, fast food.....	629	681	.4	.4	52	8.3	223
35-2012	Cooks, institution and cafeteria.....	401	445	.3	.3	43	10.9	152
35-2013	Cooks, private household.....	5	5	.0	.0	0	8.8	2
35-2014	Cooks, restaurant.....	850	948	.6	.6	98	11.5	328
35-2015	Cooks, short order.....	195	205	.1	.1	9	4.8	62
35-2019	Cooks, all other.....	16	16	.0	.0	1	3.4	5
35-2021	Food preparation workers.....	902	1,040	.6	.6	138	15.3	451
35-3000	Food and beverage serving workers.....	6,081	6,927	4.0	4.2	846	13.9	3,182
35-3011	Bartenders.....	495	551	.3	.3	56	11.2	236
35-3020	Fast food and counter workers.....	3,036	3,542	2.0	2.1	506	16.7	1,350
35-3021	Combined food preparation and serving workers, including fast food.....	2,503	2,955	1.7	1.8	452	18.1	927
35-3022	Counter attendants, cafeteria, food concession, and coffee shop.....	533	587	.4	.4	54	10.2	424
35-3031	Waiters and waitresses.....	2,361	2,615	1.6	1.6	255	10.8	1,537
35-3041	Food servers, nonrestaurant.....	189	219	.1	.1	30	15.8	59
35-9000	Other food preparation and serving related workers.....	1,341	1,488	.9	.9	147	11.0	800
35-9011	Dining room and cafeteria attendants and bartender helpers.....	416	466	.3	.3	49	11.8	223
35-9021	Dishwashers.....	517	571	.3	.3	54	10.4	265
35-9031	Hosts and hostesses, restaurant, lounge, and coffee shop.....	351	388	.2	.2	37	10.4	277
35-9099	Food preparation and serving related workers, all other.....	56	64	.0	.0	7	13.0	35
37-0000	Building and grounds cleaning and maintenance occupations.....	5,745	6,595	3.8	4.0	850	14.8	1,833
37-1000	Supervisors, building and grounds cleaning and maintenance workers.....	484	555	.3	.3	71	14.7	127
37-1011	First-line supervisors/managers of housekeeping and janitorial workers.....	282	318	.2	.2	36	12.7	77
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers.....	202	237	.1	.1	36	17.6	49
37-2000	Building cleaning and pest control workers.....	3,941	4,486	2.6	2.7	544	13.8	1,298
37-2010	Building cleaning workers.....	3,872	4,405	2.6	2.7	533	13.8	1,270
37-2011	Janitors and cleaners, except maids and housekeeping cleaners.....	2,387	2,732	1.6	1.6	345	14.5	802
37-2012	Maids and housekeeping cleaners.....	1,470	1,656	1.0	1.0	186	12.7	463

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
37-2019 Building cleaning workers, all other.....	16	18	0.0	0.0	2	15.1	5
37-2021 Pest control workers .....	70	81	.0	.0	11	15.5	28
37-3000 Grounds maintenance workers.....	1,319	1,554	.9	.9	235	17.8	409
37-3010 Grounds maintenance workers.....	1,319	1,554	.9	.9	235	17.8	409
37-3011 Landscaping and groundskeeping workers.....	1,220	1,441	.8	.9	221	18.1	382
37-3012 Pesticide handlers, sprayers, and applicators, vegetation.....	31	35	.0	.0	4	14.0	8
37-3013 Tree trimmers and pruners.....	41	45	.0	.0	5	11.1	10
37-3019 Grounds maintenance workers, all other .....	28	33	.0	.0	5	16.6	8
39-0000 Personal care and service occupations.....	4,966	6,060	3.3	3.6	1,094	22.0	2,276
39-1000 Supervisors, personal care and service workers .....	268	312	.2	.2	43	16.2	100
39-1010 First-line supervisors/managers of gaming workers ...	54	64	.0	.0	10	18.9	20
39-1011 Gaming supervisors .....	34	42	.0	.0	8	23.4	14
39-1012 Slot key persons.....	20	22	.0	.0	2	11.1	6
39-1021 First-line supervisors/managers of personal service workers.....	215	248	.1	.1	33	15.5	80
39-2000 Animal care and service workers.....	200	238	.1	.1	39	19.3	71
39-2011 Animal trainers .....	43	53	.0	.0	10	22.7	17
39-2021 Nonfarm animal caretakers.....	157	185	.1	.1	29	18.4	54
39-3000 Entertainment attendants and related workers .....	546	667	.4	.4	120	22.1	378
39-3010 Gaming services workers.....	117	146	.1	.1	29	25.0	53
39-3011 Gaming dealers.....	84	104	.1	.1	20	24.1	37
39-3012 Gaming and sports book writers and runners .....	18	24	.0	.0	5	28.0	9
39-3019 Gaming service workers, all other.....	15	18	.0	.0	4	26.2	7
39-3021 Motion picture projectionists .....	11	11	.0	.0	-1	-8.4	5
39-3031 Ushers, lobby attendants, and ticket takers.....	103	121	.1	.1	17	16.9	90
39-3090 Miscellaneous entertainment attendants and related workers.....	315	390	.2	.2	75	23.8	230
39-3091 Amusement and recreation attendants .....	247	308	.2	.2	60	24.3	182
39-3092 Costume attendants.....	4	5	.0	.0	1	14.1	3
39-3093 Locker room, coatroom, and dressing room attendants .....	19	24	.0	.0	4	21.6	14
39-4000 Funeral service workers.....	42	48	.0	.0	6	14.3	16
39-4011 Embalmers.....	9	10	.0	.0	1	14.3	3
39-4021 Funeral attendants.....	33	37	.0	.0	5	14.3	12
39-5000 Personal appearance workers .....	825	942	.5	.6	117	14.2	217
39-5010 Barbers and cosmetologists.....	677	755	.4	.5	77	11.4	162
39-5011 Barbers.....	60	61	.0	.0	1	1.1	12
39-5012 Hairdressers, hairstylists, and cosmetologists .....	617	694	.4	.4	77	12.4	151
39-5090 Miscellaneous personal appearance workers.....	148	187	.1	.1	39	26.7	55
39-5091 Makeup artists, theatrical and performance.....	2	3	.0	.0	1	39.8	1
39-5092 Manicurists and pedicurists.....	78	100	.1	.1	22	27.6	30
39-5093 Shampooers.....	29	33	.0	.0	4	13.3	7
39-5094 Skin care specialists.....	38	51	.0	.0	13	34.3	17
39-6000 Transportation, tourism, and lodging attendants.....	232	261	.2	.2	29	12.7	77
39-6010 Baggage porters, bellhops, and concierges.....	69	76	.0	.0	7	10.4	16
39-6011 Baggage porters and bellhops .....	49	54	.0	.0	4	9.0	11
39-6012 Concierges .....	20	23	.0	.0	3	14.1	5
39-6020 Tour and travel guides.....	45	54	.0	.0	9	20.1	27
39-6021 Tour guides and escorts .....	40	49	.0	.0	9	21.2	25
39-6022 Travel guides.....	5	5	.0	.0	0	10.5	2
39-6030 Transportation attendants .....	118	131	.1	.1	13	11.2	34
39-6031 Flight attendants.....	97	107	.1	.1	10	10.6	27
39-6032 Transportation attendants, except flight attendants and baggage porters .....	21	24	.0	.0	3	14.0	7
39-9000 Other personal care and service workers .....	2,853	3,593	1.9	2.2	739	25.9	1,418
39-9011 Child care workers .....	1,388	1,636	.9	1.0	248	17.9	646
39-9021 Personal and home care aides .....	767	1,156	.5	.7	389	50.6	519
39-9030 Recreation and fitness workers.....	555	658	.4	.4	104	18.7	208
39-9031 Fitness trainers and aerobics instructors .....	235	298	.2	.2	63	26.8	107
39-9032 Recreation workers .....	320	360	.2	.2	41	12.7	101

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
39-9041 Residential advisors.....	57	67	0.0	0.0	11	18.5	27
39-9099 Personal care and service workers, all other.....	86	75	.1	.0	-11	-12.9	19
41-0000 Sales and related occupations.....	15,985	17,203	10.6	10.3	1,218	7.6	6,171
41-1000 Supervisors, sales workers.....	2,206	2,296	1.5	1.4	91	4.1	519
41-1011 First-line supervisors/managers of retail sales workers.	1,676	1,747	1.1	1.1	71	4.2	423
41-1012 First-line supervisors/managers of non-retail sales workers.....	530	549	.4	.3	19	3.7	96
41-2000 Retail sales workers.....	8,719	9,263	5.8	5.6	544	6.2	3,932
41-2010 Cashiers.....	3,527	3,411	2.3	2.1	-116	-3.3	1,679
41-2011 Cashiers, except gaming.....	3,500	3,382	2.3	2.0	-118	-3.4	1,664
41-2012 Gaming change persons and booth cashiers.....	27	29	.0	.0	2	6.7	15
41-2020 Counter and rental clerks and parts salespersons.....	715	819	.5	.5	104	14.6	318
41-2021 Counter and rental clerks.....	477	586	.3	.4	109	22.9	291
41-2022 Parts salespersons.....	238	233	.2	.1	-5	-2.2	27
41-2031 Retail salespersons.....	4,477	5,034	3.0	3.0	557	12.4	1,935
41-3000 Sales representatives, services.....	1,567	1,889	1.0	1.1	322	20.6	663
41-3011 Advertising sales agents.....	170	205	.1	.1	35	20.3	64
41-3021 Insurance sales agents.....	436	492	.3	.3	56	12.9	151
41-3031 Securities, commodities, and financial services sales agents.....	320	399	.2	.2	79	24.8	161
41-3041 Travel agents.....	101	102	.1	.1	1	1.0	8
41-3099 Sales representatives, services, all other.....	540	690	.4	.4	151	27.9	278
41-4000 Sales representatives, wholesale and manufacturing.....	1,973	2,155	1.3	1.3	182	9.2	617
41-4011 Sales representatives, wholesale and manufacturing, technical and scientific products.....	411	462	.3	.3	51	12.4	142
41-4012 Sales representatives, wholesale and manufacturing, except technical and scientific products.....	1,562	1,693	1.0	1.0	131	8.4	476
41-9000 Other sales and related workers.....	1,520	1,599	1.0	1.0	79	5.2	440
41-9010 Models, demonstrators, and product promoters.....	107	126	.1	.1	19	17.9	49
41-9011 Demonstrators and product promoters.....	105	124	.1	.1	19	18.0	49
41-9012 Models.....	2	2	.0	.0	0	9.8	1
41-9020 Real estate brokers and sales agents.....	564	624	.4	.4	60	10.7	150
41-9021 Real estate brokers.....	131	146	.1	.1	15	11.1	36
41-9022 Real estate sales agents.....	432	478	.3	.3	46	10.6	115
41-9031 Sales engineers.....	76	82	.1	.0	6	8.5	26
41-9041 Telemarketers.....	395	356	.3	.2	-39	-9.9	139
41-9090 Miscellaneous sales and related workers.....	379	412	.3	.2	33	8.6	76
41-9091 Door-to-door sales workers, news and street vendors, and related workers.....	200	207	.1	.1	7	3.7	34
41-9099 Sales and related workers, all other.....	180	205	.1	.1	25	14.0	41
43-0000 Office and administrative support occupations.....	24,344	26,089	16.2	15.7	1,745	7.2	7,424
43-1000 Supervisors, office and administrative support workers ...	1,418	1,500	.9	.9	82	5.8	374
43-1011 First-line supervisors/managers of office and administrative support workers.....	1,418	1,500	.9	.9	82	5.8	374
43-2000 Communications equipment operators.....	209	183	.1	.1	-25	-12.1	42
43-2011 Switchboard operators, including answering service.....	177	163	.1	.1	-15	-8.4	37
43-2021 Telephone operators.....	27	16	.0	.0	-11	-39.5	3
43-2099 Communications equipment operators, all other.....	4	5	.0	.0	0	7.4	1
43-3000 Financial clerks.....	4,007	4,482	2.7	2.7	476	11.9	1,283
43-3011 Bill and account collectors.....	434	534	.3	.3	99	22.9	165
43-3021 Billing and posting clerks and machine operators.....	542	566	.4	.3	24	4.4	93
43-3031 Bookkeeping, accounting, and auditing clerks.....	2,114	2,377	1.4	1.4	264	12.5	594
43-3041 Gaming cage workers.....	18	20	.0	.0	2	11.3	7
43-3051 Payroll and timekeeping clerks.....	214	220	.1	.1	7	3.1	61
43-3061 Procurement clerks.....	78	76	.1	.0	-2	-2.1	16
43-3071 Tellers.....	608	689	.4	.4	82	13.5	347
43-4000 Information and record clerks.....	5,738	6,389	3.8	3.8	651	11.4	2,320
43-4011 Brokerage clerks.....	73	88	.0	.1	15	20.0	38
43-4021 Correspondence clerks.....	17	20	.0	.0	2	12.0	7
43-4031 Court, municipal, and license clerks.....	115	125	.1	.1	10	8.8	36
43-4041 Credit authorizers, checkers, and clerks.....	69	63	.0	.0	-6	-8.4	21
43-4051 Customer service representatives.....	2,202	2,747	1.5	1.7	545	24.8	1,158

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
43-4061	Eligibility interviewers, government programs .....	112	116	0.1	0.1	3	3.1	23
43-4071	File clerks.....	234	137	.2	.1	-97	-41.3	62
43-4081	Hotel, motel, and resort desk clerks .....	219	257	.1	.2	38	17.4	127
43-4111	Interviewers, except eligibility and loan .....	221	242	.1	.1	21	9.5	79
43-4121	Library assistants, clerical.....	116	125	.1	.1	9	7.9	46
43-4131	Loan interviewers and clerks .....	256	254	.2	.2	-2	-.9	44
43-4141	New accounts clerks.....	81	68	.1	.0	-13	-16.3	24
43-4151	Order clerks .....	271	205	.2	.1	-66	-24.4	57
43-4161	Human resources assistants, except payroll and timekeeping.....	168	187	.1	.1	19	11.3	31
43-4171	Receptionists and information clerks.....	1,173	1,375	.8	.8	202	17.2	489
43-4181	Reservation and transportation ticket agents and travel clerks.....	165	167	.1	.1	2	1.1	38
43-4199	Information and record clerks, all other .....	245	213	.2	.1	-32	-12.9	39
43-5000	Material recording, scheduling, dispatching, and distributing occupations .....	4,016	3,931	2.7	2.4	-86	-2.1	1,050
43-5011	Cargo and freight agents .....	86	100	.1	.1	14	16.5	38
43-5021	Couriers and messengers.....	134	134	.1	.1	0	-.2	36
43-5030	Dispatchers.....	289	306	.2	.2	16	5.7	89
43-5031	Police, fire, and ambulance dispatchers .....	99	113	.1	.1	13	13.6	38
43-5032	Dispatchers, except police, fire, and ambulance .....	190	193	.1	.1	3	1.5	51
43-5041	Meter readers, utilities.....	47	42	.0	.0	-5	-10.3	15
43-5050	Postal service workers.....	615	603	.4	.4	-12	-2.0	142
43-5051	Postal service clerks .....	80	80	.1	.0	1	1.2	19
43-5052	Postal service mail carriers .....	338	341	.2	.2	4	1.1	102
43-5053	Postal service mail sorters, processors, and processing machine operators.....	198	181	.1	.1	-17	-8.4	21
43-5061	Production, planning, and expediting clerks .....	293	305	.2	.2	12	4.2	92
43-5071	Shipping, receiving, and traffic clerks .....	769	797	.5	.5	28	3.7	213
43-5081	Stock clerks and order fillers.....	1,705	1,574	1.1	.9	-131	-7.7	405
43-5111	Weighers, measurers, checkers, and samplers, recordkeeping .....	79	70	.1	.0	-9	-11.3	21
43-6000	Secretaries and administrative assistants .....	4,241	4,603	2.8	2.8	362	8.5	1,037
43-6011	Executive secretaries and administrative assistants .....	1,618	1,857	1.1	1.1	239	14.8	497
43-6012	Legal secretaries.....	275	308	.2	.2	32	11.7	76
43-6013	Medical secretaries.....	408	477	.3	.3	68	16.7	133
43-6014	Secretaries, except legal, medical, and executive.....	1,940	1,962	1.3	1.2	22	1.2	331
43-9000	Other office and administrative support workers .....	4,715	5,001	3.1	3.0	286	6.1	1,318
43-9011	Computer operators.....	130	98	.1	.1	-32	-24.7	21
43-9020	Data entry and information processing workers .....	492	457	.3	.3	-35	-7.2	111
43-9021	Data entry keyers.....	313	299	.2	.2	-15	-4.7	77
43-9022	Word processors and typists.....	179	158	.1	.1	-21	-11.6	34
43-9031	Desktop publishers .....	32	32	.0	.0	0	1.0	7
43-9041	Insurance claims and policy processing clerks.....	254	251	.2	.2	-3	-1.3	31
43-9051	Mail clerks and mail machine operators, except postal service.....	152	134	.1	.1	-18	-11.6	40
43-9061	Office clerks, general .....	3,200	3,604	2.1	2.2	404	12.6	991
43-9071	Office machine operators, except computer .....	94	91	.1	.1	-3	-2.7	31
43-9081	Proofreaders and copy markers .....	18	19	.0	.0	1	6.4	5
43-9111	Statistical assistants.....	23	24	.0	.0	2	7.6	12
43-9199	Office and administrative support workers, all other.....	320	290	.2	.2	-30	-9.3	71
45-0000	Farming, fishing, and forestry occupations.....	1,039	1,010	.7	.6	-29	-2.8	251
45-1000	Supervisors, farming, fishing, and forestry workers.....	53	53	.0	.0	0	-.4	10
45-2000	Agricultural workers .....	859	838	.6	.5	-21	-2.4	214
45-2011	Agricultural inspectors.....	16	16	.0	.0	0	-1.1	4
45-2021	Animal breeders.....	11	11	.0	.0	0	4.4	3
45-2041	Graders and sorters, agricultural products .....	42	41	.0	.0	-1	-1.8	6
45-2090	Miscellaneous agricultural workers.....	790	769	.5	.5	-20	-2.6	201
45-2091	Agricultural equipment operators.....	59	56	.0	.0	-3	-5.0	15
45-2092	Farmworkers and laborers, crop, nursery, and greenhouse .....	603	583	.4	.4	-20	-3.4	151
45-2093	Farmworkers, farm and ranch animals .....	107	110	.1	.1	3	2.7	30

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
45-2099 Agricultural workers, all other.....	20	20	0.0	0.0	0	0.1	5
45-3000 Fishing and hunting workers.....	39	33	.0	.0	-6	-16.2	5
45-3011 Fishers and related fishing workers.....	38	32	.0	.0	-6	-16.1	5
45-3021 Hunters and trappers.....	0	0	.0	.0	0	-19.0	0
45-4000 Forest, conservation, and logging workers.....	88	87	.1	.1	-1	-1.4	23
45-4011 Forest and conservation workers.....	20	21	.0	.0	1	5.5	9
45-4020 Logging workers.....	69	66	.0	.0	-2	-3.4	14
45-4021 Fallers.....	13	12	.0	.0	-1	-7.4	3
45-4022 Logging equipment operators.....	40	40	.0	.0	-1	-1.3	8
45-4023 Log graders and scalers.....	7	7	.0	.0	0	-5.3	1
45-4029 Logging workers, all other.....	8	7	.0	.0	0	-5.9	2
47-0000 Construction and extraction occupations.....	8,295	9,079	5.5	5.5	785	9.5	2,249
47-1000 Supervisors, construction and extraction workers.....	772	842	.5	.5	70	9.1	178
47-1011 First-line supervisors/managers of construction trades and extraction workers.....	772	842	.5	.5	70	9.1	178
47-2000 Construction trades and related workers.....	6,422	7,044	4.3	4.2	622	9.7	1,719
47-2011 Boilermakers.....	18	20	.0	.0	2	14.0	9
47-2020 Brickmasons, blockmasons, and stonemasons.....	182	200	.1	.1	18	9.7	56
47-2021 Brickmasons and blockmasons.....	158	174	.1	.1	15	9.7	48
47-2022 Stonemasons.....	24	26	.0	.0	2	10.0	7
47-2031 Carpenters.....	1,462	1,612	1.0	1.0	150	10.3	348
47-2040 Carpet, floor, and tile installers and finishers.....	196	203	.1	.1	8	3.9	41
47-2041 Carpet installers.....	73	72	.0	.0	-1	-1.2	11
47-2042 Floor layers, except carpet, wood, and hard tiles.....	29	25	.0	.0	-4	-12.2	4
47-2043 Floor sanders and finishers.....	14	14	.0	.0	0	-1.8	2
47-2044 Tile and marble setters.....	79	91	.1	.1	12	15.4	24
47-2050 Cement masons, concrete finishers, and terrazzo workers.....	228	254	.2	.2	26	11.4	92
47-2051 Cement masons and concrete finishers.....	222	247	.1	.1	25	11.4	89
47-2053 Terrazzo workers and finishers.....	7	8	.0	.0	1	10.9	3
47-2061 Construction laborers.....	1,232	1,366	.8	.8	134	10.9	227
47-2070 Construction equipment operators.....	494	536	.3	.3	42	8.5	138
47-2071 Paving, surfacing, and tamping equipment operators.....	64	70	.0	.0	6	9.0	19
47-2072 Pile-driver operators.....	6	6	.0	.0	0	8.3	2
47-2073 Operating engineers and other construction equipment operators.....	424	460	.3	.3	35	8.4	118
47-2080 Drywall installers, ceiling tile installers, and tapers.....	240	258	.2	.2	17	7.2	50
47-2081 Drywall and ceiling tile installers.....	186	199	.1	.1	14	7.3	39
47-2082 Tapers.....	54	58	.0	.0	4	7.1	11
47-2111 Electricians.....	705	757	.5	.5	52	7.4	234
47-2121 Glaziers.....	55	62	.0	.0	7	11.9	16
47-2130 Insulation workers.....	61	66	.0	.0	5	8.5	19
47-2131 Insulation workers, floor, ceiling, and wall.....	32	35	.0	.0	3	8.4	10
47-2132 Insulation workers, mechanical.....	28	31	.0	.0	2	8.6	9
47-2140 Painters and paperhangers.....	473	526	.3	.3	53	11.3	138
47-2141 Painters, construction and maintenance.....	463	517	.3	.3	54	11.8	137
47-2142 Paperhangers.....	10	9	.0	.0	-1	-12.2	2
47-2150 Pipelayers, plumbers, pipefitters, and steamfitters.....	569	628	.4	.4	59	10.4	176
47-2151 Pipelayers.....	67	72	.0	.0	6	8.7	20
47-2152 Plumbers, pipefitters, and steamfitters.....	502	555	.3	.3	53	10.6	157
47-2161 Plasterers and stucco masons.....	61	66	.0	.0	5	8.1	19
47-2171 Reinforcing iron and rebar workers.....	30	34	.0	.0	3	11.5	11
47-2181 Roofers.....	156	179	.1	.1	22	14.3	58
47-2211 Sheet metal workers.....	189	201	.1	.1	13	6.8	59
47-2221 Structural iron and steel workers.....	72	76	.0	.0	4	6.0	28
47-3000 Helpers, construction trades.....	448	491	.3	.3	43	9.6	157
47-3010 Helpers, construction trades.....	448	491	.3	.3	43	9.6	157
47-3011 Helpers—Brickmasons, blockmasons, stonemasons, and tile and marble setters.....	65	73	.0	.0	7	11.0	24
47-3012 Helpers—Carpenters.....	109	122	.1	.1	13	11.7	40
47-3013 Helpers—Electricians.....	105	112	.1	.1	7	6.8	34

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
47-3014	Helpers—Painters, paperhangers, plasterers, and stucco masons .....	24	24	0.0	0.0	0	-0.7	6
47-3015	Helpers—Pipelayers, plumbers, pipefitters, and steamfitters.....	85	95	.1	.1	10	11.9	32
47-3016	Helpers—Roofers .....	22	23	.0	.0	1	6.7	7
47-3019	All other helpers, construction trades.....	38	42	.0	.0	5	12.6	14
47-4000	Other construction and related workers.....	451	502	.3	.3	51	11.4	144
47-4011	Construction and building inspectors.....	110	130	.1	.1	20	18.2	40
47-4021	Elevator installers and repairers .....	22	24	.0	.0	2	8.8	8
47-4031	Fence erectors.....	32	36	.0	.0	3	10.6	10
47-4041	Hazardous materials removal workers.....	39	44	.0	.0	4	11.2	13
47-4051	Highway maintenance workers.....	145	158	.1	.1	13	8.9	39
47-4061	Rail-track laying and maintenance equipment operators	15	15	.0	.0	1	4.8	4
47-4071	Septic tank servicers and sewer pipe cleaners.....	24	26	.0	.0	2	10.2	7
47-4090	Miscellaneous construction and related workers .....	63	69	.0	.0	6	8.9	22
47-4091	Segmental pavers.....	1	1	.0	.0	0	10.3	0
47-4099	Construction and related workers, all other .....	62	68	.0	.0	6	8.8	22
47-5000	Extraction workers .....	202	200	.1	.1	-2	-8	52
47-5010	Derrick, rotary drill, and service unit operators, oil, gas, and mining .....	67	63	.0	.0	-4	-5.5	7
47-5011	Derrick operators, oil and gas.....	19	18	.0	.0	-1	-5.8	2
47-5012	Rotary drill operators, oil and gas .....	20	19	.0	.0	-1	-5.4	2
47-5013	Service unit operators, oil, gas, and mining.....	28	26	.0	.0	-2	-5.4	3
47-5021	Earth drillers, except oil and gas.....	22	23	.0	.0	1	6.5	8
47-5031	Explosives workers, ordnance handling experts, and blasters .....	5	5	.0	.0	0	1.4	2
47-5040	Mining machine operators .....	21	22	.0	.0	1	4.3	9
47-5041	Continuous mining machine operators .....	10	11	.0	.0	0	4.6	4
47-5042	Mine cutting and channeling machine operators .....	8	8	.0	.0	0	3.8	3
47-5049	All other mining machine operators .....	3	3	.0	.0	0	4.9	1
47-5051	Rock splitters, quarry.....	4	5	.0	.0	1	25.1	2
47-5061	Roof bolters, mining.....	4	4	.0	.0	0	1.2	1
47-5071	Roustabouts, oil and gas .....	44	43	.0	.0	-1	-3.2	13
47-5081	Helpers—Extraction workers .....	25	25	.0	.0	0	-2	7
47-5099	Extraction workers, all other.....	10	10	.0	.0	0	.4	2
49-0000	Installation, maintenance, and repair occupations .....	5,883	6,433	3.9	3.9	550	9.3	1,502
49-1000	Supervisors of installation, maintenance, and repair workers .....	465	499	.3	.3	34	7.3	143
49-1011	First-line supervisors/managers of mechanics, installers, and repairers.....	465	499	.3	.3	34	7.3	143
49-2000	Electrical and electronic equipment mechanics, installers, and repairers.....	661	690	.4	.4	29	4.4	170
49-2011	Computer, automated teller, and office machine repairers.....	175	180	.1	.1	5	3.0	26
49-2020	Radio and telecommunications equipment installers and repairers.....	205	209	.1	.1	5	2.3	55
49-2021	Radio mechanics .....	7	6	.0	.0	0	-4.1	2
49-2022	Telecommunications equipment installers and repairers, except line installers.....	198	203	.1	.1	5	2.6	54
49-2090	Miscellaneous electrical and electronic equipment mechanics, installers, and repairers .....	281	301	.2	.2	19	6.8	89
49-2091	Avionics technicians.....	16	17	.0	.0	1	8.1	3
49-2092	Electric motor, power tool, and related repairers .....	25	24	.0	.0	-1	-4.2	10
49-2093	Electrical and electronics installers and repairers, transportation equipment .....	21	22	.0	.0	1	4.3	5
49-2094	Electrical and electronics repairers, commercial and industrial equipment.....	80	86	.1	.1	5	6.8	33
49-2095	Electrical and electronics repairers, powerhouse, substation, and relay.....	22	21	.0	.0	-1	-4.7	8

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
49-2096	Electronic equipment installers and repairers, motor vehicles .....	20	21	0.0	0.0	1	4.6	7
49-2097	Electronic home entertainment equipment installers and repairers .....	40	41	.0	.0	1	3.0	5
49-2098	Security and fire alarm systems installers .....	57	68	.0	.0	11	20.2	19
49-3000	Vehicle and mobile equipment mechanics, installers, and repairers .....	1,771	2,003	1.2	1.2	232	13.1	589
49-3011	Aircraft mechanics and service technicians .....	122	135	.1	.1	13	10.6	25
49-3020	Automotive technicians and repairers .....	979	1,115	.6	.7	136	13.9	343
49-3021	Automotive body and related repairers .....	183	204	.1	.1	21	11.6	64
49-3022	Automotive glass installers and repairers .....	24	28	.0	.0	4	18.7	13
49-3023	Automotive service technicians and mechanics .....	773	883	.5	.5	110	14.3	265
49-3031	Bus and truck mechanics and diesel engine specialists	275	306	.2	.2	32	11.5	91
49-3040	Heavy vehicle and mobile equipment service technicians and mechanics .....	188	206	.1	.1	18	9.5	55
49-3041	Farm equipment mechanics .....	31	31	.0	.0	0	1.4	6
49-3042	Mobile heavy equipment mechanics, except engines.	131	147	.1	.1	16	12.3	42
49-3043	Rail car repairers .....	27	28	.0	.0	1	5.1	7
49-3050	Small engine mechanics .....	78	87	.1	.1	9	11.6	25
49-3051	Motorboat mechanics .....	24	29	.0	.0	5	19.0	9
49-3052	Motorcycle mechanics .....	21	24	.0	.0	3	12.5	7
49-3053	Outdoor power equipment and other small engine mechanics .....	33	35	.0	.0	2	5.5	8
49-3090	Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers .....	128	153	.1	.1	25	19.1	50
49-3091	Bicycle repairers .....	9	9	.0	.0	1	7.2	2
49-3092	Recreational vehicle service technicians .....	14	17	.0	.0	3	18.2	5
49-3093	Tire repairers and changers .....	106	127	.1	.1	21	20.2	42
49-9000	Other installation, maintenance, and repair occupations..	2,987	3,241	2.0	1.9	254	8.5	599
49-9010	Control and valve installers and repairers .....	58	61	.0	.0	2	4.2	13
49-9011	Mechanical door repairers .....	15	18	.0	.0	2	14.9	5
49-9012	Control and valve installers and repairers, except mechanical door .....	43	43	.0	.0	0	.3	8
49-9021	Heating, air conditioning, and refrigeration mechanics and installers .....	292	317	.2	.2	25	8.7	77
49-9031	Home appliance repairers .....	57	58	.0	.0	1	1.5	14
49-9040	Industrial machinery installation, repair, and maintenance workers .....	1,794	1,960	1.2	1.2	165	9.2	265
49-9041	Industrial machinery mechanics .....	261	284	.2	.2	24	9.0	67
49-9042	Maintenance and repair workers, general .....	1,391	1,531	.9	.9	140	10.1	174
49-9043	Maintenance workers, machinery .....	84	83	.1	.1	-1	-1.1	14
49-9044	Millwrights .....	55	58	.0	.0	3	5.8	10
49-9045	Refractory materials repairers, except brickmasons..	3	3	.0	.0	0	-11.5	1
49-9050	Line installers and repairers .....	275	290	.2	.2	16	5.7	93
49-9051	Electrical power-line installers and repairers .....	112	120	.1	.1	8	7.2	43
49-9052	Telecommunications line installers and repairers .....	162	170	.1	.1	7	4.6	50
49-9060	Precision instrument and equipment repairers .....	68	77	.0	.0	9	12.8	28
49-9061	Camera and photographic equipment repairers .....	4	4	.0	.0	0	-2.1	1
49-9062	Medical equipment repairers .....	38	46	.0	.0	8	21.7	19
49-9063	Musical instrument repairers and tuners .....	6	6	.0	.0	0	2.8	2
49-9064	Watch repairers .....	4	4	.0	.0	0	-5.1	1
49-9069	All other precision instrument and equipment repairers .....	16	17	.0	.0	1	4.3	5
49-9090	Miscellaneous installation, maintenance, and repair workers .....	442	478	.3	.3	36	8.2	109
49-9091	Coin, vending, and amusement machine servicers and repairers .....	48	46	.0	.0	-1	-3.0	13
49-9092	Commercial divers .....	3	4	.0	.0	1	17.7	1
49-9093	Fabric menders, except garment .....	2	2	.0	.0	0	-1.6	0

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
49-9094	Locksmiths and safe repairers .....	26	32	0.0	0.0	6	22.1	11
49-9095	Manufactured building and mobile home installers.....	12	11	.0	.0	0	-2.9	2
49-9096	Riggers.....	12	12	.0	.0	0	-.3	1
49-9097	Signal and track switch repairers.....	7	7	.0	.0	0	-5.1	0
49-9098	Helpers--Installation, maintenance, and repair workers.....	163	183	.1	.1	19	11.8	58
49-9099	Installation, maintenance, and repair workers, all other.....	168	181	.1	.1	13	7.5	24
51-0000	Production occupations .....	10,675	10,147	7.1	6.1	-528	-4.9	2,323
51-1000	Supervisors, production workers .....	699	665	.5	.4	-34	-4.8	117
51-1011	First-line supervisors/managers of production and operating workers.....	699	665	.5	.4	-34	-4.8	117
51-2000	Assemblers and fabricators .....	2,075	1,982	1.4	1.2	-93	-4.5	424
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers.....	28	32	.0	.0	4	12.8	9
51-2020	Electrical, electronics, and electromechanical assemblers.....	297	227	.2	.1	-70	-23.5	50
51-2021	Coil winders, tapers, and finishers.....	23	16	.0	.0	-7	-30.5	4
51-2022	Electrical and electronic equipment assemblers.....	213	156	.1	.1	-57	-26.8	36
51-2023	Electromechanical equipment assemblers .....	60	55	.0	.0	-5	-9.1	10
51-2031	Engine and other machine assemblers .....	45	41	.0	.0	-4	-8.6	11
51-2041	Structural metal fabricators and fitters.....	103	103	.1	.1	0	-.2	18
51-2090	Miscellaneous assemblers and fabricators.....	1,602	1,579	1.1	.9	-23	-1.4	336
51-2091	Fiberglass laminators and fabricators.....	33	35	.0	.0	2	6.2	9
51-2092	Team assemblers.....	1,274	1,275	.8	.8	1	.1	265
51-2093	Timing device assemblers, adjusters, and calibrators	3	2	.0	.0	0	-7.6	1
51-2099	All other assemblers and fabricators.....	292	266	.2	.2	-25	-8.7	61
51-3000	Food processing occupations.....	705	764	.5	.5	59	8.4	267
51-3011	Bakers.....	149	164	.1	.1	15	10.1	47
51-3020	Butchers and other meat, poultry, and fish processing workers .....	398	431	.3	.3	34	8.5	160
51-3021	Butchers and meat cutters .....	131	134	.1	.1	3	1.9	44
51-3022	Meat, poultry, and fish cutters and trimmers .....	144	160	.1	.1	16	10.9	61
51-3023	Slaughterers and meat packers .....	122	138	.1	.1	16	12.7	54
51-3090	Miscellaneous food processing workers .....	158	169	.1	.1	10	6.5	61
51-3091	Food and tobacco roasting, baking, and drying machine operators and tenders .....	19	21	.0	.0	2	10.8	9
51-3092	Food batchmakers .....	95	105	.1	.1	10	10.9	35
51-3093	Food cooking machine operators and tenders.....	44	42	.0	.0	-2	-4.7	17
51-4000	Metal workers and plastic workers.....	2,258	2,087	1.5	1.3	-171	-7.6	455
51-4010	Computer control programmers and operators.....	158	153	.1	.1	-6	-3.6	19
51-4011	Computer-controlled machine tool operators, metal and plastic.....	141	136	.1	.1	-4	-3.0	17
51-4012	Numerical tool and process control programmers .....	18	16	.0	.0	-2	-8.4	2
51-4020	Forming machine setters, operators, and tenders, metal and plastic.....	161	140	.1	.1	-20	-12.7	43
51-4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic.....	94	87	.1	.1	-7	-7.2	26
51-4022	Forging machine setters, operators, and tenders, metal and plastic.....	31	22	.0	.0	-9	-30.4	10
51-4023	Rolling machine setters, operators, and tenders, metal and plastic.....	36	32	.0	.0	-4	-11.8	7
51-4030	Machine tool cutting setters, operators, and tenders, metal and plastic.....	513	425	.3	.3	-88	-17.1	100
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic.....	272	231	.2	.1	-40	-14.9	65
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic.....	43	33	.0	.0	-9	-22.2	9
51-4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic....	101	85	.1	.1	-16	-15.7	10

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	68	52	0.0	0.0	-16	-23.3	13
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic .....	29	23	.0	.0	-6	-21.0	3
51-4041	Machinists .....	397	384	.3	.2	-12	-3.1	61
51-4050	Metal furnace and kiln operators and tenders .....	33	27	.0	.0	-6	-18.3	5
51-4051	Metal-refining furnace operators and tenders .....	18	15	.0	.0	-3	-19.0	3
51-4052	Pourers and casters, metal .....	15	12	.0	.0	-3	-17.4	2
51-4060	Model makers and patternmakers, metal and plastic ....	16	15	.0	.0	-1	-5.9	4
51-4061	Model makers, metal and plastic .....	9	8	.0	.0	-1	-6.3	2
51-4062	Patternmakers, metal and plastic .....	7	7	.0	.0	0	-5.5	2
51-4070	Molders and molding machine setters, operators, and tenders, metal and plastic .....	171	148	.1	.1	-23	-13.6	40
51-4071	Foundry mold and coremakers .....	15	11	.0	.0	-3	-22.7	3
51-4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	157	137	.1	.1	-20	-12.8	37
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic .....	97	97	.1	.1	0	.3	20
51-4111	Tool and die makers .....	101	91	.1	.1	-10	-9.6	13
51-4120	Welding, soldering, and brazing workers .....	462	484	.3	.3	22	4.8	120
51-4121	Welders, cutters, solderers, and brazers .....	409	430	.3	.3	21	5.1	107
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders .....	53	54	.0	.0	2	3.0	13
51-4190	Miscellaneous metalworkers and plastic workers .....	150	122	.1	.1	-28	-18.4	30
51-4191	Heat treating equipment setters, operators, and tenders, metal and plastic .....	27	23	.0	.0	-4	-14.8	5
51-4192	Lay-out workers, metal and plastic .....	10	8	.0	.0	-2	-19.8	2
51-4193	Plating and coating machine setters, operators, and tenders, metal and plastic .....	42	37	.0	.0	-5	-12.2	12
51-4194	Tool grinders, filers, and sharpeners .....	22	18	.0	.0	-4	-19.4	4
51-4199	All other metal workers and plastic workers .....	49	36	.0	.0	-12	-25.1	8
51-5000	Printing occupations .....	389	343	.3	.2	-46	-11.9	70
51-5010	Bookbinders and bindery workers .....	72	57	.0	.0	-15	-21.3	10
51-5011	Bindery workers .....	65	51	.0	.0	-14	-21.8	9
51-5012	Bookbinders .....	7	6	.0	.0	-1	-16.9	1
51-5020	Printers .....	317	286	.2	.2	-31	-9.7	59
51-5021	Job printers .....	48	44	.0	.0	-4	-9.3	5
51-5022	Prepress technicians and workers .....	71	56	.0	.0	-15	-21.1	11
51-5023	Printing machine operators .....	198	186	.1	.1	-11	-5.7	44
51-6000	Textile, apparel, and furnishings occupations .....	873	777	.6	.5	-97	-11.1	169
51-6011	Laundry and dry-cleaning workers .....	239	262	.2	.2	23	9.7	77
51-6021	Pressers, textile, garment, and related materials .....	77	74	.1	.0	-3	-4.4	6
51-6031	Sewing machine operators .....	233	170	.2	.1	-63	-27.2	22
51-6040	Shoe and leather workers .....	20	17	.0	.0	-3	-15.6	4
51-6041	Shoe and leather workers and repairers .....	16	14	.0	.0	-2	-10.3	3
51-6042	Shoe machine operators and tenders .....	4	3	.0	.0	-1	-35.7	0
51-6050	Tailors, dressmakers, and sewers .....	77	76	.1	.0	-2	-2.4	14
51-6051	Sewers, hand .....	23	21	.0	.0	-3	-12.2	4
51-6052	Tailors, dressmakers, and custom sewers .....	54	55	.0	.0	1	1.9	10
51-6060	Textile machine setters, operators, and tenders .....	122	88	.1	.1	-34	-27.9	27
51-6061	Textile bleaching and dyeing machine operators and tenders .....	19	14	.0	.0	-6	-30.2	3
51-6062	Textile cutting machine setters, operators, and tenders .....	19	14	.0	.0	-5	-27.4	6
51-6063	Textile knitting and weaving machine setters, operators, and tenders .....	40	28	.0	.0	-12	-30.9	12
51-6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders .....	43	33	.0	.0	-11	-24.3	6
51-6090	Miscellaneous textile, apparel, and furnishings workers .....	106	92	.1	.1	-14	-13.5	20
51-6091	Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers .....	18	15	.0	.0	-3	-17.6	4
51-6092	Fabric and apparel patternmakers .....	9	7	.0	.0	-3	-28.6	2

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
51-6093	Upholsterers.....	55	50	0.0	0.0	-5	-9.0	9
51-6099	All other textile, apparel, and furnishings workers .....	24	21	.0	.0	-4	-14.8	6
51-7000	Woodworkers.....	370	380	.2	.2	11	2.9	106
51-7011	Cabinetmakers and bench carpenters.....	149	153	.1	.1	4	2.8	48
51-7021	Furniture finishers.....	31	30	.0	.0	-1	-3.1	6
51-7030	Model makers and patternmakers, wood.....	4	2	.0	.0	-2	-40.3	1
51-7031	Model makers, wood.....	2	1	.0	.0	-1	-40.8	0
51-7032	Patternmakers, wood.....	2	1	.0	.0	-1	-39.9	0
51-7040	Woodworking machine setters, operators, and tenders	165	173	.1	.1	9	5.4	47
51-7041	Sawing machine setters, operators, and tenders, wood.....	65	68	.0	.0	2	3.8	15
51-7042	Woodworking machine setters, operators, and tenders, except sawing .....	100	106	.1	.1	6	6.4	31
51-7099	All other woodworkers.....	20	21	.0	.0	0	1.6	5
51-8000	Plant and system operators.....	325	327	.2	.2	2	.8	95
51-8010	Power plant operators, distributors, and dispatchers....	47	48	.0	.0	1	2.0	18
51-8011	Nuclear power reactor operators .....	4	4	.0	.0	0	10.6	2
51-8012	Power distributors and dispatchers.....	9	8	.0	.0	0	-4.9	3
51-8013	Power plant operators.....	35	36	.0	.0	1	2.7	13
51-8021	Stationary engineers and boiler operators.....	45	47	.0	.0	2	3.4	9
51-8031	Water and liquid waste treatment plant and system operators.....	111	126	.1	.1	15	13.8	35
51-8090	Miscellaneous plant and system operators.....	122	106	.1	.1	-15	-12.6	34
51-8091	Chemical plant and system operators.....	53	45	.0	.0	-8	-15.3	15
51-8092	Gas plant operators .....	12	11	.0	.0	-1	-9.9	3
51-8093	Petroleum pump system operators, refinery operators, and gaugers .....	42	36	.0	.0	-6	-13.4	12
51-8099	All other plant and system operators .....	14	14	.0	.0	0	-2.6	4
51-9000	Other production occupations.....	2,981	2,822	2.0	1.7	-159	-5.3	619
51-9010	Chemical processing machine setters, operators, and tenders .....	97	94	.1	.1	-3	-3.6	22
51-9011	Chemical equipment operators and tenders .....	53	51	.0	.0	-2	-3.9	12
51-9012	Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders.....	44	43	.0	.0	-1	-3.2	10
51-9020	Crushing, grinding, polishing, mixing, and blending workers .....	230	215	.2	.1	-16	-6.8	38
51-9021	Crushing, grinding, and polishing machine setters, operators, and tenders.....	42	37	.0	.0	-5	-11.9	7
51-9022	Grinding and polishing workers, hand.....	45	42	.0	.0	-3	-7.1	7
51-9023	Mixing and blending machine setters, operators, and tenders .....	143	136	.1	.1	-7	-5.1	23
51-9030	Cutting workers.....	107	98	.1	.1	-9	-8.4	16
51-9031	Cutters and trimmers, hand .....	29	27	.0	.0	-2	-6.1	4
51-9032	Cutting and slicing machine setters, operators, and tenders .....	79	71	.1	.0	-7	-9.3	12
51-9041	Extruding, forming, pressing, and compacting machine setters, operators, and tenders.....	81	75	.1	.0	-7	-8.1	15
51-9051	Furnace, kiln, oven, drier, and kettle operators and tenders.....	32	29	.0	.0	-3	-8.7	9
51-9061	Inspectors, testers, sorters, samplers, and weighers ....	491	457	.3	.3	-35	-7.0	73
51-9071	Jewelers and precious stone and metal workers.....	52	51	.0	.0	-1	-2.2	9
51-9080	Medical, dental, and ophthalmic laboratory technicians	95	100	.1	.1	5	5.3	23
51-9081	Dental laboratory technicians.....	53	55	.0	.0	2	3.7	12
51-9082	Medical appliance technicians .....	12	13	.0	.0	1	9.5	3
51-9083	Ophthalmic laboratory technicians.....	29	31	.0	.0	2	6.6	7
51-9111	Packaging and filling machine operators and tenders ...	386	365	.3	.2	-21	-5.4	72
51-9120	Painting workers .....	192	184	.1	.1	-8	-4.2	43
51-9121	Coating, painting, and spraying machine setters, operators, and tenders.....	106	93	.1	.1	-14	-12.9	21
51-9122	Painters, transportation equipment.....	54	59	.0	.0	5	8.4	15
51-9123	Painting, coating, and decorating workers.....	31	32	.0	.0	1	3.6	7

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title		Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2006	2016	2006	2016			
51-9130	Photographic process workers and processing machine operators.....	73	40	0.0	0.0	-33	-45.4	25
51-9131	Photographic process workers.....	24	15	.0	.0	-9	-36.3	8
51-9132	Photographic processing machine operators.....	49	25	.0	.0	-25	-49.8	17
51-9141	Semiconductor processors.....	42	37	.0	.0	-5	-12.9	7
51-9190	Miscellaneous production workers.....	1,102	1,078	.7	.6	-23	-2.1	268
51-9191	Cementing and gluing machine operators and tenders.....	23	21	.0	.0	-2	-9.2	6
51-9192	Cleaning, washing, and metal pickling equipment operators and tenders.....	16	14	.0	.0	-2	-9.8	5
51-9193	Cooling and freezing equipment operators and tenders.....	11	10	.0	.0	-1	-6.8	2
51-9194	Etchers and engravers.....	14	13	.0	.0	-1	-4.8	3
51-9195	Molders, shapers, and casters, except metal and plastic.....	56	57	.0	.0	1	1.3	13
51-9196	Paper goods machine setters, operators, and tenders.....	113	93	.1	.1	-21	-18.2	27
51-9197	Tire builders.....	23	20	.0	.0	-3	-12.0	8
51-9198	Helpers--Production workers.....	542	539	.4	.3	-3	-.5	133
51-9199	All other production workers.....	305	312	.2	.2	7	2.3	70
53-0000	Transportation and material moving occupations.....	10,233	10,695	6.8	6.4	462	4.5	2,952
53-1000	Supervisors, transportation and material moving workers.....	414	461	.3	.3	47	11.4	132
53-1011	Aircraft cargo handling supervisors.....	6	7	.0	.0	1	23.3	3
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand.....	182	205	.1	.1	23	12.5	60
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators.....	226	249	.2	.1	23	10.2	69
53-2000	Air transportation occupations.....	137	154	.1	.1	17	12.4	57
53-2010	Aircraft pilots and flight engineers.....	107	121	.1	.1	14	13.0	45
53-2011	Airline pilots, copilots, and flight engineers.....	79	90	.1	.1	10	12.9	33
53-2012	Commercial pilots.....	28	31	.0	.0	4	13.2	12
53-2020	Air traffic controllers and airfield operations specialists.....	30	33	.0	.0	3	10.5	11
53-2021	Air traffic controllers.....	25	28	.0	.0	3	10.2	9
53-2022	Airfield operations specialists.....	5	5	.0	.0	1	11.8	2
53-3000	Motor vehicle operators.....	4,335	4,704	2.9	2.8	368	8.5	1,117
53-3011	Ambulance drivers and attendants, except emergency medical technicians.....	22	26	.0	.0	5	21.7	7
53-3020	Bus drivers.....	653	721	.4	.4	67	10.3	153
53-3021	Bus drivers, transit and intercity.....	198	223	.1	.1	25	12.5	51
53-3022	Bus drivers, school.....	455	497	.3	.3	42	9.3	102
53-3030	Driver/sales workers and truck drivers.....	3,356	3,614	2.2	2.2	258	7.7	877
53-3031	Driver/sales workers.....	445	421	.3	.3	-24	-5.3	79
53-3032	Truck drivers, heavy and tractor-trailer.....	1,860	2,053	1.2	1.2	193	10.4	523
53-3033	Truck drivers, light or delivery services.....	1,051	1,140	.7	.7	89	8.5	275
53-3041	Taxi drivers and chauffeurs.....	229	258	.2	.2	30	13.0	59
53-3099	All other motor vehicle operators.....	76	85	.1	.1	9	11.4	21
53-4000	Rail transportation occupations.....	125	127	.1	.1	2	1.4	51
53-4010	Locomotive engineers and operators.....	47	48	.0	.0	1	2.9	17
53-4021	Railroad brake, signal, and switch operators.....	25	22	.0	.0	-3	-11.4	9
53-4031	Railroad conductors and yardmasters.....	40	44	.0	.0	4	9.1	19
53-4041	Subway and streetcar operators.....	7	8	.0	.0	1	12.1	3
53-4099	Rail transportation workers, all other.....	7	6	.0	.0	-1	-18.7	2
53-5000	Water transportation occupations.....	84	98	.1	.1	14	16.1	39
53-5011	Sailors and marine oilers.....	33	38	.0	.0	5	15.7	17
53-5020	Ship and boat captains and operators.....	37	43	.0	.0	6	17.3	16
53-5021	Captains, mates, and pilots of water vessels.....	34	40	.0	.0	6	17.9	15
53-5022	Motorboat operators.....	3	3	.0	.0	0	10.9	1
53-5031	Ship engineers.....	15	17	.0	.0	2	14.1	6
53-6000	Other transportation workers.....	312	351	.2	.2	39	12.6	139
53-6011	Bridge and lock tenders.....	4	4	.0	.0	0	-3.2	1
53-6021	Parking lot attendants.....	135	152	.1	.1	16	12.1	53
53-6031	Service station attendants.....	96	108	.1	.1	12	12.6	56

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2006 and projected 2016**

[Numbers in thousands]

2006 National Employment Matrix code and title	Employment				Change, 2006–16		Total job openings due to growth and net replacements, 2006–16 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2006	2016	2006	2016			
53-6041 Traffic technicians .....	7	8	0.0	0.0	1	9.9	2
53-6051 Transportation inspectors .....	26	31	.0	.0	4	16.4	13
53-6099 All other related transportation workers .....	44	49	.0	.0	6	13.3	14
53-7000 Material moving occupations .....	4,825	4,800	3.2	2.9	-25	-.5	1,417
53-7011 Conveyor operators and tenders .....	50	46	.0	.0	-4	-7.4	9
53-7021 Crane and tower operators .....	46	48	.0	.0	1	2.8	10
53-7030 Dredge, excavating, and loading machine operators ....	85	92	.1	.1	7	8.1	20
53-7031 Dredge operators .....	2	2	.0	.0	0	6.7	0
53-7032 Excavating and loading machine and dragline operators .....	80	87	.1	.1	7	8.3	19
53-7033 Loading machine operators, underground mining .....	3	3	.0	.0	0	4.5	1
53-7041 Hoist and winch operators .....	3	3	.0	.0	0	-1.2	1
53-7051 Industrial truck and tractor operators .....	637	624	.4	.4	-13	-2.0	161
53-7060 Laborers and material movers, hand .....	3,766	3,741	2.5	2.3	-25	-.7	1,143
53-7061 Cleaners of vehicles and equipment .....	368	420	.2	.3	52	14.0	192
53-7062 Laborers and freight, stock, and material movers, hand .....	2,416	2,466	1.6	1.5	50	2.1	823
53-7063 Machine feeders and offbearers .....	148	125	.1	.1	-22	-15.2	26
53-7064 Packers and packagers, hand .....	834	730	.6	.4	-104	-12.4	102
53-7070 Pumping station operators .....	29	25	.0	.0	-4	-12.9	12
53-7071 Gas compressor and gas pumping station operators .	4	3	.0	.0	-1	-17.5	2
53-7072 Pump operators, except wellhead pumpers .....	11	9	.0	.0	-1	-12.5	4
53-7073 Wellhead pumpers .....	14	13	.0	.0	-2	-11.9	6
53-7081 Refuse and recyclable material collectors .....	136	146	.1	.1	10	7.4	47
53-7111 Shuttle car operators .....	3	3	.0	.0	0	-8.3	1
53-7121 Tank car, truck, and ship loaders .....	16	18	.0	.0	2	9.2	4
53-7199 Material moving workers, all other .....	54	54	.0	.0	0	.7	10

<sup>1</sup> Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

<sup>2</sup> Codes 11–0000 through 13–0000 in the 2000 Standard Occupational Classification (soc).

<sup>3</sup> Codes 15–0000 through 29–0000 in the 2000 Standard Occupational Classification (soc).

<sup>4</sup> Codes 31–0000 through 39–0000 in the 2000 Standard Occupational Classification (soc).

NOTE: Details may not sum to totals or 100 percent due to rounding.

## What drives gasoline prices?

As everyone knows, gasoline prices have been high in recent years. Most people also understand that the price of gasoline is closely linked to the price of oil. But occasionally, the two diverge. Gasoline prices were rising in the spring of 2007, while oil prices were falling. Later in the year, crude prices were back up, but gasoline prices did not change. So, one might ask, what is it—other than the price of crude oil—that drives U.S. gasoline prices? In the October issue of the Federal Reserve Bank of Dallas *Economic Letter*, Bank economists Stephen P.A. Brown and Raghav Virmani attempt to answer this question by examining several other factors that affect gasoline prices. They build a succession of econometric models to isolate and quantify the various factors.

The first model uses two factors—crude oil prices and gasoline prices—and the authors state that the “model explains nearly 98 percent of U.S. gasoline prices.” To explain the other 2 percent, Brown and Virmani expand their model by adding factors one by one. Thus, for the second model, they add a seasonal component. Empirical data show that demand for gasoline is highest during the summer months, spikes around Thanksgiving and Christmas, and is lowest in February. The second model incorporates this pattern and explains some of the fluctuation between the prices of gasoline and crude oil. Next, the authors look at “aberrations,” nonseasonal factors such as Hurricanes Katrina and Rita, which “shut

down over a fourth of U.S. refinery capacity and sent gasoline prices skyrocketing” in 2005. They find that these nonseasonal aberrations have a measurable effect on gasoline prices. Because crude oil prices can vary by region in the short run, the last model incorporates this factor and finds that it too has some effect on the price of gasoline in the United States.

## Wage structure over the long run

Since 1980, the wage structure in America has widened markedly. The upper end of the distribution has experienced rapid wage growth relative to the middle and lower parts. This has been in contrast to trends seen during most of the 20th century. Between 1915 and 1950, the wage structure narrowed substantially. Then in the 1950s and 1960s, there was a period of relative stability.

Claudia Goldin and Lawrence F. Katz of Harvard University examine these changing trends and the factors underlying them in, “Long-Run Changes in the U.S. Wage Structure: Narrowing, Widening, Polarizing” (NBER Working Paper 13568). They find that most of the increase in wage inequality that has occurred since 1980 can be explained by rising educational wage differentials. Some researchers have attributed the rise in educational wage differentials of recent years to skill-biased technological change. But Goldin and Katz observe that skill-biased technological change is not something new; as they state, “it has driven rapid secular growth in the relative demand for

more-educated workers for at least a century.” During part of that time, the supply of skills grew more quickly than the demand for them, mainly due to rising educational attainment. In recent decades, though, the supply of skills has grown more slowly. The high school graduation rate has been stagnant and the percentage of young adults graduating from four-year colleges has only increased modestly among those born after 1950.

Goldin and Katz also note that computerization, which is form of skill-biased technological change, has affected the relative demand for skill in a different manner than other such technological changes. They write: “Computers strongly complement the non-routine or abstract tasks of high-wage jobs, but they directly substitute for the routine tasks found in many traditional middle-wage jobs.” The non-routine manual tasks associated with many low-wage service jobs have not been impacted much by computers. The changes in skill demand due to computerization have contributed to the “polarization” of the wage structure since the late 1980s—employment has shifted into high- and low-wage jobs at the expense of middle-wage jobs. □

We are interested in your feedback on this column. Please let us know what you have found most interesting and what essential readings we may have missed. Write to: Executive Editor, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC 20212, or e-mail, [mlr@bls.gov](mailto:mlr@bls.gov)

## Gender and national statistics

*The World's Women 2005: Progress in Statistics*. United Nations Statistics, Division of the Department of Economic and Social Affairs. New York, United Nations, 2006, 184 pp., \$25.00/paperback.

*The World's Women 2005: Progress in Statistics* is the fourth volume in a series from the United Nations Statistics Division of the Department of Economic and Social Affairs, an international agency that compiles and disseminates global statistical information, develops standards and norms for statistical activities, and supports countries' efforts to strengthen their national statistical systems. *The World's Women* series was developed in response to the 1995 United Nations' Fourth World Conference on Women, a conference with the goal of achieving greater gender equality. Whereas previous volumes in the series concentrated on trends in available data, the current volume explores the availability of national statistics disaggregated by sex that are used to monitor the status of women in various facets of society. The aim of this volume is to allow national statistical agencies and international bodies to assess the progress made in incorporating gender into national statistics.

*The World's Women 2005* provides information on data in six categories: population, households, and families; health; education and training; work; violence against women; and poverty, political decisionmaking, and human rights. Each chapter begins with a discussion of the current state of statistics from 1995–2003: the number of countries that reported data for selected indicators during that period

as well as the number of countries that reported these data by sex and by sex and age at least once, and data by sex and age for at least 5 of the 9 years. The chapter then describes any progress made over a longer period—1975–2003—by comparing the frequency of reporting of given statistical indicators within the chapter's broad topic for three time periods: 1975–84; 1985–94; and 1995–2003. The volume does note that the most recent period is 1 year shorter than the first two periods, and data for the recent years may not have been reported to the UN by the time of publication, due to delays in processing and reporting, thus affecting some of the results on progress reported. The chapters conclude with a section on challenges to improving data for gender analysis. Each chapter of *The World's Women 2005* also includes special text boxes with definitions of indicators that may not be familiar to the general public as well as tables providing summaries of national reporting on that topic for the period 1995 to 2003. The volume includes a statistical annex that further elaborates on the availability of indicators by country and provides updated figures for many of the statistics and indicators published in earlier editions.

*The World's Women 2005* indicates mixed progress in the number of countries that report—and the percent of the world's population that is covered by—data disaggregated by sex that are important to monitoring the state of gender-related issues. Although widely available since 1975 because most countries have population censuses, reports on sex-disaggregated statistics by population, households, and families have not changed much over the entire period studied. The number of countries reporting health

statistics by sex also has remained relatively steady over the three periods but, unlike the population statistics of the first chapter, relatively few countries report basic health statistics such as number of deaths, cause of death, and infant deaths. The reporting of education statistics varies widely by the topic; school enrollment statistics are widely reported by sex, but fewer than half of the countries report on literacy and educational attainment. Concerning violence against women, there have been considerable improvements in statistics on intimate partner violence; however, reliable statistics on many other forms of violence against women remain scarce. Progress has been slow regarding poverty, decisionmaking (for example, the percentage of legislative and managerial positions held by women), and human rights statistics; even statistical agencies in more developed countries often do not yet routinely collect and disseminate statistics specifically for these purposes. Overall, the more developed countries, which have more statistical capacity and financial resources, are doing well in collecting most statistics disaggregated by sex, whereas many developing countries have major deficiencies, particularly in Africa, where 16 of 55 countries have not conducted a recent census. According to the tables provided in *The World's Women 2005*, the availability of sex-disaggregated data in the United States is similar to that of other more developed countries.

The chapter on work-related statistics is probably of the most interest to readers of this journal. As *The World's Women 2005* highlights, the availability of statistics on economic activity, employment, and unemployment is far from universal, with slightly more than half of all countries providing data. However, if a country provides

data about labor, it almost always provides those data disaggregated by sex. The volume suggests this result is likely due to the source of labor-related statistics, which often come from labor force surveys or population censuses for which gender and age questions are a common component. For example, between 1995 and 2003, of the 115 countries and areas that reported unemployment data at least once, all but one country, Tunisia, reported these data by sex at least once. Of much greater significance, these 115 countries represent only two-thirds of the world's population. Additionally, only 72 of the 115 countries that reported data for at least 1 of the 9 years covered reported data for at least 5 years. This suggests that consistent reporting of these indicators remains an issue. Similar results can be found for the data on the economically active population, employment by occupation, and employed population by status in employment. An exception to the rule that reported work-related data are sex disaggregated is statistics on wages by major industry group—only 52 of the 108 reporting countries provided data by sex; these data often are collected through establishment censuses and surveys that rely on payrolls which may not contain gender information.

The chapter on work-related statistics briefly touches upon the topics of employment in the informal sector

and unpaid work data from time-use surveys. Although both of these concepts are fairly new in official statistics and are not part of the regular data collection of most countries, *The World's Women 2005* acknowledges that progress has been made in both areas in recent years.

*Women's World 2005* concludes with a chapter outlining strategies to help improve the availability of data across regions and topics. The proposed strategies fall within three broad areas: strengthening national statistical systems; mainstreaming gender in all aspects of the production of statistics; and developing and improving concepts and methods.

A couple of topics not covered by the volume that may be of interest to those studying labor-related gender issues are: 1) child labor among young girls and 2) women and decent work conditions. According to the International Labor Office (ILO), currently available statistics show that 5- to 14-year-old males are more likely than their female counterparts to be economically active. However, the ILO does note that the surveys currently used to measure the level of child labor do not cover work performed inside and around the home. It is likely that many girls do not attend school because they are taking care of younger siblings and doing other household work, allowing their parents and guardians to do other work outside the home. Cre-

ating surveys that measure unpaid child labor at home is necessary to gaining a more comprehensive picture of the situation. With regards to decent work conditions, measuring the percent of working women who belong to unions and other collective bargaining units would be a useful indicator because these groups constitute powerful means to overcome the disadvantages and constraints that women confront in the labor market.

Overall, *The World's Women 2005: Progress in Statistics* does well at providing a broad overview of the general state of the availability of sex-disaggregated statistics and the progress made in the availability of these data since 1975.

—Erin Lett  
Division of Foreign  
Labor Statistics  
Bureau of Labor Statistics

### Book review interest?

Interested in reviewing a book for the *Monthly Labor Review*? We have a number of books by distinguished authors waiting to be reviewed. If you have good writing skills and/or experience, then please contact us via e-mail at [mlr@bls.gov](mailto:mlr@bls.gov)

**NOTE: Many of the statistics in the following pages were subsequently revised. These pages have not been updated to reflect the revisions.**

To obtain BLS data that reflect all revisions, see <http://www.bls.gov/data/home.htm>

For the latest set of "Current Labor Statistics," see <http://www.bls.gov/opub/mlr/curlabst.htm>

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# Notes on Current Labor Statistics

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

## General notes

The following notes apply to several tables in this section:

**Seasonal adjustment.** Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as “seasonally adjusted.” (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of current and past experiences. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 17–21, 48, and 52. Seasonally adjusted labor force data in tables 1 and 4–9 and seasonally adjusted establishment survey data shown in tables 1, 12–14, and 17 are revised in the March 2007 *Review*. A brief explanation of the seasonal adjustment methodology appears in “Notes on the data.”

Revisions in the productivity data in table 54 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

**Adjustments for price changes.** Some data—such as the “real” earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is \$2 ( $\$3/150 \times 100 = \$2$ ). The \$2 (or any other resulting

values) are described as “real,” “constant,” or “1982” dollars.

## Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau’s monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

[www.bls.gov/cps/](http://www.bls.gov/cps/)

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

[www.bls.gov/ces/](http://www.bls.gov/ces/)

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms*; *Employee Benefits in Small Private Establishments*; and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

[www.bls.gov/lpc/](http://www.bls.gov/lpc/)

For additional information on international comparisons data, see *Internation-*

*tional Comparisons of Unemployment*, Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

## Symbols

n.e.c. = not elsewhere classified.

n.e.s. = not elsewhere specified.

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

## Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

**Labor market indicators** include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-population ratio, and unemployment rates for major demographic groups based on the Current Population (“household”) Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation

and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

**Alternative measures of wage and compensation rates of change**, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

### Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

## Employment and Unemployment Data

(Tables 1; 4–29)

### Household survey data

#### Description of the series

Employment data in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

#### Definitions

**Employed persons** include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

**Unemployed persons** are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding

4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation rate** is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

#### Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*. For a discussion of changes introduced in January 2003, see “Revisions to the Current Population Survey Effective in January 2003” in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at [www.bls.gov/cps/rvcps03.pdf](http://www.bls.gov/cps/rvcps03.pdf)).

Effective in January 2003, BLS began using the X-12 ARIMA seasonal adjustment program to seasonally adjust national labor force data. This program replaced the X-11 ARIMA program which had been used since January 1980. See “Revision of Seasonally Adjusted Labor Force Series in 2003,” in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at [www.bls.gov/cps/cpsrs.pdf](http://www.bls.gov/cps/cpsrs.pdf)) for a discussion of the introduction of the use of X-12 ARIMA for seasonal adjustment of the labor force data and the effects that it had on the data.

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the

January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691-6378.

## Establishment survey data

### Description of the series

Employment, hours, and earnings data in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 160,000 businesses and government agencies, which represent approximately 400,000 individual worksites and represent all industries except agriculture. The active CES sample covers approximately one-third of all nonfarm payroll workers. Industries are classified in accordance with the 2002 North American Industry Classification System. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

#### Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

**Employed persons** are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

**Production workers** in the goods-producing industries cover employees, up through the level of working supervisors, who engage directly in the manufacture or construction of the establishment’s product. In private service-providing industries, data are collected for nonsupervisory workers, which include most employees except those

in executive, managerial, and supervisory positions. Those workers mentioned in tables 11–16 include production workers in manufacturing and natural resources and mining; construction workers in construction; and nonsupervisory workers in all private service-providing industries. Production and nonsupervisory workers account for about four-fifths of the total employment on private nonagricultural payrolls.

**Earnings** are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

**Hours** represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Table 17 provides an index on private nonfarm employment based on 278 industries, and a manufacturing index based on 84 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

### Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called “benchmarks”). The March 2003 benchmark was introduced in February 2004 with the release of data for January 2004, published in the March 2004 issue of the *Review*. With the release in June 2003, CES completed a conversion from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) and completed the transition from its original quota sample design to a probability-based sample design. The industry-coding update included reconstruction of historical estimates in order to preserve

time series for data users. Normally 5 years of seasonally adjusted data are revised with each benchmark revision. However, with this release, the entire new time series history for all CES data series were re-seasonally adjusted due to the NAICS conversion, which resulted in the revision of all CES time series.

Also in June 2003, the CES program introduced concurrent seasonal adjustment for the national establishment data. Under this methodology, the first preliminary estimates for the current reference month and the revised estimates for the 2 prior months will be updated with concurrent factors with each new release of data. Concurrent seasonal adjustment incorporates all available data, including first preliminary estimates for the most current month, in the adjustment process. For additional information on all of the changes introduced in June 2003, see the June 2003 issue of *Employment and Earnings* and “Recent changes in the national Current Employment Statistics survey,” *Monthly Labor Review*, June 2003, pp. 3–13.

Revisions in State data (table 11) occurred with the publication of January 2003 data. For information on the revisions for the State data, see the March and May 2003 issues of *Employment and Earnings*, and “Recent changes in the State and Metropolitan Area CES survey,” *Monthly Labor Review*, June 2003, pp. 14–19.

Beginning in June 1996, the BLS uses the X-12-ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as “final” (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on

establishment survey data, contact the Division of Current Employment Statistics: (202) 691-6555.

## Unemployment data by State

### Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

### Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691-6392 (table 10) or (202) 691-6559 (table 11).

## Quarterly Census of Employment and Wages

### Description of the series

Employment, wage, and establishment data in this section are derived from the quarterly tax reports submitted to State employment security agencies by private and State and local government employers subject to State unemployment insurance (UI) laws and from Federal, agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Each quarter, State agencies edit and process the data and send the information to the Bureau of Labor Statistics.

The Quarterly Census of Employment and Wages (QCEW) data, also referred as ES-202 data, are the most complete enumeration of employment and wage information by industry at the national, State, metropolitan area, and county levels. They have broad economic significance in evaluating labor

market trends and major industry developments.

## Definitions

In general, the Quarterly Census of Employment and Wages monthly employment data represent the number of **covered workers** who worked during, or received pay for, the pay period that included the 12th day of the month. **Covered private industry employment** includes most corporate officials, executives, supervisory personnel, professionals, clerical workers, wage earners, piece workers, and part-time workers. It excludes proprietors, the unincorporated self-employed, unpaid family members, and certain farm and domestic workers. Certain types of nonprofit employers, such as religious organizations, are given a choice of coverage or exclusion in a number of States. Workers in these organizations are, therefore, reported to a limited degree.

Persons on paid sick leave, paid holiday, paid vacation, and the like, are included. Persons on the payroll of more than one firm during the period are counted by each UI-subject employer if they meet the employment definition noted earlier. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

**Federal employment data** are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all Federal installations with employees covered by the Unemployment Compensation for Federal Employees (UCFE) program, except for certain national security agencies, which are omitted for security reasons. Employment for all Federal agencies for any given month is based on the number of persons who worked during or received pay for the pay period that included the 12th of the month.

An **establishment** is an economic unit, such as a farm, mine, factory, or store, that produces goods or provides services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity for which a single industrial classification may be applied. Occasionally, a single physical location encompasses two or more distinct and significant activities. Each activity should be reported as a separate establishment if separate records are kept and the various activities are classified under different NAICS industries.

Most employers have only one establishment; thus, the establishment is the predominant reporting unit or statistical

entity for reporting employment and wages data. Most employers, including State and local governments who operate more than one establishment in a State, file a Multiple Worksite Report each quarter, in addition to their quarterly UI report. The Multiple Worksite Report is used to collect separate employment and wage data for each of the employer's establishments, which are not detailed on the UI report. Some very small multi-establishment employers do not file a Multiple Worksite Report. When the total employment in an employer's secondary establishments (all establishments other than the largest) is 10 or fewer, the employer generally will file a consolidated report for all establishments. Also, some employers either cannot or will not report at the establishment level and thus aggregate establishments into one consolidated unit, or possibly several units, though not at the establishment level.

For the Federal Government, the reporting unit is the **installation**: a single location at which a department, agency, or other government body has civilian employees. Federal agencies follow slightly different criteria than do private employers when breaking down their reports by installation. They are permitted to combine as a single statewide unit: 1) all installations with 10 or fewer workers, and 2) all installations that have a combined total in the State of fewer than 50 workers. Also, when there are fewer than 25 workers in all secondary installations in a State, the secondary installations may be combined and reported with the major installation. Last, if a Federal agency has fewer than five employees in a State, the agency headquarters office (regional office, district office) serving each State may consolidate the employment and wages data for that State with the data reported to the State in which the headquarters is located. As a result of these reporting rules, the number of reporting units is always larger than the number of employers (or government agencies) but smaller than the number of actual establishments (or installations).

Data reported for the first quarter are tabulated into **size** categories ranging from worksites of very small size to those with 1,000 employees or more. The size category is determined by the establishment's March employment level. It is important to note that each establishment of a multi-establishment firm is tabulated separately into the appropriate size category. The total employment level of the reporting multi-establishment firm is not used in the size tabulation.

Covered employers in most States report total **wages** paid during the calendar quarter, regardless of when the services were performed. A few State laws, however, specify that wages be reported for, or based on the

period during which services are performed rather than the period during which compensation is paid. Under most State laws or regulations, wages include bonuses, stock options, the cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Covered employer contributions for old-age, survivors, and disability insurance (OASDI), health insurance, unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported even though they are deducted from the worker's gross pay.

**Wages of covered Federal workers** represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, severance pay, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry.

**Average annual wage** per employee for any given industry are computed by dividing total annual wages by annual average employment. A further division by 52 yields average weekly wages per employee. Annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer at a time.

Average weekly or annual wage is affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying and low-paying occupations. When average pay levels between States and industries are compared, these factors should be taken into consideration. For example, industries characterized by high proportions of part-time workers will show average wage levels appreciably less than the weekly pay levels of regular full-time employees in these industries. The opposite effect characterizes industries with low proportions of part-time workers, or industries that typically schedule heavy weekend and overtime work. Average wage data also may be influenced by work stoppages, labor turnover rates, retroactive payments, seasonal factors, bonus payments, and so on.

## Notes on the data

Beginning with the release of data for 2001, publications presenting data from the Covered Employment and Wages program have switched to the 2002 version of the North

American Industry Classification System (NAICS) as the basis for the assignment and tabulation of economic data by industry. NAICS is the product of a cooperative effort on the part of the statistical agencies of the United States, Canada, and Mexico. Due to difference in NAICS and Standard Industrial Classification (SIC) structures, industry data for 2001 is not comparable to the SIC-based data for earlier years.

Effective January 2001, the program began assigning Indian Tribal Councils and related establishments to local government ownership. This BLS action was in response to a change in Federal law dealing with the way Indian Tribes are treated under the Federal Unemployment Tax Act. This law requires federally recognized Indian Tribes to be treated similarly to State and local governments. In the past, the Covered Employment and Wage (CEW) program coded Indian Tribal Councils and related establishments in the private sector. As a result of the new law, CEW data reflects significant shifts in employment and wages between the private sector and local government from 2000 to 2001. Data also reflect industry changes. Those accounts previously assigned to civic and social organizations were assigned to tribal governments. There were no required industry changes for related establishments owned by these Tribal Councils. These tribal business establishments continued to be coded according to the economic activity of that entity.

To insure the highest possible quality of data, State employment security agencies verify with employers and update, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle. Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter. For these reasons, some data, especially at more detailed geographic levels, may not be strictly comparable with earlier years.

County definitions are assigned according to Federal Information Processing Standards Publications as issued by the National Institute of Standards and Technology. Areas shown as counties include those designated as independent cities in some jurisdictions and, in Alaska, those areas designated by the Census Bureau where counties have not been created. County data also are presented for the New England States for comparative purposes, even though townships are the more common designation used in New England (and New Jersey).

The Office of Management and Budget (OMB) defines metropolitan areas for use in Federal statistical activities and updates these definitions as needed. Data in this table use metropolitan area criteria established by OMB in definitions issued June 30, 1999 (OMB Bulletin No. 99-04). These definitions reflect information obtained from the 1990 Decennial Census and the 1998 U.S. Census Bureau population estimate. A complete list of metropolitan area definitions is available from the National Technical Information Service (NTIS), Document Sales, 5205 Port Royal Road, Springfield, Va. 22161, telephone 1-800-553-6847.

OMB defines metropolitan areas in terms of entire counties, except in the six New England States where they are defined in terms of cities and towns. New England data in this table, however, are based on a county concept defined by OMB as New England County Metropolitan Areas (NECMA) because county-level data are the most detailed available from the Quarterly Census of Employment and Wages. The NECMA is a county-based alternative to the city- and town-based metropolitan areas in New England. The NECMA for a Metropolitan Statistical Area (MSA) include: (1) the county containing the first-named city in that MSA title (this county may include the first-named cities of other MSA, and (2) each additional county having at least half its population in the MSA in which first-named cities are in the county identified in step 1. The NECMA is officially defined areas that are meant to be used by statistical programs that cannot use the regular metropolitan area definitions in New England.

FOR ADDITIONAL INFORMATION on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691-6567.

## Job Openings and Labor Turnover Survey

### Description of the series

Data for the **Job Openings and Labor Turnover Survey** (JOLTS) are collected and compiled from a sample of 16,000 business establishments. Each month, data are collected for total employment, job openings, hires, quits, layoffs and discharges, and other separations. The JOLTS program covers all private nonfarm establishments such as factories, offices, and stores, as well as Federal, State, and local government entities in the 50 States and the District of Columbia. The JOLTS sample design is a random sample

drawn from a universe of more than eight million establishments compiled as part of the operations of the Quarterly Census of Employment and Wages, or QCEW, program. This program includes all employers subject to State unemployment insurance (UI) laws and Federal agencies subject to Unemployment Compensation for Federal Employees (UCFE).

The sampling frame is stratified by ownership, region, industry sector, and size class. Large firms fall into the sample with virtual certainty. JOLTS total employment estimates are controlled to the employment estimates of the Current Employment Statistics (CES) survey. A ratio of CES to JOLTS employment is used to adjust the levels for all other JOLTS data elements. Rates then are computed from the adjusted levels.

The monthly JOLTS data series begin with December 2000. Not seasonally adjusted data on job openings, hires, total separations, quits, layoffs and discharges, and other separations levels and rates are available for the total nonfarm sector, 16 private industry divisions and 2 government divisions based on the North American Industry Classification System (NAICS), and four geographic regions. Seasonally adjusted data on job openings, hires, total separations, and quits levels and rates are available for the total nonfarm sector, selected industry sectors, and four geographic regions.

### Definitions

Establishments submit **job openings** information for the last business day of the reference month. A job opening requires that (1) a specific position exists and there is work available for that position; and (2) work could start within 30 days regardless of whether a suitable candidate is found; and (3) the employer is actively recruiting from outside the establishment to fill the position. Included are full-time, part-time, permanent, short-term, and seasonal openings. Active recruiting means that the establishment is taking steps to fill a position by advertising in newspapers or on the Internet, posting help-wanted signs, accepting applications, or using other similar methods.

Jobs to be filled only by internal transfers, promotions, demotions, or recall from layoffs are excluded. Also excluded are jobs with start dates more than 30 days in the future, jobs for which employees have been hired but have not yet reported for work, and jobs to be filled by employees of temporary help agencies, employee leasing companies, outside contractors, or consultants. The job openings rate is computed by dividing the number of job openings by the sum of employment and

job openings, and multiplying that quotient by 100.

**Hires** are the total number of additions to the payroll occurring at any time during the reference month, including both new and rehired employees and full-time and part-time, permanent, short-term and seasonal employees, employees recalled to the location after a layoff lasting more than 7 days, on-call or intermittent employees who returned to work after having been formally separated, and transfers from other locations. The hires count does not include transfers or promotions within the reporting site, employees returning from strike, employees of temporary help agencies or employee leasing companies, outside contractors, or consultants. The hires rate is computed by dividing the number of hires by employment, and multiplying that quotient by 100.

**Separations** are the total number of terminations of employment occurring at any time during the reference month, and are reported by type of separation—quits, layoffs and discharges, and other separations. Quits are voluntary separations by employees (except for retirements, which are reported as other separations). Layoffs and discharges are involuntary separations initiated by the employer and include layoffs with no intent to rehire, formal layoffs lasting or expected to last more than 7 days, discharges resulting from mergers, downsizing, or closings, firings or other discharges for cause, terminations of permanent or short-term employees, and terminations of seasonal employees. Other separations include retirements, transfers to other locations, deaths, and separations due to disability. Separations do not include transfers within the same location or employees on strike.

The separations rate is computed by dividing the number of separations by employment, and multiplying that quotient by 100. The quits, layoffs and discharges, and other separations rates are computed similarly, dividing the number by employment and multiplying by 100.

## Notes on the data

The JOLTS data series on job openings, hires, and separations are relatively new. The full sample is divided into panels, with one panel enrolled each month. A full complement of panels for the original data series based on the 1987 Standard Industrial Classification (SIC) system was not completely enrolled in the survey until January 2002. The supplemental panels of establishments needed to

create NAICS estimates were not completely enrolled until May 2003. The data collected up until those points are from less than a full sample. Therefore, estimates from earlier months should be used with caution, as fewer sampled units were reporting data at that time.

In March 2002, BLS procedures for collecting hires and separations data were revised to address possible underreporting. As a result, JOLTS hires and separations estimates for months prior to March 2002 may not be comparable with estimates for March 2002 and later.

The Federal Government reorganization that involved transferring approximately 180,000 employees to the new Department of Homeland Security is not reflected in the JOLTS hires and separations estimates for the Federal Government. The Office of Personnel Management's record shows these transfers were completed in March 2003. The inclusion of transfers in the JOLTS definitions of hires and separations is intended to cover ongoing movements of workers between establishments. The Department of Homeland Security reorganization was a massive one-time event, and the inclusion of these intergovernmental transfers would distort the Federal Government time series.

Data users should note that seasonal adjustment of the JOLTS series is conducted with fewer data observations than is customary. The historical data, therefore, may be subject to larger than normal revisions. Because the seasonal patterns in economic data series typically emerge over time, the standard use of moving averages as seasonal filters to capture these effects requires longer series than are currently available. As a result, the stable seasonal filter option is used in the seasonal adjustment of the JOLTS data. When calculating seasonal factors, this filter takes an average for each calendar month after detrending the series. The stable seasonal filter assumes that the seasonal factors are fixed; a necessary assumption until sufficient data are available. When the stable seasonal filter is no longer needed, other program features also may be introduced, such as outlier adjustment and extended diagnostic testing. Additionally, it is expected that more series, such as layoffs and discharges and additional industries, may be seasonally adjusted when more data are available.

JOLTS hires and separations estimates cannot be used to exactly explain net changes in payroll employment. Some reasons why it is problematic to compare changes in payroll employment with JOLTS hires and separations, especially on a monthly basis, are: (1) the reference period for payroll employment

is the pay period including the 12th of the month, while the reference period for hires and separations is the calendar month; and (2) payroll employment can vary from month to month simply because part-time and on-call workers may not always work during the pay period that includes the 12th of the month. Additionally, research has found that some reporters systematically underreport separations relative to hires due to a number of factors, including the nature of their payroll systems and practices. The shortfall appears to be about 2 percent or less over a 12-month period.

FOR ADDITIONAL INFORMATION on the Job Openings and Labor Turnover Survey, contact the Division of Administrative Statistics and Labor Turnover at (202) 961-5870.

## Compensation and Wage Data

(Tables 1-3; 30-37)

The National Compensation Survey (NCS) produces a variety of compensation data. These include: The Employment Cost Index (ECI) and NCS benefit measures of the incidence and provisions of selected employee benefit plans. Selected samples of these measures appear in the following tables. NCS also compiles data on occupational wages and the Employer Costs for Employee Compensation (ECEC).

## Employment Cost Index

### Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It is a Laspeyres Index that uses fixed employment weights to measure change in labor costs free from the influence of employment shifts among occupations and industries.

The ECI provides data for the civilian economy, which includes the total private nonfarm economy excluding private households, and the public sector excluding the Federal government. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Sample establishments are classified by industry categories based on the 2002 North American Classification System (NAICS). Within a sample establishment, specific job

categories are selected and classified into about 800 occupations according to the 2000 Standard Occupational Classification (SOC) System. Individual occupations are combined to represent one of ten intermediate aggregations, such as professional and related occupations, or one of five higher level aggregations, such as management, professional, and related occupations.

Fixed employment weights are used each quarter to calculate the most aggregate series—civilian, private, and State and local government. These fixed weights are also used to derive all of the industry and occupational series indexes. Beginning with the March 2006 estimates, 2002 fixed employment weights from the Bureau's Occupational Employment Statistics survey were introduced. From March 1995 to December 2005, 1990 employment counts were used. These fixed weights ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the series based on bargaining status, census region and division, and metropolitan area status, fixed employment data are not available. The employment weights are reallocated within these series each quarter based on the current ECI sample. The indexes for these series, consequently, are not strictly comparable with those for aggregate, occupational, and industry series.

## Definitions

**Total compensation** costs include wages, salaries, and the employer's costs for employee benefits.

**Wages and salaries** consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

**Benefits** include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

## Notes on the data

The ECI data in these tables reflect the conversion to the 2002 North American Industry Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data

shown prior to 2006 are for informational purposes only. ECI series based on NAICS and SOC became the official BLS estimates starting in March 2006.

The ECI for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (December 2005=100) are available on the Internet: [www.bls.gov/ect/](http://www.bls.gov/ect/)

ADDITIONAL INFORMATION on the Employment Cost Index is available at <http://www.bls.gov/ncs/ect/home.htm> or by telephone at (202) 691-6199.

## National Compensation Survey Benefit Measures

### Description of the series

NCS benefit measures of employee benefits are published in two separate reports. The annual summary provides data on the incidence of (access to and participation in) selected benefits and provisions of paid holidays and vacations, life insurance plans, and other selected benefit programs. Data on percentages of establishments offering major employee benefits, and on the employer and employee shares of contributions to medical care premiums also are presented. Selected benefit data appear in the following tables. A second publication, published later, contains more detailed information about health and retirement plans.

### Definitions

**Employer-provided benefits** are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Employees are considered as having **access** to a benefit plan if it is available for their use. For example, if an employee is permitted to participate in a medical care plan offered by the employer, but the employee declines to

do so, he or she is placed in the category with those having access to medical care.

Employees in contributory plans are considered as **participating** in an insurance or retirement plan if they have paid required contributions and fulfilled any applicable service requirement. Employees in noncontributory plans are counted as participating regardless of whether they have fulfilled the service requirements.

**Defined benefit pension plans** use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

**Defined contribution plans** generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

**Tax-deferred savings plans** are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

**Flexible benefit plans** allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

### Notes on the data

ADDITIONAL INFORMATION ON THE NCS benefit measures is available at <http://www.bls.gov/ncs/ebs/home.htm> or by telephone at (202) 691-6199.

## Work stoppages

### Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 37.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

### Definitions

**Number of stoppages:** The number of

strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

**Workers involved:** The number of workers directly involved in the stoppage.

**Number of days idle:** The aggregate number of workdays lost by workers involved in the stoppages.

**Days of idleness as a percent of estimated working time:** Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

## Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

ADDITIONAL INFORMATION on work stoppages data is available at <http://www.bls.gov/cba/home.htm> or by telephone at (202) 691-6199.

## Price Data

(Tables 2; 38-46)

Price data are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—December 2003 = 100 for many Producer Price Indexes (unless otherwise noted), 1982-84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

## Consumer Price Indexes

### Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993-95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared

with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 39. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

### Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION, contact the Division of Prices and Price Indexes: (202) 691-7000.

## Producer Price Indexes

### Description of the series

**Producer Price Indexes** (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity

and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the 2002 North American Industry Classification System and product codes developed by the U.S. Census Bureau.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION, contact the Division of Industrial Prices and Price Indexes: (202) 691-7705.

## International Price Indexes

### Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods and services traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manu-

factures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification, the three-digit level for the Standard International Trade Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

### Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. The trade weights currently used to compute both indexes relate to 2000.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

FOR ADDITIONAL INFORMATION, con-

tact the Division of International Prices: (202) 691-7155.

## Productivity Data

(Tables 2; 47-50)

### Business and major sectors

#### Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

#### Definitions

**Output per hour of all persons** (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, nonenergy materials, and purchased business services.

**Compensation per hour** is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

**Unit labor costs** are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensa-

tion of all persons from current-dollar value of output and dividing by output.

**Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits.

**Unit profits** include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

**Hours of all persons** are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

**Labor inputs** are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

**Capital services** are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

**Combined units of labor and capital inputs** are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

### Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 47-50 describe the relationship between output in real terms and the labor and capital inputs involved in its

production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691-5606.

## Industry productivity measures

### Description of the series

The BLS industry productivity indexes measure the relationship between output and inputs for selected industries and industry groups, and thus reflect trends in industry efficiency over time. Industry measures include labor productivity, multifactor productivity, compensation, and unit labor costs.

The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

### Definitions

**Output per hour** is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series is based on the hours of all workers or, in the case of some transportation industries, on the number of employees. For most industries, the series consists of the hours of all employees. For some trade and services industries, the series also includes the hours of partners, proprietors, and unpaid family workers.

**Unit labor costs** represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor**

**compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

**Multifactor productivity** is derived by dividing an index of industry output by an index of combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

### Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Census Bureau, with additional data supplied by other government agencies, trade associations, and other sources.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691-5618, or visit the Web site at: [www.bls.gov/lpc/home.htm](http://www.bls.gov/lpc/home.htm)

## International Comparisons

(Tables 51-53)

### Labor force and unemployment

#### Description of the series

Tables 51 and 52 present comparative measures of the labor force, employment, and unemployment approximating U.S. concepts for the United States, Canada, Australia, Japan, and six European countries. The Bureau adjusts the figures for these selected countries, for all known major definitional differences, to the extent that data to prepare adjustments are available. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For additional information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3-20 (available on the BLS Web site at: [www.bls.gov/opub/mlr/2000/06/art1full.pdf](http://www.bls.gov/opub/mlr/2000/06/art1full.pdf)).

## Definitions

For the principal U.S. definitions of the labor force, employment, and unemployment, see the Notes section on Employment and Unemployment Data: Household survey data.

### Notes on the data

The foreign country data are adjusted as closely as possible to U.S. concepts, with the exception of lower age limits and the treatment of layoffs. These adjustments include, but are not limited to: including older persons in the labor force by imposing no upper age limit, adding unemployed students to the unemployed, excluding the military and family workers working fewer than 15 hours from the employed, and excluding persons engaged in passive job search from the unemployed.

Data for the United States relate to the population 16 years of age and older. The U.S. concept of the working age population has no upper age limit. The adjusted to U.S. concepts statistics have been adapted, insofar as possible, to the age at which compulsory schooling ends in each country, and the Swedish statistics have been adjusted to include persons older than the Swedish upper age limit of 64 years. The adjusted statistics presented here relate to the population 16 years of age and older in France, Sweden, and the United Kingdom; 15 years of age and older in Australia, Japan, Germany, Italy, and the Netherlands. An exception to this rule is that the Canadian statistics are adjusted to cover the population 16 years of age and older, whereas the age at which compulsory schooling ends remains at 15 years. In the labor force participation rates and employment-population ratios, the denominator is the civilian noninstitutionalized working age population, except for Japan and Germany, which include the institutionalized working age population.

In the United States, the unemployed include persons who are not employed and who were actively seeking work during the reference period, as well as persons on layoff. In the United States, as in Australia and Japan, passive job seekers are not in the labor force; job search must be active, such as placing or answering advertisements, contacting employers directly, or registering with an employment agency (simply reading ads is not enough to qualify as active search). Canada and the European countries classify passive jobseekers as unemployed. An adjustment is made to exclude them in Canada, but not in the European countries where the phenomenon is less prevalent. In some countries, persons on layoff are

classified as employed due to their strong job attachment. No adjustment is made for the countries that classify those on layoff as employed. Persons without work and waiting to start a new job are counted as unemployed under U.S. concepts if they were actively seeking work during the reference period; if they were not actively seeking work, they are not counted in the labor force. Persons without work and waiting to start a new job are counted among the unemployed for all other countries, whether or not they were actively seeking work.

For more qualifications and historical annual data, see *Comparative Civilian Labor Force Statistics, Ten Countries*, on the Internet at <http://www.bls.gov/fls/flscomparelf.htm>

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691-5654 or [flshelp@bls.gov](mailto:flshelp@bls.gov)

## Manufacturing Productivity and Labor Costs

### Description of the series

Table 53 presents comparative indexes of manufacturing output per hour (labor productivity), output, total hours, compensation per hour, and unit labor costs for the United States, Australia, Canada, Japan, The Republic of Korea, Taiwan, and 10 European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. BLS does *not* recommend using these series for level comparisons because of technical problems.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to employees (wage and salary earners) in Belgium and Taiwan. For all other economies, the measures refer to all employed persons, including employees, self-employed persons, and unpaid family workers.

### Definitions

**Output.** For most economies, the output measures are real value added in manufacturing from national accounts. However, output for Japan prior to 1970 and for the Netherlands prior to 1960 are indexes of industrial production. The manufacturing value-added measures for the United Kingdom are essentially identical to their indexes of industrial production.

For the United States, the output measure for the manufacturing sector is a

chain-weighted index of real gross product originating (deflated value added) produced by the Bureau of Economic Analysis of the U.S. Department of Commerce. Most of the other economies now also use chain-weighted as opposed to fixed-year weights that are periodically updated.

The data for recent years are based on the United Nations System of National Accounts 1993 (SNA 93). Manufacturing is generally defined according to the International Standard Industrial Classification (ISIC). For the United States and Canada, it is defined according to the North American Industry Classification System (NAICS 97).

To preserve the comparability of the U.S. measures with those of other economies, BLS uses gross product originating in manufacturing for the United States. The gross product originating series differs from the manufacturing output series that BLS publishes in its quarterly news releases on U.S. productivity and costs (and that underlies the measures that appear in tables 48 and 50 in this section). The quarterly measures are on a “sectoral output” basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

**Total hours** refer to hours worked in all economies. The measures are developed from statistics of manufacturing employment and average hours. For most other economies, recent years’ aggregate hours series are obtained from national statistical offices, usually from national accounts. However, for some economies and for earlier years, BLS calculates the aggregate hours series using employment figures published with the national accounts, or other comprehensive employment series, and data on average hours worked.

**Hourly compensation** is total compensation divided by total hours. Total compensation includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. For Australia, Canada, France, and Sweden, compensation is increased to account for important taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for subsidies.

**Unit labor costs** are defined as the costs of labor input required to produce one unit of output. They are computed as compensation in nominal terms divided by real output. Unit labor costs can also be computed by dividing hourly compensation by output per hour, that is, by labor productivity.

### Notes on the data

In general, the measures relate to to-

tal manufacturing as defined by the International Standard Industrial Classification. However, the measures for France include parts of mining as well.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on these series, go to <http://www.bls.gov/news.release/prod4.toc.htm> or contact the Division of Foreign Labor Statistics: (202) 691-5654.

## Occupational Injury and Illness Data

(Tables 54–55)

### Survey of Occupational Injuries and Illnesses

#### Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers’ job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

#### Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

**Occupational injury** is any injury such as a cut, fracture, sprain, or amputation that

results from a work-related event or a single, instantaneous exposure in the work environment.

**Occupational illness** is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

**Lost workday injuries and illnesses** are cases that involve days away from work, or days of restricted work activity, or both.

**Lost workdays** include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

**Incidence rates** are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

## Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not

adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics*.

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691-6180, or access the Internet at: <http://www.bls.gov/iif/>

## Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the

fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

## Definition

**A fatal work injury** is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

## Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691-6175, or the Internet at: [www.bls.gov/iif/](http://www.bls.gov/iif/)

## 1. Labor market indicators

Selected indicators	2005	2006	2005		2006				2007		
			III	IV	I	II	III	IV	I	II	III
<b>Employment data</b>											
Employment status of the civilian noninstitutional population (household survey): <sup>1</sup>											
Labor force participation rate.....	66.0	66.2	66.2	66.1	66.0	66.1	66.2	66.3	66.2	66.0	66.0
Employment-population ratio.....	62.7	63.1	62.9	62.8	62.9	63.1	63.1	63.3	63.3	63.1	62.9
Unemployment rate.....	5.1	4.6	5.0	5.0	4.7	4.7	4.7	4.5	4.5	4.5	4.7
Men.....	5.1	4.6	5.0	4.9	4.7	4.7	4.6	4.5	4.6	4.6	4.7
16 to 24 years.....	12.4	11.2	12.0	11.7	11.2	11.2	11.4	11.1	10.7	11.3	11.7
25 years and older.....	3.8	3.5	3.8	3.7	3.6	3.6	3.5	3.3	3.6	3.5	3.6
Women.....	5.1	4.6	5.0	5.0	4.7	4.6	4.7	4.4	4.3	4.4	4.6
16 to 24 years.....	10.1	9.7	9.8	9.9	9.6	9.2	10.2	9.8	9.1	9.0	9.8
25 years and older.....	4.2	3.7	4.2	4.2	3.9	3.8	3.8	3.5	3.5	3.5	3.7
Employment, nonfarm (payroll data), in thousands: <sup>1</sup>											
Total nonfarm.....	133,703	136,171	134,244	134,904	135,659	136,030	136,636	137,161	137,594	137,973	138,255
Total private.....	111,899	114,181	112,400	113,031	113,753	114,062	114,560	115,053	115,397	115,739	115,959
Goods-producing.....	22,190	22,569	22,239	22,410	22,573	22,613	22,625	22,520	22,497	22,436	22,318
Manufacturing.....	14,226	14,197	14,182	14,209	14,212	14,238	14,206	14,131	14,090	14,050	13,984
Service-providing.....	111,513	113,602	112,005	112,494	113,086	113,417	114,011	114,647	115,097	115,537	115,937
Average hours:											
Total private.....	33.8	33.9	33.7	33.8	33.8	33.9	33.8	33.9	33.9	33.9	33.8
Manufacturing.....	40.7	41.1	40.6	40.9	41.0	41.2	41.3	41.1	41.2	41.4	41.3
Overtime.....	4.6	4.4	4.5	4.6	4.5	4.5	4.4	4.2	4.1	4.1	4.1
<b>Employment Cost Index<sup>1, 2, 3</sup></b>											
Total compensation:											
Civilian nonfarm <sup>4</sup> .....	3.1	3.3	.8	.6	.7	.9	1.1	.6	.9	.8	1.0
Private nonfarm.....	2.9	3.2	.6	.5	.8	.9	.8	.7	.8	.9	.8
Goods-producing <sup>5</sup> .....	3.2	2.5	.8	.2	.3	1.0	.7	.5	.4	1.0	.5
Service-providing <sup>5</sup> .....	2.8	3.4	.6	.5	1.0	.8	.9	.7	.9	.9	.9
State and local government.....	4.1	4.1	2.0	.9	.5	.4	2.3	.9	1.0	.6	1.8
Workers by bargaining status (private nonfarm):											
Union.....	2.8	3.0	.8	.4	.5	1.3	.6	.6	-.3	1.2	.5
Nonunion.....	2.9	3.2	.6	.5	.9	.8	.9	.6	1.0	.9	.8

<sup>1</sup> Quarterly data seasonally adjusted.

<sup>2</sup> Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

<sup>3</sup> The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

<sup>4</sup> Excludes Federal and private household workers.

<sup>5</sup> Goods-producing industries include mining, construction, and manufacturing. Service-providing industries include all other private sector industries.

NOTE: Beginning in January 2003, household survey data reflect revised population controls. Nonfarm data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system. NAICS-based data by industry are not comparable with SIC based data.

## 2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	2005	2006	2005		2006				2007		
			III	IV	I	II	III	IV	I	II	III
<b>Compensation data<sup>1,2,3</sup></b>											
Employment Cost Index—compensation:											
Civilian nonfarm.....	3.1	3.3	0.8	0.6	0.7	0.9	1.1	0.6	0.9	0.8	1.0
Private nonfarm.....	2.9	3.2	.6	.5	.8	.9	.8	.7	.8	.9	.8
Employment Cost Index—wages and salaries:											
Civilian nonfarm.....	2.6	3.2	.7	.6	.7	.8	1.1	.6	1.1	.7	1.0
Private nonfarm.....	2.5	3.2	.6	.5	.7	1.0	.8	.7	1.1	.8	.9
<b>Price data<sup>1</sup></b>											
Consumer Price Index (All Urban Consumers): All Items.....	3.4	3.2	2.2	-1.0	1.5	1.6	.0	-5	1.8	1.5	.7
Producer Price Index:											
Finished goods.....	4.8	3.0	3.0	-1	.3	1.7	-9	.1	2.2	1.8	.2
Finished consumer goods.....	5.7	3.4	4.0	-4	.2	2.1	-1.3	-2	3.9	-1	1.3
Capital equipment.....	2.3	1.5	.2	.6	.8	.2	.0	1.3	.3	.2	-3
Intermediate materials, supplies, and components.....	8.0	6.5	4.2	1.0	1.0	3.0	-4	-8	1.5	3.4	.1
Crude materials.....	14.6	1.8	19.9	.2	-11.1	1.6	1.4	4.0	5.7	3.2	-1.8
<b>Productivity data<sup>4</sup></b>											
Output per hour of all persons:											
Business sector.....	2.1	1.7	2.7	2.4	2.5	.8	-1.5	1.2	.2	3.6	5.3
Nonfarm business sector.....	2.1	1.6	2.7	2.5	2.5	.8	-1.6	1.8	.7	2.2	4.9
Nonfinancial corporations <sup>5</sup> .....	2.3	2.5	2.1	2.2	3.1	-1.8	3.1	1.3	.7	3.8	-

<sup>1</sup> Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

<sup>2</sup> Excludes Federal and private household workers.

<sup>3</sup> The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes

only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

<sup>4</sup> Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

<sup>5</sup> Output per hour of all employees.

## 3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—					
	2006		2007			2006		2007			
	III	IV	I	II	III	III	IV	I	II	III	
Average hourly compensation: <sup>1</sup>											
All persons, business sector.....	1.6	11.4	5.5	5.8	5.1	2.8	4.8	4.4	6.0	6.9	
All persons, nonfarm business sector.....	1.3	12.2	5.9	4.4	4.7	2.7	5.0	4.7	5.9	6.7	
Employment Cost Index—compensation: <sup>2</sup>											
Civilian nonfarm <sup>3</sup> .....	1.1	.6	.9	.8	1.0	3.3	3.3	3.5	3.3	3.3	
Private nonfarm.....	.8	.7	.8	.9	.8	3.0	3.2	3.2	3.1	3.1	
Union.....	.6	.6	-.3	1.2	.5	2.8	3.0	2.2	2.1	2.0	
Nonunion.....	.9	.6	1.0	.9	.8	3.1	3.2	3.3	3.3	3.2	
State and local government.....	2.3	.9	1.0	.6	1.8	4.1	4.1	4.6	4.8	4.3	
Employment Cost Index—wages and salaries: <sup>2</sup>											
Civilian nonfarm <sup>3</sup> .....	1.1	.6	1.1	.7	1.0	3.2	3.2	3.6	3.4	3.3	
Private nonfarm.....	.8	.7	1.1	.8	.9	3.0	3.2	3.6	3.3	3.4	
Union.....	.5	.6	.5	.9	.7	2.2	2.3	2.5	2.5	2.7	
Nonunion.....	.9	.6	1.2	.8	.9	3.2	3.3	3.7	3.4	3.4	
State and local government.....	2.0	.7	.6	.5	1.7	3.7	3.5	3.8	3.8	3.5	

<sup>1</sup> Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

<sup>2</sup> The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard

Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

<sup>3</sup> Excludes Federal and private household workers.

**4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted**

[Numbers in thousands]

Employment status	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>TOTAL</b>															
Civilian noninstitutional population <sup>1</sup> .....	226,082	228,815	229,420	229,675	229,905	230,108	230,650	230,834	231,034	231,253	231,480	231,713	231,958	232,211	232,461
Civilian labor force.....	149,320	151,428	151,818	152,052	152,449	152,775	152,974	152,784	152,979	152,587	152,762	153,072	153,231	152,891	153,464
Participation rate.....	66.0	66.2	66.2	66.2	66.3	66.4	66.3	66.2	66.2	66.0	66.0	66.1	66.1	65.8	66.0
Employed.....	141,730	144,427	144,906	145,337	145,623	145,926	145,957	145,919	146,254	145,786	145,943	146,140	146,110	145,794	146,257
Employment-population ratio <sup>2</sup> .....	62.7	63.1	63.2	63.3	63.3	63.4	63.3	63.2	63.3	63.0	63.0	63.1	63.0	62.8	62.9
Unemployed.....	7,591	7,001	6,912	6,715	6,826	6,849	7,017	6,865	6,724	6,801	6,819	6,933	7,121	7,097	7,207
Unemployment rate.....	5.1	4.6	4.6	4.4	4.5	4.5	4.6	4.5	4.4	4.5	4.5	4.5	4.6	4.6	4.7
Not in the labor force.....	76,762	77,387	77,602	77,623	77,456	77,333	77,676	78,050	78,055	78,666	78,718	78,641	78,727	79,319	78,997
<b>Men, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup> .....	100,835	102,145	102,428	102,549	102,656	102,751	102,956	103,046	103,143	103,248	103,361	103,477	103,598	103,723	103,847
Civilian labor force.....	76,443	77,562	77,823	77,936	78,123	78,334	78,384	78,375	78,452	78,459	78,524	78,502	78,651	78,512	78,636
Participation rate.....	75.8	75.9	76.0	76.0	76.1	76.2	76.1	76.1	76.1	76.0	76.0	75.9	75.9	75.7	75.7
Employed.....	73,050	74,431	74,868	74,924	75,088	75,235	75,158	75,138	75,323	75,313	75,380	75,312	75,362	75,284	75,296
Employment-population ratio <sup>2</sup> .....	72.4	72.9	73.1	73.1	73.1	73.2	73.0	72.9	73.0	72.9	72.9	72.8	72.7	72.6	72.5
Unemployed.....	3,392	3,131	2,954	3,012	3,036	3,100	3,226	3,237	3,129	3,146	3,144	3,190	3,289	3,228	3,340
Unemployment rate.....	4.4	4.0	3.8	3.9	3.9	4.0	4.1	4.1	4.0	4.0	4.0	4.1	4.2	4.1	4.2
Not in the labor force.....	24,392	24,584	24,606	24,613	24,533	24,417	24,572	24,671	24,691	24,789	24,837	24,975	24,948	25,211	25,211
<b>Women, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup> .....	108,850	109,992	110,241	110,349	110,445	110,528	110,803	110,880	110,964	111,057	111,157	111,259	111,367	111,479	111,590
Civilian labor force.....	65,714	66,585	66,754	66,851	67,024	67,132	67,361	67,287	67,487	67,083	67,281	67,474	67,579	67,628	67,814
Participation rate.....	60.4	60.5	60.6	60.6	60.7	60.7	60.8	60.7	60.8	60.4	60.5	60.6	60.7	60.7	60.8
Employed.....	62,702	63,834	63,978	64,252	64,333	64,491	64,654	64,703	64,912	64,502	64,701	64,855	64,808	64,845	65,068
Employment-population ratio <sup>2</sup> .....	57.6	58.0	58.0	58.2	58.2	58.3	58.4	58.4	58.5	58.1	58.2	58.3	58.2	58.2	58.3
Unemployed.....	3,013	2,751	2,776	2,599	2,691	2,641	2,707	2,564	2,576	2,581	2,580	2,619	2,771	2,783	2,746
Unemployment rate.....	4.6	4.1	4.2	3.9	4.0	3.9	4.0	3.8	3.8	3.8	3.8	3.9	4.1	4.1	4.0
Not in the labor force.....	43,136	43,407	43,487	43,498	43,420	43,396	43,442	43,612	43,477	43,974	43,875	43,785	43,788	43,851	43,776
<b>Both sexes, 16 to 19 years</b>															
Civilian noninstitutional population <sup>1</sup> .....	16,398	16,678	16,751	16,776	16,804	16,829	16,891	16,908	16,927	16,948	16,962	16,977	16,993	17,009	17,024
Civilian labor force.....	7,164	7,281	7,242	7,264	7,301	7,309	7,228	7,142	7,039	7,045	6,957	7,096	7,002	6,751	7,014
Participation rate.....	43.7	43.7	43.2	43.3	43.5	43.4	42.8	42.2	41.6	41.6	41.0	41.8	41.2	39.7	41.2
Employed.....	5,978	6,162	6,060	6,161	6,202	6,200	6,145	6,078	6,019	5,970	5,862	5,972	5,940	5,665	5,894
Employment-population ratio <sup>2</sup> .....	36.5	36.9	36.2	36.7	36.9	36.8	36.4	35.9	35.6	35.2	34.6	35.2	35.0	33.3	34.6
Unemployed.....	1,186	1,119	1,182	1,104	1,099	1,108	1,083	1,064	1,020	1,075	1,095	1,124	1,062	1,086	1,120
Unemployment rate.....	16.6	15.4	16.3	15.2	15.1	15.2	15.0	14.9	14.5	15.3	15.7	15.8	15.2	16.1	16.0
Not in the labor force.....	9,234	9,397	9,509	9,512	9,502	9,520	9,662	9,766	9,888	9,903	10,005	9,881	9,991	10,257	10,010
<b>White<sup>3</sup></b>															
Civilian noninstitutional population <sup>1</sup> .....	184,446	186,264	186,669	186,840	186,988	187,115	187,471	187,582	187,704	187,843	187,993	188,148	188,312	188,479	188,644
Civilian labor force.....	122,299	123,834	124,062	124,364	124,536	124,783	124,908	124,676	124,888	124,450	124,618	124,922	124,966	124,593	125,245
Participation rate.....	66.3	66.5	66.5	66.6	66.6	66.7	66.6	66.5	66.5	66.3	66.3	66.4	66.4	66.1	66.4
Employed.....	116,949	118,833	119,164	119,511	119,636	119,813	119,767	119,669	120,115	119,547	119,724	119,872	119,747	119,349	119,948
Employment-population ratio <sup>2</sup> .....	63.4	63.8	63.8	64.0	64.0	64.0	63.9	63.8	64.0	63.6	63.7	63.7	63.6	63.3	63.6
Unemployed.....	5,350	5,002	4,898	4,853	4,900	4,970	5,141	5,007	4,773	4,904	4,893	5,050	5,219	5,243	5,297
Unemployment rate.....	4.4	4.0	3.9	3.9	3.9	4.0	4.1	4.0	3.8	3.9	3.9	4.0	4.2	4.2	4.2
Not in the labor force.....	62,148	62,429	62,607	62,476	62,452	62,333	62,562	62,905	62,817	63,393	63,375	63,226	63,346	63,887	63,399
<b>Black or African American<sup>3</sup></b>															
Civilian noninstitutional population <sup>1</sup> .....	26,517	27,007	27,109	27,153	27,193	27,231	27,276	27,310	27,346	27,385	27,422	27,459	27,498	27,541	27,584
Civilian labor force.....	17,013	17,314	17,225	17,378	17,444	17,512	17,639	17,549	17,436	17,510	17,433	17,493	17,645	17,523	17,493
Participation rate.....	64.2	64.1	63.5	64.0	64.2	64.3	64.7	64.3	63.8	63.9	63.6	63.7	64.2	63.6	63.4
Employed.....	15,313	15,765	15,659	15,902	15,950	16,045	16,226	16,154	15,988	16,065	15,946	16,005	16,229	16,175	16,077
Employment-population ratio <sup>2</sup> .....	57.7	58.4	57.8	58.6	58.7	58.9	59.5	59.2	58.5	58.7	58.2	58.3	59.0	58.7	58.3
Unemployed.....	1,700	1,549	1,565	1,476	1,494	1,466	1,412	1,395	1,448	1,444	1,487	1,488	1,416	1,349	1,416
Unemployment rate.....	10.0	8.9	9.1	8.5	8.6	8.4	8.0	7.9	8.3	8.2	8.5	8.5	8.0	7.7	8.1
Not in the labor force.....	9,504	9,693	9,884	9,774	9,749	9,719	9,637	9,761	9,910	9,875	9,988	9,966	9,854	10,018	10,090

See footnotes at end of table.

**4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted**

[Numbers in thousands]

Employment status	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>Hispanic or Latino ethnicity</b>															
Civilian noninstitutional population <sup>1</sup> .....															
	29,133	30,103	30,324	30,416	30,508	30,596	30,877	30,965	31,055	31,147	31,238	31,329	31,423	31,520	31,617
Civilian labor force.....															
	19,824	20,694	20,738	20,825	20,994	21,176	21,439	21,318	21,390	21,445	21,425	21,404	21,602	21,795	21,901
Participation rate.....															
	68.0	68.7	68.4	68.5	68.8	69.2	69.4	68.8	68.9	68.9	68.6	68.3	68.7	69.1	69.3
Employed.....															
	18,632	19,613	19,611	19,860	19,953	20,131	20,221	20,204	20,288	20,284	20,189	20,191	20,331	20,599	20,654
Employment-population ratio <sup>2</sup> .....															
	64.0	65.2	64.7	65.3	65.4	65.8	65.5	65.2	65.3	65.1	64.6	64.4	64.7	65.4	65.3
Unemployed.....															
	1,191	1,081	1,127	965	1,042	1,045	1,218	1,115	1,101	1,161	1,237	1,212	1,271	1,196	1,247
Unemployment rate.....															
	6.0	5.2	5.4	4.6	5.0	4.9	5.7	5.2	5.1	5.4	5.8	5.7	5.9	5.5	5.7
Not in the labor force.....															
	9,310	9,409	9,586	9,591	9,513	9,419	9,438	9,647	9,665	9,702	9,813	9,926	9,821	9,725	9,716

<sup>1</sup> The population figures are not seasonally adjusted.

<sup>2</sup> Civilian employment as a percent of the civilian noninstitutional population.

<sup>3</sup> Beginning in 2003, persons who selected this race group only; persons who selected more than one race group are not included. Prior to 2003, persons who reported more than one race were included in the group they identified as the main race.

NOTE: Estimates for the above race groups (white and black or African American) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race. Beginning in January 2003, data reflect revised population controls used in the household survey.

**5. Selected employment indicators, monthly data seasonally adjusted**

[In thousands]

Selected categories	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>Characteristic</b>															
Employed, 16 years and older..															
	141,730	144,427	144,906	145,337	145,623	145,926	145,957	145,919	146,254	145,786	145,943	146,140	146,110	145,794	146,257
Men.....															
	75,973	77,502	77,920	77,985	78,148	78,311	78,237	78,172	78,344	78,323	78,281	78,292	78,082	78,207	
Women.....															
	65,757	66,925	66,986	67,352	67,475	67,615	67,720	67,747	67,911	67,442	67,620	67,859	67,819	67,712	68,050
Married men, spouse present.....															
	45,483	45,700	45,645	45,548	45,802	45,864	46,066	46,231	46,527	46,500	46,531	46,527	46,330	46,192	46,238
Married women, spouse present.....															
	34,773	35,272	35,421	35,277	35,363	35,383	35,536	35,728	36,167	36,037	36,194	36,217	35,997	35,826	35,739
<b>Persons at work part time<sup>1</sup></b>															
All industries:															
Part time for economic reasons.....															
	4,350	4,162	4,099	4,305	4,183	4,232	4,246	4,212	4,278	4,374	4,484	4,290	4,313	4,516	4,512
Slack work or business conditions.....															
	2,684	2,658	2,630	2,770	2,711	2,706	2,753	2,729	2,769	2,849	2,963	2,790	2,724	2,933	2,986
Could only find part-time work.....															
	1,341	1,189	1,151	1,203	1,168	1,234	1,185	1,208	1,215	1,248	1,265	1,203	1,217	1,168	1,148
Part time for noneconomic reasons.....															
	19,491	19,591	19,631	19,467	19,780	19,885	19,761	19,907	20,088	19,948	19,626	20,112	20,014	19,835	19,891
Nonagricultural industries:															
Part time for economic reasons.....															
	4,271	4,071	3,981	4,233	4,091	4,159	4,155	4,088	4,196	4,308	4,403	4,194	4,240	4,459	4,407
Slack work or business conditions.....															
	2,636	2,596	2,563	2,717	2,661	2,653	2,686	2,662	2,698	2,811	2,904	2,737	2,683	2,903	2,920
Could only find part-time work.....															
	1,330	1,178	1,142	1,196	1,140	1,221	1,165	1,187	1,196	1,236	1,256	1,204	1,211	1,147	1,142
Part time for noneconomic reasons.....															
	19,134	19,237	19,289	19,170	19,423	19,512	19,410	19,521	19,677	19,570	19,200	19,758	19,660	19,569	19,570

<sup>1</sup> Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

**6. Selected unemployment indicators, monthly data seasonally adjusted**

[Unemployment rates]

Selected categories	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>Characteristic</b>															
Total, 16 years and older.....	5.1	4.6	4.6	4.4	4.5	4.5	4.6	4.5	4.4	4.5	4.5	4.5	4.6	4.6	4.7
Both sexes, 16 to 19 years.....	16.6	15.4	16.3	15.2	15.1	15.2	15.0	14.9	14.5	15.3	15.7	15.8	15.2	16.1	16.0
Men, 20 years and older.....	4.4	4.0	3.8	3.9	3.9	4.0	4.1	4.1	4.0	4.0	4.0	4.1	4.2	4.1	4.2
Women, 20 years and older.....	4.6	4.1	4.2	3.9	4.0	3.9	4.0	3.8	3.8	3.8	3.8	3.9	4.1	4.1	4.0
White, total <sup>1</sup> .....	4.4	4.0	3.9	3.9	3.9	4.0	4.1	4.0	3.8	3.9	3.9	4.0	4.2	4.2	4.2
Both sexes, 16 to 19 years.....	14.2	13.2	13.8	13.4	13.1	13.4	13.2	13.1	13.2	13.3	13.9	14.2	13.7	14.2	14.3
Men, 16 to 19 years.....	16.1	14.6	14.8	14.4	14.2	15.1	14.2	14.3	14.6	14.3	15.0	16.2	15.3	16.4	16.2
Women, 16 to 19 years.....	12.3	11.7	12.7	12.4	11.9	11.6	12.2	11.7	11.8	12.3	12.7	12.0	12.1	12.0	12.2
Men, 20 years and older.....	3.8	3.5	3.3	3.4	3.4	3.6	3.7	3.7	3.4	3.5	3.5	3.6	3.8	3.8	3.9
Women, 20 years and older.....	3.9	3.6	3.6	3.5	3.5	3.4	3.6	3.4	3.3	3.5	3.4	3.5	3.6	3.7	3.5
Black or African American, total <sup>1</sup> .....	10.0	8.9	9.1	8.5	8.6	8.4	8.0	7.9	8.3	8.2	8.5	8.5	8.0	7.7	8.1
Both sexes, 16 to 19 years.....	33.3	29.1	31.6	26.3	27.6	26.2	29.1	29.0	25.0	30.6	30.4	31.2	26.5	31.2	28.8
Men, 16 to 19 years.....	36.3	32.7	38.8	34.0	32.7	27.7	34.4	35.7	25.7	34.0	35.3	33.5	30.8	32.9	33.3
Women, 16 to 19 years.....	30.3	25.9	26.2	19.7	23.0	25.1	24.6	22.6	24.4	27.4	25.5	29.0	22.8	29.7	24.4
Men, 20 years and older.....	9.2	8.3	8.2	8.2	7.8	7.3	7.5	7.4	9.0	8.4	8.2	8.6	7.6	6.8	7.4
Women, 20 years and older.....	8.5	7.5	7.7	6.9	7.4	7.6	6.5	6.4	6.2	6.0	6.8	6.3	6.8	6.4	7.0
Hispanic or Latino ethnicity.....	6.0	5.2	5.4	4.6	5.0	4.9	5.7	5.2	5.1	5.4	5.8	5.7	5.9	5.5	5.7
Married men, spouse present.....	2.8	2.4	2.3	2.3	2.3	2.5	2.5	2.7	2.5	2.5	2.6	2.4	2.7	2.4	2.4
Married women, spouse present.....	3.3	2.9	2.9	2.8	2.7	2.7	2.8	2.7	2.5	2.7	2.7	2.7	2.8	3.1	2.8
Full-time workers.....	5.0	4.5	4.5	4.3	4.4	4.4	4.5	4.4	4.4	4.4	4.4	4.5	4.6	4.6	4.7
Part-time workers.....	5.4	5.1	5.1	5.1	5.0	4.8	5.0	4.9	4.5	5.0	4.9	4.6	5.0	4.9	4.7
<b>Educational attainment<sup>2</sup></b>															
Less than a high school diploma.....	7.6	6.8	6.5	5.8	6.5	6.6	6.8	7.1	7.0	7.2	6.7	6.7	7.1	6.7	7.4
High school graduates, no college <sup>3</sup> .....	4.7	4.3	4.2	4.1	4.3	4.3	4.2	4.3	4.1	4.1	4.5	4.1	4.4	4.3	4.6
Some college or associate degree.....	3.9	3.6	3.6	3.4	3.3	3.4	3.7	3.6	3.6	3.6	3.4	3.5	3.5	3.7	3.4
Bachelor's degree and higher <sup>4</sup> .....	2.3	2.0	2.0	1.9	1.9	1.9	2.1	1.9	1.8	1.8	2.0	2.0	2.1	2.0	2.0

<sup>1</sup> Beginning in 2003, persons who selected this race group only; persons selected more than one race group are not included. Prior to 2003, persons reported more than one race were included in the group they identified as race.

<sup>3</sup> Includes high school diploma or equivalent.

<sup>4</sup> Includes persons with bachelor's, master's, professional, and doctoral degrees.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

<sup>2</sup> Data refer to persons 25 years and older.

**7. Duration of unemployment, monthly data seasonally adjusted**

[Numbers in thousands]

Weeks of unemployment	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks.....	2,667	2,614	2,582	2,588	2,517	2,707	2,642	2,600	2,327	2,432	2,450	2,488	2,473	2,595	2,518
5 to 14 weeks.....	2,304	2,121	2,077	2,064	2,135	2,037	2,283	2,192	2,159	2,141	2,204	2,125	2,213	2,166	2,332
15 weeks and over.....	2,619	2,266	2,264	2,062	2,152	2,081	2,118	2,135	2,177	2,268	2,230	2,286	2,413	2,385	2,393
15 to 26 weeks.....	1,130	1,031	1,010	974	1,006	991	986	905	954	1,072	1,104	1,166	1,105	1,138	1,115
27 weeks and over.....	1,490	1,235	1,254	1,088	1,145	1,090	1,133	1,230	1,223	1,196	1,126	1,120	1,308	1,247	1,277
Mean duration, in weeks.....	18.4	16.8	17.2	16.4	16.3	15.9	16.2	16.4	17.3	17.1	16.7	16.8	17.2	16.9	16.5
Median duration, in weeks.....	8.9	8.3	8.1	8.0	8.2	7.3	8.1	8.1	8.5	8.7	8.3	8.2	8.9	8.6	9.0

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

## 8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Job losers <sup>1</sup> .....	3,667	3,321	3,195	3,088	3,179	3,236	3,440	3,453	3,238	3,287	3,331	3,375	3,628	3,617	3,577
On temporary layoff.....	933	921	872	958	965	958	1,021	1,022	863	1,022	1,004	866	981	979	954
Not on temporary layoff.....	2,734	2,400	2,323	2,130	2,214	2,278	2,420	2,430	2,375	2,265	2,327	2,509	2,648	2,638	2,623
Job leavers.....	872	827	804	783	793	807	797	816	755	748	764	810	823	793	842
Reentrants.....	2,386	2,237	2,292	2,249	2,279	2,199	2,230	2,042	2,147	2,174	2,153	2,127	2,078	2,064	2,144
New entrants.....	666	616	635	593	591	601	619	580	599	607	549	621	593	593	698
<b>Percent of unemployed</b>															
Job losers <sup>1</sup> .....	48.3	47.4	46.1	46.0	46.5	47.3	48.6	50.1	48.0	48.2	49.0	48.7	50.9	51.2	49.3
On temporary layoff.....	12.3	13.2	12.6	14.3	14.1	14.0	14.4	14.8	12.8	15.0	14.8	12.5	13.8	13.8	13.1
Not on temporary layoff.....	36.0	34.3	33.5	31.7	32.4	33.3	34.1	35.3	35.2	33.2	34.2	36.2	37.2	37.3	36.1
Job leavers.....	11.5	11.8	11.6	11.7	11.6	11.8	11.2	11.8	11.2	11.0	11.2	11.7	11.6	11.2	11.6
Reentrants.....	31.4	32.0	33.1	33.5	33.3	32.1	31.5	29.6	31.9	31.9	31.7	30.7	29.2	29.2	29.5
New entrants.....	8.8	8.8	9.2	8.8	8.6	8.8	8.7	8.4	8.9	8.9	8.1	9.0	8.3	8.4	9.6
<b>Percent of civilian labor force</b>															
Job losers <sup>1</sup> .....	2.5	2.2	2.1	2.0	2.1	2.1	2.2	2.3	2.1	2.2	2.2	2.2	2.4	2.4	2.3
Job leavers.....	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
Reentrants.....	1.6	1.5	1.5	1.5	1.5	1.4	1.5	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.4
New entrants.....	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5

<sup>1</sup> Includes persons who completed temporary jobs.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

## 9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and older.....	5.1	4.6	4.6	4.4	4.5	4.5	4.6	4.5	4.4	4.5	4.5	4.5	4.6	4.6	4.7
16 to 24 years.....	11.3	10.5	10.7	10.6	10.5	10.3	10.3	9.8	9.7	10.2	10.0	10.5	10.6	10.7	11.1
16 to 19 years.....	16.6	15.4	16.3	15.2	15.1	15.2	15.0	14.9	14.5	15.3	15.7	15.8	15.2	16.1	16.0
16 to 17 years.....	19.1	17.2	18.0	17.6	17.3	16.9	16.9	16.6	16.4	16.5	16.6	16.8	16.7	18.6	18.6
18 to 19 years.....	14.9	14.1	15.1	13.3	13.4	13.7	13.7	13.7	13.3	15.0	15.4	15.5	14.1	14.6	14.3
20 to 24 years.....	8.8	8.2	8.0	8.4	8.4	7.9	8.1	7.4	7.6	7.8	7.3	8.0	8.5	8.3	8.9
25 years and older.....	4.0	3.6	3.5	3.3	3.4	3.5	3.6	3.6	3.5	3.5	3.5	3.5	3.7	3.6	3.6
25 to 54 years.....	4.1	3.8	3.7	3.4	3.5	3.6	3.7	3.7	3.5	3.6	3.6	3.6	3.8	3.7	3.8
55 years and older.....	3.4	3.0	2.9	3.0	2.9	3.0	3.3	3.1	3.1	3.0	3.2	3.0	3.2	3.2	3.1
Men, 16 years and older.....	5.1	4.6	4.4	4.4	4.5	4.5	4.7	4.7	4.5	4.5	4.6	4.7	4.7	4.7	4.8
16 to 24 years.....	12.4	11.2	11.3	11.3	11.1	10.9	10.9	10.8	10.5	10.9	11.2	11.9	11.4	11.4	12.2
16 to 19 years.....	18.6	16.9	17.7	16.7	16.7	16.7	16.2	16.6	15.9	16.2	17.3	17.7	16.7	17.8	18.2
16 to 17 years.....	22.0	18.6	19.4	19.8	19.1	19.0	17.0	19.3	17.6	17.2	18.5	18.1	18.9	22.0	21.8
18 to 19 years.....	16.5	15.7	16.8	14.0	14.4	14.8	15.4	15.0	14.8	16.4	17.1	18.2	15.3	15.2	16.0
20 to 24 years.....	9.6	8.7	8.3	8.9	8.6	8.3	8.4	8.2	8.1	8.6	8.6	9.3	9.2	8.7	9.5
25 years and older.....	3.8	3.5	3.3	3.2	3.3	3.5	3.6	3.7	3.5	3.5	3.5	3.4	3.6	3.6	3.6
25 to 54 years.....	3.9	3.6	3.4	3.3	3.4	3.5	3.7	3.8	3.6	3.5	3.5	3.5	3.7	3.6	3.7
55 years and older.....	3.3	3.0	2.6	3.0	3.0	3.2	3.4	3.1	3.3	3.2	3.4	3.1	3.4	3.4	3.3
Women, 16 years and older.....	5.1	4.6	4.7	4.4	4.5	4.4	4.5	4.3	4.3	4.4	4.3	4.4	4.6	4.6	4.5
16 to 24 years.....	10.1	9.7	10.1	9.9	9.9	9.6	9.7	8.6	8.9	9.3	8.5	9.0	9.7	9.9	9.9
16 to 19 years.....	14.5	13.8	14.8	13.6	13.4	13.6	13.7	13.1	13.0	14.2	14.1	13.9	13.6	14.4	13.7
16 to 17 years.....	16.5	15.9	16.7	15.6	15.7	14.9	16.8	13.8	15.1	15.9	14.9	15.6	14.5	15.3	15.4
18 to 19 years.....	13.1	12.4	13.3	12.5	12.4	12.6	11.8	12.4	11.6	13.5	13.4	12.7	12.8	14.0	12.4
20 to 24 years.....	7.9	7.6	7.6	7.9	8.1	7.5	7.7	6.4	6.9	7.0	5.8	6.7	7.7	7.8	8.1
25 years and older.....	4.2	3.7	3.8	3.4	3.6	3.5	3.6	3.5	3.4	3.5	3.6	3.6	3.7	3.7	3.6
25 to 54 years.....	4.4	3.9	4.0	3.5	3.7	3.8	3.7	3.6	3.5	3.7	3.8	3.7	3.9	3.9	3.8
55 years and older <sup>1</sup> .....	3.4	2.9	3.3	2.9	2.9	2.4	3.3	3.0	2.8	2.5	2.7	3.2	3.5	3.4	3.0

<sup>1</sup> Data are not seasonally adjusted.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

**10. Unemployment rates by State, seasonally adjusted**

State	Aug. 2006	July 2007	Aug. 2007 <sup>P</sup>	State	Aug. 2006	July 2007	Aug. 2007 <sup>P</sup>
Alabama.....	3.6	3.7	3.8	Missouri.....	5.0	4.9	5.3
Alaska.....	6.6	6.1	6.3	Montana.....	3.1	2.7	2.8
Arizona.....	3.9	3.7	3.7	Nebraska.....	3.1	3.2	3.2
Arkansas.....	5.4	5.5	5.5	Nevada.....	4.2	4.9	5.0
California.....	4.9	5.3	5.5	New Hampshire.....	3.4	3.9	3.6
Colorado.....	4.4	3.8	3.8	New Jersey.....	4.7	4.6	4.3
Connecticut.....	4.5	4.5	4.6	New Mexico.....	4.1	3.7	3.8
Delaware.....	3.6	3.4	3.0	New York.....	4.4	4.9	4.9
District of Columbia.....	6.0	5.7	5.6	North Carolina.....	4.9	5.0	4.8
Florida.....	3.3	3.9	4.0	North Dakota.....	3.3	3.1	3.2
Georgia.....	4.6	4.6	4.4	Ohio.....	5.6	5.8	5.7
Hawaii.....	2.3	2.6	2.6	Oklahoma.....	4.1	5.0	4.4
Idaho.....	3.4	2.3	2.4	Oregon.....	5.4	5.5	5.4
Illinois.....	4.4	5.2	5.4	Pennsylvania.....	4.8	4.3	4.5
Indiana.....	5.0	4.6	4.9	Rhode Island.....	5.2	5.0	5.1
Iowa.....	3.6	3.9	3.9	South Carolina.....	6.6	5.9	5.6
Kansas.....	4.6	4.6	4.3	South Dakota.....	3.2	3.0	3.0
Kentucky.....	5.7	5.7	5.6	Tennessee.....	5.2	4.1	4.0
Louisiana.....	3.7	3.9	3.8	Texas.....	4.9	4.4	4.2
Maine.....	4.7	4.8	4.8	Utah.....	2.9	2.7	2.6
Maryland.....	4.0	4.0	3.7	Vermont.....	3.7	4.1	4.0
Massachusetts.....	5.0	5.1	4.5	Virginia.....	3.1	3.1	3.1
Michigan.....	7.0	7.2	7.4	Washington.....	5.1	4.9	4.6
Minnesota.....	3.8	4.6	4.6	West Virginia.....	5.3	4.8	4.9
Mississippi.....	6.6	6.7	5.9	Wisconsin.....	4.7	5.0	5.3
				Wyoming.....	3.5	3.7	3.4

<sup>P</sup> = preliminary

**11. Employment of workers on nonfarm payrolls by State, seasonally adjusted**

State	Aug. 2006	July 2007	Aug. 2007 <sup>P</sup>	State	Aug. 2006	July 2007	Aug. 2007 <sup>P</sup>
Alabama.....	2,208,811	2,189,034	2,201,936	Missouri.....	3,043,454	3,053,811	3,047,396
Alaska.....	347,146	346,738	346,703	Montana.....	495,463	501,320	497,150
Arizona.....	2,990,111	3,039,015	3,017,179	Nebraska.....	975,087	986,156	982,467
Arkansas.....	1,363,357	1,367,848	1,365,510	Nevada.....	1,303,251	1,348,999	1,344,746
California.....	17,897,786	18,198,045	18,214,226	New Hampshire.....	737,819	748,495	744,677
Colorado.....	2,668,089	2,693,995	2,676,435	New Jersey.....	4,530,435	4,478,948	4,475,386
Connecticut.....	1,851,789	1,877,448	1,871,327	New Mexico.....	936,361	944,696	941,233
Delaware.....	441,481	442,712	439,395	New York.....	9,504,104	9,446,129	9,430,582
District of Columbia.....	315,295	312,981	315,065	North Carolina.....	4,481,282	4,522,704	4,509,739
Florida.....	9,020,875	9,230,273	9,225,372	North Dakota.....	358,659	364,059	362,005
Georgia.....	4,755,688	4,844,865	4,827,959	Ohio.....	5,948,752	5,970,343	5,949,887
Hawaii.....	643,996	648,482	642,474	Oklahoma.....	1,724,513	1,735,668	1,728,312
Idaho.....	752,222	762,909	758,346	Oregon.....	1,905,458	1,916,651	1,922,118
Illinois.....	6,649,027	6,736,693	6,719,549	Pennsylvania.....	6,309,375	6,262,654	6,262,065
Indiana.....	3,275,769	3,200,870	3,194,938	Rhode Island.....	577,046	574,483	570,950
Iowa.....	1,667,963	1,660,327	1,656,680	South Carolina.....	2,130,754	2,148,831	2,135,947
Kansas.....	1,468,052	1,479,545	1,477,599	South Dakota.....	432,504	437,322	436,415
Kentucky.....	2,043,891	2,051,371	2,051,597	Tennessee.....	3,007,168	3,023,121	3,029,893
Louisiana.....	1,985,985	1,979,552	1,979,201	Texas.....	11,516,455	11,529,322	11,469,443
Maine.....	713,871	710,849	707,060	Utah.....	1,318,725	1,352,388	1,338,434
Maryland.....	3,019,964	2,998,852	2,977,944	Vermont.....	361,777	359,743	356,764
Massachusetts.....	3,409,883	3,425,176	3,384,587	Virginia.....	4,014,466	4,051,204	4,043,977
Michigan.....	5,085,262	5,019,989	5,003,776	Washington.....	3,326,876	3,399,531	3,397,228
Minnesota.....	2,945,228	2,938,967	2,928,885	West Virginia.....	811,665	814,146	814,376
Mississippi.....	1,307,698	1,307,748	1,309,098	Wisconsin.....	3,066,990	3,074,187	3,069,323
				Wyoming.....	286,727	290,198	287,833

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

<sup>P</sup> = preliminary



**12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted**  
 [In thousands]

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>P</sup>	Sept. <sup>P</sup>
Building material and garden supply stores.....	1,276.1	1,322.6	1,327.2	1,329.2	1,321.0	1,314.1	1,318.0	1,323.4	1,313.8	1,313.8	1,314.9	1,314.9	1,303.9	1,305.9	1,289.1
Food and beverage stores.....	2,817.8	2,827.9	2,832.1	2,833.8	2,842.4	2,843.7	2,844.0	2,849.9	2,856.3	2,858.6	2,861.1	2,867.7	2,869.3	2,873.5	2,877.5
Health and personal care stores.....	953.7	955.5	956.2	954.8	962.6	959.7	964.1	964.8	966.5	969.8	968.5	968.8	967.4	970.8	971.6
Gasoline stations.....	871.1	861.0	858.1	854.8	854.6	854.8	853.7	852.9	854.5	852.4	852.5	852.4	852.0	851.1	853.2
Clothing and clothing accessories stores.....	1,414.6	1,439.0	1,437.4	1,443.1	1,467.3	1,460.1	1,446.9	1,445.1	1,449.7	1,452.7	1,451.6	1,451.3	1,456.7	1,460.3	1,460.3
Sporting goods, hobby, book, and music stores.....	647.0	646.6	638.0	638.3	647.4	648.9	655.8	654.9	653.9	655.6	659.5	657.4	665.7	666.7	669.4
General merchandise stores1.....	2,934.3	2,912.8	2,894.9	2,893.8	2,882.9	2,885.4	2,923.9	2,917.3	2,956.4	2,915.4	2,928.5	2,920.3	2,918.9	2,906.4	2,903.7
Department stores.....	1,595.1	1,550.9	1,536.2	1,535.6	1,533.2	1,537.7	1,568.7	1,565.3	1,570.6	1,560.9	1,566.2	1,561.1	1,560.3	1,549.9	1,547.4
Miscellaneous store retailers.....	899.9	884.9	880.6	880.9	881.9	881.4	880.3	880.2	880.3	879.0	879.3	880.2	883.1	880.3	883.2
Nonstore retailers.....	434.6	434.4	435.4	438.8	445.5	444.3	440.6	440.0	441.1	441.0	442.6	441.1	443.3	443.2	443.0
<b>Transportation and warehousing.....</b>	<b>4,360.9</b>	<b>4,465.8</b>	<b>4,484.4</b>	<b>4,493.8</b>	<b>4,509.6</b>	<b>4,517.0</b>	<b>4,522.6</b>	<b>4,519.6</b>	<b>4,520.8</b>	<b>4,519.6</b>	<b>4,520.1</b>	<b>4,520.1</b>	<b>4,528.4</b>	<b>4,529.8</b>	<b>4,542.7</b>
Air transportation.....	500.8	486.5	488.1	488.1	484.5	488.3	490.8	485.5	485.5	490.0	484.4	491.4	492.2	492.5	493.7
Rail transportation.....	227.8	225.3	224.7	224.8	223.9	226.4	227.9	228.9	229.1	228.3	227.9	226.6	227.5	227.4	227.8
Water transportation.....	60.6	64.1	65.5	65.6	66.8	67.8	67.1	68.1	68.0	67.3	68.3	69.9	70.7	70.6	70.3
Truck transportation.....	1,397.6	1,437.2	1,446.8	1,448.7	1,448.9	1,453.6	1,457.9	1,454.7	1,457.2	1,452.5	1,455.5	1,449.8	1,444.3	1,443.5	1,445.5
Transit and ground passenger transportation.....	389.2	394.3	394.2	392.3	393.2	390.2	391.6	393.3	390.3	389.9	390.9	389.4	397.1	400.1	400.6
Pipeline transportation.....	37.8	39.0	38.8	39.6	39.8	39.7	40.3	40.6	41.0	40.5	40.8	40.8	40.8	41.0	40.9
Scenic and sightseeing transportation.....	28.8	27.0	26.6	26.6	28.3	27.8	27.8	28.0	27.3	27.0	26.7	26.4	27.0	27.4	28.0
Support activities for transportation.....	552.2	570.7	571.0	572.9	577.9	575.9	575.9	579.4	579.6	581.6	581.8	583.0	583.4	584.3	587.5
Couriers and messengers.....	571.4	585.3	586.4	590.5	597.2	596.4	593.0	590.6	591.0	589.8	588.5	588.7	589.3	588.1	590.1
Warehousing and storage.....	594.7	636.4	642.3	644.7	649.1	650.9	650.3	650.5	651.8	652.7	655.3	654.1	656.1	654.9	658.3
Utilities.....	554.0	548.5	547.8	546.9	548.2	549.2	549.0	549.0	550.1	551.5	553.4	554.4	554.6	556.0	556.2
<b>Information.....</b>	<b>3,061</b>	<b>3,055</b>	<b>3,052</b>	<b>3,054</b>	<b>3,057</b>	<b>3,073</b>	<b>3,071</b>	<b>3,084</b>	<b>3,086</b>	<b>3,096</b>	<b>3,097</b>	<b>3,093</b>	<b>3,091</b>	<b>3,087</b>	<b>3,095</b>
Publishing industries, except Internet.....	904.1	903.8	900.2	902.1	905.0	906.1	907.0	907.8	907.4	906.1	907.7	906.2	906.3	904.0	900.5
Motion picture and sound recording industries.....	377.5	377.5	374.7	374.6	371.9	378.3	378.2	385.2	387.1	394.2	391.9	389.3	383.6	380.3	387.9
Broadcasting, except Internet.....	327.7	331.3	332.3	332.1	333.8	335.6	335.3	337.4	337.1	337.8	336.6	337.1	336.0	336.3	337.8
Internet publishing and broadcasting.....	31.5	34.5	35.0	35.8	36.3	37.0	36.9	37.9	39.0	39.9	40.6	41.3	42.4	43.1	44.2
Telecommunications.....	992.0	972.9	974.2	975.0	973.5	978.0	975.6	976.2	973.0	974.6	973.9	972.7	973.7	973.1	973.6
ISPs, search portals, and data processing.....	377.5	383.2	383.9	382.2	384.9	386.1	386.1	387.3	390.0	390.8	394.2	394.4	396.9	397.5	398.7
Other information services.....	50.6	51.4	51.3	51.8	51.6	52.1	51.9	51.9	52.3	52.1	52.1	52.2	51.8	52.2	52.1
<b>Financial activities.....</b>	<b>8,153</b>	<b>8,363</b>	<b>8,408</b>	<b>8,415</b>	<b>8,422</b>	<b>8,438</b>	<b>8,440</b>	<b>8,446</b>	<b>8,445</b>	<b>8,448</b>	<b>8,464</b>	<b>8,460</b>	<b>8,476</b>	<b>8,463</b>	<b>8,450</b>
Finance and insurance.....	6,022.8	6,183.5	6,219.6	6,227.1	6,228.9	6,239.8	6,238.9	6,244.4	6,242.6	6,241.4	6,256.1	6,256.0	6,270.1	6,256.4	6,245.3
Monetary authorities—central bank.....	20.8	21.5	21.7	21.8	21.7	21.8	21.7	22.0	22.1	22.2	22.4	22.2	21.6	21.8	21.6
Credit intermediation and related activities <sup>1</sup> .....	2,869.0	2,936.8	2,952.8	2,956.2	2,957.4	2,959.7	2,961.5	2,962.8	2,957.6	2,945.3	2,948.7	2,939.5	2,946.5	2,926.8	2,912.2
Depository credit intermediation <sup>1</sup> .....	1,769.2	1,803.2	1,812.4	1,818.3	1,819.6	1,824.6	1,824.3	1,823.1	1,824.3	1,818.6	1,824.7	1,824.9	1,833.8	1,834.6	1,840.4
Commercial banking.....	1,296.0	1,319.3	1,328.1	1,334.5	1,333.0	1,336.9	1,336.9	1,334.7	1,335.2	1,327.7	1,332.5	1,332.1	1,338.4	1,337.7	1,340.9
Securities, commodity contracts, investments.....	786.1	816.3	825.4	830.4	829.2	829.2	831.0	831.4	834.5	836.8	841.6	844.4	845.8	848.7	849.8
Insurance carriers and related activities.....	2,259.3	2,315.9	2,324.8	2,324.0	2,326.0	2,333.9	2,329.6	2,333.2	2,333.4	2,342.4	2,348.5	2,354.5	2,361.2	2,362.6	2,365.6
Funds, trusts, and other financial vehicles.....	87.7	93.1	94.9	94.7	94.6	95.2	95.1	95.0	95.0	94.7	94.9	95.4	95.0	96.5	96.1
Real estate and rental and leasing.....	2,129.6	2,179.6	2,188.2	2,187.5	2,192.9	2,198.0	2,201.5	2,202.0	2,202.5	2,206.5	2,207.4	2,204.1	2,205.7	2,206.4	2,204.2
Real estate.....	1,456.9	1,503.3	1,506.4	1,505.0	1,512.4	1,516.4	1,518.5	1,518.4	1,523.5	1,525.4	1,527.7	1,524.5	1,525.4	1,528.1	1,527.2
Rental and leasing services.....	645.8	647.4	652.2	652.9	650.0	650.9	651.9	652.4	647.9	650.0	647.8	646.9	647.6	645.4	644.4
Lessors of nonfinancial intangible assets.....	26.9	28.9	29.6	29.6	30.5	30.7	31.1	31.2	31.1	31.1	31.9	32.7	32.7	32.9	32.6
<b>Professional and business services.....</b>	<b>16,954</b>	<b>17,552</b>	<b>17,636</b>	<b>17,662</b>	<b>17,726</b>	<b>17,792</b>	<b>17,804</b>	<b>17,840</b>	<b>17,834</b>	<b>17,859</b>	<b>17,893</b>	<b>17,886</b>	<b>17,911</b>	<b>17,942</b>	<b>17,965</b>
Professional and technical services <sup>1</sup> .....	7,053.4	7,371.7	7,420.1	7,438.5	7,469.6	7,499.8	7,515.6	7,544.3	7,553.7	7,591.3	7,625.3	7,638.5	7,666.9	7,689.0	7,730.9
Legal services.....	1,168.0	1,173.4	1,172.6	1,173.5	1,175.9	1,179.0	1,176.2	1,178.8	1,178.1	1,181.8	1,183.4	1,179.9	1,177.9	1,178.4	1,181.9
Accounting and bookkeeping services.....	849.3	889.3	893.1	893.7	914.5	925.1	922.1	927.8	924.4	927.5	934.5	941.1	951.1	957.7	968.1
Architectural and engineering services.....	1,310.9	1,385.6	1,399.3	1,400.6	1,407.2	1,411.4	1,419.2	1,422.7	1,424.0	1,426.0	1,431.4	1,433.5	1,437.1	1,440.1	1,445.5

See notes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>P</sup>	Sept. <sup>P</sup>
Computer systems design and related services.....	1,195.2	1,278.2	1,298.4	1,300.8	1,296.2	1,303.3	1,305.2	1,311.1	1,319.7	1,328.5	1,338.3	1,341.8	1,352.9	1,355.6	1,361.4
Management and technical consulting services.....	853.0	920.9	926.4	944.2	949.3	953.8	958.1	967.1	970.5	985.4	989.2	990.9	992.5	1,001.7	1,011.6
Management of companies and enterprises.....	1,758.9	1,809.4	1,822.3	1,826.8	1,823.0	1,826.0	1,830.8	1,836.7	1,837.1	1,839.9	1,841.5	1,844.6	1,847.8	1,852.1	1,858.0
Administrative and waste services.....	8,141.5	8,370.7	8,393.9	8,396.2	8,433.8	8,466.4	8,457.3	8,458.9	8,443.5	8,427.7	8,426.3	8,402.6	8,396.2	8,400.6	8,376.0
Administrative and support services <sup>1</sup> .....	7,803.8	8,023.5	8,047.4	8,047.5	8,083.8	8,117.0	8,106.1	8,107.4	8,092.5	8,076.3	8,073.4	8,048.8	8,041.8	8,045.1	8,019.7
Employment services <sup>1</sup> .....	3,578.2	3,656.6	3,653.3	3,641.2	3,665.5	3,674.2	3,667.1	3,651.6	3,637.1	3,602.1	3,584.4	3,553.3	3,525.9	3,523.4	3,484.5
Temporary help services.....	2,549.4	2,631.3	2,623.5	2,621.1	2,631.3	2,641.6	2,641.8	2,629.2	2,621.2	2,613.1	2,602.7	2,588.0	2,577.9	2,578.6	2,559.3
Business support services.....	766.4	790.7	797.2	801.0	802.2	806.9	803.6	803.3	801.9	801.6	804.8	801.3	805.5	803.4	804.5
Services to buildings and dwellings.....	1,737.5	1,797.1	1,803.0	1,807.9	1,811.2	1,817.7	1,812.1	1,823.8	1,819.7	1,829.7	1,835.1	1,840.8	1,847.3	1,848.7	1,853.4
Waste management and remediation services.....	337.6	347.2	346.5	348.7	350.0	349.4	351.2	351.5	351.0	351.4	352.9	353.8	354.4	355.5	356.3
<b>Educational and health services.....</b>	<b>17,372</b>	<b>17,838</b>	<b>17,946</b>	<b>17,976</b>	<b>18,018</b>	<b>18,063</b>	<b>18,102</b>	<b>18,138</b>	<b>18,188</b>	<b>18,246</b>	<b>18,293</b>	<b>18,364</b>	<b>18,422</b>	<b>18,484</b>	<b>18,513</b>
Educational services.....	2,835.8	2,918.4	2,949.4	2,944.2	2,951.4	2,948.6	2,959.5	2,955.9	2,972.4	2,978.7	2,983.4	3,014.4	3,022.8	3,039.7	3,028.8
Health care and social assistance.....	14,536.3	14,919.9	14,996.4	15,031.5	15,066.1	15,113.9	15,142.6	15,181.7	15,215.9	15,266.8	15,309.7	15,349.4	15,399.5	15,443.9	15,484.1
Ambulatory health care services <sup>1</sup> .....	5,113.5	5,283.1	5,321.0	5,332.6	5,344.6	5,369.2	5,375.3	5,395.6	5,409.2	5,428.4	5,446.7	5,455.1	5,482.5	5,507.0	5,525.7
Offices of physicians.....	2,093.5	2,153.6	2,172.5	2,174.1	2,179.4	2,185.5	2,187.4	2,196.7	2,204.3	2,210.5	2,214.7	2,213.2	2,224.6	2,232.5	2,240.8
Outpatient care centers.....	473.2	489.4	492.1	494.1	492.4	493.6	494.1	496.8	494.8	495.8	495.1	495.5	496.1	498.7	500.7
Home health care services.....	821.0	867.1	877.7	880.7	883.5	890.9	896.4	901.1	904.1	907.2	911.3	918.8	925.3	931.9	934.6
Hospitals.....	4,345.4	4,427.1	4,451.7	4,458.2	4,461.7	4,469.5	4,478.3	4,484.4	4,490.8	4,499.7	4,511.0	4,526.3	4,539.1	4,546.3	4,554.9
Nursing and residential care facilities <sup>1</sup> .....	2,855.0	2,900.9	2,906.9	2,915.9	2,927.8	2,940.5	2,947.6	2,957.5	2,961.4	2,972.4	2,973.2	2,983.7	2,984.0	2,988.5	2,991.4
Nursing care facilities.....	1,577.4	1,584.2	1,584.7	1,587.5	1,591.8	1,596.4	1,600.1	1,605.7	1,603.9	1,609.1	1,606.5	1,608.0	1,611.3	1,613.8	1,614.4
Social assistance <sup>1</sup> .....	2,222.3	2,308.9	2,316.8	2,324.8	2,332.0	2,334.7	2,341.4	2,344.2	2,354.5	2,366.3	2,378.8	2,384.3	2,393.9	2,402.1	2,412.1
Child day care services.....	789.7	806.7	802.0	802.8	805.1	803.6	804.3	802.7	804.9	810.5	812.3	811.6	815.7	815.3	818.4
<b>Leisure and hospitality.....</b>	<b>12,816</b>	<b>13,143</b>	<b>13,209</b>	<b>13,257</b>	<b>13,324</b>	<b>13,373</b>	<b>13,396</b>	<b>13,425</b>	<b>13,449</b>	<b>13,481</b>	<b>13,537</b>	<b>13,554</b>	<b>13,566</b>	<b>13,589</b>	<b>13,639</b>
Arts, entertainment, and recreation.....	1,892.3	1,927.0	1,923.7	1,939.9	1,947.4	1,957.2	1,960.4	1,963.3	1,963.2	1,953.5	1,968.5	1,971.1	1,962.9	1,968.0	1,976.1
Performing arts and spectator sports.....	376.3	398.8	401.4	405.0	405.7	406.4	408.0	406.0	405.9	402.8	409.5	412.1	405.6	410.7	415.5
Museums, historical sites, zoos, and parks.....	120.7	123.9	125.6	125.7	126.4	127.1	127.7	127.5	128.2	128.8	130.7	131.2	132.4	131.8	132.3
Amusements, gambling, and recreation.....	1,395.3	1,404.3	1,396.7	1,409.2	1,415.3	1,423.7	1,424.7	1,429.8	1,429.1	1,421.9	1,428.3	1,427.8	1,424.9	1,425.5	1,428.3
Accommodations and food services.....	10,923.0	11,216.2	11,284.8	11,316.9	11,376.8	11,415.9	11,435.8	11,461.3	11,486.0	11,527.9	11,568.5	11,582.5	11,602.9	11,621.4	11,662.7
Accommodations.....	1,818.6	1,833.4	1,847.0	1,845.3	1,854.4	1,863.2	1,858.1	1,860.3	1,860.0	1,860.5	1,862.8	1,852.8	1,858.1	1,850.8	1,862.8
Food services and drinking places.....	9,104.4	9,382.8	9,437.8	9,471.6	9,522.4	9,552.7	9,577.7	9,601.0	9,626.0	9,667.4	9,705.7	9,729.7	9,744.8	9,770.6	9,799.9
<b>Other services.....</b>	<b>5,395</b>	<b>5,432</b>	<b>5,443</b>	<b>5,450</b>	<b>5,443</b>	<b>5,449</b>	<b>5,444</b>	<b>5,454</b>	<b>5,462</b>	<b>5,470</b>	<b>5,479</b>	<b>5,481</b>	<b>5,480</b>	<b>5,478</b>	<b>5,474</b>
Repair and maintenance.....	1,236.0	1,248.5	1,253.9	1,253.4	1,250.8	1,251.6	1,246.3	1,248.9	1,255.9	1,257.4	1,260.4	1,261.9	1,256.6	1,260.6	1,262.9
Personal and laundry services.....	1,276.6	1,284.2	1,285.6	1,286.8	1,286.4	1,287.4	1,285.8	1,290.3	1,290.8	1,292.6	1,296.5	1,291.2	1,294.4	1,292.4	1,289.1
Membership associations and organizations.....	2,882.2	2,899.3	2,903.1	2,909.3	2,905.4	2,909.7	2,912.3	2,915.2	2,915.7	2,919.5	2,921.9	2,927.6	2,929.0	2,925.2	2,921.7
<b>Government.....</b>	<b>21,804</b>	<b>21,990</b>	<b>22,076</b>	<b>22,100</b>	<b>22,106</b>	<b>22,114</b>	<b>22,140</b>	<b>22,174</b>	<b>22,197</b>	<b>22,229</b>	<b>22,236</b>	<b>22,234</b>	<b>22,210</b>	<b>22,273</b>	<b>22,296</b>
Federal.....	2,732	2,728	2,729	2,725	2,719	2,713	2,718	2,718	2,716	2,716	2,713	2,708	2,713	2,714	2,709
Federal, except U.S. Postal Service.....	1,957.3	1,958.3	1,959.0	1,954.7	1,949.5	1,948.6	1,951.1	1,951.8	1,949.7	1,950.0	1,947.5	1,943.5	1,950.5	1,952.1	1,948.7
U.S. Postal Service.....	774.2	770.1	770.2	770.2	769.0	764.5	767.1	766.5	766.5	766.4	765.5	764.0	762.3	761.9	760.6
State.....	5,032	5,080	5,113	5,109	5,107	5,111	5,117	5,133	5,134	5,140	5,133	5,139	5,143	5,137	5,147
Education.....	2,259.9	2,294.9	2,321.1	2,314.3	2,313.1	2,311.8	2,311.4	2,324.0	2,324.5	2,326.4	2,321.7	2,326.5	2,323.3	2,320.3	2,332.3
Other State government.....	2,771.6	2,785.2	2,791.5	2,794.3	2,793.5	2,798.9	2,805.7	2,809.4	2,809.2	2,813.7	2,811.3	2,812.7	2,819.4	2,817.1	2,815.1
Local.....	14,041	14,182	14,234	14,266	14,280	14,290	14,305	14,323	14,347	14,373	14,390	14,387	14,354	14,422	14,440
Education.....	7,856.1	7,938.5	7,970.7	7,995.1	8,003.7	8,015.6	8,018.7	8,025.1	8,044.1	8,056.0	8,062.7	8,043.1	8,011.8	8,066.1	8,078.6
Other local government.....	6,184.6	6,243.0	6,263.0	6,270.9	6,276.3	6,274.1	6,286.4	6,298.0	6,302.9	6,317.0	6,327.7	6,344.0	6,342.6	6,355.7	6,360.9

<sup>1</sup> Includes other industries not shown separately.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.  
p = preliminary.

**13. Average weekly hours of production or nonsupervisory workers<sup>1</sup> on private nonfarm payrolls, by industry, monthly data seasonally adjusted**

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>p</sup>	Sept. <sup>p</sup>
<b>TOTAL PRIVATE</b> .....	33.8	33.9	33.8	33.9	33.8	33.9	33.8	33.7	33.9	33.8	33.8	33.9	33.8	33.8	33.8
<b>GOODS-PRODUCING</b> .....	40.1	40.5	40.3	40.6	40.4	40.7	40.2	40.2	40.6	40.4	40.5	40.7	40.6	40.6	40.6
<b>Natural resources and mining</b> .....	45.6	45.6	45.1	45.7	46.1	45.6	45.0	45.9	45.9	45.8	45.7	45.9	45.9	45.7	46.3
<b>Construction</b> .....	38.6	39.0	38.4	39.2	39.0	39.8	38.7	38.4	39.0	38.8	38.9	39.0	38.9	38.7	38.8
<b>Manufacturing</b> .....	40.7	41.1	41.1	41.2	41.0	41.0	40.9	40.9	41.2	41.1	41.1	41.4	41.3	41.4	41.3
Overtime hours.....	4.6	4.4	4.3	4.3	4.1	4.2	4.1	4.1	4.3	4.2	4.1	4.3	4.2	4.1	4.1
Durable goods.....	41.1	41.4	41.3	41.4	41.2	41.2	41.1	41.1	41.4	41.2	41.3	41.7	41.6	41.7	41.6
Overtime hours.....	4.6	4.4	4.3	4.3	4.1	4.2	4.1	4.1	4.3	4.2	4.1	4.4	4.2	4.1	4.1
Wood products.....	40.0	39.8	39.6	39.7	39.1	39.3	38.7	39.1	39.5	39.6	39.5	39.7	39.9	39.6	39.5
Nonmetallic mineral products.....	42.2	43.0	43.0	42.7	42.3	42.7	42.0	41.6	42.4	42.2	42.3	42.5	42.6	42.8	42.7
Primary metals.....	43.1	43.6	43.5	43.6	43.5	43.3	42.8	43.0	43.2	43.0	42.8	43.3	43.2	43.0	42.5
Fabricated metal products.....	41.0	41.4	41.3	41.6	41.2	41.0	41.0	41.1	41.6	41.4	41.4	41.6	41.7	41.7	41.8
Machinery.....	42.1	42.4	42.3	42.7	42.3	42.3	41.8	42.3	42.3	42.4	42.3	42.5	42.5	42.6	42.7
Computer and electronic products.....	40.0	40.5	40.4	40.4	40.2	40.4	40.3	40.3	40.4	40.4	40.4	40.7	40.2	40.7	40.7
Electrical equipment and appliances.....	40.6	41.0	40.7	40.8	40.7	40.4	40.7	40.9	40.9	41.1	41.3	41.9	41.7	41.3	41.4
Transportation equipment.....	42.4	42.7	42.6	42.4	42.5	42.5	42.8	42.5	42.8	42.3	42.9	43.3	43.2	43.2	42.8
Furniture and related products.....	39.2	38.8	38.8	39.2	39.0	39.0	38.9	38.8	38.9	38.9	38.9	39.2	39.3	39.7	39.4
Miscellaneous manufacturing.....	38.7	38.7	38.6	38.7	38.8	38.7	38.5	37.9	38.5	38.6	38.6	39.0	39.0	39.1	39.5
Nondurable goods.....	39.9	40.6	40.7	40.7	40.6	40.6	40.6	40.6	40.9	40.9	40.8	40.9	40.9	40.8	40.8
Overtime hours.....	4.4	4.4	4.2	4.3	4.2	4.3	4.1	4.2	4.3	4.2	4.1	4.2	4.1	4.1	4.1
Food manufacturing.....	39.0	40.1	40.3	40.4	40.5	40.4	40.4	40.5	41.0	40.7	40.6	40.5	40.8	40.6	40.7
Beverage and tobacco products.....	40.1	40.7	40.7	40.8	40.9	40.7	40.8	40.5	40.7	41.3	40.5	40.8	40.7	40.9	40.6
Textile mills.....	40.3	40.6	40.7	40.6	40.4	41.0	40.6	40.7	40.5	40.2	40.2	40.5	40.2	39.8	40.4
Textile product mills.....	39.0	40.0	39.8	39.2	39.8	39.2	39.3	39.5	39.6	39.9	39.8	40.5	40.6	39.9	40.1
Apparel.....	35.7	36.5	36.7	37.0	36.9	36.7	37.5	37.0	36.7	37.3	37.3	37.7	37.7	37.4	37.2
Leather and allied products.....	38.4	38.9	38.8	38.8	37.8	38.2	38.2	38.0	37.9	37.6	38.9	37.8	37.4	37.5	37.6
Paper and paper products.....	42.5	42.9	43.0	42.9	42.6	42.4	42.5	42.4	43.1	43.0	42.9	43.0	42.9	43.1	43.2
Printing and related support activities.....	38.4	39.2	39.2	39.4	39.1	39.5	39.2	39.4	39.3	39.4	39.1	39.1	38.8	39.1	38.7
Petroleum and coal products.....	45.5	45.0	45.0	45.1	44.8	44.7	45.3	45.1	44.7	44.9	44.6	44.5	44.2	43.7	43.1
Chemicals.....	42.3	42.5	43.0	42.5	41.9	42.0	41.8	41.8	41.9	42.2	42.0	42.0	42.1	42.0	41.9
Plastics and rubber products.....	40.0	40.6	40.5	40.7	40.6	40.6	40.8	40.4	40.9	41.2	41.1	41.4	41.5	41.4	41.5
<b>PRIVATE SERVICE-PROVIDING</b> .....	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4
<b>Trade, transportation, and utilities</b> .....	33.4	33.4	33.4	33.4	33.5	33.4	33.4	33.3	33.4	33.3	33.4	33.4	33.3	33.3	33.4
Wholesale trade.....	37.7	38.0	37.9	38.0	38.0	38.0	38.0	38.1	38.2	38.1	38.3	38.3	38.1	38.2	38.2
Retail trade.....	30.6	30.5	30.4	30.4	30.5	30.4	30.4	30.2	30.2	30.2	30.2	30.2	30.1	30.1	30.2
Transportation and warehousing.....	37.0	36.9	36.9	36.9	36.9	36.9	37.1	37.1	37.2	36.9	37.0	37.0	36.8	37.0	37.0
Utilities.....	41.1	41.4	41.4	41.8	41.9	42.0	41.9	42.3	42.5	42.3	42.4	42.6	42.6	42.5	42.7
<b>Information</b> .....	36.5	36.6	36.7	36.7	36.4	36.6	36.5	36.6	36.7	36.5	36.3	36.3	36.5	36.3	36.4
<b>Financial activities</b> .....	35.9	35.8	35.7	35.8	35.8	36.0	36.0	36.0	36.0	36.0	35.9	36.0	35.9	35.8	35.8
<b>Professional and business services</b> .....	34.2	34.6	34.7	34.7	34.6	34.6	34.5	34.6	34.8	34.7	34.8	34.7	34.7	34.7	34.8
<b>Education and health services</b> .....	32.6	32.5	32.5	32.4	32.5	32.4	32.5	32.4	32.6	32.6	32.5	32.6	32.6	32.6	32.6
<b>Leisure and hospitality</b> .....	25.7	25.7	25.8	25.7	25.6	25.7	25.6	25.5	25.6	25.6	25.5	25.5	25.4	25.4	25.4
<b>Other services</b> .....	30.9	30.9	30.8	30.9	30.9	30.9	30.9	30.7	31.0	30.9	31.0	30.9	30.8	30.8	30.8

<sup>1</sup> Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.  
p = preliminary.

**14. Average hourly earnings of production or nonsupervisory workers<sup>1</sup> on private nonfarm payrolls, by industry, monthly data seasonally adjusted**

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>p</sup>	Sept. <sup>p</sup>
<b>TOTAL PRIVATE</b>															
Current dollars.....	\$16.13	\$16.76	\$16.88	\$16.94	\$16.99	\$17.07	\$17.10	\$17.16	\$17.21	\$17.25	\$17.32	\$17.40	\$17.45	\$17.50	\$17.55
Constant (1982) dollars.....	8.18	8.24	8.25	8.34	8.36	8.36	8.36	8.36	8.32	8.30	8.26	8.29	8.31	8.35	8.35
<b>GOODS-PRODUCING.....</b>	17.60	18.02	18.08	18.15	18.21	18.29	18.34	18.37	18.45	18.53	18.61	18.65	18.67	18.71	18.76
<b>Natural resources and mining.....</b>	18.72	19.90	20.11	20.26	20.43	20.52	20.60	20.77	20.77	20.81	20.85	20.90	20.95	21.11	20.94
<b>Construction.....</b>	19.46	20.02	20.17	20.24	20.37	20.44	20.55	20.57	20.68	20.73	20.91	20.92	20.94	20.99	21.09
<b>Manufacturing.....</b>	16.56	16.80	16.83	16.88	16.89	16.95	16.98	17.03	17.09	17.18	17.20	17.26	17.28	17.31	17.35
Excluding overtime.....	15.68	15.95	15.99	16.04	16.09	16.12	16.17	16.22	16.24	16.34	16.38	16.41	16.44	16.49	16.53
Durable goods.....	17.33	17.67	17.73	17.78	17.79	17.86	17.90	17.96	18.03	18.12	18.15	18.22	18.22	18.26	18.28
Nondurable goods.....	15.27	15.32	15.29	15.33	15.35	15.41	15.44	15.47	15.49	15.60	15.60	15.63	15.68	15.70	15.76
<b>PRIVATE SERVICE-PROVIDING.....</b>	15.74	16.42	16.56	16.62	16.67	16.74	16.77	16.84	16.88	16.91	16.98	17.07	17.13	17.18	17.24
<b>Trade, transportation, and utilities.....</b>	14.92	15.40	15.52	15.55	15.54	15.58	15.59	15.61	15.66	15.69	15.71	15.80	15.84	15.88	15.92
Wholesale trade.....	18.16	18.91	19.10	19.09	19.14	19.20	19.25	19.22	19.32	19.39	19.38	19.54	19.56	19.63	19.70
Retail trade.....	12.36	12.58	12.65	12.69	12.64	12.67	12.69	12.71	12.72	12.75	12.75	12.77	12.82	12.84	12.86
Transportation and warehousing.....	16.70	17.28	17.47	17.47	17.50	17.53	17.49	17.50	17.54	17.57	17.65	17.76	17.81	17.79	17.87
Utilities.....	26.68	27.42	27.35	27.39	27.47	27.33	27.40	27.50	27.66	27.68	27.71	27.77	27.84	28.01	27.94
<b>Information.....</b>	22.06	23.23	23.44	23.51	23.47	23.60	23.72	23.77	23.83	23.86	23.87	23.99	23.96	23.98	24.00
<b>Financial activities.....</b>	17.94	18.80	19.02	19.11	19.20	19.29	19.32	19.42	19.51	19.53	19.59	19.68	19.69	19.77	19.81
<b>Professional and business services.....</b>	18.08	19.12	19.31	19.42	19.51	19.64	19.63	19.80	19.83	19.84	20.03	20.13	20.18	20.28	20.37
<b>Education and health services.....</b>	16.71	17.38	17.51	17.56	17.63	17.67	17.74	17.75	17.78	17.80	17.89	17.96	18.05	18.10	18.17
<b>Leisure and hospitality.....</b>	9.38	9.75	9.83	9.87	9.94	10.02	10.08	10.16	10.19	10.29	10.32	10.38	10.45	10.50	10.53
<b>Other services.....</b>	14.34	14.77	14.86	14.89	14.94	15.02	15.03	15.06	15.07	15.10	15.14	15.20	15.26	15.29	15.33

<sup>1</sup> Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision. p = preliminary.

**15. Average hourly earnings of production or nonsupervisory workers<sup>1</sup> on private nonfarm payrolls, by industry**

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug <sup>P</sup>	Sept. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	\$16.13	\$16.76	\$16.91	\$17.02	\$16.99	\$17.07	\$17.16	\$17.21	\$17.22	\$17.34	\$17.28	\$17.30	\$17.42	\$17.40	\$17.62
Seasonally adjusted.....	-	-	16.88	16.94	16.99	17.07	17.10	17.16	17.21	17.25	17.32	17.40	17.45	17.50	17.55
<b>GOODS-PRODUCING</b> .....	17.60	18.02	18.20	18.26	18.26	18.37	18.27	18.26	18.35	18.48	18.59	18.67	18.69	18.78	18.88
<b>Natural resources and mining</b> .....	18.72	19.90	20.01	20.26	20.45	20.61	20.72	20.81	20.85	20.94	20.86	20.80	20.88	20.98	20.93
<b>Construction</b> .....	19.46	20.02	20.35	20.45	20.42	20.52	20.42	20.45	20.53	20.62	20.84	20.89	21.00	21.11	21.30
<b>Manufacturing</b> .....	16.56	16.80	16.88	16.89	16.93	17.09	17.04	17.03	17.06	17.19	17.19	17.25	17.20	17.29	17.38
Durable goods.....	17.33	17.67	17.80	17.81	17.87	18.04	17.94	17.95	18.01	18.10	18.12	18.21	18.08	18.25	18.33
Wood products.....	13.16	13.40	13.53	13.61	13.67	13.64	13.71	13.55	13.58	13.60	13.61	13.71	13.62	13.62	13.68
Nonmetallic mineral products.....	16.61	16.59	16.51	16.59	16.51	16.73	16.81	16.95	16.86	17.03	17.21	17.09	16.94	16.99	
Primary metals.....	18.94	19.35	19.67	19.39	19.73	19.45	19.43	19.33	19.33	19.66	19.57	19.65	19.78	19.67	19.73
Fabricated metal products.....	15.80	16.17	16.21	16.26	16.29	16.44	16.33	16.31	16.35	16.40	16.49	16.45	16.51	16.57	16.63
Machinery.....	17.03	17.20	17.26	17.45	17.56	17.78	17.62	17.63	17.68	17.71	17.64	17.61	17.84	17.70	17.83
Computer and electronic products.....	18.39	18.96	19.18	19.25	19.22	19.57	19.59	19.57	19.62	19.84	19.91	19.96	20.06	20.02	20.17
Electrical equipment and appliances.....	15.24	15.53	15.61	15.63	15.53	15.72	15.73	15.87	15.91	15.93	15.97	15.99	16.05	15.98	16.07
Transportation equipment.....	22.10	22.41	22.59	22.51	22.57	22.76	22.47	22.53	22.62	22.87	22.85	23.13	22.62	23.30	23.36
Furniture and related products.....	13.45	13.79	13.98	14.04	14.12	14.13	14.11	14.05	14.29	14.37	14.34	14.40	14.36	14.31	14.36
Miscellaneous manufacturing.....	14.08	14.36	14.47	14.47	14.38	14.47	14.54	14.50	14.57	14.41	14.42	14.73	14.82	14.76	14.71
Nondurable goods.....	15.27	15.32	15.31	15.32	15.34	15.47	15.51	15.46	15.45	15.65	15.60	15.62	15.72	15.68	15.78
Food manufacturing.....	13.04	13.13	13.16	13.13	13.18	13.33	13.42	13.33	13.36	13.49	13.51	13.51	13.56	13.61	13.69
Beverages and tobacco products.....	18.76	18.19	18.21	18.45	18.20	18.34	17.92	17.91	18.49	18.45	18.58	18.22	18.64	17.79	18.42
Textile mills.....	12.38	12.55	12.59	12.82	12.74	12.63	12.90	12.87	12.81	13.00	12.89	12.97	13.13	13.20	13.17
Textile product mills.....	11.67	11.94	12.02	11.84	11.98	11.90	11.98	11.96	11.93	11.93	11.92	11.97	12.05	11.90	11.81
Apparel.....	10.24	10.61	10.61	10.60	10.53	10.64	10.87	10.82	10.70	10.80	10.91	10.92	11.05	11.01	11.10
Leather and allied products.....	11.50	11.44	11.44	11.64	11.58	11.70	11.89	11.82	11.81	11.87	11.85	11.97	12.17	12.08	12.28
Paper and paper products.....	17.99	18.01	18.15	18.10	18.05	18.23	18.18	18.10	18.16	18.47	18.45	18.46	18.68	18.30	18.54
Printing and related support activities.....	15.74	15.80	15.80	15.87	15.93	15.91	15.84	15.87	15.87	16.00	15.92	15.99	16.19	16.28	16.41
Petroleum and coal products.....	24.47	24.08	23.87	24.17	24.44	23.96	24.90	24.73	24.66	25.01	24.78	24.44	25.06	25.36	26.16
Chemicals.....	19.67	19.60	19.43	19.57	19.61	19.87	19.67	19.55	19.46	19.71	19.52	19.60	19.68	19.46	19.50
Plastics and rubber products.....	14.80	14.96	15.03	14.98	15.04	15.16	15.22	15.22	15.19	15.32	15.29	15.36	15.27	15.43	15.42
<b>PRIVATE SERVICE-PROVIDING</b> .....	15.74	16.42	16.56	16.68	16.65	16.73	16.87	16.94	16.92	17.05	16.93	16.94	17.09	17.03	17.29
<b>Trade, transportation, and utilities</b> .....	14.92	15.40	15.57	15.59	15.44	15.41	15.61	15.65	15.66	15.82	15.70	15.77	15.92	15.85	16.01
Wholesale trade.....	18.16	18.91	19.09	19.14	19.16	19.24	19.30	19.25	19.24	19.53	19.28	19.42	19.69	19.56	19.83
Retail trade.....	12.36	12.58	12.70	12.70	12.52	12.51	12.69	12.72	12.74	12.86	12.77	12.78	12.88	12.82	12.93
Transportation and warehousing.....	16.70	17.28	17.51	17.48	17.48	17.47	17.48	17.42	17.51	17.56	17.55	17.77	17.93	17.87	17.97
Utilities.....	26.68	27.42	27.47	27.51	27.44	27.38	27.39	27.50	27.73	27.88	27.75	27.52	27.74	27.77	28.00
<b>Information</b> .....	22.06	23.23	23.60	23.68	23.53	23.68	23.84	23.80	23.74	23.93	23.82	23.76	23.82	23.87	24.19
<b>Financial activities</b> .....	17.94	18.80	19.02	19.22	19.19	19.27	19.29	19.42	19.49	19.66	19.54	19.55	19.68	19.66	19.86
<b>Professional and business services</b> .....	18.08	19.12	19.19	19.50	19.44	19.67	19.81	19.95	19.88	20.13	19.95	19.96	20.27	20.03	20.36
<b>Education and health services</b> .....	16.71	17.38	17.53	17.55	17.62	17.68	17.78	17.76	17.79	17.80	17.84	17.92	18.08	18.10	18.23
<b>Leisure and hospitality</b> .....	9.38	9.75	9.83	9.90	10.00	10.13	10.15	10.24	10.23	10.30	10.33	10.29	10.33	10.39	10.52
<b>Other services</b> .....	14.34	14.77	14.89	14.91	14.93	15.06	15.07	15.10	15.11	15.20	15.15	15.13	15.15	15.19	15.37

<sup>1</sup> Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

16. Average weekly earnings of production or nonsupervisory workers<sup>1</sup> on private nonfarm payrolls, by industry

Industry	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>P</sup>	Sept. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	\$544.33	\$567.87	\$573.25	\$582.08	\$574.26	\$578.67	\$573.14	\$574.81	\$580.31	\$587.83	\$582.34	\$588.20	\$595.76	\$591.60	\$602.60
Seasonally adjusted.....	-	-	570.54	574.27	574.26	578.67	577.98	578.29	583.42	583.05	585.42	589.86	589.81	591.50	593.19
<b>GOODS-PRODUCING</b> .....	705.31	729.87	742.56	746.83	739.53	753.17	728.97	723.10	741.34	742.90	754.75	765.47	756.95	768.10	775.97
<b>Natural resources and mining</b> .....	853.71	908.01	912.46	940.06	942.75	939.82	924.11	942.69	946.59	954.86	953.30	960.96	956.30	962.98	981.62
<b>CONSTRUCTION</b> .....	750.22	781.04	799.76	811.87	792.30	806.44	773.92	764.83	794.51	791.81	819.01	829.33	827.40	833.85	839.22
<b>Manufacturing</b> .....	673.37	690.83	698.83	697.56	697.52	712.65	695.23	689.72	701.17	704.79	706.51	715.88	703.48	717.54	724.75
Durable goods.....	712.95	731.81	740.48	740.90	738.03	757.68	733.75	730.57	743.81	745.72	750.17	763.00	743.09	762.85	768.03
Wood products.....	526.65	533.44	535.79	543.04	533.13	540.14	522.35	514.90	532.34	537.20	541.68	553.88	546.16	543.44	547.20
Nonmetallic mineral products.....	700.78	713.34	719.84	715.03	698.37	709.35	685.93	680.81	708.51	711.49	723.78	741.75	731.45	735.20	739.07
Primary metals.....	815.78	842.94	859.58	843.47	858.26	857.75	839.38	827.32	835.06	845.38	835.64	850.85	846.58	841.88	842.47
Fabricated metal products.....	647.34	668.84	674.34	679.67	674.41	685.55	667.90	663.82	678.53	678.96	682.69	685.97	681.86	692.63	700.12
Machinery.....	716.55	728.99	733.55	745.12	744.54	768.10	736.52	740.46	749.63	750.90	746.17	750.19	754.63	750.48	763.12
Computer and electronic products.....	735.59	767.86	778.71	781.55	778.41	808.24	785.56	784.76	792.65	797.57	802.37	812.37	800.39	812.81	826.97
Electrical equipment and appliances.....	618.97	635.87	641.57	643.96	638.28	653.95	641.78	641.15	647.54	654.72	656.37	668.38	661.26	658.38	670.12
Transportation equipment.....	938.03	957.43	973.63	961.18	961.48	992.34	961.72	953.02	972.66	969.69	984.84	1,008.47	940.99	1,011.22	1,009.15
Furniture and related products.....	527.35	535.35	549.41	550.37	552.09	560.96	546.06	540.93	554.45	554.68	553.52	568.80	562.91	576.69	571.53
Miscellaneous manufacturing.....	545.21	556.16	559.99	561.44	560.82	568.67	558.34	548.10	563.86	554.79	556.61	577.42	570.57	577.12	582.52
Nondurable goods.....	608.95	621.78	629.24	626.59	627.41	635.82	629.71	619.95	628.82	638.52	634.92	638.86	638.23	641.31	651.71
Food manufacturing.....	508.55	526.02	538.24	535.70	543.02	547.86	539.48	529.20	541.08	540.95	545.80	547.16	551.89	556.65	568.14
Beverages and tobacco products.....	751.54	741.31	744.79	745.38	746.20	740.94	718.59	709.24	745.15	774.90	761.78	757.95	762.38	740.06	747.85
Textile mills.....	498.47	509.41	514.93	516.65	513.42	524.15	523.74	521.24	520.09	525.20	519.47	526.58	519.95	524.04	537.34
Textile product mills.....	455.52	477.56	480.80	464.13	480.40	477.19	472.01	470.03	474.81	473.62	470.84	488.38	485.62	474.81	477.12
Apparel.....	366.17	387.27	388.33	395.38	390.66	390.49	406.54	399.26	394.83	403.92	408.03	413.87	413.27	410.67	409.59
Leather and allied products.....	441.96	445.50	441.58	452.80	443.51	452.79	449.44	445.61	449.96	447.50	463.34	454.86	449.07	450.58	461.73
Paper and paper products.....	764.04	772.26	787.71	778.30	777.96	783.89	772.65	754.77	775.43	792.36	789.66	795.63	799.50	788.73	812.05
Printing and related support activities.....	604.73	618.81	627.26	630.04	627.64	634.81	620.93	625.28	625.28	628.80	617.70	620.41	621.70	638.18	644.91
Petroleum and coal products.....	1,114.51	1,084.03	1,093.25	1,099.74	1,109.58	1,054.24	1,115.52	1,088.12	1,082.57	1,115.45	1,102.71	1,094.91	1,115.17	1,103.16	1,143.19
Chemicals.....	831.76	833.59	833.55	825.85	823.62	842.49	824.17	817.19	815.37	833.73	817.89	821.24	822.62	819.27	820.95
Plastics and rubber products.....	591.58	607.82	614.73	609.69	609.12	626.11	622.50	610.32	621.27	632.72	628.42	638.98	623.02	637.26	646.10
<b>PRIVATE SERVICE-PROVIDING</b> .....	509.58	532.84	536.54	545.44	537.80	542.05	539.84	543.77	544.82	555.83	546.84	550.55	560.55	553.48	567.11
<b>Trade, transportation, and utilities</b> .....	498.43	514.61	523.15	523.82	515.70	517.78	513.57	514.89	518.35	526.81	522.81	529.87	536.50	530.98	542.74
Wholesale trade.....	685.00	718.30	723.51	734.98	728.08	731.12	723.75	727.65	729.20	751.91	738.42	743.79	758.07	747.19	767.42
Retail trade.....	377.58	383.16	388.62	386.08	379.36	384.06	378.16	376.51	380.93	387.09	384.38	388.51	394.13	389.73	396.95
Transportation and warehousing.....	618.58	637.14	649.62	652.00	648.51	648.14	639.77	637.57	646.12	647.96	645.84	659.27	667.00	666.55	670.28
Utilities.....	1,095.90	1,136.08	1,145.50	1,160.92	1,149.74	1,144.48	1,136.69	1,157.75	1,170.21	1,184.90	1,179.38	1,172.35	1,181.72	1,180.23	1,206.80
<b>Information</b> .....	805.00	850.81	868.48	878.53	856.49	864.32	863.01	866.32	864.14	880.62	857.52	860.11	883.72	868.87	892.61
<b>Financial activities</b> .....	645.10	672.40	673.31	699.61	683.16	689.87	688.65	695.24	695.79	719.56	693.67	699.89	718.32	699.90	720.92
<b>Professional and business services</b> .....	618.87	662.23	663.97	684.45	672.62	678.62	673.54	686.28	687.85	706.56	692.27	694.61	709.45	697.04	716.67
<b>Education and health services</b> .....	544.59	564.95	569.73	572.13	570.89	572.83	576.07	573.65	576.40	582.06	576.23	582.40	594.83	590.06	599.77
<b>Leisure and hospitality</b> .....	241.36	250.11	251.65	256.41	253.00	257.30	251.72	257.02	258.82	264.71	263.42	265.48	271.68	270.14	269.31
<b>Other services</b> .....	443.37	456.60	458.61	462.21	459.84	463.85	461.14	462.06	465.39	469.68	468.14	469.03	471.17	470.89	476.47

1 Data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available. p = preliminary.

**17. Diffusion indexes of employment change, seasonally adjusted**

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Private nonfarm payrolls, 278 industries												
Over 1-month span:												
2002.....	43.5	37.2	33.6	38.8	40.8	38.5	39.2	41.7	48.0	50.2	52.2	52.9
2003.....	51.6	50.2	62.1	64.9	59.9	57.6	56.5	51.4	56.5	55.0	51.4	55.6
2004.....	52.5	61.3	52.7	60.8	54.9	58.5	59.0	60.4	53.6	53.1	62.2	60.4
2005.....	64.2	64.6	64.0	62.8	56.7	55.9	59.4	55.9	55.8	57.7	53.6	57.6
2006.....	54.9	54.7	55.0	52.9	57.9	51.8	57.4	53.2	55.6			
Over 3-month span:												
2002.....	39.6	33.8	34.9	33.8	35.3	42.3	39.2	34.4	42.6	48.6	48.7	50.2
2003.....	55.9	53.2	57.0	64.2	70.3	65.6	59.9	55.2	57.9	59.0	60.4	55.8
2004.....	51.3	55.9	56.8	61.3	57.2	59.4	62.8	63.7	59.9	53.4	57.2	62.2
2005.....	70.5	66.7	66.0	66.9	63.3	62.4	60.3	62.6	57.7	59.0	57.7	59.9
2006.....	64.6	60.6	61.2	59.4	60.1	56.5	57.4	56.3	57.2			
Over 6-month span:												
2002.....	34.7	33.1	31.1	33.3	33.5	36.5	32.7	32.4	40.8	44.8	47.7	47.5
2003.....	49.8	51.8	55.0	60.8	63.5	63.7	63.3	62.6	58.3	62.1	55.4	55.2
2004.....	54.1	57.2	57.6	56.3	56.5	58.1	65.8	63.8	61.9	59.2	62.8	60.8
2005.....	63.8	63.3	67.1	68.2	67.1	67.1	63.5	62.9	62.6	62.1	61.5	61.0
2006.....	62.2	60.3	65.3	62.8	61.7	61.3	58.8	57.0	59.0			
Over 12-month span:												
2002.....	34.5	31.5	32.9	33.5	34.2	35.1	32.7	33.1	37.1	36.7	37.2	39.2
2003.....	40.3	42.1	44.8	48.4	50.7	57.7	57.0	55.2	56.7	58.3	60.1	60.3
2004.....	60.1	61.0	59.5	58.8	58.3	60.3	60.6	62.8	60.3	58.8	59.7	61.3
2005.....	67.3	65.3	66.0	64.7	65.8	65.3	67.6	66.4	66.5	66.4	65.5	65.1
2006.....	64.6	64.4	63.8	64.0	62.6	62.2	62.1	62.2	63.7			
Manufacturing payrolls, 84 industries												
Over 1-month span:												
2002.....	34.5	17.3	17.3	10.7	22.0	17.3	17.3	31.5	26.8	38.1	42.3	42.3
2003.....	41.1	45.2	47.0	63.1	50.0	48.2	56.5	43.5	41.7	43.5	40.5	42.3
2004.....	36.9	48.2	43.5	48.2	38.7	37.5	42.3	45.8	44.0	44.6	48.2	51.8
2005.....	63.1	48.2	56.0	53.0	47.0	58.9	51.2	44.6	40.5	47.6	43.5	38.7
2006.....	52.4	38.7	30.4	33.3	42.3	42.9	51.8	29.2	41.7			
Over 3-month span:												
2002.....	15.5	11.3	13.7	9.5	8.9	11.9	15.5	15.5	17.9	29.2	30.4	33.3
2003.....	45.2	42.9	43.5	57.7	60.1	58.3	55.4	46.4	47.0	42.9	42.9	37.5
2004.....	35.1	39.9	40.5	42.3	35.1	33.9	40.5	41.7	42.3	40.5	39.9	43.5
2005.....	56.5	52.4	52.4	51.2	47.6	54.8	48.2	52.4	39.3	42.3	35.7	39.9
2006.....	48.2	38.1	42.9	31.0	33.3	38.1	37.5	33.3	34.5			
Over 6-month span:												
2002.....	11.9	11.3	7.1	8.3	9.5	10.7	7.1	9.5	12.5	16.1	25.0	24.4
2003.....	28.0	32.7	35.1	47.0	50.0	52.4	54.2	52.4	48.8	51.2	41.1	38.7
2004.....	31.5	35.1	36.3	34.5	32.1	33.3	44.0	39.3	32.1	36.9	34.5	39.3
2005.....	42.9	41.7	50.0	50.6	51.2	53.0	45.8	45.8	47.6	45.2	44.6	39.9
2006.....	39.9	37.5	37.5	36.9	36.3	38.1	35.1	29.2	31.0			
Over 12-month span:												
2002.....	10.7	6.0	6.5	6.0	8.3	7.1	7.1	8.3	10.7	10.7	9.5	10.7
2003.....	13.1	14.3	13.1	20.2	23.2	35.7	36.9	38.1	36.3	44.0	44.6	44.6
2004.....	44.6	44.6	41.7	40.5	37.5	36.3	32.1	33.9	32.7	33.3	33.3	37.5
2005.....	44.6	40.5	40.5	40.5	39.3	42.3	48.8	48.8	44.6	45.2	43.5	41.7
2006.....	41.7	42.3	39.3	39.9	36.3	33.3	32.7	33.3	33.3			

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment.

See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

Data for the two most recent months are preliminary.

### 18. Job openings levels and rates by industry and region, seasonally adjusted

Industry and region	Levels <sup>1</sup> (in thousands)							Percent							
	2007							2007							
	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	
Total <sup>2</sup> .....	4,176	4,170	4,095	4,280	4,186	4,168	4,148	2.9	2.9	2.9	3.0	2.9	2.9	2.9	
<b>Industry</b>															
Total private <sup>2</sup> .....	3,702	3,683	3,627	3,810	3,711	3,709	3,695	3.1	3.1	3.0	3.2	3.1	3.1	3.1	
Construction.....	152	154	157	139	167	149	186	1.9	2.0	2.0	1.8	2.1	1.9	2.4	
Manufacturing.....	316	350	345	344	340	328	329	2.2	2.4	2.4	2.4	2.4	2.3	2.3	
Trade, transportation, and utilities.....	677	669	609	676	684	703	671	2.5	2.5	2.3	2.5	2.5	2.6	2.5	
Professional and business services.....	758	735	654	763	693	676	669	4.1	4.0	3.5	4.1	3.7	3.6	3.6	
Education and health services.....	685	706	703	711	717	700	720	3.6	3.7	3.7	3.7	3.7	3.6	3.7	
Leisure and hospitality.....	574	512	571	568	547	585	620	4.1	3.7	4.0	4.0	3.9	4.1	4.4	
Government.....	470	488	468	465	475	449	453	2.1	2.1	2.1	2.0	2.1	2.0	2.0	
<b>Region<sup>3</sup></b>															
Northeast.....	703	675	674	732	741	682	658	2.7	2.6	2.5	2.8	2.8	2.6	2.5	
South.....	1,658	1,670	1,648	1,635	1,612	1,690	1,688	3.3	3.3	3.2	3.2	3.2	3.3	3.3	
Midwest.....	797	779	799	805	754	778	823	2.4	2.4	2.4	2.5	2.3	2.4	2.5	
West.....	1,027	1,038	970	1,106	1,120	1,024	998	3.2	3.3	3.1	3.5	3.5	3.2	3.1	

<sup>1</sup> Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

<sup>2</sup> Includes natural resources and mining, information, financial activities, and other services, not shown separately.

<sup>3</sup> **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia,

West Virginia; **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The job openings level is the number of job openings on the last business day of the month; the job openings rate is the number of job openings on the last business day of the month as a percent of total employment plus job openings.

<sup>P</sup> = preliminary.

### 19. Hires levels and rates by industry and region, seasonally adjusted

Industry and region	Levels <sup>1</sup> (in thousands)							Percent							
	2007							2007							
	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	
Total <sup>2</sup> .....	4,815	4,832	4,982	4,741	4,802	4,836	4,677	3.5	3.5	3.6	3.4	3.5	3.5	3.4	
<b>Industry</b>															
Total private <sup>2</sup> .....	4,416	4,423	4,503	4,335	4,443	4,369	4,280	3.8	3.8	3.9	3.7	3.8	3.8	3.7	
Construction.....	356	330	351	358	408	371	337	4.6	4.3	4.6	4.7	5.3	4.9	4.4	
Manufacturing.....	318	350	356	355	359	349	344	2.3	2.5	2.5	2.5	2.6	2.5	2.5	
Trade, transportation, and utilities.....	1,006	1,028	1,044	910	924	922	971	3.8	3.9	3.9	3.4	3.5	3.5	3.7	
Professional and business services.....	881	828	935	865	879	797	799	4.9	4.6	5.2	4.8	4.9	4.4	4.5	
Education and health services.....	497	507	507	493	502	501	441	2.7	2.8	2.8	2.7	2.7	2.7	2.4	
Leisure and hospitality.....	867	903	873	854	874	901	891	6.4	6.7	6.5	6.3	6.4	6.6	6.5	
Government.....	404	421	409	395	385	396	377	1.8	1.9	1.8	1.8	1.7	1.8	1.7	
<b>Region<sup>3</sup></b>															
Northeast.....	740	759	705	684	750	761	697	2.9	2.9	2.7	2.6	2.9	2.9	2.7	
South.....	1,835	1,894	1,960	1,842	1,898	1,841	1,816	3.7	3.8	4.0	3.7	3.8	3.7	3.7	
Midwest.....	1,105	1,069	1,101	1,082	1,039	1,081	1,114	3.5	3.4	3.5	3.4	3.3	3.4	3.5	
West.....	1,157	1,122	1,143	1,117	1,135	1,148	1,054	3.8	3.6	3.7	3.6	3.7	3.7	3.4	

<sup>1</sup> Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

<sup>2</sup> Includes natural resources and mining, information, financial activities, and other services, not shown separately.

<sup>3</sup> **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;

**Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The hires level is the number of hires during the entire month; the hires rate is the number of hires during the entire month as a percent of total employment.

<sup>P</sup> = preliminary.

**20. Total separations levels and rates by industry and region, seasonally adjusted**

Industry and region	Levels <sup>1</sup> (in thousands)							Percent							
	2007							2007							
	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	
Total <sup>2</sup> .....	4,741	4,524	4,544	4,543	4,507	4,446	4,355	3.4	3.3	3.3	3.3	3.3	3.2	3.2	
<b>Industry</b>															
Total private <sup>2</sup> .....	4,417	4,227	4,233	4,234	4,173	4,120	4,046	3.8	3.7	3.7	3.7	3.6	3.6	3.5	
Construction.....	344	360	346	363	384	371	365	4.5	4.7	4.5	4.7	5.0	4.9	4.8	
Manufacturing.....	400	380	396	382	379	380	375	2.8	2.7	2.8	2.7	2.7	2.7	2.7	
Trade, transportation, and utilities.....	974	975	950	974	987	926	914	3.7	3.7	3.6	3.7	3.7	3.5	3.4	
Professional and business services.....	876	805	775	728	733	742	790	4.9	4.5	4.3	4.1	4.1	4.1	4.4	
Education and health services.....	429	414	437	473	414	430	389	2.4	2.3	2.4	2.6	2.2	2.3	2.1	
Leisure and hospitality.....	846	861	833	850	837	808	734	6.3	6.4	6.2	6.3	6.2	6.0	5.4	
Government.....	315	311	315	310	323	322	297	1.4	1.4	1.4	1.4	1.5	1.4	1.3	
<b>Region<sup>3</sup></b>															
Northeast.....	667	640	642	634	622	667	634	2.6	2.5	2.5	2.5	2.4	2.6	2.5	
South.....	1,829	1,904	1,798	1,699	1,744	1,710	1,703	3.7	3.9	3.6	3.4	3.5	3.5	3.4	
Midwest.....	1,006	981	1,024	1,033	1,014	1,038	1,014	3.2	3.1	3.2	3.2	3.2	3.3	3.2	
West.....	1,165	1,040	1,062	1,191	1,149	1,053	1,025	3.8	3.4	3.4	3.9	3.7	3.4	3.3	

<sup>1</sup> Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

<sup>2</sup> Includes natural resources and mining, information, financial activities, and other services, not shown separately.

<sup>3</sup> **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;

**Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The total separations level is the number of total separations during the entire month; the total separations rate is the number of total separations during the entire month as a percent of total employment.

<sup>P</sup>= preliminary

**21. Quits levels and rates by industry and region, seasonally adjusted**

Industry and region	Levels <sup>1</sup> (in thousands)							Percent							
	2007							2007							
	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>	
Total <sup>2</sup> .....	2,763	2,637	2,686	2,627	2,640	2,539	2,440	2.0	1.9	1.9	1.9	1.9	1.8	1.8	
<b>Industry</b>															
Total private <sup>2</sup> .....	2,591	2,486	2,530	2,475	2,493	2,391	2,282	2.2	2.2	2.2	2.1	2.2	2.1	2.0	
Construction.....	131	126	124	129	176	145	139	1.7	1.6	1.6	1.7	2.3	1.9	1.8	
Manufacturing.....	216	199	216	195	186	202	183	1.5	1.4	1.5	1.4	1.3	1.4	1.3	
Trade, transportation, and utilities.....	608	600	606	618	572	545	542	2.3	2.3	2.3	2.3	2.2	2.1	2.0	
Professional and business services.....	461	418	424	411	418	395	410	2.6	2.3	2.4	2.3	2.3	2.2	2.3	
Education and health services.....	267	274	284	271	276	270	239	1.5	1.5	1.6	1.5	1.5	1.5	1.3	
Leisure and hospitality.....	590	592	551	595	597	557	463	4.4	4.4	4.1	4.4	4.4	4.1	3.4	
Government.....	155	153	157	152	148	148	147	.7	.7	.7	.7	.7	.7	.7	
<b>Region<sup>3</sup></b>															
Northeast.....	352	350	331	380	314	313	316	1.4	1.4	1.3	1.5	1.2	1.2	1.2	
South.....	1,150	1,163	1,162	1,049	1,097	1,070	995	2.3	2.4	2.4	2.1	2.2	2.2	2.0	
Midwest.....	588	544	551	555	553	564	541	1.9	1.7	1.7	1.7	1.7	1.8	1.7	
West.....	665	590	643	648	669	598	577	2.2	1.9	2.1	2.1	2.2	1.9	1.9	

<sup>1</sup> Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

<sup>2</sup> Includes natural resources and mining, information, financial activities, and other services, not shown separately.

<sup>3</sup> **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;

**Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The quits level is the number of quits during the entire month; the quits rate is the number of quits during the entire month as a percent of total employment.

<sup>P</sup> = preliminary.

22. Quarterly Census of Employment and Wages: 10 largest counties, first quarter 2007.

County by NAICS supersector	Establishments, first quarter 2007 (thousands)	Employment		Average weekly wage <sup>1</sup>	
		March 2007 (thousands)	Percent change, March 2006-07 <sup>2</sup>	First quarter 2007	Percent change, first quarter 2006-07 <sup>2</sup>
United States <sup>3</sup> .....	8,947.1	134,320.6	1.4	\$885	5.1
Private industry .....	8,667.5	112,574.0	1.4	892	5.2
Natural resources and mining .....	123.7	1,683.1	3.2	925	4.0
Construction .....	885.8	7,298.4	.0	859	4.4
Manufacturing .....	361.2	13,862.4	-1.7	1,061	3.8
Trade, transportation, and utilities .....	1,906.6	25,963.5	1.4	731	3.4
Information .....	143.0	3,011.6	-.8	1,438	4.6
Financial activities .....	865.2	8,139.4	.5	1,891	12.2
Professional and business services .....	1,455.9	17,617.5	2.7	1,083	6.2
Education and health services .....	813.1	17,314.4	2.8	740	3.6
Leisure and hospitality .....	716.7	12,938.1	2.4	351	4.2
Other services .....	1,154.7	4,395.2	1.6	527	3.9
Government .....	279.6	21,746.6	1.1	850	4.4
Los Angeles, CA .....	401.3	4,210.2	.4	974	3.3
Private industry .....	397.3	3,616.3	.3	957	3.5
Natural resources and mining .....	.5	12.3	6.0	1,512	19.9
Construction .....	14.1	158.9	2.2	952	7.4
Manufacturing .....	15.4	453.9	-3.0	1,034	3.4
Trade, transportation, and utilities .....	55.7	807.7	.8	785	2.1
Information .....	8.8	210.0	2.3	1,733	2.9
Financial activities .....	25.2	247.9	( <sup>4</sup> )	1,806	8.9
Professional and business services .....	43.1	607.9	-1.1	1,108	1.1
Education and health services .....	28.0	478.6	1.1	825	3.5
Leisure and hospitality .....	26.9	392.6	1.9	518	5.1
Other services .....	179.6	246.3	1.0	421	4.5
Government .....	4.0	593.9	( <sup>4</sup> )	1,079	2.7
Cook, IL .....	136.9	2,510.1	.8	1,117	6.5
Private industry .....	135.7	2,197.0	1.0	1,133	6.8
Natural resources and mining .....	.1	1.2	-3.6	992	.5
Construction .....	11.9	88.3	-1.0	1,202	2.7
Manufacturing .....	7.1	237.9	-1.2	1,044	5.3
Trade, transportation, and utilities .....	27.5	472.5	.4	818	2.8
Information .....	2.6	58.3	-.5	1,799	9.9
Financial activities .....	15.7	216.7	-.3	2,780	15.9
Professional and business services .....	27.9	429.6	1.9	1,353	4.4
Education and health services .....	13.4	368.6	2.5	804	4.8
Leisure and hospitality .....	11.4	224.2	2.5	407	5.2
Other services .....	13.8	95.1	.0	701	5.1
Government .....	1.2	313.1	-.8	1,007	4.5
New York, NY .....	116.7	2,331.5	2.3	2,821	16.7
Private industry .....	116.5	1,883.8	2.8	3,261	17.4
Natural resources and mining .....	.0	.1	-10.0	2,411	-4.0
Construction .....	2.2	32.7	5.4	1,469	5.8
Manufacturing .....	2.9	37.3	-5.0	1,591	14.6
Trade, transportation, and utilities .....	21.2	242.2	1.6	1,202	6.6
Information .....	4.1	131.7	.7	2,586	6.2
Financial activities .....	17.9	372.3	2.7	10,156	24.2
Professional and business services .....	23.4	475.5	3.1	2,258	10.1
Education and health services .....	8.4	289.7	1.8	954	3.1
Leisure and hospitality .....	10.7	202.9	3.4	769	4.5
Other services .....	17.0	84.9	1.3	961	5.7
Government .....	.2	447.7	.4	982	3.3
Harris, TX .....	94.5	1,985.7	3.8	1,125	8.5
Private industry .....	94.1	1,737.8	4.1	1,160	8.6
Natural resources and mining .....	1.4	76.7	11.0	3,237	3.4
Construction .....	6.3	148.1	4.5	1,009	7.8
Manufacturing .....	4.5	179.2	5.6	1,483	6.6
Trade, transportation, and utilities .....	21.2	411.7	2.3	1,048	10.0
Information .....	1.3	32.6	4.6	1,419	8.1
Financial activities .....	10.3	119.2	2.7	1,673	13.9
Professional and business services .....	18.4	328.9	4.1	1,227	9.7
Education and health services .....	9.8	206.9	4.4	800	4.2
Leisure and hospitality .....	7.0	171.2	2.5	374	1.9
Other services .....	10.8	56.9	1.8	602	5.6
Government .....	.4	248.0	1.5	882	6.7
Maricopa, AZ .....	95.5	1,828.2	1.7	857	4.4
Private industry .....	94.9	1,609.9	1.5	856	4.3
Natural resources and mining .....	.5	9.2	4.1	818	9.5
Construction .....	10.0	166.1	-6.5	867	1.8
Manufacturing .....	3.5	133.2	-2.0	1,190	.3
Trade, transportation, and utilities .....	20.2	370.3	2.1	819	5.5
Information .....	1.6	29.8	-5.1	1,157	6.6
Financial activities .....	12.1	151.3	.4	1,250	3.6
Professional and business services .....	20.6	315.6	3.5	850	8.3
Education and health services .....	9.2	194.8	4.7	849	5.2
Leisure and hospitality .....	6.7	184.0	3.4	404	6.9
Other services .....	6.8	49.9	4.9	558	2.0
Government .....	.6	218.3	2.9	859	4.1

See footnotes at end of table.

22. Continued—Quarterly Census of Employment and Wages: 10 largest counties, first quarter 2007.

County by NAICS supersector	Establishments, first quarter 2007 (thousands)	Employment		Average weekly wage <sup>1</sup>	
		March 2007 (thousands)	Percent change, March 2006-07 <sup>2</sup>	First quarter 2007	Percent change, first quarter 2006-07 <sup>2</sup>
Orange, CA .....	95.8	1,516.1	0.1	\$1,001	3.2
Private industry .....	94.4	1,361.1	-2	986	2.9
Natural resources and mining .....	.2	6.4	-7.1	555	4.9
Construction .....	7.1	103.5	-2.5	1,074	5.4
Manufacturing .....	5.5	177.5	( <sup>4</sup> )	1,157	( <sup>4</sup> )
Trade, transportation, and utilities .....	17.9	275.0	-3	916	( <sup>4</sup> )
Information .....	1.4	30.4	-3.3	1,431	.1
Financial activities .....	11.5	134.2	( <sup>4</sup> )	1,660	3.4
Professional and business services .....	19.3	276.8	( <sup>4</sup> )	1,048	( <sup>4</sup> )
Education and health services .....	9.8	139.9	2.9	848	4.4
Leisure and hospitality .....	7.0	169.8	2.8	392	6.5
Other services .....	14.6	47.6	-1	558	4.3
Government .....	1.4	155.0	2.9	1,140	5.4
Dallas, TX .....	67.5	1,469.4	3.2	1,092	5.2
Private industry .....	67.0	1,306.2	3.4	1,116	5.1
Natural resources and mining .....	.5	7.0	-4.6	2,910	-3.5
Construction .....	4.3	81.0	4.4	943	5.1
Manufacturing .....	3.2	143.6	.3	1,352	7.0
Trade, transportation, and utilities .....	14.7	302.5	2.1	980	3.5
Information .....	1.7	48.6	-5.2	1,616	5.2
Financial activities .....	8.6	146.1	3.3	1,816	10.9
Professional and business services .....	14.1	267.1	6.1	1,166	3.8
Education and health services .....	6.4	143.3	6.9	856	1.7
Leisure and hospitality .....	5.1	124.5	3.9	517	7.9
Other services .....	6.3	38.2	-2.9	605	3.4
Government .....	.5	163.2	1.8	895	4.6
San Diego, CA .....	93.3	1,319.8	.4	930	3.2
Private industry .....	92.0	1,096.3	.3	920	2.6
Natural resources and mining .....	.8	11.3	-3.0	513	2.0
Construction .....	7.3	88.5	-5.7	950	2.0
Manufacturing .....	3.3	102.8	-1.7	1,248	3.7
Trade, transportation, and utilities .....	14.7	219.6	1.1	745	2.3
Information .....	1.3	37.6	1.6	1,994	-13.1
Financial activities .....	10.1	81.8	-2.7	1,362	7.8
Professional and business services .....	16.5	214.8	.2	1,135	6.1
Education and health services .....	8.1	127.5	2.3	813	4.5
Leisure and hospitality .....	6.9	156.8	3.5	416	6.4
Other services .....	23.1	55.6	2.4	475	2.4
Government .....	1.3	223.5	1.1	977	6.3
King, WA .....	75.1	1,157.5	3.7	1,080	3.5
Private industry .....	74.6	1,004.1	4.2	1,095	3.4
Natural resources and mining .....	.4	3.1	4.7	1,618	16.4
Construction .....	6.8	68.6	12.3	1,017	5.3
Manufacturing .....	2.5	111.2	2.9	1,374	-3.0
Trade, transportation, and utilities .....	14.9	216.2	2.9	940	4.7
Information .....	1.8	74.1	7.1	1,907	4.4
Financial activities .....	7.0	76.1	-8	1,673	9.4
Professional and business services .....	12.8	183.5	6.4	1,258	2.3
Education and health services .....	6.3	119.7	3.2	793	1.4
Leisure and hospitality .....	6.0	106.8	4.0	451	1.3
Other services .....	16.1	44.8	1.8	557	6.3
Government .....	.5	153.4	.1	988	4.9
Miami-Dade, FL .....	85.8	1,025.1	1.4	862	3.9
Private industry .....	85.5	872.1	1.4	830	3.8
Natural resources and mining .....	.5	11.5	1.2	455	-4.8
Construction .....	6.0	53.4	6.5	831	-1.8
Manufacturing .....	2.6	48.0	-2.0	763	1.2
Trade, transportation, and utilities .....	23.1	251.2	.9	773	4.2
Information .....	1.5	20.8	-5	1,383	6.8
Financial activities .....	10.3	71.3	.0	1,442	5.9
Professional and business services .....	17.3	137.2	-2.0	981	6.6
Education and health services .....	8.8	135.2	3.4	772	4.0
Leisure and hospitality .....	5.7	104.4	2.3	498	-1.8
Other services .....	7.6	35.7	3.4	520	8.6
Government .....	.3	153.0	1.5	1,044	4.5

<sup>1</sup> Average weekly wages were calculated using unrounded data.

Virgin Islands.

<sup>2</sup> Percent changes were computed from quarterly employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

<sup>4</sup> Data do not meet BLS or State agency disclosure standards.

<sup>3</sup> Totals for the United States do not include data for Puerto Rico or the

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

23. Quarterly Census of Employment and Wages: by State, first quarter 2007.

State	Establishments, first quarter 2007 (thousands)	Employment		Average weekly wage <sup>1</sup>	
		March 2007 (thousands)	Percent change, March 2006-07	First quarter 2007	Percent change, first quarter 2006-07
United States <sup>2</sup> .....	8,947.1	134,320.6	1.4	\$885	5.1
Alabama .....	118.8	1,953.7	1.6	716	3.5
Alaska .....	21.0	299.8	1.1	831	5.2
Arizona .....	156.1	2,667.2	1.8	803	4.7
Arkansas .....	82.5	1,179.9	.7	642	3.2
California .....	1,311.2	15,569.4	1.2	988	3.9
Colorado .....	177.0	2,262.4	2.3	889	3.6
Connecticut .....	112.3	1,665.0	.9	1,263	6.1
Delaware .....	29.4	416.6	.4	986	2.1
District of Columbia .....	31.9	674.4	1.1	1,428	4.7
Florida .....	601.6	8,093.4	.9	764	3.4
Georgia .....	268.0	4,065.1	1.9	837	4.9
Hawaii .....	38.6	626.4	1.6	748	4.2
Idaho .....	56.1	645.0	3.4	636	4.6
Illinois .....	355.5	5,795.7	1.1	956	4.6
Indiana .....	157.6	2,880.8	.4	739	2.9
Iowa .....	92.8	1,457.6	.8	686	3.6
Kansas .....	84.7	1,349.1	2.7	720	4.7
Kentucky .....	110.7	1,791.5	.9	699	4.0
Louisiana .....	119.7	1,863.5	4.2	730	4.4
Maine .....	50.2	582.1	.9	677	3.7
Maryland .....	163.9	2,527.0	.6	939	4.6
Massachusetts .....	208.9	3,167.5	1.0	1,110	6.1
Michigan .....	257.5	4,130.2	-1.7	851	4.0
Minnesota .....	168.8	2,629.6	.0	873	5.2
Mississippi .....	69.8	1,127.3	1.1	616	3.2
Missouri .....	173.0	2,710.1	1.1	744	2.9
Montana .....	41.9	428.8	3.0	600	4.9
Nebraska .....	57.8	899.3	1.1	667	2.8
Nevada .....	73.8	1,282.3	1.8	802	4.8
New Hampshire .....	48.5	619.8	.4	836	4.6
New Jersey .....	278.7	3,926.6	.2	1,097	5.6
New Mexico .....	53.3	819.3	3.2	685	5.9
New York .....	574.0	8,441.3	1.3	1,397	11.8
North Carolina .....	249.1	4,034.3	3.2	779	4.7
North Dakota .....	24.6	334.5	1.7	615	4.8
Ohio .....	292.3	5,241.0	-.3	793	5.3
Oklahoma .....	97.9	1,534.3	1.9	676	1.3
Oregon .....	133.5	1,707.8	2.3	755	2.7
Pennsylvania .....	339.6	5,589.6	.9	849	5.1
Rhode Island .....	36.0	472.2	.8	834	7.1
South Carolina .....	134.7	1,885.9	3.0	677	2.3
South Dakota .....	29.8	381.9	2.4	602	3.4
Tennessee .....	139.1	2,732.5	.7	738	4.7
Texas .....	545.9	10,143.0	3.3	872	5.6
Utah .....	84.9	1,203.9	5.1	696	5.3
Vermont .....	24.7	300.0	-.2	704	2.3
Virginia .....	225.9	3,644.6	1.0	901	4.4
Washington .....	213.4	2,869.9	3.1	868	4.3
West Virginia .....	48.3	700.3	.3	652	4.2
Wisconsin .....	157.5	2,727.7	.5	745	3.9
Wyoming .....	24.1	269.1	4.8	730	9.3
Puerto Rico .....	56.5	1,024.5	-2.3	476	5.3
Virgin Islands .....	3.4	45.6	-.3	687	6.3

<sup>1</sup> Average weekly wages were calculated using unrounded data.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

<sup>2</sup> Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

**24. Annual data: Quarterly Census of Employment and Wages, by ownership**

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wage per employee	Average weekly wage
<b>Total covered (UI and UCFE)</b>					
1997	7,369,473	121,044,432	\$3,674,031,718	\$30,353	\$584
1998	7,634,018	124,183,549	3,967,072,423	31,945	614
1999	7,820,860	127,042,282	4,235,579,204	33,340	641
2000	7,879,116	129,877,063	4,587,708,584	35,323	679
2001	7,984,529	129,635,800	4,695,225,123	36,219	697
2002	8,101,872	128,233,919	4,714,374,741	36,764	707
2003	8,228,840	127,795,827	4,826,251,547	37,765	726
2004	8,364,795	129,278,176	5,087,561,796	39,354	757
2005	8,571,144	131,571,623	5,351,949,496	40,677	782
2006	8,784,027	133,833,834	5,692,569,465	42,535	818
<b>UI covered</b>					
1997	7,317,363	118,233,942	\$3,553,933,885	\$30,058	\$578
1998	7,586,767	121,400,660	3,845,494,089	31,676	609
1999	7,771,198	124,255,714	4,112,169,533	33,094	636
2000	7,828,861	127,005,574	4,454,966,824	35,077	675
2001	7,933,536	126,883,182	4,560,511,280	35,943	691
2002	8,051,117	125,475,293	4,570,787,218	36,428	701
2003	8,177,087	125,031,551	4,676,319,378	37,401	719
2004	8,312,729	126,538,579	4,929,262,369	38,955	749
2005	8,518,249	128,837,948	5,188,301,929	40,270	774
2006	8,731,111	131,104,860	5,522,624,197	42,124	810
<b>Private industry covered</b>					
1997	7,121,182	102,175,161	\$3,071,807,287	\$30,064	\$578
1998	7,381,518	105,082,368	3,337,621,699	31,762	611
1999	7,560,567	107,619,457	3,577,738,557	33,244	639
2000	7,622,274	110,015,333	3,887,626,769	35,337	680
2001	7,724,965	109,304,802	3,952,152,155	36,157	695
2002	7,839,903	107,577,281	3,930,767,025	36,539	703
2003	7,963,340	107,065,553	4,015,823,311	37,508	721
2004	8,093,142	108,490,066	4,245,640,890	39,134	753
2005	8,294,662	110,611,016	4,480,311,193	40,505	779
2006	8,505,496	112,718,858	4,780,833,389	42,414	816
<b>State government covered</b>					
1997	65,352	4,214,451	\$137,057,432	\$32,521	\$625
1998	67,347	4,240,779	142,512,445	33,605	646
1999	70,538	4,296,673	149,011,194	34,681	667
2000	65,096	4,370,160	158,618,365	36,296	698
2001	64,583	4,452,237	168,358,331	37,814	727
2002	64,447	4,485,071	175,866,492	39,212	754
2003	64,467	4,481,845	179,528,728	40,057	770
2004	64,544	4,484,997	184,414,992	41,118	791
2005	66,278	4,527,514	191,281,126	42,249	812
2006	66,921	4,565,908	200,329,294	43,875	844
<b>Local government covered</b>					
1997	130,829	11,844,330	\$345,069,166	\$29,134	\$560
1998	137,902	12,077,513	365,359,945	30,251	582
1999	140,093	12,339,584	385,419,781	31,234	601
2000	141,491	12,620,081	408,721,690	32,387	623
2001	143,989	13,126,143	440,000,795	33,521	645
2002	146,767	13,412,941	464,153,701	34,605	665
2003	149,281	13,484,153	480,967,339	35,669	686
2004	155,043	13,563,517	499,206,488	36,805	708
2005	157,309	13,699,418	516,709,610	37,718	725
2006	158,695	13,820,093	541,461,514	39,179	753
<b>Federal government covered (UCFE)</b>					
1997	52,110	2,810,489	\$120,097,833	\$42,732	\$822
1998	47,252	2,782,888	121,578,334	43,688	840
1999	49,661	2,786,567	123,409,672	44,287	852
2000	50,256	2,871,489	132,741,760	46,228	889
2001	50,993	2,752,619	134,713,843	48,940	941
2002	50,755	2,758,627	143,587,523	52,050	1,001
2003	51,753	2,764,275	149,932,170	54,239	1,043
2004	52,066	2,739,596	158,299,427	57,782	1,111
2005	52,895	2,733,675	163,647,568	59,864	1,151
2006	52,916	2,728,974	169,945,269	62,274	1,198

NOTE: Data are final. Detail may not add to total due to rounding.

**25. Annual data: Quarterly Census of Employment and Wages, establishment size and employment, private ownership, by supersector, first quarter 2006**

Industry, establishments, and employment	Total	Size of establishments								
		Fewer than 5 workers <sup>1</sup>	5 to 9 workers	10 to 19 workers	20 to 49 workers	50 to 99 workers	100 to 249 workers	250 to 499 workers	500 to 999 workers	1,000 or more workers
<b>Total all industries<sup>2</sup></b>										
Establishments, first quarter .....	8,413,125	5,078,506	1,392,481	919,182	636,264	216,815	123,061	30,375	10,965	5,476
Employment, March .....	111,001,540	7,540,432	9,219,319	12,406,793	19,195,647	14,903,811	18,408,166	10,383,792	7,421,575	11,522,005
<b>Natural resources and mining</b>										
Establishments, first quarter .....	123,076	69,188	23,230	15,106	9,842	3,177	1,783	516	175	59
Employment, March .....	1,631,257	111,354	153,676	203,446	296,339	216,952	267,612	177,858	115,367	88,653
<b>Construction</b>										
Establishments, first quarter .....	861,030	558,318	141,743	84,922	52,373	15,118	6,762	1,358	337	99
Employment, March .....	7,299,087	823,891	929,155	1,140,245	1,565,409	1,027,718	994,696	454,918	220,788	142,267
<b>Manufacturing</b>										
Establishments, first quarter .....	362,959	137,311	61,852	55,135	53,364	25,712	19,573	6,423	2,469	1,120
Employment, March .....	14,098,486	240,304	415,575	757,991	1,662,309	1,798,423	3,006,794	2,207,979	1,668,696	2,340,415
<b>Trade, transportation, and utilities</b>										
Establishments, first quarter .....	1,880,255	999,688	380,100	245,926	158,053	53,502	33,590	7,071	1,796	529
Employment, March .....	25,612,515	1,663,203	2,529,630	3,293,292	4,772,401	3,695,250	5,001,143	2,419,416	1,166,322	1,071,858
<b>Information</b>										
Establishments, first quarter .....	142,974	81,209	21,094	16,356	13,313	5,553	3,568	1,141	512	228
Employment, March .....	3,037,124	113,399	140,632	223,171	411,358	384,148	544,418	392,681	355,421	471,896
<b>Financial activities</b>										
Establishments, first quarter .....	836,365	541,333	151,952	80,853	40,558	12,146	6,245	1,890	928	460
Employment, March .....	8,102,371	874,114	1,002,449	1,068,474	1,206,411	832,505	936,343	655,392	641,926	884,757
<b>Professional and business services</b>										
Establishments, first quarter .....	1,403,142	948,773	192,581	121,585	80,222	30,997	20,046	5,849	2,169	920
Employment, March .....	17,162,560	1,333,479	1,265,155	1,639,285	2,431,806	2,148,736	3,038,221	1,995,309	1,469,170	1,841,399
<b>Education and health services</b>										
Establishments, first quarter .....	787,747	375,326	175,191	112,455	72,335	26,364	18,400	4,106	1,832	1,738
Employment, March .....	16,838,748	684,886	1,163,519	1,512,272	2,177,055	1,835,664	2,754,731	1,400,469	1,282,903	4,027,249
<b>Leisure and hospitality</b>										
Establishments, first quarter .....	699,767	270,143	118,147	128,663	131,168	38,635	10,459	1,602	648	302
Employment, March .....	12,633,387	430,588	796,935	1,802,270	3,945,588	2,583,745	1,475,115	540,014	437,645	621,487
<b>Other services</b>										
Establishments, first quarter .....	1,121,269	912,768	118,306	56,724	24,734	5,570	2,629	418	99	21
Employment, March .....	4,326,368	1,087,667	771,276	747,842	718,557	377,961	388,231	139,473	63,337	32,024

<sup>1</sup> Includes establishments that reported no workers in March 2006.

NOTE: Data are final. Detail may not add to total due to rounding.

<sup>2</sup> Includes data for unclassified establishments, not shown separately.

**Table 26. Average annual wages for 2005 and 2006 for all covered workers<sup>1</sup> by metropolitan area**

Metropolitan area <sup>2</sup>	Average annual wages <sup>3</sup>		
	2005	2006	Percent change, 2005-06
Metropolitan areas <sup>4</sup> .....	\$42,253	\$44,165	4.5
Abilene, TX .....	27,876	29,842	7.1
Aguaadilla-Isabela-San Sebastian, PR .....	18,717	19,277	3.0
Akron, OH .....	37,471	38,088	1.6
Albany, GA .....	31,741	32,335	1.9
Albany-Schenectady-Troy, NY .....	39,201	41,027	4.7
Albuquerque, NM .....	35,665	36,934	3.6
Alexandria, LA .....	30,114	31,329	4.0
Allentown-Bethlehem-Easton, PA-NJ .....	38,506	39,787	3.3
Altoona, PA .....	29,642	30,394	2.5
Amarillo, TX .....	31,954	33,574	5.1
Ames, IA .....	33,889	35,331	4.3
Anchorage, AK .....	41,712	42,955	3.0
Anderson, IN .....	31,418	32,184	2.4
Anderson, SC .....	29,463	30,373	3.1
Ann Arbor, MI .....	45,820	47,186	3.0
Anniston-Oxford, AL .....	31,231	32,724	4.8
Appleton, WI .....	34,431	35,308	2.5
Asheville, NC .....	30,926	32,268	4.3
Athens-Clarke County, GA .....	32,512	33,485	3.0
Atlanta-Sandy Springs-Marietta, GA .....	44,595	45,889	2.9
Atlantic City, NJ .....	36,735	38,018	3.5
Auburn-Opelika, AL .....	29,196	30,468	4.4
Augusta-Richmond County, GA-SC .....	34,588	35,638	3.0
Austin-Round Rock, TX .....	43,500	45,737	5.1
Bakersfield, CA .....	34,165	36,020	5.4
Baltimore-Towson, MD .....	43,486	45,177	3.9
Bangor, ME .....	30,707	31,746	3.4
Barnstable Town, MA .....	35,123	36,437	3.7
Baton Rouge, LA .....	34,523	37,245	7.9
Battle Creek, MI .....	37,994	39,362	3.6
Bay City, MI .....	33,572	35,094	4.5
Beaumont-Port Arthur, TX .....	36,530	39,026	6.8
Bellingham, WA .....	31,128	32,618	4.8
Bend, OR .....	31,492	33,319	5.8
Billings, MT .....	31,748	33,270	4.8
Binghamton, NY .....	33,290	35,048	5.3
Birmingham-Hoover, AL .....	39,353	40,798	3.7
Bismarck, ND .....	31,504	32,550	3.3
Blacksburg-Christiansburg-Radford, VA .....	32,196	34,024	5.7
Bloomington, IN .....	30,080	30,913	2.8
Bloomington-Normal, IL .....	39,404	41,359	5.0
Boise City-Nampa, ID .....	34,623	36,734	6.1
Boston-Cambridge-Quincy, MA-NH .....	54,199	56,809	4.8
Boulder, CO .....	49,115	50,944	3.7
Bowling Green, KY .....	31,306	32,529	3.9
Bremerton-Silverdale, WA .....	36,467	37,694	3.4
Bridgeport-Stamford-Norwalk, CT .....	71,095	74,890	5.3
Brownsville-Harlingen, TX .....	24,893	25,795	3.6
Brunswick, GA .....	30,902	32,717	5.9
Buffalo-Niagara Falls, NY .....	35,302	36,950	4.7
Burlington, NC .....	31,084	32,835	5.6
Burlington-South Burlington, VT .....	38,582	40,548	5.1
Canton-Massillon, OH .....	32,080	33,132	3.3
Cape Coral-Fort Myers, FL .....	35,649	37,065	4.0
Carson City, NV .....	38,428	40,115	4.4
Casper, WY .....	34,810	38,307	10.0
Cedar Rapids, IA .....	37,902	38,976	2.8
Champaign-Urbana, IL .....	33,278	34,422	3.4
Charleston, WV .....	35,363	36,887	4.3
Charleston-North Charleston, SC .....	33,896	35,267	4.0
Charlotte-Gastonia-Concord, NC-SC .....	43,728	45,732	4.6
Charlottesville, VA .....	37,392	39,051	4.4
Chattanooga, TN-GA .....	33,743	35,358	4.8
Cheyenne, WY .....	32,208	35,306	9.6
Chicago-Naperville-Joliet, IL-IN-WI .....	46,609	48,631	4.3
Chico, CA .....	30,007	31,557	5.2
Cincinnati-Middletown, OH-KY-IN .....	40,343	41,447	2.7
Clarksville, TN-KY .....	29,870	30,949	3.6
Cleveland, TN .....	32,030	33,075	3.3
Cleveland-Elyria-Mentor, OH .....	39,973	41,325	3.4
Coeur d'Alene, ID .....	28,208	29,797	5.6
College Station-Bryan, TX .....	29,032	30,239	4.2
Colorado Springs, CO .....	37,268	38,325	2.8
Columbia, MO .....	31,263	32,207	3.0
Columbia, SC .....	33,386	35,209	5.5
Columbus, GA-AL .....	31,370	32,334	3.1
Columbus, IN .....	38,446	40,107	4.3
Columbus, OH .....	39,806	41,168	3.4
Corpus Christi, TX .....	32,975	35,399	7.4
Corvallis, OR .....	39,357	40,586	3.1

See footnotes at end of table.

**Table 26. Average annual wages for 2005 and 2006 for all covered workers<sup>1</sup> by metropolitan area — Continued**

Metropolitan area <sup>2</sup>	Average annual wages <sup>3</sup>		
	2005	2006	Percent change, 2005-06
Cumberland, MD-WV .....	\$28,645	\$29,859	4.2
Dallas-Fort Worth-Arlington, TX .....	45,337	47,525	4.8
Dalton, GA .....	32,848	33,266	1.3
Danville, IL .....	31,861	33,141	4.0
Danville, VA .....	28,449	28,870	1.5
Davenport-Moline-Rock Island, IA-IL .....	35,546	37,559	5.7
Dayton, OH .....	37,922	39,387	3.9
Decatur, AL .....	33,513	34,883	4.1
Decatur, IL .....	38,444	39,375	2.4
Deltona-Daytona Beach-Ormond Beach, FL .....	29,927	31,197	4.2
Denver-Aurora, CO .....	45,940	48,232	5.0
Des Moines, IA .....	39,760	41,358	4.0
Detroit-Warren-Livonia, MI .....	46,790	47,455	1.4
Dothan, AL .....	30,253	31,473	4.0
Dover, DE .....	33,132	34,571	4.3
Dubuque, IA .....	32,414	33,044	1.9
Duluth, MN-WI .....	32,638	33,677	3.2
Durham, NC .....	46,743	49,314	5.5
Eau Claire, WI .....	30,763	31,718	3.1
El Centro, CA .....	29,879	30,035	0.5
Elizabethtown, KY .....	30,912	32,072	3.8
Elkhart-Goshen, IN .....	35,573	35,878	0.9
Elmira, NY .....	32,989	33,968	3.0
El Paso, TX .....	28,666	29,903	4.3
Erie, PA .....	32,010	33,213	3.8
Eugene-Springfield, OR .....	32,295	33,257	3.0
Evansville, IN-KY .....	35,302	36,858	4.4
Fairbanks, AK .....	39,399	41,296	4.8
Fajardo, PR .....	20,011	21,002	5.0
Fargo, ND-MN .....	32,291	33,542	3.9
Farmington, NM .....	33,695	36,220	7.5
Fayetteville, NC .....	30,325	31,281	3.2
Fayetteville-Springdale-Rogers, AR-MO .....	34,598	35,734	3.3
Flagstaff, AZ .....	30,733	32,231	4.9
Flint, MI .....	37,982	39,409	3.8
Florence, SC .....	32,326	33,610	4.0
Florence-Muscle Shoals, AL .....	28,885	29,518	2.2
Fond du Lac, WI .....	32,634	33,376	2.3
Fort Collins-Loveland, CO .....	36,612	37,940	3.6
Fort Smith, AR-OK .....	29,599	30,932	4.5
Fort Walton Beach-Crestview-Destin, FL .....	32,976	34,409	4.3
Fort Wayne, IN .....	34,717	35,641	2.7
Fresno, CA .....	32,266	33,504	3.8
Gadsden, AL .....	28,438	29,499	3.7
Gainesville, FL .....	32,992	34,573	4.8
Gainesville, GA .....	33,828	34,765	2.8
Glens Falls, NY .....	31,710	32,780	3.4
Goldsboro, NC .....	28,316	29,331	3.6
Grand Forks, ND-MN .....	28,138	29,234	3.9
Grand Junction, CO .....	31,611	33,729	6.7
Grand Rapids-Wyoming, MI .....	36,941	38,056	3.0
Great Falls, MT .....	28,021	29,542	5.4
Greeley, CO .....	33,636	35,144	4.5
Green Bay, WI .....	35,467	36,677	3.4
Greensboro-High Point, NC .....	34,876	35,898	2.9
Greenville, NC .....	31,433	32,432	3.2
Greenville, SC .....	34,469	35,471	2.9
Guayama, PR .....	23,263	24,551	5.5
Gulfport-Biloxi, MS .....	31,688	34,688	9.5
Hagerstown-Martinsburg, MD-WV .....	33,202	34,621	4.3
Hanford-Corcoran, CA .....	29,989	31,148	3.9
Harrisburg-Carlisle, PA .....	39,144	39,807	1.7
Harrisonburg, VA .....	30,366	31,522	3.8
Hartford-West Hartford-East Hartford, CT .....	50,154	51,282	2.2
Hattiesburg, MS .....	28,568	30,059	5.2
Hickory-Lenoir-Morganton, NC .....	30,090	31,323	4.1
Hinesville-Fort Stewart, GA .....	30,062	31,416	4.5
Holland-Grand Haven, MI .....	36,362	36,895	1.5
Honolulu, HI .....	37,654	39,009	3.6
Hot Springs, AR .....	27,024	27,684	2.4
Houma-Bayou Cane-Thibodaux, LA .....	33,696	38,417	14.0
Houston-Baytown-Sugar Land, TX .....	47,157	50,177	6.4
Huntington-Ashland, WV-KY-OH .....	31,415	32,648	3.9
Huntsville, AL .....	42,401	44,659	5.3
Idaho Falls, ID .....	29,795	31,632	6.2
Indianapolis, IN .....	39,830	41,307	3.7
Iowa City, IA .....	34,785	35,913	3.2
Ithaca, NY .....	36,457	38,337	5.2
Jackson, MI .....	35,879	36,836	2.7
Jackson, MS .....	33,099	34,605	4.5

See footnotes at end of table.

**Table 26. Average annual wages for 2005 and 2006 for all covered workers: by metropolitan area — Continued**

Metropolitan area <sup>2</sup>	Average annual wages <sup>3</sup>		
	2005	2006	Percent change, 2005-06
Jackson, TN	\$33,286	\$34,477	3.6
Jacksonville, FL	38,224	40,192	5.1
Jacksonville, NC	24,803	25,854	4.2
Janesville, WI	34,107	36,732	7.7
Jefferson City, MO	30,991	31,771	2.5
Johnson City, TN	29,840	31,058	4.1
Johnstown, PA	29,335	29,972	2.2
Jonesboro, AR	28,550	28,972	1.5
Joplin, MO	29,152	30,111	3.3
Kalamazoo-Portage, MI	36,042	37,099	2.9
Kankakee-Bradley, IL	31,802	32,389	1.8
Kansas City, MO-KS	39,749	41,320	4.0
Kennewick-Richland-Pasco, WA	38,453	38,750	0.8
Killeen-Temple-Fort Hood, TX	30,028	31,511	4.9
Kingsport-Bristol-Bristol, TN-VA	33,568	35,100	4.6
Kingston, NY	30,752	33,697	9.6
Knoxville, TN	35,724	37,216	4.2
Kokomo, IN	44,462	45,808	3.0
La Crosse, WI-MN	31,029	31,819	2.5
Lafayette, IN	35,176	35,380	0.6
Lafayette, LA	34,729	38,170	9.9
Lake Charles, LA	33,728	35,883	6.4
Lakeland, FL	32,235	33,530	4.0
Lancaster, PA	35,264	36,171	2.6
Lansing-East Lansing, MI	38,135	39,890	4.6
Laredo, TX	27,401	28,051	2.4
Las Cruces, NM	28,569	29,969	4.9
Las Vegas-Paradise, NV	38,940	40,139	3.1
Lawrence, KS	28,492	29,896	4.9
Lawton, OK	28,459	29,830	4.8
Lebanon, PA	30,704	31,790	3.5
Lewiston, ID-WA	29,414	30,776	4.6
Lewiston-Auburn, ME	31,008	32,231	3.9
Lexington-Fayette, KY	36,683	37,926	3.4
Lima, OH	32,630	33,790	3.6
Lincoln, NE	32,711	33,703	3.0
Little Rock-North Little Rock, AR	34,920	36,169	3.6
Logan, UT-ID	25,869	26,766	3.5
Longview, TX	32,603	35,055	7.5
Longview, WA	33,993	35,140	3.4
Los Angeles-Long Beach-Santa Ana, CA	46,592	48,680	4.5
Louisville, KY-IN	37,144	38,673	4.1
Lubbock, TX	30,174	31,977	6.0
Lynchburg, VA	32,025	33,242	3.8
Macon, GA	33,110	34,126	3.1
Madera, CA	29,356	31,213	6.3
Madison, WI	38,210	40,007	4.7
Manchester-Nashua, NH	45,066	46,659	3.5
Mansfield, OH	32,688	33,171	1.5
Mayaguez, PR	19,597	20,619	5.2
McAllen-Edinburg-Pharr, TX	25,315	26,712	5.5
Medford, OR	30,502	31,697	3.9
Memphis, TN-MS-AR	39,094	40,580	3.8
Merced, CA	30,209	31,147	3.1
Miami-Fort Lauderdale-Miami Beach, FL	40,174	42,175	5.0
Michigan City-La Porte, IN	30,724	31,383	2.1
Midland, TX	38,267	42,625	11.4
Milwaukee-Waukesha-West Allis, WI	40,181	42,049	4.6
Minneapolis-St. Paul-Bloomington, MN-WI	45,507	46,931	3.1
Missoula, MT	29,627	30,652	3.5
Mobile, AL	33,496	36,126	7.9
Modesto, CA	34,325	35,468	3.3
Monroe, LA	29,264	30,618	4.6
Monroe, MI	39,449	40,938	3.8
Montgomery, AL	33,441	35,383	5.8
Morgantown, WV	31,529	32,608	3.4
Morristown, TN	31,215	31,914	2.2
Mount Vernon-Anacortes, WA	31,387	32,851	4.7
Muncie, IN	32,172	30,691	-4.6
Muskegon-Norton Shores, MI	33,035	33,949	2.8
Myrtle Beach-Conway-North Myrtle Beach, SC	26,642	27,905	4.7
Napa, CA	40,180	41,788	4.0
Naples-Marco Island, FL	38,211	39,320	2.9
Nashville-Davidson-Murfreesboro, TN	38,753	41,003	5.8
New Haven-Milford, CT	43,931	44,892	2.2
New Orleans-Metairie-Kenner, LA	37,239	42,434	14.0
New York-Northern New Jersey-Long Island, NY-NJ-PA	57,660	61,388	6.5
Niles-Benton Harbor, MI	35,029	36,967	5.5
Norwich-New London, CT	42,151	43,184	2.5
Ocala, FL	30,008	31,330	4.4

See footnotes at end of table.

**Table 26. Average annual wages for 2005 and 2006 for all covered workers: by metropolitan area — Continued**

Metropolitan area <sup>2</sup>	Average annual wages <sup>3</sup>		
	2005	2006	Percent change, 2005-06
Ocean City, NJ .....	\$31,033	\$31,801	2.5
Odessa, TX .....	33,475	37,144	11.0
Ogden-Clearfield, UT .....	31,195	32,890	5.4
Oklahoma City, OK .....	33,142	35,846	8.2
Olympia, WA .....	36,230	37,787	4.3
Omaha-Council Bluffs, NE-IA .....	36,329	38,139	5.0
Orlando, FL .....	36,466	37,776	3.6
Oshkosh-Neenah, WI .....	38,820	39,538	1.8
Owensboro, KY .....	31,379	32,491	3.5
Oxnard-Thousand Oaks-Ventura, CA .....	44,597	45,467	2.0
Palm Bay-Melbourne-Titusville, FL .....	38,287	39,778	3.9
Panama City-Lynn Haven, FL .....	31,894	33,341	4.5
Parkersburg-Marietta, WV-OH .....	30,747	32,213	4.8
Pascagoula, MS .....	34,735	36,287	4.5
Pensacola-Ferry Pass-Brent, FL .....	32,064	33,530	4.6
Peoria, IL .....	39,871	42,283	6.0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD .....	46,454	48,647	4.7
Phoenix-Mesa-Scottsdale, AZ .....	40,245	42,220	4.9
Pine Bluff, AR .....	30,794	32,115	4.3
Pittsburgh, PA .....	38,809	40,759	5.0
Pittsfield, MA .....	35,807	36,707	2.5
Pocatello, ID .....	27,686	28,418	2.6
Ponce, PR .....	19,660	20,266	3.1
Portland-South Portland-Biddeford, ME .....	35,857	36,979	3.1
Portland-Vancouver-Beaverton, OR-WA .....	41,048	42,607	3.8
Port St. Lucie-Fort Pierce, FL .....	33,235	34,408	3.5
Poughkeepsie-Newburgh-Middletown, NY .....	38,187	39,528	3.5
Prescott, AZ .....	29,295	30,625	4.5
Providence-New Bedford-Fall River, RI-MA .....	37,796	39,428	4.3
Provo-Orem, UT .....	30,395	32,308	6.3
Pueblo, CO .....	30,165	30,941	2.6
Punta Gorda, FL .....	31,937	32,370	1.4
Racine, WI .....	37,659	39,002	3.6
Raleigh-Cary, NC .....	39,465	41,205	4.4
Rapid City, SD .....	28,758	29,920	4.0
Reading, PA .....	36,210	38,048	5.1
Redding, CA .....	32,139	33,307	3.6
Reno-Sparks, NV .....	38,453	39,537	2.8
Richmond, VA .....	41,274	42,495	3.0
Riverside-San Bernardino-Ontario, CA .....	35,201	36,668	4.2
Roanoke, VA .....	32,987	33,912	2.8
Rochester, MN .....	41,296	42,941	4.0
Rochester, NY .....	37,991	39,481	3.9
Rockford, IL .....	35,652	37,424	5.0
Rocky Mount, NC .....	30,983	31,556	1.8
Rome, GA .....	33,896	34,850	2.8
Sacramento-Arden-Arcade-Roseville, CA .....	42,800	44,552	4.1
Saginaw-Saginaw Township North, MI .....	36,325	37,747	3.9
St. Cloud, MN .....	31,705	33,018	4.1
St. George, UT .....	26,046	28,034	7.6
St. Joseph, MO-KS .....	30,009	31,253	4.1
St. Louis, MO-IL .....	39,985	41,354	3.4
Salem, OR .....	31,289	32,764	4.7
Salinas, CA .....	36,067	37,974	5.3
Salisbury, MD .....	32,240	33,223	3.0
Salt Lake City, UT .....	36,857	38,630	4.8
San Angelo, TX .....	29,530	30,168	2.2
San Antonio, TX .....	35,097	36,763	4.7
San Diego-Carlsbad-San Marcos, CA .....	43,824	45,784	4.5
Sandusky, OH .....	32,631	33,526	2.7
San Francisco-Oakland-Fremont, CA .....	58,634	61,343	4.6
San German-Cabo Rojo, PR .....	18,745	19,498	4.0
San Jose-Sunnyvale-Santa Clara, CA .....	71,970	76,608	6.4
San Juan-Caguas-Guaynabo, PR .....	23,952	24,812	3.6
San Luis Obispo-Paso Robles, CA .....	33,759	35,146	4.1
Santa Barbara-Santa Maria-Goleta, CA .....	39,080	40,326	3.2
Santa Cruz-Watsonville, CA .....	38,016	40,776	7.3
Santa Fe, NM .....	33,253	35,320	6.2
Santa Rosa-Petaluma, CA .....	40,017	41,533	3.8
Sarasota-Bradenton-Venice, FL .....	33,905	35,751	5.4
Savannah, GA .....	34,104	35,684	4.6
Scranton-Wilkes-Barre, PA .....	32,057	32,813	2.4
Seattle-Tacoma-Bellevue, WA .....	46,644	49,455	6.0
Sheboygan, WI .....	35,067	35,908	2.4
Sherman-Denison, TX .....	32,800	34,166	4.2
Shreveport-Bossier City, LA .....	31,962	33,678	5.4
Sioux City, IA-NE-SD .....	31,122	31,826	2.3
Sioux Falls, SD .....	33,257	34,542	3.9
South Bend-Mishawaka, IN-MI .....	34,086	35,089	2.9
Spartanburg, SC .....	35,526	37,077	4.4

See footnotes at end of table.

**Table 26. Average annual wages for 2005 and 2006 for all covered workers<sup>1</sup> by metropolitan area — Continued**

Metropolitan area <sup>2</sup>	Average annual wages <sup>3</sup>		
	2005	2006	Percent change, 2005-06
Spokane, WA .....	\$32,621	\$34,016	4.3
Springfield, IL .....	39,299	40,679	3.5
Springfield, MA .....	36,791	37,962	3.2
Springfield, MO .....	30,124	30,786	2.2
Springfield, OH .....	30,814	31,844	3.3
State College, PA .....	34,109	35,392	3.8
Stockton, CA .....	35,030	36,426	4.0
Sumter, SC .....	27,469	29,294	6.6
Syracuse, NY .....	36,494	38,081	4.3
Tallahassee, FL .....	33,548	35,018	4.4
Tampa-St. Petersburg-Clearwater, FL .....	36,374	38,016	4.5
Terre Haute, IN .....	30,597	31,341	2.4
Texarkana, TX-Texarkana, AR .....	31,302	32,545	4.0
Toledo, OH .....	35,848	37,039	3.3
Topeka, KS .....	33,303	34,806	4.5
Trenton-Ewing, NJ .....	52,034	54,274	4.3
Tucson, AZ .....	35,650	37,119	4.1
Tulsa, OK .....	35,211	37,637	6.9
Tuscaloosa, AL .....	34,124	35,613	4.4
Tyler, TX .....	34,731	36,173	4.2
Utica-Rome, NY .....	30,902	32,457	5.0
Valdosta, GA .....	25,712	26,794	4.2
Vallejo-Fairfield, CA .....	38,431	40,225	4.7
Vero Beach, FL .....	32,591	33,823	3.8
Victoria, TX .....	34,327	36,642	6.7
Vineland-Millville-Bridgeton, NJ .....	36,387	37,749	3.7
Virginia Beach-Norfolk-Newport News, VA-NC .....	34,580	36,071	4.3
Visalia-Porterville, CA .....	28,582	29,772	4.2
Waco, TX .....	32,325	33,450	3.5
Warner Robins, GA .....	36,762	38,087	3.6
Washington-Arlington-Alexandria, DC-VA-MD-WV .....	55,525	58,057	4.6
Waterloo-Cedar Falls, IA .....	33,123	34,329	3.6
Wausau, WI .....	33,259	34,438	3.5
Weirton-Stuebenville, WV-OH .....	30,596	31,416	2.7
Wenatchee, WA .....	27,163	28,340	4.3
Wheeling, WV-OH .....	29,808	30,620	2.7
Wichita, KS .....	35,976	38,763	7.7
Wichita Falls, TX .....	29,343	30,785	4.9
Williamsport, PA .....	30,699	31,431	2.4
Wilmington, NC .....	31,792	32,948	3.6
Winchester, VA-WV .....	33,787	34,895	3.3
Winston-Salem, NC .....	36,654	37,712	2.9
Worcester, MA .....	41,094	42,726	4.0
Yakima, WA .....	27,334	28,401	3.9
Yauco, PR .....	17,818	19,001	6.6
York-Hanover, PA .....	36,834	37,226	1.1
Youngstown-Warren-Boardman, OH-PA .....	32,176	33,852	5.2
Yuba City, CA .....	32,133	33,642	4.7
Yuma, AZ .....	27,168	28,369	4.4

<sup>1</sup> Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs.

<sup>2</sup> Includes data for Metropolitan Statistical Areas (MSA) as defined by OMB Bulletin No. 04-03 as of February 18, 2004.

<sup>3</sup> Each year's total is based on the MSA definition for the specific year. Annual changes include differences resulting from changes in MSA definitions.

<sup>4</sup> Totals do not include the six MSAs within Puerto Rico.

## 27. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1996	1997 <sup>1</sup>	1998 <sup>1</sup>	1999 <sup>1</sup>	2000 <sup>1</sup>	2001	2002	2003	2004	2005	2006
Civilian noninstitutional population.....	200,591	203,133	205,220	207,753	212,577	215,092	217,570	221,168	223,357	226,082	228,815
Civilian labor force.....	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510	147,401	149,320	151,428
Labor force participation rate.....	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2	66	66	66.2
Employed.....	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736	139,252	141,730	144,427
Employment-population ratio.....	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3	62.3	62.7	63.1
Unemployed.....	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774	8,149	7,591	7,001
Unemployment rate.....	5.4	4.9	4.5	4.2	4	4.7	5.8	6	5.5	5.1	4.6
Not in the labor force.....	66,647	66,837	67,547	68,385	69,994	71,359	72,707	74,658	75,956	76,762	77,387

<sup>1</sup> Not strictly comparable with prior years.

## 28. Annual data: Employment levels by industry

[In thousands]

Industry	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total private employment.....	100,169	103,113	106,021	108,686	110,996	110,707	108,828	108,416	109,814	111,899	114,184
Total nonfarm employment.....	119,708	122,776	125,930	128,993	131,785	131,826	130,341	129,999	131,435	133,703	136,174
Goods-producing.....	23,410	23,886	24,354	24,465	24,649	23,873	22,557	21,816	21,882	22,190	22,570
Natural resources and mining.....	637	654	645	598	599	606	583	572	591	628	684
Construction.....	5,536	5,813	6,149	6,545	6,787	6,826	6,716	6,735	6,976	7,336	7,689
Manufacturing.....	17,237	17,419	17,560	17,322	17,263	16,441	15,259	14,510	14,315	14,226	14,197
Private service-providing.....	76,759	79,227	81,667	84,221	86,346	86,834	86,271	86,599	87,932	89,709	91,615
Trade, transportation, and utilities.....	24,239	24,700	25,186	25,771	26,225	25,983	25,497	25,287	25,533	25,959	26,231
Wholesale trade.....	5,522.00	5,663.90	5,795.20	5,892.50	5,933.20	5,772.70	5,652.30	5,607.50	5,662.90	5,764.40	5,897.60
Retail trade.....	14,142.50	14,388.90	14,609.30	14,970.10	15,279.80	15,238.60	15,025.10	14,917.30	15,058.20	15,279.60	15,319.30
Transportation and warehousing.....	3,935.30	4,026.50	4,168.00	4,300.30	4,410.30	4,372.00	4,223.60	4,185.40	4,248.60	4,360.90	4,465.80
Utilities.....	639.6	620.9	613.4	608.5	601.3	599.4	596.2	577	563.8	554	548.5
Information.....	2,940	3,084	3,218	3,419	3,631	3,629	3,395	3,188	3,118	3,061	3,055
Financial activities.....	6,969	7,178	7,462	7,648	7,687	7,807	7,847	7,977	8,031	8,153	8,363
Professional and business services.....	13,462	14,335	15,147	15,957	16,666	16,476	15,976	15,987	16,395	16,954	17,552
Education and health services.....	13,683	14,087	14,446	14,798	15,109	15,645	16,199	16,588	16,953	17,372	17,838
Leisure and hospitality.....	10,777	11,018	11,232	11,543	11,862	12,036	11,986	12,173	12,493	12,816	13,143
Other services.....	4,690	4,825	4,976	5,087	5,168	5,258	5,372	5,401	5,409	5,395	5,432
Government.....	19,539	19,664	19,909	20,307	20,790	21,118	21,513	21,583	21,621	21,804	21,990

**29. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry**

Industry	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Private sector:</b>											
Average weekly hours.....	34.3	34.5	34.5	34.3	34.3	34	33.9	33.7	33.7	33.8	33.9
Average hourly earnings (in dollars).....	12.04	12.51	13.01	13.49	14.02	14.54	14.97	15.37	15.69	16.13	16.76
Average weekly earnings (in dollars).....	413.28	431.86	448.56	463.15	481.01	493.79	506.72	518.06	529.09	544.33	567.87
<b>Goods-producing:</b>											
Average weekly hours.....	40.8	41.1	40.8	40.8	40.7	39.9	39.9	39.8	40	40.1	40.5
Average hourly earnings (in dollars).....	13.38	13.82	14.23	14.71	15.27	15.78	16.33	16.8	17.19	17.6	18.02
Average weekly earnings (in dollars).....	546.48	568.43	580.99	599.99	621.86	630.04	651.61	669.13	688.17	705.31	729.87
<b>Natural resources and mining</b>											
Average weekly hours.....	46	46.2	44.9	44.2	44.4	44.6	43.2	43.6	44.5	45.6	45.6
Average hourly earnings (in dollars).....	15.1	15.57	16.2	16.33	16.55	17	17.19	17.56	18.07	18.72	19.9
Average weekly earnings (in dollars).....	695.07	720.11	727.28	721.74	734.92	757.92	741.97	765.94	803.82	853.71	908.01
<b>Construction:</b>											
Average weekly hours.....	38.9	38.9	38.8	39	39.2	38.7	38.4	38.4	38.3	38.6	39
Average hourly earnings (in dollars).....	15.11	15.67	16.23	16.8	17.48	18	18.52	18.95	19.23	19.46	20.02
Average weekly earnings (in dollars).....	588.48	609.48	629.75	655.11	685.78	695.89	711.82	726.83	735.55	750.22	781.04
<b>Manufacturing:</b>											
Average weekly hours.....	41.3	41.7	41.4	41.4	41.3	40.3	40.5	40.4	40.8	40.7	41.1
Average hourly earnings (in dollars).....	12.75	13.14	13.45	13.85	14.32	14.76	15.29	15.74	16.15	16.56	16.8
Average weekly earnings (in dollars).....	526.55	548.22	557.12	573.17	590.65	595.19	618.75	635.99	658.59	673.37	690.83
<b>Private service-providing:</b>											
Average weekly hours.....	32.6	32.8	32.8	32.7	32.7	32.5	32.5	32.4	32.3	32.4	32.5
Average hourly earnings (in dollars).....	11.59	12.07	12.61	13.09	13.62	14.18	14.59	14.99	15.29	15.74	16.42
Average weekly earnings (in dollars).....	377.37	395.51	413.5	427.98	445.74	461.08	473.8	484.81	494.22	509.58	532.84
<b>Trade, transportation, and utilities:</b>											
Average weekly hours.....	34.1	34.3	34.2	33.9	33.8	33.5	33.6	33.6	33.5	33.4	33.4
Average hourly earnings (in dollars).....	11.46	11.9	12.39	12.82	13.31	13.7	14.02	14.34	14.58	14.92	15.4
Average weekly earnings (in dollars).....	390.64	407.57	423.3	434.31	449.88	459.53	471.27	481.14	488.42	498.43	514.61
<b>Wholesale trade:</b>											
Average weekly hours.....	38.6	38.8	38.6	38.6	38.8	38.4	38	37.9	37.8	37.7	38
Average hourly earnings (in dollars).....	13.8	14.41	15.07	15.62	16.28	16.77	16.98	17.36	17.65	18.16	18.91
Average weekly earnings (in dollars).....	533.29	559.39	582.21	602.77	631.4	643.45	644.38	657.29	667.09	685	718.3
<b>Retail trade:</b>											
Average weekly hours.....	38.6	38.8	38.6	38.6	38.8	38.4	38	37.9	37.8	37.7	38
Average hourly earnings (in dollars).....	13.8	14.41	15.07	15.62	16.28	16.77	16.98	17.36	17.65	18.16	18.91
Average weekly earnings (in dollars).....	533.29	559.39	582.21	602.77	631.4	643.45	644.38	657.29	667.09	685	718.3
<b>Transportation and warehousing:</b>											
Average weekly hours.....	39.1	39.4	38.7	37.6	37.4	36.7	36.8	36.8	37.2	37	36.9
Average hourly earnings (in dollars).....	13.45	13.78	14.12	14.55	15.05	15.33	15.76	16.25	16.52	16.7	17.28
Average weekly earnings (in dollars).....	525.6	542.55	546.86	547.97	562.31	562.7	579.75	598.41	614.82	618.58	637.14
<b>Utilities:</b>											
Average weekly hours.....	42	42	42	42	42	41.4	40.9	41.1	40.9	41.1	41.4
Average hourly earnings (in dollars).....	19.78	20.59	21.48	22.03	22.75	23.58	23.96	24.77	25.61	26.68	27.42
Average weekly earnings (in dollars).....	830.74	865.26	902.94	924.59	955.66	977.18	979.09	1,017.27	1,048.44	1,095.90	1,136.08
<b>Information:</b>											
Average weekly hours.....	36.4	36.3	36.6	36.7	36.8	36.9	36.5	36.2	36.3	36.5	36.6
Average hourly earnings (in dollars).....	16.3	17.14	17.67	18.4	19.07	19.8	20.2	21.01	21.4	22.06	23.23
Average weekly earnings (in dollars).....	592.68	622.4	646.52	675.32	700.89	731.11	738.17	760.81	777.05	805	850.81
<b>Financial activities:</b>											
Average weekly hours.....	35.5	35.7	36	35.8	35.9	35.8	35.6	35.5	35.5	35.9	35.8
Average hourly earnings (in dollars).....	12.71	13.22	13.93	14.47	14.98	15.59	16.17	17.14	17.52	17.94	18.8
Average weekly earnings (in dollars).....	451.49	472.37	500.95	517.57	537.37	558.02	575.51	609.08	622.87	645.1	672.4
<b>Professional and business services:</b>											
Average weekly hours.....	34.1	34.3	34.3	34.4	34.5	34.2	34.2	34.1	34.2	34.2	34.6
Average hourly earnings (in dollars).....	13	13.57	14.27	14.85	15.52	16.33	16.81	17.21	17.48	18.08	19.12
Average weekly earnings (in dollars).....	442.81	465.51	490	510.99	535.07	557.84	574.66	587.02	597.56	618.87	662.23
<b>Education and health services:</b>											
Average weekly hours.....	31.9	32.2	32.2	32.1	32.2	32.3	32.4	32.3	32.4	32.6	32.5
Average hourly earnings (in dollars).....	12.17	12.56	13	13.44	13.95	14.64	15.21	15.64	16.15	16.71	17.38
Average weekly earnings (in dollars).....	388.27	404.65	418.82	431.35	449.29	473.39	492.74	505.69	523.78	544.59	564.95
<b>Leisure and hospitality:</b>											
Average weekly hours.....	25.9	26	26.2	26.1	26.1	25.8	25.8	25.6	25.7	25.7	25.7
Average hourly earnings (in dollars).....	6.99	7.32	7.67	7.96	8.32	8.57	8.81	9	9.15	9.38	9.75
Average weekly earnings (in dollars).....	180.98	190.52	200.82	208.05	217.2	220.73	227.17	230.42	234.86	241.36	250.11
<b>Other services:</b>											
Average weekly hours.....	32.5	32.7	32.6	32.5	32.5	32.3	32	31.4	31	30.9	30.9
Average hourly earnings (in dollars).....	10.85	11.29	11.79	12.26	12.73	13.27	13.72	13.84	13.98	14.34	14.77
Average weekly earnings (in dollars).....	352.62	368.63	384.25	398.77	413.41	428.64	439.76	434.41	433.04	443.37	456.6

NOTE: Data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system. NAICS-based data by industry are not comparable with SIC-based data.

### 30. Employment Cost Index, compensation,<sup>1</sup> by occupation and industry group

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
	Sept. 2007										
<b>Civilian workers<sup>2</sup></b> .....	99.4	100.0	100.7	101.6	102.7	103.3	104.2	105.0	106.1	1.0	3.3
Workers by occupational group											
Management, professional, and related.....	99.4	100.0	100.9	101.6	103.0	103.7	104.7	105.5	106.7	1.1	3.6
Management, business, and financial.....	99.7	100.0	101.3	101.9	102.7	103.2	104.4	105.2	106.2	1.0	3.4
Professional and related.....	99.3	100.0	100.7	101.4	103.2	104.0	104.9	105.7	107.0	1.2	3.7
Sales and office.....	99.3	100.0	100.5	101.6	102.4	103.0	103.8	104.8	105.5	.7	3.0
Sales and related.....	99.2	100.0	99.9	101.1	101.7	102.3	102.4	103.6	104.1	.5	2.4
Office and administrative support.....	99.4	100.0	100.9	101.9	102.8	103.5	104.7	105.5	106.4	.9	3.5
Natural resources, construction, and maintenance.....	99.5	100.0	100.8	102.0	103.0	103.6	104.1	105.1	106.1	1.0	3.0
Construction and extraction.....	99.4	100.0	100.7	102.0	103.0	103.7	104.3	105.7	106.5	.8	3.4
Installation, maintenance, and repair.....	99.6	100.0	100.9	102.0	103.0	103.6	103.7	104.4	105.6	1.1	2.5
Production, transportation, and material moving.....	99.7	100.0	100.4	101.1	101.8	102.4	102.7	103.5	104.2	.7	2.4
Production.....	99.6	100.0	100.4	101.0	101.6	102.0	102.1	102.8	103.3	.5	1.7
Transportation and material moving.....	99.8	100.0	100.5	101.3	102.2	102.8	103.4	104.4	105.3	.9	3.0
Service occupations.....	99.4	100.0	100.8	101.4	102.5	103.5	104.8	105.5	106.9	1.3	4.3
Workers by industry											
Goods-producing.....	99.8	100.0	100.3	101.3	102.0	102.5	102.9	103.9	104.4	.5	2.4
Manufacturing.....	99.8	100.0	100.1	101.0	101.4	101.8	102.0	102.9	103.2	.3	1.8
Service-providing.....	99.3	100.0	100.9	101.6	102.9	103.5	104.4	105.2	106.4	1.1	3.4
Education and health services.....	99.1	100.0	100.6	101.3	103.5	104.2	104.9	105.5	107.2	1.6	3.6
Health care and social assistance.....	99.3	100.0	101.1	102.0	103.5	104.3	105.4	106.1	107.1	.9	3.5
Hospitals.....	99.3	100.0	101.2	101.9	103.2	104.0	105.1	105.7	106.7	.9	3.4
Nursing and residential care facilities.....	99.2	100.0	101.0	101.4	102.6	103.7	104.5	105.0	105.6	.6	2.9
Education services.....	99.0	100.0	100.2	100.7	103.4	104.1	104.5	104.9	107.3	2.3	3.8
Elementary and secondary schools.....	98.9	100.0	100.2	100.5	103.5	104.2	104.6	105.0	107.4	2.3	3.8
Public administration <sup>3</sup> .....	99.0	100.0	100.6	101.2	102.4	103.8	105.6	106.6	108.0	1.3	5.5
<b>Private industry workers</b> .....	99.5	100.0	100.8	101.7	102.5	103.2	104.0	104.9	105.7	.8	3.1
Workers by occupational group											
Management, professional, and related.....	99.6	100.0	101.1	101.9	102.9	103.5	104.6	105.5	106.4	.9	3.4
Management, business, and financial.....	99.7	100.0	101.3	102.0	102.7	103.1	104.3	105.1	106.0	.9	3.2
Professional and related.....	99.5	100.0	101.0	101.8	103.1	103.9	104.9	105.9	106.7	.8	3.5
Sales and office.....	99.3	100.0	100.5	101.6	102.3	102.9	103.7	104.7	105.3	.6	2.9
Sales and related.....	99.2	100.0	99.9	101.1	101.7	102.3	102.4	103.6	104.2	.6	2.5
Office and administrative support.....	99.5	100.0	100.9	101.9	102.7	103.4	104.5	105.4	106.0	.6	3.2
Natural resources, construction, and maintenance.....	99.5	100.0	100.8	102.1	103.0	103.6	104.0	105.0	105.9	.9	2.8
Construction and extraction.....	99.5	100.0	100.7	102.2	103.1	103.7	104.4	105.7	106.5	.8	3.3
Installation, maintenance, and repair.....	99.6	100.0	100.9	102.1	103.0	103.4	103.5	104.1	105.2	1.1	2.1
Production, transportation, and material moving.....	99.7	100.0	100.4	101.1	101.7	102.3	102.5	103.3	103.9	.6	2.2
Production.....	99.6	100.0	100.4	101.0	101.6	102.0	102.1	102.8	103.2	.4	1.6
Transportation and material moving.....	99.8	100.0	100.4	101.2	102.0	102.6	103.1	104.1	104.9	.8	2.8
Service occupations.....	99.5	100.0	100.8	101.5	102.3	103.1	104.5	105.2	106.4	1.1	4.0
Workers by industry and occupational group											
Goods-producing industries.....	99.8	100.0	100.3	101.3	102.0	102.5	102.9	103.9	104.4	.5	2.4
Management, professional, and related.....	100.2	100.0	100.2	100.7	101.6	102.0	102.7	103.8	104.3	.5	2.7
Sales and office.....	99.7	100.0	99.9	102.7	102.1	102.8	103.0	103.7	104.1	.4	2.0
Natural resources, construction, and maintenance.....	99.6	100.0	100.6	101.9	102.7	103.3	104.0	105.3	106.1	.8	3.3
Production, transportation, and material moving.....	99.8	100.0	100.3	101.0	101.6	102.0	102.1	102.9	103.3	.4	1.7
Construction.....	99.7	100.0	100.7	101.9	103.0	103.6	104.7	105.9	106.9	.9	3.8
Manufacturing.....	99.8	100.0	100.1	101.0	101.4	101.8	102.0	102.9	103.2	.3	1.8
Management, professional, and related.....	99.8	100.0	100.0	100.5	101.3	101.4	102.0	103.3	103.3	.0	2.0
Sales and office.....	99.9	100.0	99.5	102.8	101.3	102.1	102.4	103.2	103.5	.3	2.2
Natural resources, construction, and maintenance.....	99.5	100.0	100.1	100.8	101.5	102.1	101.7	102.4	102.8	.4	1.3
Production, transportation, and material moving.....	99.8	100.0	100.2	100.9	101.5	101.9	101.9	102.6	103.1	.5	1.6
Service-providing industries.....	99.5	100.0	101.0	101.8	102.7	103.4	104.3	105.2	106.1	.9	3.3
Management, professional, and related.....	99.5	100.0	101.3	102.2	103.2	103.8	105.0	105.9	106.8	.8	3.5
Sales and office.....	99.3	100.0	100.6	101.5	102.3	102.9	103.7	104.8	105.4	.6	3.0
Natural resources, construction, and maintenance.....	99.4	100.0	101.2	102.5	103.6	104.0	104.0	104.5	105.7	1.1	2.0
Production, transportation, and material moving.....	99.6	100.0	100.6	101.3	101.9	102.6	103.0	104.0	104.7	.7	2.7
Service occupations.....	99.5	100.0	100.9	101.5	102.3	103.1	104.5	105.3	106.4	1.0	4.0
Trade, transportation, and utilities.....	99.4	100.0	100.8	101.4	102.4	103.0	103.1	104.2	104.7	.5	2.2

See footnotes at end of table.

**30. Continued—Employment Cost Index, compensation,<sup>1</sup> by occupation and industry group**

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
	Sept. 2007										
Wholesale trade.....	99.2	100.0	100.3	100.8	102.4	102.9	103.7	104.6	104.2	-0.4	1.8
Retail trade.....	99.5	100.0	100.6	101.2	101.9	102.7	102.9	103.9	105.1	1.2	3.1
Transportation and warehousing.....	99.7	100.0	100.4	101.0	101.6	102.2	102.8	104.0	104.5	.5	2.9
Utilities.....	99.5	100.0	107.8	109.3	110.1	110.4	102.8	104.7	105.0	.3	-4.6
Information.....	99.5	100.0	100.9	102.1	103.0	103.2	104.3	105.6	105.8	.2	2.7
Financial activities.....	99.2	100.0	101.2	101.8	102.1	102.5	104.2	104.6	105.4	.8	3.2
Finance and insurance.....	99.5	100.0	101.5	102.4	102.6	102.9	104.6	104.9	105.7	.8	3.0
Real estate and rental and leasing.....	98.6	100.0	99.8	99.3	100.2	100.8	102.2	103.0	104.1	1.1	3.9
Professional and business services.....	99.6	100.0	101.1	102.2	102.9	103.5	104.7	105.9	106.9	.9	3.9
Education and health services.....	99.3	100.0	101.0	101.8	103.2	104.1	105.1	105.7	106.9	1.1	3.6
Education services.....	99.6	100.0	100.7	101.5	103.2	104.2	104.5	104.9	106.7	1.7	3.4
Health care and social assistance.....	99.3	100.0	101.1	101.9	103.2	104.1	105.2	105.9	106.9	.9	3.6
Hospitals.....	99.2	100.0	101.3	102.0	103.2	103.9	105.0	105.6	106.5	.9	3.2
Leisure and hospitality.....	99.6	100.0	100.6	101.3	102.4	103.7	105.3	106.0	107.5	1.4	5.0
Accommodation and food services.....	99.5	100.0	100.5	101.4	102.5	104.0	105.8	106.4	108.1	1.6	5.5
Other services, except public administration.....	99.9	100.0	101.4	102.7	103.6	104.0	105.7	106.1	107.1	.9	3.4
<b>State and local government workers.....</b>	<b>99.1</b>	<b>100.0</b>	<b>100.5</b>	<b>100.9</b>	<b>103.2</b>	<b>104.1</b>	<b>105.1</b>	<b>105.7</b>	<b>107.6</b>	<b>1.8</b>	<b>4.3</b>
Workers by occupational group											
Management, professional, and related.....	99.0	100.0	100.3	100.8	103.3	104.0	104.9	105.4	107.5	2.0	4.1
Professional and related.....	98.9	100.0	100.2	100.8	103.4	104.0	104.8	105.3	107.5	2.1	4.0
Sales and office.....	99.3	100.0	100.9	101.5	103.3	104.1	105.6	106.2	107.9	1.6	4.5
Office and administrative support.....	99.2	100.0	101.0	101.6	103.5	104.2	105.7	106.4	108.2	1.7	4.5
Service occupations.....	99.1	100.0	100.6	101.2	103.1	104.5	105.4	106.3	108.0	1.6	4.8
Workers by industry											
Education and health services.....	99.0	100.0	100.3	100.8	103.7	104.3	104.8	105.3	107.5	2.1	3.7
Education services.....	98.9	100.0	100.2	100.5	103.5	104.1	104.6	105.0	107.4	2.3	3.8
Schools.....	98.9	100.0	100.2	100.5	103.5	104.1	104.6	104.9	107.4	2.4	3.8
Elementary and secondary schools.....	98.8	100.0	100.2	100.5	103.6	104.2	104.7	105.0	107.4	2.3	3.7
Health care and social assistance.....	99.5	100.0	101.3	102.9	105.1	105.7	107.1	107.6	108.6	.9	3.3
Hospitals.....	99.5	100.0	100.9	101.3	103.3	104.3	105.6	106.3	107.5	1.1	4.1
Public administration <sup>3</sup> .....	99.0	100.0	100.6	101.2	102.4	103.8	105.6	106.6	108.0	1.3	5.5

<sup>1</sup> Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

<sup>2</sup> Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

<sup>3</sup> Consists of legislative, judicial, administrative, and regulatory activities.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

**31. Employment Cost Index, wages and salaries, by occupation and industry group**

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2007	
<b>Civilian workers<sup>1</sup></b> .....	99.4	100.0	100.7	101.5	102.6	103.2	104.3	105.0	106.0	1.0	3.3
<b>Workers by occupational group</b>											
Management, professional, and related.....	99.4	100.0	100.8	101.6	102.9	103.6	104.7	105.4	106.6	1.1	3.6
Management, business, and financial.....	99.6	100.0	101.2	102.0	102.7	103.1	104.7	105.4	106.4	.9	3.6
Professional and related.....	99.3	100.0	100.6	101.4	103.1	103.8	104.7	105.3	106.7	1.3	3.5
Sales and office.....	99.3	100.0	100.4	101.6	102.4	103.0	103.8	104.8	105.4	.6	2.9
Sales and related.....	99.2	100.0	99.8	101.3	102.0	102.5	102.7	103.9	104.3	.4	2.3
Office and administrative support.....	99.4	100.0	100.8	101.8	102.6	103.3	104.5	105.3	106.1	.8	3.4
Natural resources, construction, and maintenance.....	99.4	100.0	100.7	101.8	102.7	103.4	104.3	105.1	106.3	1.1	3.5
Construction and extraction.....	99.3	100.0	100.7	101.9	102.9	103.7	104.6	105.7	106.6	.9	3.6
Installation, maintenance, and repair.....	99.5	100.0	100.6	101.6	102.6	103.1	103.8	104.4	105.8	1.3	3.1
Production, transportation, and material moving.....	99.6	100.0	100.6	101.2	101.9	102.5	103.2	103.9	104.7	.8	2.7
Production.....	99.5	100.0	100.7	101.2	101.8	102.3	103.2	103.6	104.3	.7	2.5
Transportation and material moving.....	99.7	100.0	100.5	101.2	102.1	102.7	103.3	104.2	105.1	.9	2.9
Service occupations.....	99.5	100.0	100.5	101.2	102.2	103.2	104.6	105.3	106.5	1.1	4.2
<b>Workers by industry</b>											
Goods-producing.....	99.5	100.0	100.7	101.8	102.3	102.9	103.9	104.7	105.4	.7	3.0
Manufacturing.....	99.6	100.0	100.7	101.7	101.9	102.3	103.3	103.9	104.5	.6	2.6
Service-providing.....	99.4	100.0	100.7	101.5	102.7	103.3	104.3	105.1	106.2	1.0	3.4
Education and health services.....	99.1	100.0	100.4	101.1	103.1	103.8	104.4	104.9	106.6	1.6	3.4
Health care and social assistance.....	99.2	100.0	100.8	101.8	103.2	104.1	105.1	105.9	107.1	1.1	3.8
Hospitals.....	99.2	100.0	100.9	101.7	102.9	103.8	104.8	105.6	106.7	1.0	3.7
Nursing and residential care facilities.....	99.1	100.0	100.7	101.2	102.2	103.3	104.1	104.7	105.8	1.1	3.5
Education services.....	99.0	100.0	100.2	100.5	103.0	103.5	103.7	104.0	106.2	2.1	3.1
Elementary and secondary schools.....	98.9	100.0	100.0	100.3	102.9	103.4	103.6	103.8	106.0	2.1	3.0
Public administration <sup>2</sup> .....	99.3	100.0	100.5	101.1	102.0	103.5	104.5	105.2	106.4	1.1	4.3
<b>Private industry workers</b> .....	99.5	100.0	100.7	101.7	102.5	103.2	104.3	105.1	106.0	.9	3.4
<b>Workers by occupational group</b>											
Management, professional, and related.....	99.6	100.0	101.1	102.0	103.0	103.6	104.9	105.8	106.7	.9	3.6
Management, business, and financial.....	99.5	100.0	101.3	102.2	102.8	103.1	104.7	105.5	106.3	.8	3.4
Professional and related.....	99.6	100.0	100.9	101.8	103.1	104.0	105.1	106.0	107.0	.9	3.8
Sales and office.....	99.3	100.0	100.4	101.6	102.4	103.0	103.8	104.8	105.3	.5	2.8
Sales and related.....	99.2	100.0	99.8	101.3	102.0	102.6	102.8	104.0	104.4	.4	2.4
Office and administrative support.....	99.4	100.0	100.9	101.9	102.6	103.3	104.5	105.4	106.0	.6	3.3
Natural resources, construction, and maintenance.....	99.4	100.0	100.7	101.8	102.8	103.4	104.2	105.1	106.2	1.0	3.3
Construction and extraction.....	99.3	100.0	100.7	102.0	103.0	103.7	104.7	105.8	106.7	.9	3.6
Installation, maintenance, and repair.....	99.5	100.0	100.7	101.6	102.6	103.0	103.7	104.2	105.6	1.3	2.9
Production, transportation, and material moving.....	99.6	100.0	100.6	101.2	101.8	102.4	103.1	103.8	104.5	.7	2.7
Production.....	99.5	100.0	100.7	101.2	101.7	102.2	103.1	103.6	104.2	.6	2.5
Transportation and material moving.....	99.7	100.0	100.4	101.2	102.0	102.6	103.2	104.1	105.0	.9	2.9
Service occupations.....	99.6	100.0	100.6	101.3	102.0	102.9	104.6	105.3	106.5	1.1	4.4
<b>Workers by industry and occupational group</b>											
Goods-producing industries.....	99.5	100.0	100.7	101.8	102.3	102.9	103.9	104.7	105.4	.7	3.0
Management, professional, and related.....	99.7	100.0	101.1	101.7	102.4	102.8	104.4	105.3	105.9	.6	3.4
Sales and office.....	99.7	100.0	99.8	103.4	102.2	103.1	103.4	104.1	104.7	.6	2.4
Natural resources, construction, and maintenance.....	99.4	100.0	100.7	101.9	102.7	103.4	104.4	105.6	106.5	.9	3.7
Production, transportation, and material moving.....	99.5	100.0	100.7	101.3	101.9	102.4	103.2	103.7	104.4	.7	2.5
Construction.....	99.4	100.0	100.6	102.0	102.9	103.7	104.9	106.0	107.0	.9	4.0
Manufacturing.....	99.6	100.0	100.7	101.7	101.9	102.3	103.3	103.9	104.5	.6	2.6
Management, professional, and related.....	99.9	100.0	101.1	101.5	102.2	102.3	103.8	104.6	105.0	.4	2.7
Sales and office.....	100.0	100.0	99.5	103.8	101.1	102.0	102.4	103.2	103.9	.7	2.8
Natural resources, construction, and maintenance.....	99.1	100.0	100.9	101.7	102.3	103.0	103.8	104.3	105.0	.7	2.6
Production, transportation, and material moving.....	99.5	100.0	100.7	101.3	101.8	102.3	103.1	103.6	104.2	.6	2.4
Service-providing industries.....	99.5	100.0	100.8	101.7	102.6	103.3	104.4	105.3	106.1	.8	3.4
Management, professional, and related.....	99.6	100.0	101.1	102.0	103.1	103.7	105.0	105.9	106.8	.8	3.6
Sales and office.....	99.3	100.0	100.5	101.4	102.4	102.9	103.8	104.9	105.4	.5	2.9
Natural resources, construction, and maintenance.....	99.4	100.0	100.7	101.8	103.0	103.4	103.9	104.3	105.7	1.3	2.6
Production, transportation, and material moving.....	99.7	100.0	100.4	101.0	101.7	102.4	103.0	104.0	104.6	.6	2.9
Service occupations.....	99.6	100.0	100.6	101.3	102.0	102.9	104.6	105.3	106.6	1.2	4.5
Trade, transportation, and utilities.....	99.5	100.0	100.4	100.9	102.1	102.7	103.2	104.3	104.6	.3	2.4

**31. Continued—Employment Cost Index, wages and salaries, by occupation and industry group**

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
	Sept. 2007										
Wholesale trade.....	99.0	100.0	100.2	100.7	102.7	103.0	103.8	104.8	104.0	-0.8	1.3
Retail trade.....	99.6	100.0	100.5	100.9	101.9	102.8	103.1	104.2	105.1	.9	3.1
Transportation and warehousing.....	99.9	100.0	100.1	100.7	101.4	101.9	102.5	103.7	104.1	.4	2.7
Utilities.....	99.5	100.0	100.8	102.1	103.0	103.5	104.3	105.5	106.1	.6	3.0
Information.....	99.3	100.0	101.0	101.7	102.6	102.4	103.8	104.9	105.2	.3	2.5
Financial activities.....	99.4	100.0	101.3	102.3	102.5	102.8	104.7	104.9	106.0	1.0	3.4
Finance and insurance.....	99.7	100.0	101.6	102.8	102.9	103.2	105.4	105.5	106.5	.9	3.5
Real estate and rental and leasing.....	98.3	100.0	99.8	99.9	100.8	101.4	101.6	102.4	103.6	1.2	2.8
Professional and business services.....	99.7	100.0	101.0	102.3	103.0	103.5	104.8	105.9	106.7	.8	3.6
Education and health services.....	99.3	100.0	100.7	101.6	103.0	104.0	104.8	105.6	106.9	1.2	3.8
Education services.....	99.7	100.0	100.7	101.4	103.1	104.1	104.2	104.6	106.4	1.7	3.2
Health care and social assistance.....	99.2	100.0	100.7	101.6	103.0	103.9	104.9	105.8	107.0	1.1	3.9
Hospitals.....	99.1	100.0	100.9	101.8	102.9	103.7	104.6	105.4	106.5	1.0	3.5
Leisure and hospitality.....	99.5	100.0	100.6	101.3	102.3	103.7	105.7	106.4	108.1	1.6	5.7
Accommodation and food services.....	99.3	100.0	100.5	101.3	102.2	103.8	106.0	106.5	108.4	1.8	6.1
Other services, except public administration.....	99.8	100.0	101.3	102.6	103.4	103.8	105.7	106.1	107.3	1.1	3.8
<b>State and local government workers.....</b>	<b>99.1</b>	<b>100.0</b>	<b>100.3</b>	<b>100.8</b>	<b>102.8</b>	<b>103.5</b>	<b>104.1</b>	<b>104.6</b>	<b>106.4</b>	<b>1.7</b>	<b>3.5</b>
Workers by occupational group											
Management, professional, and related.....	99.0	100.0	100.2	100.7	102.9	103.5	104.0	104.3	106.3	1.9	3.3
Professional and related.....	98.9	100.0	100.2	100.7	103.0	103.6	103.9	104.2	106.3	2.0	3.2
Sales and office.....	99.4	100.0	100.6	101.2	102.6	103.2	104.5	104.8	106.3	1.4	3.6
Office and administrative support.....	99.3	100.0	100.7	101.4	102.7	103.4	104.7	105.0	106.5	1.4	3.7
Service occupations.....	99.3	100.0	100.3	100.8	102.4	103.9	104.5	105.2	106.5	1.2	4.0
Workers by industry											
Education and health services.....	99.0	100.0	100.2	100.7	103.1	103.6	104.0	104.2	106.3	2.0	3.1
Education services.....	98.9	100.0	100.1	100.4	103.0	103.4	103.7	103.9	106.1	2.1	3.0
Schools.....	98.9	100.0	100.1	100.4	103.0	103.4	103.6	103.9	106.1	2.1	3.0
Elementary and secondary schools.....	98.9	100.0	100.0	100.3	103.0	103.4	103.6	103.8	106.0	2.1	2.9
Health care and social assistance.....	99.4	100.0	101.0	103.0	104.8	105.5	106.6	107.2	108.2	.9	3.2
Hospitals.....	99.4	100.0	100.9	101.4	103.1	104.4	105.7	106.5	107.6	1.0	4.4
Public administration <sup>2</sup> .....	99.3	100.0	100.5	101.1	102.0	103.5	104.5	105.2	106.4	1.1	4.3

<sup>1</sup> Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

<sup>2</sup> Consists of legislative, judicial, administrative, and regulatory activities.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North

American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

### 32. Employment Cost Index, benefits, by occupation and industry group

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
	Sept. 2007										
<b>Civilian workers</b> .....	99.5	100.0	100.9	101.6	102.8	103.6	104.0	105.1	106.1	1.0	3.2
<b>Private industry workers</b> .....	99.7	100.0	101.0	101.7	102.5	103.1	103.2	104.3	105.0	.7	2.4
Workers by occupational group											
Management, professional, and related.....	99.8	100.0	101.3	101.8	102.8	103.4	103.8	104.9	105.6	.7	2.7
Sales and office.....	99.3	100.0	100.8	101.6	102.0	102.9	103.4	104.3	105.2	.9	3.1
Natural resources, construction, and maintenance.....	99.8	100.0	101.1	102.7	103.5	104.0	103.4	104.8	105.3	.5	1.7
Production, transportation, and material moving.....	100.0	100.0	100.1	101.0	101.6	102.0	101.2	102.4	102.7	.3	1.1
Service occupations.....	99.5	100.0	101.5	102.2	103.0	103.6	104.2	105.1	106.0	.9	2.9
Workers by industry											
Goods-producing.....	100.4	100.0	99.6	100.4	101.3	101.7	100.9	102.2	102.4	.2	1.1
Manufacturing.....	100.0	100.0	99.0	99.7	100.5	100.8	99.6	101.0	100.7	-.3	.2
Service-providing.....	99.4	100.0	101.5	102.3	103.0	103.7	104.1	105.2	106.0	.8	2.9
<b>State and local government workers</b> .....	99.0	100.0	100.7	101.3	104.1	105.2	107.0	108.0	110.3	2.1	6.0

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system.

The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

**33. Employment Cost Index, private industry workers by bargaining status and region**

[December 2005 = 100]

Series	2005		2006				2007			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
	Sept. 2007										
<b>COMPENSATION</b>											
<b>Workers by bargaining status<sup>1</sup></b>											
Union.....	99.6	100.0	100.5	101.8	102.4	103.0	102.7	103.9	104.4	0.5	2.0
Goods-producing.....	99.6	100.0	99.9	101.2	101.8	102.2	101.5	102.8	103.1	.3	1.3
Manufacturing.....	99.7	100.0	99.3	100.1	100.5	100.8	99.2	100.0	100.0	.0	-.5
Service-providing.....	99.6	100.0	101.0	102.2	102.9	103.6	103.7	104.7	105.4	.7	2.4
Nonunion.....	99.5	100.0	100.9	101.7	102.6	103.2	104.2	105.1	105.9	.8	3.2
Goods-producing.....	99.9	100.0	100.5	101.4	102.0	102.5	103.3	104.2	104.8	.6	2.7
Manufacturing.....	99.8	100.0	100.3	101.3	101.7	102.1	102.8	103.7	104.1	.4	2.4
Service-providing.....	99.4	100.0	101.0	101.8	102.7	103.4	104.4	105.3	106.2	.9	3.4
<b>Workers by region<sup>1</sup></b>											
Northeast.....	99.2	100.0	100.9	101.8	102.5	103.3	104.0	105.1	106.2	1.0	3.6
South.....	99.7	100.0	101.0	101.6	102.8	103.5	104.3	105.3	106.1	.8	3.2
Midwest.....	99.5	100.0	100.7	101.7	102.3	102.8	103.3	104.2	104.6	.4	2.2
West.....	99.7	100.0	100.6	101.8	102.5	103.0	104.2	104.9	105.7	.8	3.1
<b>WAGES AND SALARIES</b>											
<b>Workers by bargaining status<sup>1</sup></b>											
Union.....	99.5	100.0	100.3	101.2	101.7	102.3	102.8	103.7	104.4	.7	2.7
Goods-producing.....	99.2	100.0	100.5	101.6	101.9	102.3	102.7	103.6	104.3	.7	2.4
Manufacturing.....	99.0	100.0	100.6	101.2	101.4	101.7	102.0	102.5	102.9	.4	1.5
Service-providing.....	99.7	100.0	100.1	100.9	101.6	102.2	102.9	103.8	104.6	.8	3.0
Nonunion.....	99.5	100.0	100.8	101.8	102.7	103.3	104.5	105.3	106.2	.9	3.4
Goods-producing.....	99.6	100.0	100.7	101.9	102.4	103.0	104.2	105.0	105.8	.8	3.3
Manufacturing.....	99.8	100.0	100.7	101.8	102.0	102.5	103.6	104.2	104.9	.7	2.8
Service-providing.....	99.5	100.0	100.8	101.7	102.7	103.4	104.6	105.4	106.3	.9	3.5
<b>Workers by region<sup>1</sup></b>											
Northeast.....	99.2	100.0	100.8	101.7	102.5	103.1	104.0	105.0	106.1	1.0	3.5
South.....	99.7	100.0	101.0	101.6	102.9	103.6	104.6	105.6	106.5	.9	3.5
Midwest.....	99.4	100.0	100.4	101.4	102.0	102.6	103.6	104.4	105.0	.6	2.9
West.....	99.6	100.0	100.7	102.1	102.7	103.2	104.8	105.4	106.2	.8	3.4

<sup>1</sup> The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

NOTE: The Employment Cost Index data reflect the conversion to the 2002 North American Classification System (NAICS) and the 2000 Standard Occupational Classification (SOC) system. The NAICS and SOC data shown prior to 2006 are for informational purposes only. Series based on NAICS and SOC became the official BLS estimates starting in March 2006.

**34. National Compensation Survey: Retirement benefits in private industry by access, participation, and selected series, 2003–2007**

Series	Year				
	2003	2004	2005	2006	2007 <sup>1</sup>
<b>All retirement</b>					
<b>Percentage of workers with access</b>					
All workers.....	57	59	60	60	61
White-collar occupations <sup>2</sup> .....	67	69	70	69	-
Management, professional, and related .....	-	-	-	-	76
Sales and office .....	-	-	-	-	64
Blue-collar occupations <sup>2</sup> .....	59	59	60	62	-
Natural resources, construction, and maintenance.....	-	-	-	-	61
Production, transportation, and material moving.....	-	-	-	-	65
Service occupations.....	28	31	32	34	36
Full-time.....	67	68	69	69	70
Part-time.....	24	27	27	29	31
Union.....	86	84	88	84	84
Non-union.....	54	56	56	57	58
Average wage less than \$15 per hour.....	45	46	46	47	47
Average wage \$15 per hour or higher.....	76	77	78	77	76
Goods-producing industries.....	70	70	71	73	70
Service-providing industries.....	53	55	56	56	58
Establishments with 1-99 workers.....	42	44	44	44	45
Establishments with 100 or more workers.....	75	77	78	78	78
<b>Percentage of workers participating</b>					
All workers.....	49	50	50	51	51
White-collar occupations <sup>2</sup> .....	59	61	61	60	-
Management, professional, and related .....	-	-	-	-	69
Sales and office .....	-	-	-	-	54
Blue-collar occupations <sup>2</sup> .....	50	50	51	52	-
Natural resources, construction, and maintenance.....	-	-	-	-	51
Production, transportation, and material moving.....	-	-	-	-	54
Service occupations.....	21	22	22	24	25
Full-time.....	58	60	60	60	60
Part-time.....	18	20	19	21	23
Union.....	83	81	85	80	81
Non-union.....	45	47	46	47	47
Average wage less than \$15 per hour.....	35	36	35	36	36
Average wage \$15 per hour or higher.....	70	71	71	70	69
Goods-producing industries.....	63	63	64	64	61
Service-providing industries.....	45	47	47	47	48
Establishments with 1-99 workers.....	35	37	37	37	37
Establishments with 100 or more workers.....	65	67	67	67	66
<b>Take-up rate (all workers)<sup>3</sup>.....</b>	-	-	85	85	84
<b>Defined Benefit</b>					
<b>Percentage of workers with access</b>					
All workers.....	20	21	22	21	21
White-collar occupations <sup>2</sup> .....	23	24	25	23	-
Management, professional, and related .....	-	-	-	-	29
Sales and office .....	-	-	-	-	19
Blue-collar occupations <sup>2</sup> .....	24	26	26	25	-
Natural resources, construction, and maintenance.....	-	-	-	-	26
Production, transportation, and material moving.....	-	-	-	-	26
Service occupations.....	8	6	7	8	8
Full-time.....	24	25	25	24	24
Part-time.....	8	9	10	9	10
Union.....	74	70	73	70	69
Non-union.....	15	16	16	15	15
Average wage less than \$15 per hour.....	12	11	12	11	11
Average wage \$15 per hour or higher.....	34	35	35	34	33
Goods-producing industries.....	31	32	33	32	29
Service-providing industries.....	17	18	19	18	19
Establishments with 1-99 workers.....	9	9	10	9	9
Establishments with 100 or more workers.....	34	35	37	35	34

See footnotes at end of table.

**34. Continued—National Compensation Survey: Retirement benefits in private industry  
by access, participation, and selected series, 2003–2007**

Series	Year				
	2003	2004	2005	2006	2007 <sup>1</sup>
<b>Percentage of workers participating</b>					
All workers.....	20	21	21	20	20
White-collar occupations <sup>2</sup> .....	22	24	24	22	-
Management, professional, and related .....	-	-	-	-	28
Sales and office .....	-	-	-	-	17
Blue-collar occupations <sup>2</sup> .....	24	25	26	25	-
Natural resources, construction, and maintenance.....	-	-	-	-	25
Production, transportation, and material moving.....	-	-	-	-	25
Service occupations.....	7	6	7	7	7
Full-time.....	24	24	25	23	23
Part-time.....	8	9	9	8	9
Union.....	72	69	72	68	67
Non-union.....	15	15	15	14	15
Average wage less than \$15 per hour.....	11	11	11	10	10
Average wage \$15 per hour or higher.....	33	35	34	33	32
Goods-producing industries.....	31	31	32	31	28
Service-providing industries.....	16	18	18	17	18
Establishments with 1-99 workers.....	8	9	9	9	9
Establishments with 100 or more workers.....	33	34	36	33	32
<b>Take-up rate (all workers)<sup>3</sup>.....</b>	-	-	97	96	95
<b>Defined Contribution</b>					
<b>Percentage of workers with access</b>					
All workers.....	51	53	53	54	55
White-collar occupations <sup>2</sup> .....	62	64	64	65	-
Management, professional, and related .....	-	-	-	-	71
Sales and office .....	-	-	-	-	60
Blue-collar occupations <sup>2</sup> .....	49	49	50	53	-
Natural resources, construction, and maintenance.....	-	-	-	-	51
Production, transportation, and material moving.....	-	-	-	-	56
Service occupations.....	23	27	28	30	32
Full-time.....	60	62	62	63	64
Part-time.....	21	23	23	25	27
Union.....	45	48	49	50	49
Non-union.....	51	53	54	55	56
Average wage less than \$15 per hour.....	40	41	41	43	44
Average wage \$15 per hour or higher.....	67	68	69	69	69
Goods-producing industries.....	60	60	61	63	62
Service-providing industries.....	48	50	51	52	53
Establishments with 1-99 workers.....	38	40	40	41	42
Establishments with 100 or more workers.....	65	68	69	70	70
<b>Percentage of workers participating</b>					
All workers.....	40	42	42	43	43
White-collar occupations <sup>2</sup> .....	51	53	53	53	-
Management, professional, and related .....	-	-	-	-	60
Sales and office .....	-	-	-	-	47
Blue-collar occupations <sup>2</sup> .....	38	38	38	40	-
Natural resources, construction, and maintenance.....	-	-	-	-	40
Production, transportation, and material moving.....	-	-	-	-	41
Service occupations.....	16	18	18	20	20
Full-time.....	48	50	50	51	50
Part-time.....	14	14	14	16	18
Union.....	39	42	43	44	41
Non-union.....	40	42	41	43	43
Average wage less than \$15 per hour.....	29	30	29	31	30
Average wage \$15 per hour or higher.....	57	59	59	58	57
Goods-producing industries.....	49	49	50	51	49
Service-providing industries.....	37	40	39	40	41
Establishments with 1-99 workers.....	31	32	32	33	33
Establishments with 100 or more workers.....	51	53	53	54	53
<b>Take-up rate (all workers)<sup>3</sup>.....</b>	-	-	78	79	77

See footnotes at end of table.

**34. Continued—National Compensation Survey: Retirement benefits in private industry  
by access, participation, and selected series, 2003–2007**

Series	Year				
	2003	2004	2005	2006	2007 <sup>1</sup>
<b>Employee Contribution Requirement</b>					
Employee contribution required.....	-	-	61	61	65
Employee contribution not required.....	-	-	31	33	35
Not determinable.....	-	-	8	6	0
<b>Percent of establishments</b>					
Offering retirement plans.....	47	48	51	48	46
Offering defined benefit plans.....	10	10	11	10	10
Offering defined contribution plans.....	45	46	48	47	44

<sup>1</sup> The 2002 North American Industry Classification System (NAICS) replaced the 1987 Standard Industrial Classification (SIC) System. Estimates for goods-producing and service-providing (formerly service-producing) industries are considered comparable. Also introduced was the 2000 Standard Occupational Classification (SOC) to replace the 1990 Census of Population system. Only service occupations are considered comparable.

<sup>2</sup> The white-collar and blue-collar occupation series were discontinued effective 2007.

<sup>3</sup> The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan.

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

**35. National Compensation Survey: Health insurance benefits in private industry by access, participation, and selected series, 2003-2007**

Series	Year				
	2003	2004	2005	2006	2007 <sup>1</sup>
<b>Medical insurance</b>					
<b>Percentage of workers with access</b>					
All workers.....	60	69	70	71	71
White-collar occupations <sup>2</sup> .....	65	76	77	77	-
Management, professional, and related .....	-	-	-	-	85
Sales and office.....	-	-	-	-	71
Blue-collar occupations <sup>2</sup> .....	64	76	77	77	-
Natural resources, construction, and maintenance.....	-	-	-	-	76
Production, transportation, and material moving.....	-	-	-	-	78
Service occupations.....	38	42	44	45	46
Full-time.....	73	84	85	85	85
Part-time.....	17	20	22	22	24
Union.....	67	89	92	89	88
Non-union.....	59	67	68	68	69
Average wage less than \$15 per hour.....	51	57	58	57	57
Average wage \$15 per hour or higher.....	74	86	87	88	87
Goods-producing industries.....	68	83	85	86	85
Service-providing industries.....	57	65	66	66	67
Establishments with 1-99 workers.....	49	58	59	59	59
Establishments with 100 or more workers.....	72	82	84	84	84
<b>Percentage of workers participating</b>					
All workers.....	45	53	53	52	52
White-collar occupations <sup>2</sup> .....	50	59	58	57	-
Management, professional, and related .....	-	-	-	-	67
Sales and office.....	-	-	-	-	48
Blue-collar occupations <sup>2</sup> .....	51	60	61	60	-
Natural resources, construction, and maintenance.....	-	-	-	-	61
Production, transportation, and material moving.....	-	-	-	-	60
Service occupations.....	22	24	27	27	28
Full-time.....	56	66	66	64	64
Part-time.....	9	11	12	13	12
Union.....	60	81	83	80	78
Non-union.....	44	50	49	49	49
Average wage less than \$15 per hour.....	35	40	39	38	37
Average wage \$15 per hour or higher.....	61	71	72	71	70
Goods-producing industries.....	57	69	70	70	68
Service-providing industries.....	42	48	48	47	47
Establishments with 1-99 workers.....	36	43	43	43	42
Establishments with 100 or more workers.....	55	64	65	63	62
<b>Take-up rate</b> (all workers) <sup>3</sup> .....	-	-	75	74	73
<b>Dental</b>					
<b>Percentage of workers with access</b>					
All workers.....	40	46	46	46	46
White-collar occupations <sup>2</sup> .....	47	53	54	53	-
Management, professional, and related .....	-	-	-	-	62
Sales and office.....	-	-	-	-	47
Blue-collar occupations <sup>2</sup> .....	40	47	47	46	-
Natural resources, construction, and maintenance.....	-	-	-	-	43
Production, transportation, and material moving.....	-	-	-	-	49
Service occupations.....	22	25	25	27	28
Full-time.....	49	56	56	55	56
Part-time.....	9	13	14	15	16
Union.....	57	73	73	69	68
Non-union.....	38	43	43	43	44
Average wage less than \$15 per hour.....	30	34	34	34	34
Average wage \$15 per hour or higher.....	55	63	62	62	61
Goods-producing industries.....	48	56	56	56	54
Service-providing industries.....	37	43	43	43	44
Establishments with 1-99 workers.....	27	31	31	31	30
Establishments with 100 or more workers.....	55	64	65	64	64

See footnotes at end of table.

**35. Continued—National Compensation Survey: Health insurance benefits in private industry by access, participation, and selected series, 2003-2007**

Series	Year				
	2003	2004	2005	2006	2007 <sup>1</sup>
<b>Percentage of workers participating</b>					
All workers.....	32	37	36	36	36
White-collar occupations <sup>2</sup> .....	37	43	42	41	-
Management, professional, and related .....	-	-	-	-	51
Sales and office.....	-	-	-	-	33
Blue-collar occupations <sup>2</sup> .....	33	40	39	38	-
Natural resources, construction, and maintenance.....	-	-	-	-	36
Production, transportation, and material moving.....	-	-	-	-	38
Service occupations.....	15	16	17	18	20
Full-time.....	40	46	45	44	44
Part-time.....	6	8	9	10	9
Union.....	51	68	67	63	62
Non-union.....	30	33	33	33	33
Average wage less than \$15 per hour.....	22	26	24	23	23
Average wage \$15 per hour or higher.....	47	53	52	52	51
Goods-producing industries.....	42	49	49	49	45
Service-providing industries.....	29	33	33	32	33
Establishments with 1-99 workers.....	21	24	24	24	24
Establishments with 100 or more workers.....	44	52	51	50	49
<b>Take-up rate (all workers)<sup>3</sup>.....</b>	-	-	78	78	77
<b>Vision care</b>					
Percentage of workers with access.....	25	29	29	29	29
Percentage of workers participating.....	19	22	22	22	22
<b>Outpatient Prescription drug coverage</b>					
Percentage of workers with access.....	-	-	64	67	68
Percentage of workers participating.....	-	-	48	49	49
<b>Percent of establishments offering healthcare benefits .....</b>	58	61	63	62	60
<b>Percentage of medical premium paid by</b>					
<b>  Employer and Employee</b>					
Single coverage					
Employer share.....	82	82	82	82	81
Employee share.....	18	18	18	18	19
Family coverage					
Employer share.....	70	69	71	70	71
Employee share.....	30	31	29	30	29

<sup>1</sup> The 2002 North American Industry Classification System (NAICS) replaced the 1987 Standard Industrial Classification (SIC) System. Estimates for goods-producing and service-providing (formerly service-producing) industries are considered comparable. Also introduced was the 2000 Standard Occupational Classification (SOC) to replace the 1990 Census of Population system. Only service occupations are considered comparable.

<sup>2</sup> The white-collar and blue-collar occupation series were discontinued effective 2007.

<sup>3</sup> The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan.

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

**36. National Compensation Survey: Percent of workers in private industry with access to selected benefits, 2003-2007**

Benefit	Year				
	2003	2004	2005	2006	2007
Life insurance.....	50	51	52	52	58
Short-term disability insurance.....	39	39	40	39	39
Long-term disability insurance.....	30	30	30	30	31
Long-term care insurance.....	11	11	11	12	12
Flexible work place.....	4	4	4	4	5
Section 125 cafeteria benefits					
Flexible benefits.....	-	-	17	17	17
Dependent care reimbursement account.....	-	-	29	30	31
Healthcare reimbursement account.....	-	-	31	32	33
Health Savings Account.....	-	-	5	6	8
Employee assistance program.....	-	-	40	40	42
Paid leave					
Holidays.....	79	77	77	76	77
Vacations.....	79	77	77	77	77
Sick leave.....	-	59	58	57	57
Personal leave.....	-	-	36	37	38
Family leave					
Paid family leave.....	-	-	7	8	8
Unpaid family leave.....	-	-	81	82	83
Employer assistance for child care.....	18	14	14	15	15
Nonproduction bonuses.....	49	47	47	46	47

Note: Where applicable, dashes indicate no employees in this category or data do not meet publication criteria.

**37. Work stoppages involving 1,000 workers or more**

Measure	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept. <sup>P</sup>
Number of stoppages:															
Beginning in period.....	22	20	1	3	1	0	0	1	2	3	0	2	1	1	4
In effect during period.....	24	23	6	5	5	3	2	2	3	4	0	2	1	1	5
Workers involved:															
Beginning in period (in thousands).....	99.6	70.1	3.9	15.0	1.9	.0	.0	2.8	7.8	5.5	.0	4.0	1.1	1.0	104.3
In effect during period (in thousands).....	102.2	191.0	22.2	19.9	20.6	16.3	3.7	4.6	9.6	12.0	.0	4.0	1.1	1.0	104.3
Days idle:															
Number (in thousands).....	1,736.1	2,687.5	247.7	342.7	349.2	326.0	58.8	73.4	142.8	101.1	.0	19.6	6.6	9.0	241.5
Percent of estimated working time <sup>1</sup> .....	.01	.01	.01	.01	.01	.01	0	0	0	0	0	0	0	0	.01

<sup>1</sup> Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time

worked is found in "Total economy measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

NOTE: p = preliminary.

**38. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers:**  
**U.S. city average, by expenditure category and commodity or service group**

[1982-84 = 100, unless otherwise indicated]

Series	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>CONSUMER PRICE INDEX</b>															
<b>FOR ALL URBAN CONSUMERS</b>															
All items.....	195.3	201.6	202.9	201.8	201.5	201.8	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.490
All items (1967 = 100).....	585.0	603.9	607.9	604.6	603.6	604.5	606.348	609.594	615.145	619.140	622.921	624.129	623.970	622.827	624.543
Food and beverages.....	191.2	195.7	196.7	197.5	197.2	197.4	199.198	200.402	200.869	201.292	202.225	202.885	203.533	204.289	205.279
Food.....	190.7	195.2	196.2	197.1	196.8	197.0	198.812	200.000	200.403	200.820	201.791	202.441	203.121	203.885	204.941
Food at home.....	189.8	193.1	194.1	195.1	194.3	194.3	196.671	198.193	198.766	199.020	200.334	200.950	201.401	202.126	203.193
Cereals and bakery products.....	209.0	212.8	213.6	214.6	214.5	214.8	216.276	219.041	218.458	220.494	220.939	222.605	223.297	223.981	223.372
Meats, poultry, fish, and eggs.....	184.7	186.6	188.0	188.1	188.4	188.6	189.609	190.491	192.508	193.665	195.886	197.175	196.690	197.204	198.323
Dairy and related products <sup>1</sup> .....	182.4	181.4	179.9	182.0	180.6	181.0	183.453	183.779	185.724	185.821	187.266	191.435	197.899	201.739	203.541
Fruits and vegetables.....	241.4	252.9	258.2	261.6	256.8	257.2	262.949	268.565	263.910	261.967	264.710	258.337	254.616	252.845	259.100
Nonalcoholic beverages and beverage materials.....	144.4	147.4	147.5	148.3	148.9	148.5	151.127	151.716	153.894	151.799	152.869	153.104	153.384	154.791	155.007
Other foods at home.....	167.0	169.6	169.8	170.1	169.2	168.7	170.878	171.483	171.819	172.633	172.657	173.790	174.440	174.686	174.201
Sugar and sweets.....	165.2	171.5	172.1	172.5	172.7	172.4	175.151	174.300	174.633	175.932	175.453	176.665	178.235	178.256	178.172
Fats and oils.....	167.7	168.0	167.9	169.1	168.1	166.7	170.152	171.667	170.851	169.817	171.495	171.581	173.691	174.251	174.105
Other foods.....	182.5	185.0	185.0	185.2	184.0	183.5	185.499	186.358	186.962	188.103	187.921	189.353	189.518	189.781	189.076
Other miscellaneous foods <sup>1,2</sup> .....	111.3	113.9	114.2	113.7	113.8	115.1	114.655	114.939	114.331	115.310	114.692	116.101	115.017	116.072	114.628
Food away from home <sup>1</sup> .....	193.4	199.4	200.5	201.1	201.6	202.2	203.171	203.909	204.082	204.725	205.233	205.934	206.931	207.756	208.805
Other food away from home <sup>1,2</sup> .....	131.3	136.6	137.6	138.0	138.6	139.1	140.919	141.626	141.366	143.155	143.160	143.157	144.785	145.376	146.752
Alcoholic beverages.....	195.9	200.7	201.4	201.9	201.6	201.1	202.968	204.385	205.663	206.166	206.599	207.383	207.624	208.264	208.408
Housing.....	195.7	203.2	205.0	204.4	204.5	204.8	206.057	207.177	208.080	208.541	208.902	210.649	211.286	211.098	210.865
Shelter.....	224.4	232.1	233.9	234.8	234.9	235.1	236.504	237.972	238.980	239.735	239.877	240.980	242.067	242.238	241.990
Rent of primary residence.....	217.3	225.1	227.1	228.0	228.9	230.0	230.806	231.739	232.495	232.980	233.549	234.071	234.732	235.311	236.058
Lodging away from home.....	130.3	136.0	135.0	135.7	130.7	127.7	133.633	139.160	142.247	144.832	144.112	148.622	153.016	150.236	144.480
Owners' equivalent rent of primary residence <sup>3</sup> .....	230.2	238.2	240.4	241.3	242.1	242.8	243.345	244.020	244.602	244.993	245.236	245.690	246.149	246.815	247.487
Tenants' and household insurance <sup>1,2</sup> .....	117.6	116.5	116.4	116.2	118.3	117.1	117.417	117.320	117.333	117.559	118.386	117.106	116.577	116.926	116.783
Fuels and utilities.....	179.0	194.7	199.6	190.1	190.6	192.6	194.378	194.890	196.414	196.393	198.574	206.199	206.140	204.334	204.264
Fuels.....	161.6	177.1	182.0	175.1	172.1	174.2	175.718	176.092	177.635	177.515	179.798	188.040	187.624	185.453	185.306
Fuel oil and other fuels.....	208.6	234.9	237.1	227.9	227.2	233.2	227.930	231.800	236.863	240.090	241.473	241.589	245.680	246.542	252.580
Gas (piped) and electricity.....	166.5	182.1	187.4	176.4	177.0	179.0	181.064	181.232	182.624	182.283	184.737	193.911	193.184	190.710	190.158
Household furnishings and operations.....	126.1	127.0	127.1	127.4	127.2	127.0	127.093	127.495	127.655	127.423	127.309	127.361	126.894	126.520	126.193
Apparel.....	119.5	119.5	121.7	123.3	121.7	118.6	115.988	119.017	122.582	122.934	121.452	117.225	113.500	114.439	119.535
Men's and boys' apparel.....	116.1	114.1	114.4	116.4	115.6	113.2	110.327	111.233	113.685	115.190	114.342	110.869	109.568	109.032	112.380
Women's and girls' apparel.....	110.8	110.7	114.6	116.4	113.9	110.2	105.891	110.871	116.911	117.118	114.444	107.826	101.291	103.237	110.973
Infants' and toddlers' apparel <sup>1</sup> .....	116.7	116.5	116.5	119.4	117.6	114.1	112.444	115.416	117.996	115.489	113.632	111.546	108.759	110.221	113.611
Footwear.....	122.6	123.5	124.2	125.6	124.5	123.0	120.915	121.930	123.505	123.672	123.041	120.602	119.375	120.329	123.183
Transportation.....	173.9	180.9	180.6	174.8	173.9	175.4	174.463	174.799	180.346	185.231	189.961	189.064	187.690	184.480	184.532
Private transportation.....	170.2	177.0	176.5	170.7	170.0	171.8	170.562	170.775	176.468	181.478	186.376	185.175	183.619	180.408	180.586
New and used motor vehicles <sup>2</sup> .....	95.6	95.6	95.3	95.2	94.9	94.8	94.800	94.591	94.493	94.307	93.981	93.842	93.961	94.121	93.985
New vehicles.....	137.9	137.6	136.3	136.8	136.8	137.1	137.603	137.340	137.228	136.963	136.295	135.820	135.415	135.204	134.927
Used cars and trucks <sup>1</sup> .....	139.4	140.0	141.0	139.3	137.3	136.2	135.257	134.597	134.382	134.363	134.481	135.067	136.024	137.138	137.142
Motor fuel.....	195.7	221.0	220.1	193.8	191.4	199.3	193.900	195.377	220.515	242.944	265.781	260.655	252.909	238.194	239.104
Gasoline (all types).....	194.7	219.9	219.0	192.7	190.3	198.1	192.806	194.282	219.473	241.897	264.830	259.686	251.883	237.108	237.993
Motor vehicle parts and equipment.....	111.9	117.3	118.7	118.9	119.5	119.5	119.759	120.196	120.485	120.714	120.990	120.885	121.514	121.730	122.292
Motor vehicle maintenance and repair.....	206.9	215.6	217.0	218.5	218.5	218.8	219.262	220.530	221.160	221.508	221.999	222.553	223.487	224.019	224.302
Public transportation.....	217.3	226.6	229.5	226.9	220.4	217.8	221.403	224.061	225.893	227.567	228.251	233.389	235.767	233.112	230.694
Medical care.....	323.2	336.2	338.3	339.3	340.1	340.1	343.510	346.457	347.172	348.225	349.087	349.510	351.643	352.961	353.723
Medical care commodities.....	276.0	285.9	288.1	288.1	286.6	285.9	288.088	287.703	286.940	288.349	288.661	288.508	290.257	291.164	291.340
Medical care services.....	336.7	350.6	352.7	354.0	355.6	356.0	359.757	363.908	365.164	366.070	367.127	367.758	370.008	371.461	372.432
Professional services.....	281.7	289.3	290.6	291.4	291.9	292.4	295.219	298.393	298.990	299.248	299.700	300.052	301.131	302.259	302.410
Hospital and related services.....	439.9	468.1	472.0	474.2	477.7	477.2	482.258	487.881	490.104	492.110	494.122	494.916	499.400	501.026	504.206
Recreation <sup>2</sup> .....	109.4	110.9	111.1	111.2	111.2	110.8	111.012	111.174	111.244	111.481	111.659	111.563	111.347	111.139	111.400
Video and audio <sup>1,2</sup> .....	104.2	104.6	104.5	104.1	103.7	102.8	102.784	103.144	102.886	103.181	103.560	103.416	102.779	102.311	102.759
Education and communication <sup>2</sup> .....	113.7	116.8	118.4	118.5	118.1	118.0	117.815	117.971	118.231	118.301	118.787	118.734	119.025	120.311	121.273
Education <sup>2</sup> .....	152.7	162.1	166.6	167.1	167.4	167.6	167.624	167.927	168.114	168.152	168.403	168.601	169.490	172.873	175.486
Educational books and supplies.....	365.6	388.9	393.9	398.4	398.5	399.5	405.668	407.809	413.665	414.217	414.694	415.635	418.394	427.425	430.114
Tuition, other school fees, and child care.....	440.9	468.1	481.7	482.9	483.7	484.0	483.705	484.459	484.532	484.601	485.337	485.868	488.382	498.071	505.924
Communication <sup>1,2</sup> .....	84.7	84.1	84.2	84.0	83.3	83.1	82.778	82.845	83.122	83.203	83.772	83.594	83.553	83.655	83.690
Information and information processing <sup>1,2</sup> .....	82.6	81.7	81.7	81.5	80.8	80.6	80.246	80.311	80.601	80.683	81.151	80.880	80.840	80.944	80.976
Telephone services <sup>1,2</sup> .....	94.9	95.8	96.1	96.8	96.5	96.8	96.898	97.096	97.514	97.617	98.491	98.485	98.570	98.813	98.882
Information and information processing other than telephone services <sup>1,4</sup> .....	13.6	12.5	12.3	11.9	11.4	11.2	10.900	10.853	10.860	10.869	10.787	10.597	10.528	10.487	10.477
Personal computers and peripheral equipment <sup>1,2</sup> .....	12.8	10.8	10.5	10.4											

**38. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers:  
U.S. city average, by expenditure category and commodity or service group**

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2006					2007							
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Miscellaneous personal services.....	303.0	313.6	316.4	317.6	318.2	318.7	320.047	320.725	321.299	323.321	324.661	325.259	324.579	325.566	327.783
Commodity and service group:															
Commodities.....	160.2	164.0	164.4	162.5	161.8	162.1	161.978	162.890	165.710	167.777	169.767	168.921	167.938	166.955	167.952
Food and beverages.....	191.2	195.7	196.7	197.5	197.2	197.4	199.198	200.402	200.869	201.292	202.225	202.885	203.533	204.289	205.279
Commodities less food and beverages.....	142.5	145.9	146.0	143.0	142.1	142.5	141.529	142.290	146.037	148.749	151.136	149.669	148.016	146.317	147.289
Nondurables less food and beverages.....	168.4	176.7	177.7	171.2	169.7	170.9	168.788	170.479	178.548	184.555	190.075	187.249	183.947	180.480	182.902
Apparel.....	119.5	119.5	121.7	123.3	121.7	118.6	115.988	119.017	122.582	122.934	121.452	117.225	113.500	114.439	119.535
Nondurables less food, beverages, and apparel.....	202.6	216.3	216.6	205.0	203.5	207.3	205.498	206.395	217.451	227.113	237.116	235.097	231.983	225.694	226.509
Durables.....	115.3	114.5	113.8	113.8	113.5	113.3	113.263	113.210	113.163	112.989	112.637	112.375	112.177	112.036	111.746
Services.....	230.1	238.9	241.1	240.9	240.9	241.2	242.540	243.793	244.671	245.265	245.793	247.450	248.331	248.555	248.700
Rent of shelter <sup>3</sup> .....	233.7	241.9	243.8	244.7	244.7	245.0	246.476	248.024	249.087	249.877	250.055	251.200	252.358	252.530	252.272
Transportation services.....	225.7	230.8	231.7	232.3	231.5	230.8	231.367	232.077	232.200	232.217	231.777	233.202	234.632	234.563	234.322
Other services.....	268.4	277.5	280.8	281.2	281.1	280.9	281.282	281.864	282.431	283.271	284.541	284.656	284.859	286.492	288.469
Special indexes:															
All items less food.....	196.0	202.7	204.1	202.6	202.3	202.6	203.035	204.101	206.195	207.680	208.991	209.353	209.179	208.607	209.100
All items less shelter.....	186.1	191.9	193.1	191.2	190.7	191.1	191.328	192.272	194.482	196.062	197.783	197.913	197.408	196.803	197.708
All items less medical care.....	188.7	194.7	196.0	194.9	194.5	194.8	195.295	196.298	198.179	199.512	200.779	201.178	201.042	200.598	201.159
Commodities less food.....	144.5	148.0	148.0	145.1	144.3	144.7	143.775	144.558	148.240	150.894	153.228	151.825	150.225	148.591	149.541
Nondurables less food.....	170.1	178.2	179.1	173.1	171.7	172.7	170.878	172.552	180.197	185.861	191.064	188.463	185.382	182.170	184.450
Nondurables less food and apparel.....	201.2	213.9	214.2	203.8	202.5	205.8	204.403	205.347	215.400	224.621	233.150	231.414	228.641	223.057	223.802
Nondurables.....	180.2	186.7	187.8	184.8	183.8	184.5	184.284	185.751	190.212	193.570	196.916	195.749	194.326	192.869	194.616
Services less rent of shelter <sup>3</sup> .....	243.2	253.3	256.2	254.4	254.6	254.9	256.164	257.147	257.864	258.261	259.262	261.677	262.284	262.588	263.243
Services less medical care services.....	221.2	229.6	231.8	231.5	231.5	231.7	232.892	233.963	234.809	235.378	235.870	237.565	238.357	238.507	238.604
Energy.....	177.1	196.9	199.1	181.3	180.4	185.2	183.567	184.451	196.929	207.265	219.071	221.088	217.274	209.294	209.637
All items less energy.....	198.7	203.7	204.9	205.6	205.3	205.1	205.993	207.106	207.850	208.243	208.400	208.636	208.980	209.399	210.000
All items less food and energy.....	200.9	205.9	207.2	207.8	207.6	207.3	208.009	209.112	209.923	210.311	210.316	210.474	210.756	211.111	211.628
Commodities less food and energy.....	140.3	140.6	140.9	141.2	140.6	139.9	139.628	140.305	141.056	140.995	140.518	139.589	138.757	138.895	139.828
Energy commodities.....	197.4	223.0	222.3	196.9	194.6	202.4	196.983	198.617	222.620	243.957	265.562	260.739	253.696	239.885	241.120
Services less energy.....	236.6	244.7	246.6	247.5	247.5	247.5	248.836	250.199	251.026	251.714	252.050	252.955	253.998	254.491	254.706
<b>CONSUMER PRICE INDEX FOR URBAN</b>															
<b>WAGE EARNERS AND CLERICAL WORKERS</b>															
All items.....	191.0	197.1	198.4	197.0	196.8	197.2	197.559	198.544	200.612	202.130	203.661	203.906	203.700	203.199	203.889
All items (1967 = 100).....	568.9	587.2	591.0	586.7	586.1	587.3	588.467	591.403	597.561	602.083	606.643	607.374	606.759	605.267	607.324
Food and beverages.....	190.5	194.9	195.9	196.7	196.5	196.5	198.280	199.540	200.056	200.488	201.478	202.185	202.823	203.610	204.584
Food.....	190.1	194.4	195.5	196.2	196.0	196.1	197.886	199.111	199.589	200.009	201.043	201.722	202.409	203.207	204.241
Food at home.....	188.9	192.2	193.3	194.2	194.3	193.2	195.531	197.044	197.735	197.989	199.355	200.009	200.569	201.321	202.351
Cereals and bakery products.....	208.9	213.1	214.1	214.9	214.9	215.2	216.416	219.191	218.799	220.926	221.259	223.009	223.663	224.220	223.895
Meats, poultry, fish, and eggs.....	184.7	186.1	187.5	187.5	188.0	188.0	189.119	189.996	192.013	193.089	195.331	196.660	196.323	196.844	197.980
Dairy and related products <sup>1</sup> .....	182.2	180.9	179.4	181.4	179.9	180.3	182.711	183.185	185.095	185.326	186.948	191.235	198.027	201.598	203.464
Fruits and vegetables.....	238.9	251.0	257.3	260.8	255.1	254.7	260.176	266.159	261.627	260.068	262.669	256.565	252.703	251.575	257.223
Nonalcoholic beverages and beverage materials.....	143.7	146.7	146.8	147.7	148.3	147.8	150.620	150.968	153.329	150.995	152.173	152.501	152.829	154.152	154.501
Other foods at home.....	166.5	169.1	169.3	169.7	168.7	168.1	170.242	170.861	171.183	171.898	172.024	173.049	173.727	173.997	173.463
Sugar and sweets.....	164.3	170.5	171.3	171.4	171.3	171.3	173.929	173.081	173.248	174.459	174.084	175.073	176.736	176.664	176.458
Fats and oils.....	167.8	168.7	168.6	169.8	168.9	167.3	170.559	172.380	172.005	170.574	172.401	172.222	174.109	174.872	175.039
Other foods.....	182.8	185.2	185.3	184.3	184.3	183.7	185.681	186.473	187.026	188.165	188.049	189.456	189.667	189.941	189.110
Other miscellaneous foods <sup>1,2</sup> .....	111.8	114.2	114.5	113.8	114.1	115.3	114.759	115.151	114.402	115.432	115.035	116.366	115.355	116.348	114.584
Food away from home <sup>1</sup> .....	193.3	199.1	200.2	200.8	201.4	202.0	202.905	203.689	203.838	204.519	205.046	205.691	206.657	207.533	208.578
Other food away from home <sup>1,2</sup> .....	131.1	136.2	137.1	137.5	138.3	138.7	140.499	141.274	141.119	142.991	143.031	143.018	144.439	144.938	145.783
Alcoholic beverages.....	195.8	200.6	200.9	201.8	201.9	201.1	202.821	204.616	205.729	206.342	206.636	207.767	207.647	208.253	208.286
Housing.....	191.2	198.5	200.4	199.6	199.9	200.5	201.509	202.370	203.203	203.588	204.033	203.710	206.183	206.054	206.050
Shelter.....	217.5	224.8	226.6	227.5	227.8	228.3	229.359	230.472	231.315	231.957	232.181	233.040	233.848	234.169	234.275
Rent of primary residence.....	216.5	224.2	226.2	227.1	228.0	229.1	229.921	230.860	231.634	232.126	232.690	233.188	233.855	234.457	235.175
Lodging away from home <sup>2</sup> .....	130.0	135.3	134.0	134.7	129.3	127.1	132.607	138.083	141.335	144.370	143.880	148.948	153.107	149.919	143.727
Owners' equivalent rent of primary residence <sup>3</sup> .....	208.8	216.0	218.0	218.8	219.5	220.1	220.602	221.185	221.704	222.062	222.264	222.671	223.093	223.693	224.321
Tenants' and household insurance <sup>1,2</sup> .....	117.9	116.8	116.8	116.6	118.6	117.4	117.748	117.622	117.653	117.945	116.828	117.503	116.912	117.287	117.142
Fuels and utilities.....	177.9	193.1	197.7	188.1	188.9	190.9	192.895	193.330	194.963	194.974	197.052	204.396	204.272	202.397	202.304
Fuels.....	159.7	174.4	179.0	168.7	169.4	171.5	173.352	173.654	175.303	175.223	177.372	185.178	184.725	182.518	182.357
Fuel oil and other fuels.....	208.1	234.0	235.8	226.6	226.3	232.2	226.971	231.136	236.103	239.516	241.052	241.249	245.633	246.382	252.684
Gas (piped) and electricity.....	165.4	180.2	185.3	174.3	175.1	177.1	179.457	179.550	181.092	180.803	183.103	191.771	191.010	188.511	187.963
Household furnishings and operations.....	121.8	122.6	122.7	122.8	122.8	122.6	122.623	122.962	123.134	122.881	122.786	122.826	122.550	122.190	121.820
Apparel.....	119.1	119.1	121.4	123.1	121.8	118.6	115.315	118.211	122.021						

**38. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group**

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
New vehicles.....	138.9	138.6	137.4	137.8	137.9	138.2	138.722	138.451	138.315	138.077	137.535	137.060	136.663	136.414	136.129
Used cars and trucks <sup>1</sup> .....	140.3	140.8	141.9	140.1	138.1	137.0	136.063	135.411	135.203	135.192	135.320	135.917	136.880	137.999	137.996
Motor fuel.....	196.3	221.6	220.8	194.4	192.0	199.8	194.278	195.934	221.011	243.574	266.737	261.679	253.893	239.097	240.271
Gasoline (all types).....	195.4	220.7	219.7	193.4	191.0	198.8	193.262	194.923	220.052	242.613	265.874	260.799	252.957	238.100	239.252
Motor vehicle parts and equipment.....	111.5	116.9	118.4	118.6	119.2	119.2	119.464	119.897	120.170	120.367	120.709	120.666	121.350	121.584	122.144
Motor vehicle maintenance and repair.....	209.3	218.1	219.4	221.1	221.1	221.4	221.769	223.054	223.683	224.086	224.623	225.172	226.090	226.636	226.881
Public transportation.....	215.5	225.0	227.8	225.6	219.7	217.4	220.809	223.338	224.973	226.521	227.024	231.549	233.390	231.082	229.148
Medical care.....	322.8	335.7	337.8	338.9	339.8	340.0	343.138	346.191	346.946	348.109	348.801	349.145	351.346	352.704	353.571
Medical care commodities.....	269.2	279.0	281.1	281.0	279.7	279.1	281.098	280.597	279.762	281.216	281.502	280.862	282.662	283.379	283.712
Medical care services.....	337.3	351.1	353.1	354.6	356.3	356.7	360.251	364.519	365.827	366.870	367.696	368.384	370.696	372.261	373.306
Professional services.....	284.3	291.7	292.8	293.6	294.2	294.7	297.335	300.720	301.339	301.599	301.979	302.346	303.481	304.677	304.841
Hospital and related services.....	436.1	463.6	467.5	469.9	473.9	473.0	477.603	482.895	485.074	487.336	488.523	489.292	493.563	495.191	498.533
Recreation <sup>2</sup> .....	106.8	108.2	108.3	108.4	108.5	108.1	108.281	108.484	108.461	108.680	108.905	108.681	108.403	108.179	108.495
Video and audio <sup>1,2</sup> .....	103.4	103.9	103.9	103.5	103.3	102.4	102.334	102.653	102.363	102.690	103.137	103.001	102.358	101.923	102.427
Education and communication <sup>2</sup> .....	111.4	113.9	115.3	115.4	114.9	114.8	114.703	114.870	115.161	115.280	115.830	115.746	115.980	116.981	117.000
Education <sup>2</sup> .....	151.0	160.3	164.7	165.2	165.4	165.5	165.789	166.144	166.341	166.441	166.667	166.758	167.527	170.635	173.767
Educational books and supplies.....	367.1	390.7	395.4	400.9	401.0	402.0	409.068	411.130	417.027	417.583	417.791	418.705	421.529	431.089	433.670
Tuition, other school fees, and child care.....	427.1	453.3	466.6	467.4	468.0	468.3	468.417	469.284	469.224	469.472	470.148	470.329	472.395	480.960	488.199
Communication <sup>1,2</sup> .....	86.4	86.0	86.2	86.1	85.4	85.2	85.030	85.112	85.408	85.523	86.140	85.999	86.015	86.148	86.184
Information and information processing <sup>1,2</sup> .....	84.9	84.3	84.4	84.4	83.7	83.5	83.256	83.337	83.645	83.760	84.304	84.095	84.111	84.248	84.283
Telephone services <sup>1,2</sup> .....	95.0	95.9	96.2	96.9	96.7	96.9	97.045	97.233	97.625	97.738	98.610	98.603	98.721	98.964	99.024
Information and information processing other than telephone services <sup>1,4</sup> .....	14.2	13.0	12.9	12.4	11.9	11.6	11.321	11.272	11.292	11.322	11.243	11.062	11.001	10.965	10.958
Personal computers and peripheral equipment <sup>1,2</sup> .....	12.6	10.7	10.3	10.2	10.2	10.2	10.081	9.997	10.040	10.036	9.843	9.583	9.495	9.421	9.348
Other goods and services.....	322.2	330.9	332.2	333.1	332.9	335.7	339.084	340.917	341.719	342.057	343.096	343.939	344.221	344.214	345.800
Tobacco and smoking products.....	504.2	521.6	522.4	522.7	521.1	528.6	544.568	550.097	551.161	548.812	550.888	553.538	555.366	556.517	561.092
Personal care <sup>1</sup> .....	184.0	188.3	189.2	189.9	190.0	191.1	191.311	191.922	192.411	193.075	193.595	193.858	193.592	193.598	194.160
Personal care products <sup>1</sup> .....	154.5	155.7	156.3	156.5	156.0	158.6	157.505	157.992	158.528	158.578	158.566	158.739	158.445	157.813	157.654
Personal care services <sup>1</sup> .....	204.2	209.8	210.8	211.9	212.5	212.7	214.254	214.773	215.318	215.658	216.489	216.174	217.040	217.354	217.822
Miscellaneous personal services.....	303.4	314.1	316.8	317.9	318.5	318.7	319.885	321.269	322.090	324.252	325.617	326.572	326.135	327.235	329.329
Commodity and service group:															
Commodities.....	161.4	165.7	166.1	163.8	163.1	163.5	163.212	164.171	167.350	169.746	172.126	171.216	170.252	169.122	170.141
Food and beverages.....	190.5	194.9	195.9	196.7	196.5	196.5	198.280	199.540	200.056	200.488	201.478	202.185	202.823	203.610	204.584
Commodities less food and beverages.....	144.7	148.7	148.9	145.3	144.4	145.0	143.764	144.567	148.836	152.034	154.964	153.367	151.724	149.781	150.795
Nondurables less food and beverages.....	173.2	182.6	183.6	176.0	174.6	176.1	173.542	175.371	184.604	191.650	198.237	195.053	191.603	187.515	189.981
Apparel.....	119.1	119.1	121.4	123.1	121.8	118.6	115.315	118.211	122.021	122.475	120.931	116.389	113.157	114.146	118.986
Nondurables less food, beverages, and apparel.....	210.6	226.1	226.2	212.7	211.2	215.7	213.546	214.738	227.564	238.898	250.737	248.347	244.695	237.329	238.345
Durables.....	115.1	114.6	114.0	113.9	113.6	113.3	113.270	113.178	113.107	112.945	112.686	112.485	112.425	112.362	112.114
Services.....	225.7	234.1	236.3	235.8	236.2	236.6	237.761	238.783	239.586	240.106	240.672	242.241	242.901	243.118	243.436
Rent of shelter <sup>3</sup> .....	209.5	216.6	218.4	219.3	219.5	220.0	221.062	222.150	222.970	223.590	223.833	224.655	225.455	225.760	225.867
Transportation services.....	225.9	230.6	231.3	232.2	231.9	231.4	231.783	232.362	232.332	232.218	231.542	232.623	233.737	233.831	233.868
Other services.....	260.0	268.2	271.0	271.4	271.2	270.9	271.323	271.921	272.474	273.342	274.697	274.670	274.766	276.015	277.702
Special indexes:															
All items less food.....	191.0	197.5	198.8	196.9	196.7	197.2	197.317	198.258	200.616	202.335	203.955	204.121	203.750	203.011	203.638
All items less shelter.....	183.4	189.2	190.3	188.0	187.6	188.0	188.108	189.058	191.591	193.443	195.463	195.489	194.913	194.109	195.018
All items less medical care.....	185.4	191.3	192.5	191.0	190.8	191.2	191.475	192.389	194.481	195.998	197.543	197.783	197.504	196.949	197.629
Commodities less food.....	146.5	150.6	150.8	147.3	146.4	147.0	145.822	146.653	150.856	153.999	156.872	155.339	153.730	151.846	152.837
Nondurables less food.....	174.6	183.8	184.7	177.6	176.3	177.7	175.341	177.171	185.979	192.687	198.945	195.988	192.714	188.873	191.210
Nondurables less food and apparel.....	208.4	223.0	223.1	210.9	209.5	213.5	211.702	212.940	224.712	235.083	245.886	243.806	240.471	233.817	234.745
Nondurables.....	182.5	189.5	190.5	186.9	186.1	186.9	186.434	187.995	193.028	196.887	200.781	199.476	198.000	196.266	198.017
Services less rent of shelter <sup>3</sup> .....	215.9	224.7	227.2	225.2	225.5	225.8	226.994	227.801	228.479	228.811	229.694	231.965	232.367	232.450	232.982
Services less medical care services.....	217.2	225.3	227.4	226.9	227.1	227.6	228.608	229.453	230.221	230.708	231.253	232.848	233.415	233.562	233.839
Energy.....	177.2	196.8	198.7	180.6	179.8	184.7	182.878	183.842	196.940	207.932	220.348	221.832	217.795	209.441	209.933
All items less energy.....	193.5	198.0	199.2	199.9	199.7	199.6	200.245	201.238	201.948	202.300	202.489	202.582	202.849	203.319	204.037
All items less food and energy.....	194.6	199.2	200.4	201.0	200.9	200.7	201.110	202.056	202.816	203.154	203.163	203.132	203.310	203.710	204.363
Commodities less food and energy.....	140.6	141.1	141.4	141.7	141.1	140.4	139.999	140.680	141.482	141.450	141.011	140.019	139.352	139.557	140.491
Energy commodities.....	197.7	223.0	222.3	196.7	194.4	202.1	196.605	198.398	222.509	244.148	266.260	261.460	254.282	240.247	241.692
Services less energy.....	232.3	239.9	241.7	242.6	242.8	243.0	244.080	245.211	245.923	246.539	246.894	247.606	248.434	248.977	249.398

<sup>1</sup> Not seasonally adjusted.

<sup>2</sup> Indexes on a December 1997 = 100 base.

<sup>3</sup> Indexes on a December 1982 = 100 base.

<sup>4</sup> Indexes on a December 1988 = 100 base.

NOTE: Index applied to a month as a whole, not to any specific date.

**39. Consumer Price Index: U.S. city average and available local area data: all items**

[1982-84 = 100, unless otherwise indicated]

	Pricing sched- ule <sup>1</sup>	All Urban Consumers						Urban Wage Earners					
		2007						2007					
		Apr.	May	June	July	Aug.	Sept.	Apr.	May	June	July	Aug.	Sept.
U.S. city average.....	M	206.686	207.949	208.352	208.299	207.917	208.490	202.130	203.661	203.906	203.700	203.199	203.889
<b>Region and area size<sup>2</sup></b>													
Northeast urban.....	M	219.501	220.591	221.579	221.945	221.559	221.436	215.802	217.008	217.794	217.879	217.379	217.486
Size A—More than 1,500,000.....	M	222.001	222.924	224.036	224.229	224.246	224.274	216.766	217.739	218.624	218.523	218.445	218.791
Size B/C—50,000 to 1,500,000 <sup>3</sup> .....	M	129.563	130.488	130.893	131.391	130.519	130.206	129.856	130.881	131.234	131.521	130.684	130.447
Midwest urban <sup>4</sup> .....	M	197.405	199.194	199.263	198.989	198.551	199.714	192.379	194.553	194.538	194.219	193.663	194.828
Size A—More than 1,500,000.....	M	199.378	200.818	200.666	200.369	199.823	201.171	193.403	195.325	195.105	194.725	194.084	195.306
Size B/C—50,000 to 1,500,000 <sup>3</sup> .....	M	125.724	127.247	127.372	127.111	126.886	127.504	125.159	126.897	126.995	126.738	126.435	127.139
Size D—Nonmetropolitan (less than 50,000).....	M	191.685	193.467	194.442	194.815	194.716	195.483	189.901	191.801	192.455	192.804	192.437	193.586
South urban.....	M	199.618	200.804	201.675	201.571	201.041	201.697	196.730	198.175	198.838	198.673	198.063	198.873
Size A—More than 1,500,000.....	M	201.818	202.840	204.152	203.953	203.579	204.302	199.837	201.167	202.215	201.867	201.384	202.354
Size B/C—50,000 to 1,500,000 <sup>3</sup> .....	M	127.000	127.893	128.265	128.226	127.833	128.263	125.598	126.639	126.930	126.878	126.445	126.953
Size D—Nonmetropolitan (less than 50,000).....	M	200.366	200.919	201.445	201.576	200.771	200.898	200.520	201.358	201.709	201.809	201.006	201.250
West urban.....	M	212.036	213.063	212.680	212.542	212.406	212.920	206.521	207.795	207.311	206.927	206.624	207.164
Size A—More than 1,500,000.....	M	215.540	216.640	215.901	215.855	215.825	216.429	208.393	209.674	208.726	208.388	208.225	208.921
Size B/C—50,000 to 1,500,000 <sup>3</sup> .....	M	128.843	129.129	129.262	129.067	128.939	129.064	128.376	128.962	129.097	128.840	128.546	128.642
Size classes:													
A <sup>5</sup> .....	M	189.327	190.327	190.637	190.571	190.382	190.962	187.531	188.791	188.909	188.642	188.338	189.072
B/C <sup>3</sup> .....	M	127.440	128.347	128.628	128.601	128.216	128.506	126.624	127.710	127.942	127.866	127.419	127.759
D.....	M	198.516	200.118	200.800	200.893	200.311	200.903	197.059	198.771	199.237	199.207	198.559	199.289
<b>Selected local areas<sup>6</sup></b>													
Chicago—Gary—Kenosha, IL—IN—WI.....	M	204.019	205.686	206.092	205.561	205.813	206.454	197.067	199.109	199.279	198.700	198.630	199.419
Los Angeles—Riverside—Orange County, CA.....	M	217.845	218.596	217.273	217.454	217.330	217.697	210.195	211.145	209.614	209.444	209.240	209.849
New York, NY—Northern NJ—Long Island, NY—NJ—CT—PA.....	M	225.780	227.146	228.258	228.628	228.326	228.308	219.791	221.396	222.322	222.237	221.905	222.174
Boston—Brockton—Nashua, MA—NH—ME—CT.....	1	— 226.247	—	— 226.929	—	— 227.850	—	— 225.395	—	— 226.465	—	— 227.429	—
Cleveland—Akron, OH.....	1	— 196.216	—	— 197.010	—	— 197.000	—	— 186.889	—	— 187.344	—	— 187.784	—
Dallas—Ft Worth, TX.....	1	— 192.779	—	— 194.286	—	— 194.847	—	— 195.216	—	— 196.198	—	— 197.027	—
Washington—Baltimore, DC—MD—VA—WV <sup>7</sup> .....	1	— 132.982	—	— 134.442	—	— 134.678	—	— 132.330	—	— 133.766	—	— 134.277	—
Atlanta, GA.....	2	199.039	—	— 202.200	—	— 201.258	—	— 197.856	—	— 200.943	—	— 200.162	—
Detroit—Ann Arbor—Flint, MI.....	2	200.418	—	— 201.585	—	— 199.679	—	— 195.417	—	— 196.701	—	— 194.798	—
Houston—Galveston—Brazoria, TX.....	2	184.140	—	— 184.529	—	— 183.740	—	— 182.774	—	— 183.380	—	— 182.425	—
Miami—Ft. Lauderdale, FL.....	2	210.904	—	— 212.820	—	— 213.127	—	— 208.921	—	— 210.938	—	— 211.041	—
Philadelphia—Wilmington—Atlantic City, PA—NJ—DE—MD.....	2	215.270	—	— 217.255	—	— 218.692	—	— 214.668	—	— 216.511	—	— 217.331	—
San Francisco—Oakland—San Jose, CA.....	2	215.842	—	— 216.123	—	— 216.240	—	— 211.189	—	— 211.422	—	— 211.620	—
Seattle—Tacoma—Bremerton, WA.....	2	215.767	—	— 215.510	—	— 215.978	—	— 210.388	—	— 210.550	—	— 210.220	—

<sup>1</sup> Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:  
M—Every month.

1—January, March, May, July, September, and November.  
2—February, April, June, August, October, and December.

<sup>2</sup> Regions defined as the four Census regions.

<sup>3</sup> Indexes on a December 1996 = 100 base.

<sup>4</sup> The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

<sup>5</sup> Indexes on a December 1986 = 100 base.

<sup>6</sup> In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed*

*Report*: Anchorage, AK; Cincinnati, OH—KY—IN; Kansas City, MO—KS; Milwaukee—Racine, WI; Minneapolis—St. Paul, MN—WI; Pittsburgh, PA; Portland—Salem, OR—WA; St. Louis, MO—IL; San Diego, CA; Tampa—St. Petersburg—Clearwater, FL.

<sup>7</sup> Indexes on a November 1996 = 100 base.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date. Dash indicates data not available.

**40. Annual data: Consumer Price Index, U.S. city average, all items and major groups**

[1982-84 = 100]

Series	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Consumer Price Index for All Urban Consumers:											
All items:											
Index.....	156.9	160.5	163.0	166.6	172.2	177.1	179.9	184.0	188.9	195.3	201.6
Percent change.....	3.0	2.3	1.6	2.2	3.4	2.8	1.6	2.3	2.7	3.4	3.2
Food and beverages:											
Index.....	153.7	157.7	161.1	164.6	168.4	173.6	176.8	180.5	186.6	191.2	195.7
Percent change.....	3.2	2.6	2.2	2.2	2.3	3.1	1.8	2.1	3.3	2.5	2.4
Housing:											
Index.....	152.8	156.8	160.4	163.9	169.6	176.4	180.3	184.8	189.5	195.7	203.2
Percent change.....	2.9	2.6	2.3	2.2	3.5	4.0	2.2	2.5	2.5	3.3	3.8
Apparel:											
Index.....	131.7	132.9	133.0	131.3	129.6	127.3	124.0	120.9	120.4	119.5	119.5
Percent change.....	-2	.9	.1	-1.3	-1.3	-1.8	-2.6	-2.5	-4	-7	.0
Transportation:											
Index.....	143.0	144.3	141.6	144.4	153.3	154.3	152.9	157.6	163.1	173.9	180.9
Percent change.....	2.8	0.9	-1.9	2.0	6.2	0.7	-9	3.1	3.5	6.6	4.0
Medical care:											
Index.....	228.2	234.6	242.1	250.6	260.8	272.8	285.6	297.1	310.1	323.2	336.2
Percent change.....	3.5	2.8	3.2	3.5	4.1	4.6	4.7	4.0	4.4	4.2	4.0
Other goods and services:											
Index.....	215.4	224.8	237.7	258.3	271.1	282.6	293.2	298.7	304.7	313.4	321.7
Percent change.....	4.1	4.4	5.7	8.7	5.0	4.2	3.8	1.9	2.0	2.9	2.6
Consumer Price Index for Urban Wage Earners and Clerical Workers:											
All items:											
Index.....	154.1	157.6	159.7	163.2	168.9	173.5	175.9	179.8	184.5	191.0	197.1
Percent change.....	2.9	2.3	1.3	2.2	3.5	2.7	1.4	2.2	5.1	1.1	3.2

41. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2006				2007								
	2005	2006	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June <sup>P</sup>	July <sup>P</sup>	Aug. <sup>P</sup>	Sept. <sup>P</sup>
<b>Finished goods.....</b>	155.7	160.4	160.3	158.9	159.8	160.5	160.1	161.8	164.1	165.9	167.5	167.1	168.2	165.8	167.4
Finished consumer goods.....	160.4	166.0	165.9	163.8	164.5	165.5	164.9	167.1	170.2	172.7	174.8	174.2	175.7	172.6	174.8
Finished consumer goods	155.7	156.7	159.2	158.4	157.9	160.1	161.1	163.9	166.3	166.8	166.8	166.2	166.1	165.8	168.3
excl. foods.....	161.9	169.2	168.2	165.5	166.7	167.2	166.0	167.9	171.2	174.5	177.6	176.9	179.1	174.8	176.9
Nondurable goods less food.....	172.0	182.6	181.7	177.1	177.8	178.9	177.1	180.0	185.2	190.4	195.0	193.9	197.2	191.1	194.4
Durable goods.....	136.6	136.9	135.6	136.9	139.1	138.5	138.3	138.4	138.2	137.7	137.7	137.8	137.6	137.4	136.9
Capital equipment.....	144.6	146.9	146.7	147.5	148.8	148.6	148.9	149.2	149.1	149.1	149.1	149.4	149.1	149.2	149.0
<b>Intermediate materials, supplies, and components.....</b>	154.0	164.0	165.4	162.9	163.3	164.1	163.3	164.3	166.6	169.1	171.1	172.2	173.5	171.5	172.3
Materials and components															
for manufacturing.....	146.0	155.9	158.4	158.1	157.4	157.1	157.3	157.6	158.7	160.6	162.8	164.0	164.5	163.3	163.4
Materials for food manufacturing.....	146.0	146.2	148.1	147.7	148.1	147.9	150.3	152.8	155.5	157.5	160.6	163.7	164.2	164.8	167.4
Materials for nondurable manufacturing.....	163.2	175.0	176.3	175.1	173.8	172.9	174.0	174.5	176.3	177.7	182.9	185.6	187.5	185.4	186.3
Materials for durable manufacturing.....	158.3	180.5	186.9	187.3	185.3	185.0	183.1	183.8	186.3	192.9	195.0	195.2	194.3	191.1	188.7
Components for manufacturing.....	129.9	134.5	136.0	136.0	136.2	136.2	136.5	136.0	135.8	136.0	136.0	136.4	136.3	136.4	136.5
Materials and components															
for construction.....	176.6	188.4	191.0	190.4	189.6	189.6	190.3	190.6	191.2	192.1	192.8	193.5	193.8	193.6	193.3
Processed fuels and lubricants.....	150.0	162.8	161.6	149.9	153.9	157.5	152.0	156.1	164.6	171.6	176.2	177.8	182.3	175.5	178.8
Containers.....	167.1	175.0	178.0	177.5	176.8	176.8	178.1	178.1	178.1	179.2	179.6	179.6	180.2	180.7	180.7
Supplies.....	151.9	157.0	157.5	158.2	158.6	159.3	159.6	160.1	160.4	160.7	160.8	161.2	161.7	161.8	162.1
<b>Crude materials for further processing.....</b>	182.2	184.8	183.8	167.0	186.6	191.2	180.0	197.0	202.1	204.2	208.0	208.5	210.6	204.3	204.7
Foodstuffs and feedstuffs.....	122.7	119.3	121.3	124.8	127.5	126.9	128.7	138.8	142.0	143.7	148.1	148.0	150.0	147.9	151.9
Crude nonfood materials.....	223.4	230.6	227.1	194.7	227.2	235.7	212.9	235.1	241.5	243.9	246.6	247.7	249.8	240.3	237.5
<b>Special groupings:</b>															
Finished goods, excluding foods.....	155.5	161.0	160.3	158.8	160.0	160.3	159.6	161.0	163.2	165.3	167.4	167.0	168.4	165.5	166.9
Finished energy goods.....	132.6	145.9	144.3	136.8	137.9	139.1	135.6	139.0	147.4	155.4	161.9	160.3	165.7	155.0	159.6
Finished goods less energy.....	155.9	157.9	158.2	158.6	159.4	159.9	160.4	161.6	162.1	162.2	162.4	162.3	162.2	162.3	163.0
Finished consumer goods less energy.....	160.8	162.7	163.3	163.5	164.0	164.9	165.5	167.0	167.8	168.0	168.3	168.1	168.0	168.1	169.1
Finished goods less food and energy.....	156.4	158.7	158.3	159.1	160.3	160.3	160.6	161.2	161.0	161.0	161.3	161.4	161.2	161.4	161.5
Finished consumer goods less food and energy.....	164.3	166.7	166.1	166.9	168.1	168.1	168.5	169.2	169.0	169.0	169.5	169.5	169.4	169.7	169.9
Consumer nondurable goods less food and energy.....	187.1	191.5	191.8	192.0	192.2	192.7	193.6	195.1	194.9	195.4	196.5	196.3	196.3	197.1	198.1
Intermediate materials less foods and feeds.....	155.1	165.4	166.9	164.2	164.6	165.3	164.3	165.2	167.5	170.0	172.1	173.1	174.4	172.3	173.0
Intermediate foods and feeds.....	133.8	135.2	135.2	135.7	138.6	140.4	142.6	147.2	149.8	151.0	151.6	154.5	156.0	156.4	158.5
Intermediate energy goods.....	149.2	162.8	161.3	149.7	153.9	156.8	151.8	155.7	164.0	170.5	176.7	178.8	183.5	177.2	179.9
Intermediate goods less energy.....	153.3	162.1	164.3	164.2	163.7	163.9	164.1	164.4	165.2	166.7	167.6	168.4	168.8	168.0	168.3
Intermediate materials less foods and energy.....	154.6	163.8	166.1	166.0	165.3	165.4	165.5	165.5	166.2	167.7	168.6	169.3	169.6	168.8	168.9
Crude energy materials.....	234.0	226.9	218.1	174.3	220.5	230.9	195.9	223.9	224.7	226.5	233.0	235.3	237.8	224.4	219.9
Crude materials less energy.....	143.5	152.3	156.2	157.2	159.2	159.9	162.1	172.3	179.3	181.6	183.7	183.3	185.1	184.2	188.2
Crude nonfood materials less energy.....	202.4	244.5	253.8	247.9	248.1	252.3	255.5	265.6	284.5	288.4	282.8	281.5	282.4	285.9	289.2

p = preliminary.

## 42. Producer Price Indexes for the net output of major industry groups

[December 2003 = 100, unless otherwise indicated]

NAICS	Industry	2006				2007								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June <sup>P</sup>	July <sup>P</sup>	Aug <sup>P</sup>	Sept. <sup>P</sup>
	<b>Total mining industries (December 1984=100)</b> .....	204.8	176.1	205.5	212.2	188.2	207.8	210.6	214.1	221.1	220.4	222.0	213.6	212.9
211	Oil and gas extraction (December 1985=100).....	242.1	191.7	244.5	256.2	217.7	248.3	252.4	257.1	268.2	267.9	270.3	255.7	254.5
212	Mining, except oil and gas.....	152.9	150.8	149.3	150.7	149.1	150.8	153.7	158.2	159.1	158.5	159.6	162.0	161.2
213	Mining support activities.....	173.2	174.0	177.1	175.3	172.4	177.9	175.5	172.1	172.8	170.3	168.0	167.0	168.9
	<b>Total manufacturing industries (December 1984=100)</b> .....	156.8	155.9	156.4	156.9	156.4	157.7	160.1	162.2	163.8	163.9	164.9	163.0	163.9
311	Food manufacturing (December 1984=100).....	147.9	147.6	149.0	149.8	151.6	153.8	155.8	156.9	158.7	160.0	160.2	160.1	161.1
312	Beverage and tobacco manufacturing.....	105.9	105.9	106.5	106.9	107.5	109.0	108.5	109.1	109.2	109.8	109.1	109.6	110.2
313	Textile mills.....	106.9	107.1	107.3	106.8	107.0	107.5	107.7	107.4	107.6	108.2	108.3	108.7	108.9
315	Apparel manufacturing.....	100.6	100.9	100.8	100.8	101.4	101.5	101.4	101.6	101.5	101.8	101.6	101.7	101.7
316	Leather and allied product manufacturing (December 1984=100).....	147.0	147.3	147.4	147.6	148.6	148.8	149.3	149.7	149.6	149.3	149.4	149.4	149.9
321	Wood products manufacturing.....	107.5	105.9	105.8	106.0	106.6	106.5	106.8	107.0	107.0	107.5	108.7	107.7	107.3
322	Paper manufacturing.....	114.1	114.3	114.1	114.3	114.7	114.7	114.5	114.7	114.8	115.1	115.5	115.5	116.0
323	Printing and related support activities.....	105.9	106.3	106.3	106.3	106.3	106.1	106.3	106.6	106.5	106.4	106.6	106.9	107.2
324	Petroleum and coal products manufacturing (December 1984=100).....	227.1	213.0	211.8	216.6	203.2	212.3	237.2	259.3	274.3	268.8	282.3	257.9	267.8
325	Chemical manufacturing (December 1984=100).....	197.9	197.2	196.5	197.0	197.3	198.1	199.4	201.1	201.9	203.2	204.0	205.0	205.3
326	Plastics and rubber products manufacturing (December 1984=100).....	150.6	151.2	151.1	150.6	149.9	149.6	149.4	149.4	149.8	149.8	150.2	151.0	151.1
331	Primary metal manufacturing (December 1984=100).....	188.1	189.1	186.3	186.5	183.6	184.6	187.2	194.1	197.1	196.7	195.1	190.8	188.0
332	Fabricated metal product manufacturing (December 1984=100).....	157.7	158.3	158.5	159.0	160.0	160.7	161.3	161.9	162.5	162.8	162.5	162.6	162.6
333	Machinery manufacturing.....	109.4	109.9	110.1	110.2	111.0	111.5	111.7	112.0	112.1	112.4	112.2	112.4	112.5
334	Computer and electronic products manufacturing.....	96.6	96.4	96.3	96.2	96.3	95.4	95.1	95.1	94.7	94.6	94.2	93.8	93.5
335	Electrical equipment, appliance, and components manufacturing.....	119.5	119.7	119.4	119.2	119.3	119.7	120.5	121.8	121.8	122.7	123.6	124.0	124.0
336	Transportation equipment manufacturing.....	102.2	103.2	105.1	104.8	105.0	105.0	104.8	104.5	104.4	104.6	104.3	104.3	103.9
337	Furniture and related product manufacturing (December 1984=100).....	163.1	163.5	163.6	163.6	164.5	165.3	165.2	165.5	165.7	165.5	165.9	165.6	165.9
339	Miscellaneous manufacturing.....	104.9	104.8	105.3	105.4	106.1	106.5	106.8	106.8	107.1	107.0	107.1	107.0	107.2
	<b>Retail trade</b>													
441	Motor vehicle and parts dealers.....	113.3	113.3	113.5	112.2	113.4	114.1	114.9	115.7	115.6	116.0	115.7	116.9	115.6
442	Furniture and home furnishings stores.....	118.8	118.4	115.7	115.6	115.4	115.2	115.8	115.7	115.2	117.0	116.9	117.1	118.8
443	Electronics and appliance stores.....	100.5	96.7	104.4	93.7	102.0	104.6	101.8	97.9	110.2	98.6	112.7	110.4	108.8
446	Health and personal care stores.....	120.3	119.8	119.4	119.5	121.8	121.6	122.1	122.2	123.0	122.4	123.0	124.9	124.1
447	Gasoline stations (June 2001=100).....	63.6	55.4	50.9	52.5	73.0	60.1	66.1	71.1	86.1	90.6	84.8	84.8	71.6
454	Nonstore retailers.....	134.1	121.4	123.9	130.2	134.8	131.0	128.7	130.5	129.5	132.1	121.9	129.4	128.3
	<b>Transportation and warehousing</b>													
481	Air transportation (December 1992=100).....	176.4	176.9	179.0	172.0	177.0	178.6	181.5	182.4	177.8	181.5	190.6	190.0	180.9
483	Water transportation.....	112.2	112.5	111.6	111.4	110.6	111.2	111.4	111.4	111.5	112.3	112.6	115.5	117.1
491	Postal service (June 1989=100).....	164.7	164.7	164.7	164.7	164.7	164.7	164.7	164.7	175.4	175.4	175.5	175.5	175.5
	<b>Utilities</b>													
221	Utilities.....	123.3	116.3	121.4	122.9	122.0	125.6	124.4	124.5	125.4	129.3	130.8	131.0	130.8
	<b>Health care and social assistance</b>													
6211	Office of physicians (December 1996=100).....	117.7	117.6	117.6	118.0	121.9	122.3	122.4	122.2	122.0	122.4	122.1	122.1	122.2
6215	Medical and diagnostic laboratories.....	104.5	104.5	104.5	104.6	106.7	106.7	106.7	106.7	106.4	106.7	106.5	107.7	108.3
6216	Home health care services (December 1996=100).....	121.8	122.3	122.2	122.3	122.9	123.6	123.6	123.6	123.6	123.6	123.8	123.8	123.9
622	Hospitals (December 1992=100).....	153.8	155.7	155.8	156.0	157.2	157.5	157.3	157.4	157.4	157.8	158.3	158.0	158.1
6231	Nursing care facilities.....	110.4	110.8	110.8	110.8	112.6	112.9	113.4	113.7	113.7	113.3	114.3	114.6	114.5
62321	Residential mental retardation facilities.....	109.2	109.3	109.9	110.0	111.1	111.3	111.5	111.5	112.2	111.3	111.4	112.1	113.0
	<b>Other services industries</b>													
511	Publishing industries, except Internet.....	106.7	106.9	107.2	107.0	107.5	107.7	107.8	108.0	108.2	108.2	108.1	108.1	108.5
515	Broadcasting, except Internet.....	102.7	106.8	105.2	103.8	102.7	103.1	102.5	101.1	101.6	102.1	98.8	99.1	99.4
517	Telecommunications.....	99.0	99.3	99.2	99.7	99.3	99.5	99.7	100.4	100.7	101.1	102.3	101.2	102.0
5182	Data processing and related services.....	100.2	100.1	100.0	99.9	100.1	100.1	100.2	100.1	100.4	100.4	100.4	100.5	100.4
523	Security, commodity contracts, and like activity.....	114.6	115.8	115.9	116.1	117.8	117.3	118.1	118.7	118.8	118.8	120.3	120.8	121.0
53112	Lessors or nonresidential buildings (except miniwarehouse).....	110.4	108.9	107.1	108.0	105.7	105.7	105.8	105.9	106.0	107.2	107.2	107.2	106.8
5312	Offices of real estate agents and brokers.....	110.7	110.7	110.7	110.7	110.5	110.8	111.4	111.4	110.4	112.2	113.5	111.0	110.7
5313	Real estate support activities.....	102.9	102.7	102.6	102.9	103.1	102.7	103.4	103.6	104.0	102.5	103.5	101.6	103.0
5321	Automotive equipment rental and leasing (June 2001=100).....	113.5	117.5	117.9	121.4	119.7	116.7	116.7	117.0	114.1	113.4	118.2	119.7	116.1
5411	Legal services (December 1996=100).....	146.3	146.3	146.7	146.9	151.7	152.5	152.8	153.0	153.3	153.5	153.4	153.9	153.9
541211	Offices of certified public accountants.....	108.9	107.7	108.0	110.1	110.3	109.0	109.8	110.6	110.9	110.8	111.9	112.3	112.2
5413	Architectural, engineering, and related services (December 1996=100).....	135.5	136.1	136.3	136.4	138.3	138.3	139.4	139.7	139.8	139.8	140.0	140.4	140.6
54181	Advertising agencies.....	104.7	104.7	104.7	104.7	104.4	104.4	105.1	105.1	105.1	105.1	105.1	105.1	105.1
5613	Employment services (December 1996=100).....	119.9	120.1	120.2	120.7	120.8	121.0	121.2	121.3	121.4	121.3	121.7	121.8	122.1
56151	Travel agencies.....	98.3	102.5	102.3	99.1	100.5	100.2	100.5	101.2	101.0	101.1	100.9	100.1	101.2
56172	Janitorial services.....	104.3	104.6	104.8	104.8	105.1	105.1	105.3	105.3	105.4	105.1	105.7	105.6	105.8
5621	Waste collection.....	104.5	104.7	106.1	106.0	106.1	106.2	106.6	107.2	107.2	107.2	107.3	107.9	109.3
721	Accommodation (December 1996=100).....	138.1	138.7	138.3	136.1	138.7	138.4	139.1	140.7	141.1	146.0	148.9	148.8	144.5

p = preliminary.

**43. Annual data: Producer Price Indexes, by stage of processing**

[1982 = 100]

Index	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Finished goods</b>											
Total.....	131.3	131.8	130.7	133.0	138.0	140.7	138.9	143.3	148.5	155.7	160.3
Foods.....	133.6	134.5	134.3	135.1	137.2	141.3	140.1	145.9	152.7	155.7	156.7
Energy.....	83.2	83.4	75.1	78.8	94.1	96.8	88.8	102.0	113.0	132.6	145.9
Other.....	142.0	142.4	143.7	146.1	148.0	150.0	150.2	150.5	152.7	156.4	158.6
<b>Intermediate materials, supplies, and components</b>											
Total.....	125.7	125.6	123.0	123.2	129.2	129.7	127.8	133.7	142.6	154.0	164.0
Foods.....	125.3	123.2	123.2	120.8	119.2	124.3	123.2	134.4	145.0	146.0	146.3
Energy.....	89.8	89.0	80.8	84.3	101.7	104.1	95.9	111.9	123.2	149.2	162.6
Other.....	134.0	134.2	133.5	133.1	136.6	136.4	135.8	138.5	146.5	154.6	163.9
<b>Crude materials for further processing</b>											
Total.....	113.8	111.1	96.8	98.2	120.6	121.0	108.1	135.3	159.0	182.2	185.4
Foods.....	121.5	112.2	103.9	98.7	100.2	106.1	99.5	113.5	127.0	122.7	119.3
Energy.....	85.0	87.3	68.6	78.5	122.1	122.3	102.0	147.2	174.6	234.0	228.5
Other.....	105.7	103.5	84.5	91.1	118.0	101.5	101.0	116.9	149.2	176.7	210.0

**44. U.S. export price indexes by end-use category**

[2000 = 100]

Category	2006				2007								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>ALL COMMODITIES.....</b>	111.7	111.4	111.8	112.5	113.0	113.9	114.7	115.2	115.5	116.0	116.1	116.3	116.6
Foods, feeds, and beverages.....	128.8	130.2	135.8	138.7	139.0	143.5	146.9	145.3	145.1	148.6	149.2	151.4	157.8
Agricultural foods, feeds, and beverages.....	129.1	130.9	137.4	140.5	140.8	145.6	149.2	146.8	147.0	151.0	151.5	153.7	160.7
Nonagricultural (fish, beverages) food products.....	126.0	124.5	122.4	123.5	123.6	125.6	128.0	133.9	129.8	128.5	130.2	132.2	133.0
Industrial supplies and materials.....	139.5	137.3	137.8	139.4	140.3	143.0	145.5	147.2	148.3	149.0	148.6	148.8	148.6
Agricultural industrial supplies and materials.....	118.1	117.8	120.2	123.9	127.2	126.8	127.3	126.9	125.1	128.7	138.6	137.4	140.1
Fuels and lubricants.....	191.1	177.5	180.5	183.5	173.8	182.1	188.8	198.6	199.1	201.1	202.9	197.4	200.8
Nonagricultural supplies and materials, excluding fuel and building materials.....	136.3	135.5	135.5	136.8	139.1	141.3	143.5	144.3	145.7	146.1	144.6	145.7	144.7
Selected building materials.....	110.0	110.5	110.5	111.5	111.8	112.2	112.7	112.9	113.3	113.9	114.1	114.1	114.6
Capital goods.....	98.5	98.7	98.8	98.8	99.1	99.2	99.2	99.3	99.5	99.6	99.7	99.9	99.9
Electric and electrical generating equipment.....	105.1	105.9	106.0	106.2	105.9	105.9	106.0	106.5	106.4	106.5	106.6	106.7	106.7
Nonelectrical machinery.....	92.6	92.7	92.6	92.6	92.7	92.7	92.8	92.7	92.9	92.9	93.1	93.1	93.1
Automotive vehicles, parts, and engines.....	105.2	105.3	105.3	105.5	105.7	105.8	105.9	106.0	106.0	106.1	106.2	106.2	106.2
Consumer goods, excluding automotive.....	104.0	103.9	103.9	104.0	104.8	104.8	104.8	105.4	105.7	105.8	106.1	106.3	106.1
Nondurables, manufactured.....	103.8	103.6	103.7	104.0	105.0	105.1	105.0	105.7	106.4	106.7	107.0	107.3	107.0
Durables, manufactured.....	103.1	103.0	102.9	102.8	103.5	103.3	103.4	103.9	104.0	103.7	104.0	104.1	104.2
Agricultural commodities.....	127.1	128.4	134.1	137.3	138.1	142.0	145.0	142.9	142.8	146.7	149.0	150.5	156.7
Nonagricultural commodities.....	110.6	110.1	110.2	110.7	111.2	111.9	112.6	113.2	113.6	113.8	113.7	113.9	113.8

#### 45. U.S. import price indexes by end-use category

[2000 = 100]

Category	2006				2007								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
<b>ALL COMMODITIES</b> .....	116.2	113.3	113.8	115.1	113.7	114.1	115.9	117.5	118.6	120.0	121.5	121.0	122.0
Foods, feeds, and beverages.....	120.9	121.1	121.6	122.6	124.5	124.8	124.6	126.3	127.4	127.8	129.4	130.1	131.7
Agricultural foods, feeds, and beverages.....	130.4	130.9	132.2	133.7	135.5	135.4	135.1	137.6	139.1	139.5	141.4	142.1	144.3
Nonagricultural (fish, beverages) food products.....	99.8	99.2	98.1	97.9	99.8	101.1	101.3	100.9	101.2	101.5	102.7	103.1	103.3
Industrial supplies and materials.....	172.2	160.4	162.2	166.6	160.4	162.0	169.8	176.4	180.5	185.6	190.9	188.3	191.8
Fuels and lubricants.....	216.3	192.3	195.5	204.3	190.1	194.0	209.6	222.1	228.2	238.2	249.8	243.7	252.9
Petroleum and petroleum products.....	225.9	202.5	199.2	207.1	193.5	196.8	213.6	228.2	234.3	245.6	260.3	256.1	267.8
Paper and paper base stocks.....	113.1	113.0	113.2	112.8	111.4	111.4	111.5	110.6	110.6	110.8	110.3	110.8	111.2
Materials associated with nondurable supplies and materials.....	121.8	122.1	123.0	123.0	123.5	123.8	124.0	124.5	125.1	125.4	126.6	126.7	127.0
Selected building materials.....	115.8	112.1	110.8	110.6	111.5	111.0	111.4	111.4	111.2	113.1	116.9	116.5	116.9
Unfinished metals associated with durable goods....	194.4	192.4	193.7	195.9	197.9	197.7	202.9	209.4	217.1	219.7	215.1	215.3	208.9
Nonmetals associated with durable goods.....	101.3	101.5	101.6	101.7	101.9	102.0	101.8	101.6	101.7	101.6	102.1	102.2	102.5
Capital goods.....	91.3	91.3	91.4	91.5	91.5	91.2	91.1	90.9	91.1	91.3	91.6	91.8	91.8
Electric and electrical generating equipment.....	102.7	102.6	102.9	103.0	104.2	104.1	104.3	104.9	105.2	105.7	105.8	106.4	106.4
Nonelectrical machinery.....	87.8	87.8	87.8	87.9	87.8	87.4	87.2	86.9	87.0	87.2	87.4	87.6	87.6
Automotive vehicles, parts, and engines.....	104.1	104.3	104.3	104.3	104.3	104.4	104.4	104.5	104.6	104.7	104.8	105.0	105.2
Consumer goods, excluding automotive.....	100.5	100.6	100.7	101.0	101.2	101.2	101.3	101.3	101.3	101.4	101.7	101.8	101.9
Nondurables, manufactured.....	103.0	102.9	103.1	103.4	104.2	104.0	104.1	104.1	104.3	104.3	104.8	104.9	105.1
Durables, manufactured.....	97.8	98.0	98.1	98.2	98.0	98.1	98.3	98.2	98.1	98.2	98.3	98.5	98.5
Nonmanufactured consumer goods.....	100.5	101.8	101.7	101.8	102.1	102.1	102.2	102.3	102.4	102.6	103.1	103.4	103.4

#### 46. U.S. international price indexes for selected categories of services

[2000 = 100, unless indicated otherwise]

Category	2005		2006				2007		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Air freight (inbound).....	127.5	124.6	124.6	129.2	128.9	127.1	126.6	127.3	130.9
Air freight (outbound).....	112.4	112.0	113.5	117.2	116.9	113.8	112.3	114.3	118.1
Inbound air passenger fares (Dec. 2003 = 100).....	118.3	108.5	110.5	121.0	123.9	118.5	119.5	127.2	133.2
Outbound air passenger fares (Dec. 2003 = 100).....	120.1	110.8	110.6	128.7	126.4	119.3	119.3	136.9	128.8
Ocean liner freight (inbound).....	127.9	126.8	125.4	114.9	114.2	114.0	112.6	112.5	112.4

## 47. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	2004		2005				2006				2007		
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
<b>Business</b>													
Output per hour of all persons.....	132.7	133.4	134.4	134.3	135.9	135.5	136.4	136.6	136.1	136.5	136.6	137.8	139.6
Compensation per hour.....	157.8	160.2	161.4	161.7	164.2	165.4	168.2	168.1	168.7	173.4	175.7	178.2	180.4
Real compensation per hour.....	119.2	120.0	120.3	119.4	119.6	119.4	120.9	119.3	118.9	122.8	123.3	123.2	124.2
Unit labor costs.....	118.9	120.1	120.1	120.4	120.8	122.0	123.4	123.0	124.0	127.0	128.6	129.3	129.3
Unit nonlabor payments.....	124.7	125.4	128.2	129.8	132.0	133.0	133.0	136.5	136.6	132.2	132.9	133.6	133.7
Implicit price deflator.....	121.1	122.1	123.1	123.9	125.0	126.1	127.0	128.0	128.7	128.9	130.2	130.9	130.9
<b>Nonfarm business</b>													
Output per hour of all persons.....	132.0	132.2	133.4	133.5	135.0	134.5	135.3	135.6	135.0	135.6	135.9	136.6	138.2
Compensation per hour.....	156.8	158.9	160.3	160.9	163.2	164.2	167.1	167.0	167.5	172.4	174.9	176.8	178.8
Real compensation per hour.....	118.5	119.0	119.5	118.8	118.8	118.6	120.1	118.6	118.0	122.1	122.7	122.2	123.1
Unit labor costs.....	118.8	120.2	120.2	120.5	120.9	122.1	123.5	123.2	124.0	127.1	128.7	129.4	129.4
Unit nonlabor payments.....	125.7	126.5	129.6	131.3	133.7	134.8	135.0	138.7	138.6	133.6	133.9	134.5	134.3
Implicit price deflator.....	121.4	122.5	123.6	124.5	125.6	126.8	127.7	128.9	129.4	129.5	130.6	131.3	131.2
<b>Nonfinancial corporations</b>													
Output per hour of all employees.....	140.7	140.2	140.3	141.1	140.5	141.4	142.4	141.8	142.9	143.3	143.6	144.9	—
Compensation per hour.....	154.9	156.9	158.0	158.5	160.8	161.8	163.8	163.9	164.6	169.3	171.2	173.2	—
Real compensation per hour.....	117.1	117.6	117.8	117.0	117.1	116.9	117.8	116.4	115.9	119.9	120.1	119.8	—
Total unit costs.....	109.8	111.3	112.3	112.1	114.6	114.0	114.4	115.2	114.8	117.1	118.0	118.1	—
Unit labor costs.....	110.1	111.9	112.6	112.3	114.4	114.5	115.0	115.6	115.2	118.1	119.2	119.5	—
Unit nonlabor costs.....	109.2	109.7	111.5	111.7	115.1	112.8	112.5	114.3	113.8	114.5	114.6	114.3	—
Unit profits.....	150.6	148.4	151.9	161.7	147.5	159.5	164.4	164.8	172.6	150.0	154.3	157.5	—
Unit nonlabor payments.....	120.3	120.1	122.3	125.1	123.7	125.3	126.4	127.8	129.5	124.0	125.2	125.8	—
Implicit price deflator.....	113.5	114.6	115.9	116.6	117.6	118.1	118.8	119.7	120.0	120.1	121.2	121.6	—
<b>Manufacturing</b>													
Output per hour of all persons.....	163.8	166.4	168.3	170.9	172.4	173.7	175.4	177.0	179.8	180.7	181.5	182.6	184.6
Compensation per hour.....	163.5	165.8	166.2	167.8	170.2	168.8	172.6	170.1	170.7	176.4	180.2	181.9	182.9
Real compensation per hour.....	123.6	124.2	123.9	123.9	124.0	121.9	124.1	120.8	120.2	125.0	126.4	125.7	125.9
Unit labor costs.....	99.8	99.7	98.7	98.2	98.7	97.2	98.4	96.1	94.9	97.6	99.3	99.6	99.1

NOTE: Dash indicates data not available.

#### 48. Annual indexes of multifactor productivity and related measures, selected years

[2000 = 100, unless otherwise indicated]

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Private business</b>													
Productivity:													
Output per hour of all persons.....	87.2	87.4	90.0	91.7	94.3	97.2	100.0	102.8	107.1	111.2	114.7	117.1	119.1
Output per unit of capital services.....	105.6	104.4	104.5	104.7	103.3	102.2	100.0	96.1	95.0	95.9	98.0	99.1	99.9
Multifactor productivity.....	93.9	93.7	95.3	96.2	97.4	98.7	100.0	100.2	101.9	104.6	107.3	109.2	110.4
Output.....	76.8	79.2	82.8	87.2	91.5	96.2	100.0	100.5	102.0	105.2	109.9	114.1	118.4
Inputs:													
Labor input.....	86.3	88.8	90.6	94.2	96.4	99.0	100.0	98.6	97.2	96.9	98.4	100.2	102.8
Capital services.....	72.8	75.8	79.2	83.3	88.5	94.2	100.0	104.5	107.4	109.7	112.2	115.1	118.6
Combined units of labor and capital input.....	81.8	84.5	86.9	90.7	93.9	97.5	100.0	100.3	100.2	100.6	102.4	104.5	107.3
Capital per hour of all persons.....	82.6	83.8	86.1	87.6	91.2	95.1	100.0	106.9	112.7	116.0	117.1	118.1	119.2
<b>Private nonfarm business</b>													
Productivity:													
Output per hour of all persons.....	87.7	88.2	90.5	92.0	94.5	97.3	100.0	102.7	107.1	111.0	114.4	116.8	118.7
Output per unit of capital services.....	106.5	105.5	105.3	105.1	103.7	102.4	100.0	96.1	94.9	95.7	97.7	99.1	99.8
Multifactor productivity.....	94.5	94.5	95.8	96.4	97.7	98.8	100.0	100.1	101.9	104.4	107.1	109.1	110.2
Output.....	76.7	79.3	82.8	87.2	91.5	96.3	100.0	100.5	102.1	105.2	109.9	114.1	118.4
Inputs:													
Labor input.....	85.7	88.2	90.2	93.9	96.2	99.0	100.0	98.7	97.2	97.1	98.6	100.4	103.0
Capital services.....	72.1	75.2	78.7	82.9	88.2	94.0	100.0	104.6	107.6	110.0	112.4	115.1	118.7
Combined units of labor and capital input.....	81.2	83.9	86.5	90.4	93.7	97.5	100.0	100.4	100.2	100.7	102.5	104.6	107.5
Capital per hour of all persons.....	82.4	83.6	86.0	87.5	91.1	95.0	100.0	106.9	112.8	116.1	117.0	117.9	119.0
<b>Manufacturing [1996 = 100]</b>													
Productivity:													
Output per hour of all persons.....	76.1	79.4	82.4	86.9	91.7	95.8	100.0	101.5	108.6	115.3	117.9	123.4	-
Output per unit of capital services.....	96.6	98.2	97.6	100.2	100.5	100.3	100.0	93.6	92.5	93.5	95.9	99.6	-
Multifactor productivity.....	89.0	90.6	91.0	93.6	95.8	96.5	100.0	98.7	102.4	105.3	109.2	113.0	-
Output.....	76.4	80.4	83.1	89.2	93.8	97.4	100.0	94.9	94.3	95.2	96.9	100.3	-
Inputs:													
Hours of all persons.....	100.3	101.2	100.8	102.6	102.3	101.6	100.0	93.5	86.8	82.6	82.2	81.3	-
Capital services.....	79.0	81.8	85.2	89.0	93.4	97.1	100.0	101.4	101.9	101.8	101.1	100.7	-
Energy.....	110.4	113.7	110.3	108.2	105.4	105.5	100.0	90.6	89.3	84.4	81.1	78.5	-
Nonenergy materials.....	74.8	78.8	86.0	92.9	97.7	102.6	100.0	93.3	88.3	87.7	85.5	86.3	-
Purchased business services.....	84.7	88.9	88.5	92.1	95.0	100.0	100.0	100.7	98.2	99.1	95.2	96.5	-
Combined units of all factor inputs.....	85.8	88.7	91.3	95.3	98.0	100.9	100.0	96.2	92.1	90.5	88.7	88.8	-

NOTE: Dash indicates data not available.

**49. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years**

[1992 = 100]

Item	1961	1971	1981	1991	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Business</b>													
Output per hour of all persons.....	50.6	69.0	80.8	95.9	109.5	112.8	116.1	119.1	123.9	128.7	132.6	135.4	137.7
Compensation per hour.....	14.4	25.1	59.3	95.1	119.9	125.8	134.7	140.4	145.3	151.2	156.9	163.5	171.6
Real compensation per hour.....	63.1	80.9	89.6	97.5	105.2	108.0	112.0	113.5	115.7	117.7	119.0	119.9	121.9
Unit labor costs.....	28.5	36.3	73.5	99.1	109.5	111.5	116.0	117.9	117.3	117.5	118.3	120.7	124.6
Unit nonlabor payments.....	25.3	34.1	69.1	96.7	110.0	109.4	107.2	110.0	114.1	118.3	125.1	130.4	132.5
Implicit price deflator.....	27.3	35.5	71.8	98.2	109.7	110.7	112.7	114.9	116.1	117.8	120.8	124.3	127.5
<b>Nonfarm business</b>													
Output per hour of all persons.....	53.5	70.7	81.7	96.1	109.4	112.5	115.7	118.6	123.5	128.0	131.8	134.6	136.7
Compensation per hour.....	15.0	25.2	59.7	95.0	119.6	125.2	134.2	139.5	144.6	150.4	155.9	162.3	170.4
Real compensation per hour.....	65.3	81.4	90.2	97.4	104.9	107.5	111.6	112.8	115.1	117.1	118.2	119.1	121.0
Unit labor costs.....	28.0	35.7	73.1	98.9	109.3	111.3	116.0	117.7	117.1	117.5	118.3	120.6	124.6
Unit nonlabor payments.....	24.8	33.8	67.7	96.8	111.0	110.9	108.7	111.6	116.0	119.6	126.0	132.2	134.5
Implicit price deflator.....	26.8	35.0	71.1	98.1	109.9	111.1	113.3	115.4	116.7	118.3	121.1	124.9	128.2
<b>Nonfinancial corporations</b>													
Output per hour of all employees.....	57.9	72.7	82.9	97.4	113.7	117.9	122.4	124.7	129.7	134.6	138.8	142.0	145.5
Compensation per hour.....	16.7	27.3	62.4	95.5	118.3	124.1	133.0	138.6	143.6	149.5	154.2	160.6	168.3
Real compensation per hour.....	73.0	88.1	94.3	97.9	103.8	106.6	110.6	112.1	114.3	116.3	116.9	117.8	119.5
Total unit costs.....	27.5	36.5	74.8	99.3	102.9	104.0	107.4	111.6	110.7	111.0	110.7	113.1	114.7
Unit labor costs.....	28.8	37.6	75.3	98.0	104.1	105.3	108.6	111.2	110.7	111.0	111.1	113.1	115.6
Unit nonlabor costs.....	23.8	33.6	73.5	102.7	99.5	100.4	104.2	112.6	110.8	111.1	109.7	112.9	112.3
Unit profits.....	50.3	50.5	81.0	93.2	137.0	129.1	108.7	82.2	98.0	109.9	139.5	157.1	176.2
Unit nonlabor payments.....	30.9	38.1	75.5	100.2	109.5	108.0	105.4	104.5	107.4	110.7	117.7	124.7	129.4
Implicit price deflator.....	29.5	37.8	75.4	98.7	105.9	106.2	107.5	108.9	109.6	110.9	113.3	117.0	120.2
<b>Manufacturing</b>													
Output per hour of all persons.....	—	—	—	96.3	127.9	133.5	139.4	141.5	151.5	160.9	163.8	171.6	178.4
Compensation per hour.....	—	—	—	95.6	118.8	123.4	134.7	137.9	147.9	158.3	161.4	168.9	175.7
Real compensation per hour.....	—	—	—	98.0	104.2	106.0	112.0	111.5	117.7	123.2	122.3	123.9	124.8
Unit labor costs.....	—	—	—	99.2	92.9	92.4	96.7	97.4	97.6	98.4	98.5	98.4	98.5
Unit nonlabor payments.....	—	—	—	98.5	102.7	103.0	103.7	102.2	100.4	102.3	110.5	—	—
Implicit price deflator.....	—	—	—	98.7	99.5	99.5	101.4	100.6	99.5	101.0	106.6	—	—

Dash indicates data not available.

## 50. Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Mining</b>													
21	Mining.....	85.5	85.1	100.0	103.6	111.4	111.0	109.1	113.6	116.0	106.7	95.9	-
211	Oil and gas extraction.....	80.1	75.7	100.0	101.2	107.9	119.4	121.6	123.8	130.1	111.7	107.9	-
212	Mining, except oil and gas.....	69.8	79.3	100.0	104.5	105.8	106.3	109.0	111.0	113.6	115.7	113.5	-
2121	Coal mining.....	58.4	68.1	100.0	106.5	110.3	115.8	114.6	112.4	113.2	112.8	107.6	-
2122	Metal ore mining.....	71.2	79.9	100.0	109.3	112.3	122.0	131.9	139.0	142.8	136.1	130.2	-
2123	Nonmetallic mineral mining and quarrying.....	88.5	92.3	100.0	101.3	101.2	96.2	99.3	103.6	108.1	114.2	116.8	-
<b>Utilities</b>													
2211	Power generation and supply.....	65.6	71.1	100.0	103.7	103.5	107.0	106.4	102.9	105.1	107.5	114.2	-
2212	Natural gas distribution.....	67.8	71.4	100.0	99.0	102.7	113.2	110.1	115.4	114.1	118.3	123.5	-
<b>Manufacturing</b>													
3111	Animal food.....	83.6	91.5	100.0	109.0	110.9	109.7	131.4	142.7	165.8	149.5	166.0	-
3112	Grain and oilseed milling.....	81.1	88.6	100.0	107.5	116.1	113.1	119.5	122.4	123.9	130.3	137.7	-
3113	Sugar and confectionery products.....	87.6	89.5	100.0	103.5	106.5	109.9	108.6	108.0	112.5	118.2	131.3	-
3114	Fruit and vegetable preserving and specialty.....	92.4	87.6	100.0	107.1	109.5	111.8	121.4	126.9	123.0	126.2	132.1	-
3115	Dairy products.....	82.7	91.1	100.0	100.0	93.6	95.9	97.1	105.0	110.5	107.4	109.5	-
3116	Animal slaughtering and processing.....	97.4	94.3	100.0	100.0	101.2	102.6	103.7	107.3	106.6	108.0	117.4	-
3117	Seafood product preparation and packaging.....	123.1	119.7	100.0	120.2	131.6	140.5	153.0	169.8	173.2	162.2	186.2	-
3118	Bakeries and tortilla manufacturing.....	100.9	94.5	100.0	103.8	108.6	108.3	109.9	108.9	109.3	113.8	115.4	-
3119	Other food products.....	97.5	92.5	100.0	107.8	111.4	112.6	106.2	111.9	118.8	119.3	115.4	-
3121	Beverages.....	77.1	87.6	100.0	99.0	90.7	90.8	92.7	99.4	108.3	114.1	119.4	-
3122	Tobacco and tobacco products.....	71.9	79.1	100.0	98.5	91.0	95.9	98.2	67.0	78.7	82.4	93.1	-
3131	Fiber, yarn, and thread mills.....	66.5	74.4	100.0	102.1	103.9	101.3	109.1	133.3	148.8	154.1	150.4	-
3132	Fabric mills.....	68.0	75.3	100.0	104.2	110.0	110.1	110.3	125.4	137.2	138.6	150.5	-
3133	Textile and fabric finishing mills.....	91.3	82.0	100.0	101.2	102.2	104.4	108.5	119.8	125.1	127.7	139.9	-
3141	Textile furnishings mills.....	91.2	88.0	100.0	99.3	99.1	104.5	103.1	105.5	114.4	122.3	135.1	-
3149	Other textile product mills.....	92.2	91.4	100.0	96.7	107.6	108.9	103.1	105.1	104.2	120.4	127.9	-
3151	Apparel knitting mills.....	76.2	86.2	100.0	96.1	101.4	108.9	105.6	112.0	105.9	96.8	119.8	-
3152	Cut and sew apparel.....	69.8	70.1	100.0	102.3	114.6	119.8	119.5	103.9	117.2	108.4	113.1	-
3159	Accessories and other apparel.....	97.8	101.3	100.0	109.0	99.2	98.3	105.2	76.1	78.8	70.9	81.7	-
3161	Leather and hide tanning and finishing.....	79.8	64.6	100.0	100.0	104.8	115.1	114.9	83.2	80.8	82.2	90.7	-
3162	Footwear.....	76.7	78.1	100.0	102.1	117.3	122.3	130.7	102.7	104.8	100.7	107.6	-
3169	Other leather products.....	99.4	102.9	100.0	113.2	105.8	113.4	109.1	95.0	101.0	135.8	155.0	-
3211	Sawmills and wood preservation.....	77.6	79.4	100.0	100.3	104.7	105.4	108.8	114.4	121.3	118.2	127.9	-
3212	Plywood and engineered wood products.....	99.7	102.8	100.0	105.1	98.7	98.8	105.2	110.3	107.0	102.9	110.3	-
3219	Other wood products.....	103.0	105.3	100.0	101.0	104.5	103.0	104.7	113.9	113.9	119.6	125.8	-
3221	Pulp, paper, and paperboard mills.....	81.7	84.0	100.0	102.5	111.1	116.3	119.9	133.1	141.4	148.0	148.9	-
3222	Converted paper products.....	89.0	90.1	100.0	102.5	100.1	101.1	100.5	105.6	109.5	112.9	115.3	-
3231	Printing and related support activities.....	97.6	97.5	100.0	100.6	102.8	104.6	105.3	110.2	111.1	114.5	119.7	-
3241	Petroleum and coal products.....	71.1	75.4	100.0	102.2	107.1	113.5	112.1	118.0	119.2	123.4	123.8	-
3251	Basic chemicals.....	94.6	93.4	100.0	102.7	115.7	117.5	108.8	123.8	136.0	154.4	163.1	-
3252	Resin, rubber, and artificial fibers.....	77.4	76.4	100.0	106.0	109.8	109.8	106.2	123.1	122.2	121.9	127.8	-
3253	Agricultural chemicals.....	80.4	85.8	100.0	98.8	87.4	92.1	90.0	99.2	108.4	117.4	134.1	-
3254	Pharmaceuticals and medicines.....	87.3	91.3	100.0	93.8	95.7	95.6	99.5	97.4	101.5	104.1	107.8	-
3255	Paints, coatings, and adhesives.....	89.3	87.1	100.0	100.1	100.3	100.8	105.6	108.9	115.2	119.1	123.5	-
3256	Soap, cleaning compounds, and toiletries.....	84.4	84.8	100.0	98.0	93.0	102.8	106.0	124.1	118.2	135.3	152.6	-
3259	Other chemical products and preparations.....	75.4	77.8	100.0	99.2	109.3	119.7	110.4	120.8	123.0	121.3	123.5	-
3261	Plastics products.....	83.1	85.2	100.0	104.2	109.9	112.3	114.6	123.8	129.5	131.9	135.6	-
3262	Rubber products.....	75.5	83.5	100.0	99.4	100.2	101.7	102.3	107.1	111.0	114.4	119.3	-
3271	Clay products and refractories.....	86.9	89.4	100.0	101.2	102.7	102.9	98.4	99.7	103.5	109.2	116.5	-
3272	Glass and glass products.....	82.3	79.1	100.0	101.4	106.7	108.2	102.8	107.4	115.2	113.9	122.7	-
3273	Cement and concrete products.....	93.6	96.6	100.0	105.1	105.9	101.6	98.0	102.4	108.3	102.8	105.5	-
3274	Lime and gypsum products.....	88.2	85.4	100.0	114.9	104.4	98.5	101.8	99.0	107.1	104.2	116.9	-
3279	Other nonmetallic mineral products.....	83.0	79.5	100.0	99.0	95.6	96.6	98.6	106.9	113.6	110.6	118.3	-
3311	Iron and steel mills and ferroalloy production.....	64.8	70.2	100.0	101.3	104.8	106.0	104.4	125.1	130.4	164.9	160.5	-
3312	Steel products from purchased steel.....	79.7	84.4	100.0	100.6	93.8	96.4	97.9	96.8	93.9	88.6	90.4	-
3313	Alumina and aluminum production.....	90.5	90.7	100.0	101.5	103.5	96.6	96.2	124.5	126.8	137.3	153.8	-
3314	Other nonferrous metal production.....	96.8	96.3	100.0	111.3	108.4	102.3	99.5	107.6	120.5	122.9	122.2	-
3315	Foundries.....	81.4	86.5	100.0	101.2	104.5	103.6	107.4	116.7	116.3	123.9	128.0	-
3321	Forging and stamping.....	85.4	89.0	100.0	103.5	110.9	121.1	120.7	125.0	133.1	142.0	146.7	-
3322	Cutlery and hand tools.....	86.3	85.4	100.0	99.9	108.0	105.9	110.3	113.4	113.2	107.6	116.4	-
3323	Architectural and structural metals.....	88.7	87.9	100.0	101.0	102.0	100.7	101.7	106.0	108.8	105.4	108.1	-
3324	Boilers, tanks, and shipping containers.....	86.0	90.1	100.0	100.0	96.5	94.2	94.4	98.9	101.6	93.6	94.0	-
3325	Hardware.....	88.7	84.8	100.0	100.5	105.2	114.3	113.5	115.5	125.4	126.0	132.5	-
3326	Spring and wire products.....	82.2	85.2	100.0	110.6	111.4	112.6	111.9	125.7	135.3	133.8	146.3	-
3327	Machine shops and threaded products.....	76.9	79.2	100.0	99.6	104.2	108.2	108.8	114.8	115.7	114.6	115.3	-

## 50. Continued - Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
3328	Coating, engraving, and heat treating metals.....	75.5	81.3	100.0	100.9	101.0	105.5	107.3	116.1	118.3	125.3	136.0	-
3329	Other fabricated metal products.....	91.0	86.5	100.0	101.9	99.6	99.9	96.7	106.5	111.6	111.2	112.6	-
3331	Agriculture, construction, and mining machinery.....	74.6	83.3	100.0	103.3	94.3	100.3	100.3	103.7	116.1	125.4	130.8	-
3332	Industrial machinery.....	75.1	81.6	100.0	95.1	105.8	130.0	105.8	117.6	117.0	126.5	121.9	-
3333	Commercial and service industry machinery.....	86.9	95.6	100.0	105.9	109.8	100.9	94.3	97.6	104.4	106.4	113.4	-
3334	HVAC and commercial refrigeration equipment.....	84.0	90.6	100.0	106.2	110.2	107.9	110.8	118.6	130.0	132.8	137.7	-
3335	Metalworking machinery.....	85.1	86.5	100.0	99.1	100.3	106.1	103.3	112.7	115.2	117.1	126.6	-
3336	Turbine and power transmission equipment.....	80.2	85.9	100.0	105.0	110.8	114.9	126.9	130.7	143.0	126.4	131.1	-
3339	Other general purpose machinery.....	83.5	86.8	100.0	103.7	106.0	113.7	110.5	117.9	128.1	127.1	137.2	-
3341	Computer and peripheral equipment.....	11.0	14.7	100.0	140.4	195.8	234.9	252.0	297.4	373.8	416.6	576.5	-
3342	Communications equipment.....	39.8	48.4	100.0	107.1	135.4	164.1	152.9	128.2	143.1	148.4	144.4	-
3343	Audio and video equipment.....	61.7	77.0	100.0	105.4	119.6	126.3	128.4	150.1	171.0	239.3	239.2	-
3344	Semiconductors and electronic components.....	17.0	21.9	100.0	125.8	173.9	232.4	230.4	263.7	324.2	361.1	386.6	-
3345	Electronic instruments.....	70.2	78.5	100.0	102.3	106.7	116.7	119.3	118.1	125.3	145.4	139.8	-
3346	Magnetic media manufacturing and reproduction.....	85.7	83.7	100.0	106.4	108.9	105.8	99.8	110.4	126.1	142.6	143.6	-
3351	Electric lighting equipment.....	91.1	88.2	100.0	104.4	102.7	102.0	106.7	112.4	111.2	122.9	133.8	-
3352	Household appliances.....	73.3	76.5	100.0	105.2	104.0	117.2	124.6	132.3	146.7	159.6	165.1	-
3353	Electrical equipment.....	68.7	73.6	100.0	100.2	98.7	99.4	101.0	101.8	103.4	110.8	116.7	-
3359	Other electrical equipment and components.....	78.8	76.1	100.0	105.8	114.7	119.7	113.1	114.0	116.2	115.6	121.7	-
3361	Motor vehicles.....	75.4	85.6	100.0	113.4	122.6	109.7	110.0	126.0	140.7	142.1	147.0	-
3362	Motor vehicle bodies and trailers.....	85.0	75.9	100.0	102.9	103.1	98.8	88.7	105.4	109.8	110.7	114.2	-
3363	Motor vehicle parts.....	78.7	76.0	100.0	105.0	110.0	112.3	114.8	130.5	137.0	138.0	144.4	-
3364	Aerospace products and parts.....	87.2	89.1	100.0	119.1	120.8	103.4	115.7	118.6	119.0	113.0	125.8	-
3365	Railroad rolling stock.....	55.6	77.6	100.0	103.3	116.5	118.5	126.1	146.1	139.8	131.5	121.0	-
3366	Ship and boat building.....	95.5	99.6	100.0	99.3	112.0	121.9	121.5	131.0	133.9	138.7	133.2	-
3369	Other transportation equipment.....	73.7	62.9	100.0	111.5	113.8	132.4	140.2	150.9	163.0	168.3	182.8	-
3371	Household and institutional furniture.....	85.2	88.2	100.0	102.2	103.1	101.9	105.5	111.8	114.7	113.6	121.3	-
3372	Office furniture and fixtures.....	85.8	82.2	100.0	100.0	98.2	100.2	98.0	115.9	125.1	131.1	136.7	-
3379	Other furniture-related products.....	86.3	88.9	100.0	106.9	102.0	99.5	105.0	110.2	110.0	121.3	123.3	-
3391	Medical equipment and supplies.....	76.3	82.9	100.0	108.7	110.4	114.6	119.3	127.3	137.0	137.5	148.2	-
3399	Other miscellaneous manufacturing.....	85.4	90.5	100.0	102.1	105.0	113.6	111.8	118.0	124.7	128.6	139.0	-
<b>Wholesale trade</b>													
42	Wholesale trade.....	73.2	79.9	100.0	103.4	111.2	116.6	117.7	123.3	127.5	134.3	135.2	141.1
423	Durable goods.....	62.3	67.5	100.0	107.1	119.2	125.1	129.0	140.2	146.7	161.5	167.3	175.8
4231	Motor vehicles and parts.....	74.5	78.6	100.0	106.4	120.4	116.7	120.0	133.4	137.6	143.5	146.7	165.7
4232	Furniture and furnishings.....	80.5	90.1	100.0	99.9	102.3	112.5	110.7	116.0	123.9	130.0	127.2	136.6
4233	Lumber and construction supplies.....	109.1	108.4	100.0	105.4	109.3	107.7	116.6	123.9	133.0	139.4	140.2	136.7
4234	Commercial equipment.....	28.0	34.2	100.0	125.6	162.2	182.2	218.4	265.2	299.5	353.2	401.0	441.1
4235	Metals and minerals.....	101.7	103.1	100.0	100.9	94.0	93.9	94.4	96.3	97.4	106.3	103.2	99.9
4236	Electric goods.....	42.8	50.3	100.0	105.9	127.5	152.8	147.6	159.5	165.7	194.1	204.1	225.6
4237	Hardware and plumbing.....	82.2	88.0	100.0	101.8	104.4	103.7	100.5	102.6	103.9	107.3	104.9	105.8
4238	Machinery and supplies.....	74.1	81.5	100.0	104.3	102.9	105.5	102.9	100.3	103.4	112.4	118.8	123.3
4239	Miscellaneous durable goods.....	89.8	90.5	100.0	100.8	113.7	114.7	116.8	124.6	119.6	135.0	133.5	119.8
424	Nondurable goods.....	91.0	98.9	100.0	99.1	100.8	105.1	105.1	105.8	110.5	113.6	114.3	117.4
4241	Paper and paper products.....	85.6	81.0	100.0	98.4	100.1	100.9	104.6	116.6	119.7	130.9	139.0	137.2
4242	Druggists' goods.....	70.7	80.6	100.0	94.2	93.1	85.9	84.9	89.8	100.2	105.8	112.3	119.8
4243	Apparel and piece goods.....	86.3	99.3	100.0	103.6	105.1	108.8	115.2	122.8	125.9	131.0	140.4	149.9
4244	Grocery and related products.....	87.9	96.2	100.0	101.1	101.0	102.4	101.9	98.6	104.9	104.1	104.3	105.1
4245	Farm product raw materials.....	81.6	79.4	100.0	94.3	101.6	105.1	102.1	98.1	98.2	109.1	108.2	120.9
4246	Chemicals.....	90.4	101.1	100.0	97.1	93.3	87.9	85.3	89.1	92.2	91.2	87.9	89.0
4247	Petroleum.....	84.4	109.8	100.0	88.5	102.9	138.1	140.6	153.6	151.1	163.2	152.5	157.7
4248	Alcoholic beverages.....	99.3	110.0	100.0	106.5	105.6	108.4	106.4	106.8	107.9	103.1	104.8	107.5
4249	Miscellaneous nondurable goods.....	111.2	109.0	100.0	105.4	106.8	115.0	111.9	106.1	109.8	120.7	124.2	126.8
425	Electronic markets and agents and brokers.....	64.3	74.3	100.0	102.4	112.4	120.1	110.7	109.8	104.1	97.0	87.3	93.6
<b>Retail trade</b>													
44-45	Retail trade.....	79.1	81.4	100.0	105.7	112.7	116.1	120.1	125.6	131.6	137.9	141.5	148.5
441	Motor vehicle and parts dealers.....	78.3	82.7	100.0	106.4	115.1	114.3	116.0	119.9	124.3	127.3	127.0	129.8
4411	Automobile dealers.....	79.2	84.1	100.0	106.5	116.3	113.7	115.5	117.2	119.5	124.7	123.8	126.8
4412	Other motor vehicle dealers.....	70.6	69.7	100.0	109.6	114.8	115.3	124.6	133.6	133.8	143.3	135.1	136.3
4413	Auto parts, accessories, and tire stores.....	71.8	79.0	100.0	105.1	107.6	108.4	101.3	107.7	115.1	110.1	115.9	115.8
442	Furniture and home furnishings stores.....	75.1	79.0	100.0	104.1	110.8	115.9	122.4	129.3	134.6	146.7	151.4	162.6
4421	Furniture stores.....	77.3	84.8	100.0	104.3	107.5	112.0	119.7	125.2	128.8	139.2	143.4	155.5
4422	Home furnishings stores.....	71.3	71.0	100.0	104.1	115.2	121.0	126.1	134.9	142.6	156.8	161.9	172.6
443	Electronics and appliance stores.....	38.0	47.7	100.0	122.6	150.6	173.7	196.7	233.5	292.7	334.1	369.6	416.2
444	Building material and garden supply stores.....	75.8	79.5	100.0	107.4	113.8	113.3	116.8	120.8	127.1	134.5	134.9	143.6

50. Continued - Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
4441	Building material and supplies dealers.....	77.6	81.6	100.0	108.3	115.3	115.1	116.7	121.3	127.5	134.0	134.9	142.9
4442	Lawn and garden equipment and supplies stores.....	66.9	69.0	100.0	102.3	105.5	103.1	118.4	118.3	125.7	140.1	135.6	150.1
445	Food and beverage stores.....	110.8	107.4	100.0	99.9	101.9	101.0	103.8	104.7	107.2	112.9	118.3	122.1
4451	Grocery stores.....	111.1	106.9	100.0	99.6	102.5	101.1	103.3	104.8	106.7	112.2	117.1	119.2
4452	Specialty food stores.....	138.5	127.2	100.0	100.5	96.4	98.5	108.2	105.3	112.2	120.3	127.7	153.3
4453	Beer, wine and liquor stores.....	93.6	97.6	100.0	104.6	99.1	105.7	107.1	110.1	117.0	127.8	141.8	148.8
446	Health and personal care stores.....	84.0	91.0	100.0	104.0	107.1	112.2	116.2	122.9	129.5	134.3	133.2	139.7
447	Gasoline stations.....	83.9	84.2	100.0	106.7	110.7	107.7	112.9	125.1	119.9	122.2	124.6	121.8
448	Clothing and clothing accessories stores.....	66.3	69.8	100.0	106.3	114.0	123.5	126.4	131.3	138.9	139.1	147.8	163.3
4481	Clothing stores.....	67.1	70.0	100.0	108.7	114.2	125.0	130.3	136.0	141.8	140.9	153.1	169.9
4482	Shoe stores.....	65.3	70.8	100.0	94.2	104.9	110.0	111.5	125.2	132.5	124.8	132.9	149.3
4483	Jewelry, luggage, and leather goods stores.....	64.5	68.1	100.0	108.7	122.5	130.5	123.9	118.7	132.9	144.3	139.0	148.8
451	Sporting goods, hobby, book, and music stores.....	74.9	82.3	100.0	107.9	114.0	121.1	127.1	127.6	131.5	151.1	164.8	175.3
4511	Sporting goods and musical instrument stores.....	73.2	82.2	100.0	111.5	119.8	129.4	134.5	136.0	141.1	166.0	181.7	203.1
4512	Book, periodical, and music stores.....	78.9	82.3	100.0	101.0	103.2	105.8	113.0	111.6	113.7	123.6	133.7	124.9
452	General merchandise stores.....	73.5	75.1	100.0	105.3	113.4	120.2	124.8	129.1	136.9	140.7	145.0	152.3
4521	Department stores.....	87.2	83.9	100.0	100.4	104.5	106.2	103.8	102.0	106.8	109.0	109.9	113.1
4529	Other general merchandise stores.....	54.8	61.2	100.0	114.7	131.0	147.3	164.7	179.3	188.8	192.9	199.7	210.4
453	Miscellaneous store retailers.....	65.1	69.5	100.0	108.9	111.3	114.1	112.6	119.1	126.1	130.8	142.0	159.3
4531	Florists.....	77.6	73.3	100.0	102.3	116.2	115.2	102.7	113.8	108.9	103.4	120.6	125.3
4532	Office supplies, stationery and gift stores.....	61.4	66.4	100.0	111.5	119.2	127.3	132.3	141.5	153.9	172.8	187.9	215.5
4533	Used merchandise stores.....	64.5	70.4	100.0	119.1	113.4	116.5	121.9	142.0	149.7	152.6	159.5	166.6
4539	Other miscellaneous store retailers.....	68.3	75.0	100.0	105.3	103.0	104.4	96.9	94.4	99.9	96.9	103.5	118.5
454	Nonstore retailers.....	50.7	54.7	100.0	114.3	128.9	152.2	163.6	182.1	195.5	215.5	218.4	256.3
4541	Electronic shopping and mail-order houses.....	39.4	43.4	100.0	120.2	142.6	160.2	179.6	212.7	243.6	273.0	285.2	337.1
4542	Vending machine operators.....	95.5	95.1	100.0	106.3	105.4	111.1	95.7	91.2	102.3	110.5	105.1	110.7
4543	Direct selling establishments.....	70.8	74.1	100.0	101.9	104.2	122.5	127.9	135.0	127.0	130.3	121.5	135.6
<b>Transportation and warehousing</b>													
481	Air transportation.....	81.1	77.5	100.0	97.6	98.2	98.1	91.9	102.1	112.7	126.0	135.7	-
482111	Line-haul railroads.....	58.9	69.8	100.0	102.1	105.5	114.3	121.9	131.9	142.0	146.4	138.5	-
48412	General freight trucking, long-distance.....	85.7	89.2	100.0	99.4	99.1	101.9	103.2	107.0	110.7	110.7	112.6	-
48421	Used household and office goods moving.....	106.7	112.6	100.0	91.0	96.1	94.8	84.0	81.6	86.2	88.7	88.5	-
491	U.S. Postal service.....	90.9	94.2	100.0	101.6	102.8	105.5	106.3	106.4	107.8	110.0	111.2	-
492	Couriers and messengers.....	148.3	138.5	100.0	112.6	117.6	121.9	123.4	131.1	134.1	126.9	124.7	-
<b>Information</b>													
5111	Newspaper, book, and directory publishers.....	105.0	95.5	100.0	103.9	104.1	107.7	105.8	104.7	109.6	106.7	108.4	-
5112	Software publishers.....	10.2	28.5	100.0	134.8	129.2	119.2	117.4	122.1	138.1	160.7	171.0	-
51213	Motion picture and video exhibition.....	90.7	109.2	100.0	99.8	101.8	106.5	101.6	99.8	100.6	103.8	102.7	-
515	Broadcasting, except internet.....	99.5	98.2	100.0	100.8	102.9	103.6	99.2	104.0	107.9	112.5	117.6	-
5151	Radio and television broadcasting.....	98.1	97.7	100.0	91.5	92.6	92.1	89.6	95.1	94.6	96.6	101.5	-
5152	Cable and other subscription programming.....	105.6	100.3	100.0	136.2	139.1	141.2	128.1	129.8	145.9	158.6	162.4	-
5171	Wired telecommunications carriers.....	56.9	66.0	100.0	107.7	116.7	116.7	122.7	124.1	130.5	133.9	140.2	-
5172	Wireless telecommunications carriers.....	75.6	70.4	100.0	110.5	145.2	152.8	191.9	217.9	242.5	292.0	392.4	-
5175	Cable and other program distribution.....	105.2	100.0	100.0	97.1	95.8	91.6	87.7	95.0	101.2	113.7	110.4	-
<b>Finance and insurance</b>													
52211	Commercial banking.....	72.8	80.7	100.0	97.0	99.8	102.7	99.6	102.1	103.7	108.5	108.4	-
<b>Real estate and rental and leasing</b>													
532111	Passenger car rental.....	92.7	90.8	100.0	100.1	112.2	112.3	111.1	114.6	121.2	118.3	110.5	-
53212	Truck, trailer and RV rental and leasing.....	60.4	68.6	100.0	115.2	120.6	121.1	113.7	113.5	115.1	135.7	145.5	-
53223	Video tape and disc rental.....	77.0	97.1	100.0	113.2	129.4	134.9	133.3	130.3	148.5	154.5	155.6	-
<b>Professional and technical services</b>													
541213	Tax preparation services.....	82.9	76.2	100.0	107.6	105.8	100.9	94.4	111.4	110.0	100.0	106.9	-
54131	Architectural services.....	90.0	93.8	100.0	111.4	106.8	107.6	111.0	107.6	112.6	118.3	123.9	-
54133	Engineering services.....	90.2	99.4	100.0	98.2	98.0	102.0	100.1	100.5	100.5	107.8	114.2	-
54181	Advertising agencies.....	95.9	107.9	100.0	89.2	97.9	107.5	106.9	113.1	120.8	133.0	131.2	-
541921	Photography studios, portrait.....	98.1	95.9	100.0	124.8	109.8	108.9	102.2	97.6	104.2	93.2	93.6	-
<b>Administrative and waste services</b>													
56131	Employment placement agencies.....	-	-	100.0	86.8	93.2	89.8	99.6	116.8	115.4	119.8	117.9	-
56151	Travel agencies.....	89.3	94.6	100.0	111.4	115.5	119.4	115.2	127.6	147.3	167.4	188.2	-
56172	Janitorial services.....	75.1	94.3	100.0	95.3	98.6	101.0	102.1	105.6	118.8	116.6	122.0	-
<b>Health care and social assistance</b>													
6215	Medical and diagnostic laboratories.....	-	-	100.0	118.8	124.7	131.9	135.3	137.6	140.8	140.8	138.8	-
621511	Medical laboratories.....	-	-	100.0	117.2	121.4	127.4	127.7	123.1	128.6	130.7	127.1	-
621512	Diagnostic imaging centers.....	-	-	100.0	121.4	129.7	139.9	148.3	163.3	160.0	153.5	154.8	-
<b>Arts, entertainment, and recreation</b>													
71311	Amusement and theme parks.....	112.0	112.5	100.0	110.5	105.2	106.0	93.0	106.5	113.2	101.4	110.0	-
71395	Bowling centers.....	106.0	94.0	100.0	89.9	89.4	93.4	94.3	96.4	102.4	107.9	106.1	-

**50. Continued - Annual indexes of output per hour for selected NAICS industries**

[1997=100]

NAICS	Industry	1987	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Accommodation and food services</b>													
7211	Traveler accommodations.....	85.2	82.1	100.0	100.0	105.5	111.7	107.6	112.0	114.3	120.8	115.8	-
722	Food services and drinking places.....	96.0	102.4	100.0	101.0	100.9	103.5	103.8	104.4	106.3	107.0	108.2	110.9
7221	Full-service restaurants.....	92.1	99.4	100.0	100.9	100.8	103.0	103.6	104.4	104.2	104.8	105.6	108.6
7222	Limited-service eating places.....	96.5	103.6	100.0	101.2	100.4	102.0	102.5	102.7	105.4	106.8	107.8	111.2
7223	Special food services.....	89.9	99.8	100.0	100.6	105.2	115.0	115.3	114.9	117.6	118.0	119.2	116.4
7224	Drinking places, alcoholic beverages.....	136.7	123.3	100.0	99.7	98.8	100.6	97.6	102.9	118.6	112.2	121.1	124.2
<b>Other services</b>													
8111	Automotive repair and maintenance.....	85.9	89.9	100.0	103.6	106.1	109.4	108.9	103.7	104.1	112.0	112.5	-
81211	Hair, nail and skin care services.....	83.5	82.1	100.0	108.6	108.6	108.2	114.6	110.4	119.7	125.0	130.4	-
81221	Funeral homes and funeral services.....	103.7	98.4	100.0	106.8	103.3	94.8	91.8	94.6	95.7	92.9	93.2	-
8123	Drycleaning and laundry services.....	97.1	94.8	100.0	100.1	105.0	107.6	110.9	112.5	103.8	110.6	120.8	-
81292	Photofinishing.....	95.8	107.7	100.0	69.3	76.3	73.8	81.2	100.5	100.5	102.0	113.2	-

NOTE: Dash indicates data are not available.

**51. Unemployment rates, approximating U.S. concepts, 10 countries, seasonally adjusted**

[Percent]

Country	2005	2006	2005				2006				2007		
			I	II	III	IV	I	II	III	IV	I	II	III
United States.....	5.1	4.6	5.3	5.1	5.0	5.0	4.7	4.7	4.7	4.5	4.5	4.5	4.7
Canada.....	6.0	5.5	6.2	6.0	6.0	5.8	5.7	5.5	5.6	5.4	5.4	5.2	5.2
Australia.....	5.1	4.8	5.1	5.1	5.0	5.0	5.0	4.9	4.7	4.6	4.5	4.3	4.3
Japan.....	4.5	4.2	4.6	4.4	4.4	4.5	4.3	4.2	4.2	4.1	4.0	3.8	-
France.....	9.9	9.7	9.8	9.9	9.9	10.0	10.0	9.8	9.6	9.4	9.1	9.0	-
Germany.....	11.2	10.4	11.5	11.4	11.1	10.9	11.0	10.6	10.1	9.7	9.2	9.0	-
Italy.....	7.8	6.9	7.9	7.8	7.7	7.6	7.3	6.9	6.7	6.5	6.2	6.1	-
Netherlands.....	5.2	4.4	5.6	5.3	5.0	5.0	4.8	4.3	4.2	4.2	4.0	3.6	-
Sweden.....	7.7	7.0	6.3	7.7	7.6	7.6	7.3	7.3	6.7	6.5	6.3	5.9	5.8
United Kingdom.....	4.8	5.5	4.7	4.8	4.8	5.1	5.3	5.5	5.6	5.5	5.5	5.4	-

NOTE: Dash indicates data not available.

Quarterly figures for Italy and quarterly and monthly figures for France, Germany, and the Netherlands are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. Quarterly and monthly figures for Sweden are BLS seasonally adjusted estimates derived from Swedish not seasonally adjusted data.

There are breaks in series for Germany (2005) and Sweden (2005). For details on breaks in series, see the technical notes of the report *Comparative Civilian Labor Force Statistics, Ten Countries, 1960-2006* (Bureau of Labor Statistics, October 12, 2007), available on the Internet at <http://www.bls.gov/fls/flscomparelf.htm>.

For further qualifications and historical annual data, see the full report, also available at this site. For monthly unemployment rates, as well as the quarterly and annual rates published in this table, see the report *Unemployment rates in ten countries, civilian labor force basis, approximating U.S. concepts, seasonally adjusted, 1995-2007*, (Bureau of Labor Statistics), available on the Internet at <ftp://ftp.bls.gov/pub/special.requests/ForeignLabor/flssec.txt>.

Unemployment rates may differ between the two reports mentioned, because the former is updated on a bi-annual basis, whereas the latter is updated monthly and reflects the most recent revisions in source data.

## 52. Annual data: employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Civilian labor force</b>											
United States.....	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510	147,401	149,320	151,428
Canada.....	14,623	14,884	15,135	15,403	15,637	15,891	16,366	16,733	16,955	17,108	17,351
Australia.....	9,115	9,204	9,339	9,414	9,590	9,744	9,893	10,079	10,221	10,506	10,699
Japan.....	66,450	67,200	67,240	67,090	66,990	66,860	66,240	66,010	65,770	65,850	65,960
France.....	24,982	25,116	25,434	25,791	26,099	26,393	26,645	26,922	26,961	27,074	27,247
Germany.....	39,142	39,415	39,752	39,375	39,302	39,459	39,413	39,276	39,711	40,760	41,250
Italy.....	22,679	22,753	23,004	23,176	23,361	23,524	23,728	24,020	24,084	24,179	24,395
Netherlands.....	7,455	7,612	7,744	7,881	8,011	8,098	8,186	8,255	8,279	8,291	8,372
Sweden.....	4,454	4,414	4,401	4,423	4,482	4,522	4,537	4,557	4,571	4,694	4,748
United Kingdom.....	28,239	28,401	28,474	28,777	28,952	29,085	29,335	29,557	29,775	30,087	30,525
<b>Participation rate<sup>1</sup></b>											
United States.....	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2	66.0	66.0	66.2
Canada.....	64.8	65.1	65.4	65.9	66.0	66.1	67.1	67.7	67.7	67.4	67.4
Australia.....	64.6	64.3	64.3	64.0	64.4	64.4	64.3	64.6	64.6	65.3	65.6
Japan.....	63.0	63.2	62.8	62.4	62.0	61.6	60.8	60.3	60.0	60.0	60.0
France.....	55.7	55.6	56.0	56.4	56.6	56.8	56.9	57.0	56.7	56.6	56.4
Germany.....	57.1	57.3	57.7	56.9	56.7	56.7	56.4	56.0	56.4	57.6	58.2
Italy.....	47.3	47.3	47.7	47.9	48.1	48.3	48.5	49.1	49.1	48.7	48.9
Netherlands.....	60.2	61.1	61.8	62.5	63.0	63.3	63.5	63.7	63.6	63.4	63.8
Sweden.....	63.9	63.2	62.8	62.7	63.7	63.6	63.9	63.8	63.6	64.8	64.9
United Kingdom.....	62.4	62.5	62.5	62.8	62.9	62.7	62.9	63.0	63.0	63.1	63.5
<b>Employed</b>											
United States.....	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736	139,252	141,730	144,427
Canada.....	13,338	13,637	13,973	14,331	14,681	14,866	15,223	15,586	15,861	16,080	16,393
Australia.....	8,364	8,444	8,618	8,762	8,989	9,086	9,264	9,480	9,668	9,975	10,186
Japan.....	64,200	64,900	64,450	63,920	63,790	63,460	62,650	62,510	62,640	62,910	63,210
France.....	22,036	22,176	22,597	23,080	23,714	24,167	24,311	24,337	24,330	24,392	24,600
Germany.....	35,637	35,508	36,059	36,042	36,236	36,350	36,018	35,615	35,604	36,185	36,978
Italy.....	20,124	20,169	20,370	20,617	20,973	21,359	21,666	21,972	22,124	22,290	22,721
Netherlands.....	6,966	7,189	7,408	7,605	7,781	7,875	7,925	7,895	7,847	7,860	8,005
Sweden.....	4,014	3,969	4,033	4,110	4,222	4,295	4,303	4,293	4,271	4,334	4,415
United Kingdom.....	25,941	26,413	26,686	27,051	27,368	27,599	27,812	28,073	28,358	28,628	28,859
<b>Employment-population ratio<sup>2</sup></b>											
United States.....	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3	62.3	62.7	63.1
Canada.....	59.1	59.6	60.4	61.3	62.0	61.9	62.4	63.1	63.3	63.4	63.6
Australia.....	59.3	59.0	59.3	59.6	60.3	60.0	60.2	60.7	61.1	62.0	62.5
Japan.....	60.9	61.0	60.2	59.4	59.0	58.4	57.5	57.1	57.1	57.3	57.5
France.....	49.1	49.1	49.7	50.4	51.4	52.0	51.9	51.6	51.2	51.0	50.9
Germany.....	52.0	51.6	52.3	52.1	52.2	52.2	51.5	50.8	50.6	51.2	52.2
Italy.....	42.0	41.9	42.2	42.6	43.2	43.8	44.3	44.9	45.1	44.9	45.5
Netherlands.....	56.2	57.7	59.1	60.3	61.2	61.5	61.5	60.9	60.3	60.1	61.0
Sweden.....	57.6	56.8	57.6	58.3	60.0	60.4	60.6	60.1	59.4	59.9	60.4
United Kingdom.....	57.3	58.2	58.5	59.1	59.4	59.5	59.6	59.8	60.0	60.0	60.0
<b>Unemployed</b>											
United States.....	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774	8,149	7,591	7,001
Canada.....	1,285	1,248	1,162	1,072	956	1,026	1,143	1,147	1,093	1,028	958
Australia.....	751	759	721	652	602	658	629	599	553	531	512
Japan.....	2,250	2,300	2,790	3,170	3,200	3,400	3,590	3,500	3,130	2,940	2,750
France.....	2,946	2,940	2,837	2,711	2,385	2,226	2,334	2,585	2,631	2,682	2,647
Germany.....	3,505	3,907	3,693	3,333	3,065	3,110	3,396	3,661	4,107	4,575	4,272
Italy.....	2,555	2,584	2,634	2,559	2,388	2,164	2,062	2,048	1,960	1,889	1,673
Netherlands.....	489	423	337	277	231	223	261	360	422	432	367
Sweden.....	440	445	368	313	260	227	234	264	300	361	332
United Kingdom.....	2,298	1,987	1,788	1,726	1,584	1,486	1,524	1,484	1,417	1,459	1,666
<b>Unemployment rate</b>											
United States.....	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0	5.5	5.1	4.6
Canada.....	8.8	8.4	7.7	7.0	6.1	6.5	7.0	6.9	6.4	6.0	5.5
Australia.....	8.2	8.3	7.7	6.9	6.3	6.8	6.4	5.9	5.4	5.1	4.8
Japan.....	3.4	3.4	4.1	4.7	4.8	5.1	5.4	5.3	4.8	4.5	4.2
France.....	11.8	11.7	11.2	10.5	9.1	8.4	8.8	9.6	9.8	9.9	9.7
Germany.....	9.0	9.9	9.3	8.5	7.8	7.9	8.6	9.3	10.3	11.2	10.4
Italy.....	11.3	11.4	11.5	11.0	10.2	9.2	8.7	8.5	8.1	7.8	6.9
Netherlands.....	6.6	5.6	4.4	3.5	2.9	2.8	3.2	4.4	5.1	5.2	4.4
Sweden.....	9.9	10.1	8.4	7.1	5.8	5.0	5.2	5.8	6.6	7.7	7.0
United Kingdom.....	8.1	7.0	6.3	6.0	5.5	5.1	5.2	5.0	4.8	4.8	5.5

<sup>1</sup> Labor force as a percent of the working-age population.

<sup>2</sup> Employment as a percent of the working-age population.

NOTE: There are breaks in series for the United States (1997, 1998, 1999, 2000, 2003, 2004), Australia (2001), Germany (1999, 2005), and Sweden (2005). For details on breaks in series, see the technical notes of the report *Comparative Civilian Labor Force Statistics, Ten Countries, 1960-2006*

(Bureau of Labor Statistics, October 12, 2007), available on the Internet at <http://www.bls.gov/fls/flscomparef.htm>. For further qualifications and historical annual data, see the full report, also available at this site. Data in this report may not be consistent with data in *Unemployment rates in ten countries, civilian labor force basis, approximating U.S. concepts, seasonally adjusted, 1995-2007*, (Bureau of Labor Statistics), because the former is updated on a bi-annual basis, whereas the latter is updated monthly and reflects the most recent revisions in source data.

## 53. Annual indexes of manufacturing productivity and related measures, 16 economies

[1992 = 100]

Measure and economy	1980	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Output per hour</b>																
United States.....	68.4	93.5	102.8	108.2	112.3	116.7	121.7	130.1	136.7	147.1	148.6	164.4	174.8	186.8	193.2	197.9
Canada.....	74.0	94.7	104.5	110.4	111.7	111.2	116.3	121.8	127.0	134.7	132.2	134.8	134.0	134.1	139.1	139.1
Australia.....	68.5	92.4	104.5	107.0	106.4	112.3	115.4	118.5	119.7	128.1	131.4	137.1	140.1	142.3	143.7	144.1
Japan.....	63.6	94.4	101.7	103.3	111.0	116.1	120.2	121.4	124.7	131.4	128.6	133.3	142.4	152.2	158.2	161.9
Korea.....	-	82.7	108.3	118.1	129.7	142.6	160.8	179.3	199.4	216.4	214.8	235.8	252.2	281.2	300.4	332.7
Taiwan.....	49.1	89.8	101.3	105.2	112.9	121.5	126.5	132.7	140.9	148.4	155.1	169.0	174.5	183.2	196.5	209.9
Belgium.....	65.4	96.8	102.5	107.9	112.7	114.3	121.5	122.9	121.5	125.7	126.9	131.1	134.5	141.0	144.9	147.9
Denmark.....	82.0	98.5	100.3	112.7	112.7	109.0	117.7	117.1	119.0	123.2	123.4	124.2	129.3	138.8	141.6	147.2
France.....	66.0	95.3	101.8	109.5	114.9	115.5	122.3	128.7	134.4	143.7	146.0	152.0	158.7	162.3	169.2	175.4
Germany.....	77.2	99.0	101.0	108.5	110.2	113.3	119.9	120.4	123.4	132.0	135.4	136.7	141.6	146.6	154.8	165.1
Italy.....	75.3	97.3	102.8	107.6	111.1	112.5	113.3	112.5	112.5	116.1	116.6	114.8	112.1	110.4	110.3	111.8
Netherlands.....	69.5	98.0	103.7	113.3	117.7	120.3	120.7	124.2	129.3	138.6	139.2	143.5	146.5	156.3	161.7	166.8
Norway.....	78.5	98.3	99.9	99.9	98.7	101.6	101.8	99.2	102.7	105.9	108.9	111.9	121.6	128.8	132.0	136.3
Spain.....	67.3	93.1	101.8	104.9	108.6	107.2	108.3	110.2	112.1	113.2	115.8	116.3	118.8	120.6	121.5	126.1
Sweden.....	73.1	94.6	107.3	118.2	125.1	130.2	142.0	150.7	164.1	176.8	172.6	190.7	204.5	227.9	241.9	257.7
United Kingdom.....	57.3	90.1	104.1	106.7	105.0	104.1	105.1	106.4	111.6	117.2	122.2	125.7	132.1	140.0	145.0	151.5
<b>Output</b>																
United States.....	73.6	98.2	104.2	112.2	117.3	121.6	129.0	137.7	143.7	152.7	144.2	148.2	149.9	159.6	163.0	168.5
Canada.....	85.6	106.7	105.4	113.5	118.7	120.3	127.8	134.3	145.5	160.1	153.9	155.2	154.2	157.1	158.3	156.2
Australia.....	89.8	104.2	103.8	109.1	108.5	111.9	114.5	117.8	117.5	123.1	121.9	127.8	130.1	130.1	130.3	128.7
Japan.....	60.8	97.1	96.3	94.9	98.9	103.0	105.6	100.1	99.7	104.9	99.1	97.6	102.8	108.8	111.7	117.1
Korea.....	28.6	88.1	105.1	117.1	130.8	139.2	146.0	134.5	163.7	191.5	195.7	210.5	222.2	246.8	264.3	286.5
Taiwan.....	45.4	91.0	100.9	106.9	112.7	118.7	125.5	129.5	139.0	149.2	138.1	150.4	158.4	173.8	185.3	198.7
Belgium.....	78.2	101.0	97.0	101.4	104.2	104.6	109.5	111.3	111.2	115.7	115.7	114.8	113.4	117.9	117.3	120.2
Denmark.....	92.0	101.7	97.0	107.5	112.7	107.5	116.3	117.2	118.2	122.5	122.5	119.0	115.7	119.6	121.6	127.7
France.....	88.3	100.5	96.6	100.7	105.2	105.2	110.1	115.4	119.3	124.8	126.0	125.9	128.3	129.4	131.2	133.2
Germany.....	85.3	99.1	92.0	94.9	94.0	92.0	96.1	97.2	98.2	104.8	106.6	104.4	105.2	108.8	112.3	118.5
Italy.....	81.0	100.5	97.6	104.1	109.1	107.8	109.6	109.9	109.6	112.9	111.8	110.4	107.8	106.4	103.7	107.6
Netherlands.....	77.3	98.3	99.4	104.7	108.6	110.2	111.7	115.5	119.8	127.8	127.6	127.7	126.2	130.6	130.6	133.7
Norway.....	105.7	101.7	102.0	104.7	105.2	109.4	114.1	113.3	113.2	112.6	111.8	111.2	114.9	121.4	125.8	131.4
Spain.....	78.6	98.4	96.1	97.8	101.5	104.0	110.7	117.4	124.1	129.6	133.7	133.5	134.7	135.2	135.6	140.0
Sweden.....	90.7	110.1	101.9	117.5	132.5	137.1	147.6	159.5	173.9	189.7	185.6	196.4	203.6	224.4	233.5	246.8
United Kingdom.....	87.3	105.3	101.4	106.2	107.9	108.6	110.6	111.3	112.3	115.0	113.5	110.5	110.7	113.0	111.6	113.1
<b>Total hours</b>																
United States.....	107.6	104.9	101.3	103.7	104.4	104.2	106.0	105.8	105.1	103.8	97.0	90.1	85.7	85.4	84.4	85.1
Canada.....	115.8	112.6	100.9	102.8	106.3	108.1	109.9	110.2	114.5	118.9	116.4	115.1	115.0	117.2	113.8	112.3
Australia.....	131.1	112.7	99.3	102.0	101.9	99.7	99.2	99.4	98.2	96.0	92.8	93.2	92.8	91.4	90.7	89.3
Japan.....	95.5	102.9	94.7	91.9	89.1	88.8	87.9	82.4	79.9	79.8	77.1	73.3	72.2	71.5	70.6	72.3
Korea.....	-	106.4	97.1	99.2	100.9	97.6	90.8	75.0	82.1	88.5	91.1	89.3	88.1	87.8	88.0	86.1
Taiwan.....	92.4	101.4	99.6	101.7	99.8	97.7	99.2	97.6	98.7	100.5	89.0	89.0	90.8	94.9	94.3	94.6
Belgium.....	119.7	104.3	94.7	94.0	92.4	91.5	90.2	90.5	91.5	92.1	91.2	87.5	84.3	83.6	80.9	81.3
Denmark.....	112.1	103.3	96.8	95.4	100.0	98.6	98.8	100.1	99.4	99.4	99.3	95.8	89.5	86.2	85.9	86.8
France.....	133.8	105.5	94.8	91.9	91.6	91.0	90.1	89.7	88.7	86.8	86.3	82.8	80.8	79.7	77.5	75.9
Germany.....	110.5	100.1	91.1	87.5	85.3	81.3	80.1	80.8	79.6	79.4	78.7	76.4	74.3	74.2	72.6	71.8
Italy.....	107.6	103.3	95.0	96.8	98.2	95.8	96.7	97.7	97.4	97.2	95.9	96.2	96.1	96.4	94.1	96.2
Netherlands.....	111.2	100.4	95.9	92.5	92.3	91.6	92.6	93.0	92.7	92.2	91.7	89.0	86.2	83.5	80.8	80.2
Norway.....	134.7	103.4	102.1	104.8	106.6	107.7	112.1	114.2	110.3	106.4	102.7	99.3	94.5	94.2	95.3	96.4
Spain.....	116.7	105.7	94.4	93.2	93.5	97.0	102.2	106.5	110.7	114.4	115.4	114.8	113.4	112.2	111.6	111.0
Sweden.....	124.0	116.4	94.9	99.4	105.9	105.3	103.9	105.9	106.0	107.3	107.5	103.0	99.6	98.5	96.5	95.8
United Kingdom.....	152.3	116.9	97.4	99.5	102.7	104.4	105.2	104.6	100.6	98.1	92.9	88.0	83.8	80.7	77.0	74.6
<b>Hourly compensation (national currency basis)</b>																
United States.....	55.9	90.5	102.0	105.3	107.3	109.3	112.2	118.7	123.4	134.7	137.8	147.8	158.2	161.5	168.3	172.4
Canada.....	47.4	89.2	101.2	104.1	106.6	108.2	110.8	116.5	119.0	123.0	126.7	131.2	135.2	136.9	142.1	145.9
Australia.....	-	87.5	105.2	106.1	113.5	121.7	126.0	128.4	132.9	140.2	149.2	156.0	161.4	169.1	177.6	189.2
Japan.....	58.6	90.6	102.7	104.7	108.3	109.1	112.8	115.6	115.5	114.9	116.4	117.2	114.6	115.7	117.0	117.6
Korea.....	-	68.0	115.9	133.1	161.6	188.1	204.5	222.7	223.9	239.1	246.7	271.6	285.0	325.5	351.5	375.5
Taiwan.....	29.6	85.2	105.9	111.1	120.2	128.2	132.1	137.1	139.6	142.3	151.4	146.7	149.1	151.6	158.2	161.5
Belgium.....	52.5	90.1	104.8	105.6	108.6	110.6	114.7	116.5	118.0	120.1	126.4	131.9	135.8	138.8	144.6	147.7
Denmark.....	44.5	93.6	102.4	106.0	108.2	112.6	116.5	119.6	122.6	125.0	130.9	136.5	145.7	150.6	153.7	157.6
France.....	36.7	88.5	104.3	108.0	110.7	112.5	116.3	117.2	121.0	127.0	130.6	136.9	141.0	144.6	143.7	147.5
Germany.....	53.6	89.4	106.2	111.0	117.0	122.5	124.9	126.7	129.6	136.3	140.6	144.0	147.2	148.0	149.7	153.2
Italy.....	30.6	87.7	105.7	107.3	112.0	120.0	124.1	123.3	125.6	128.7	134.0	137.5	141.6	145.7	150.2	152.9
Netherlands.....	60.6	89.8	104.4	108.9	111.8	113.8	116.4	121.4	125.7	132.1	138.1	146.1	151.9	158.1	161.3	165.8
Norway.....	39.0	92.3	101.5	104.5	109.2	113.8	118.8	125.8	133.0	140.5	149.0	157.9	164.3	169.7	176.2	184.3
Spain.....	28.0	79.9	109.4	113.4	118.3	121.1	124.0	124.9	124.7	126.6	131.6	135.4	142.2	147.0	153.0	158.3
Sweden.....	37.3	87.8	97.4	99.8	106.8	115.2	121.0	125.5	130.1	136.7	143.8	151.6	159.2	163.4	167.2	172.1
United Kingdom.....	35.8	88.7	104.5	107.0	108.9	108.7	112.3	121.2	128.3	133.8	140.7	149.0	156.9	165.1	172.2	1

**53. Continued— Annual indexes of manufacturing productivity and related measures, 16 economies**

Measure and economy	1980	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Unit labor costs</b> (national currency basis)																
United States.....	81.8	96.7	99.2	97.3	95.5	93.7	92.2	91.2	90.3	91.6	92.7	89.9	90.5	86.4	87.1	87.2
Canada.....	64.1	94.2	96.9	94.3	95.4	97.3	95.3	95.6	93.7	91.3	95.8	97.4	100.9	102.0	102.2	104.9
Australia.....	—	94.6	100.6	99.2	106.6	108.4	109.2	108.4	111.0	109.4	113.6	113.8	115.2	118.9	123.6	131.2
Japan.....	92.1	95.9	101.0	101.4	97.6	94.0	93.8	95.2	92.7	87.5	90.5	87.9	80.5	76.0	73.9	72.6
Korea.....	44.4	82.1	107.0	112.7	124.6	131.9	127.1	124.2	112.3	110.5	114.8	115.2	113.0	115.8	117.0	112.8
Taiwan.....	60.3	94.9	104.6	105.6	106.5	105.5	104.5	103.4	99.1	95.9	97.6	86.8	85.5	82.7	80.5	76.9
Belgium.....	80.3	93.0	102.3	97.9	96.4	96.8	94.5	94.8	97.2	95.6	99.6	100.6	101.0	98.4	99.8	99.9
Denmark.....	54.3	95.0	102.2	94.1	96.0	103.3	98.9	102.1	103.0	101.4	106.1	109.9	112.7	108.5	108.5	107.0
France.....	55.6	92.8	102.4	98.6	96.3	97.4	95.0	91.0	90.0	88.4	89.4	90.1	88.9	89.1	85.0	84.1
Germany.....	69.4	90.3	105.2	102.4	106.2	108.2	104.2	105.2	105.1	103.3	103.8	105.3	104.0	100.9	96.7	92.8
Italy.....	40.7	90.2	102.9	99.8	100.8	106.6	109.5	109.6	111.7	110.9	114.9	119.8	126.3	132.0	136.2	136.7
Netherlands.....	87.1	91.7	100.7	96.2	95.0	94.6	96.5	97.7	97.3	95.3	99.2	101.8	103.7	101.2	99.8	99.4
Norway.....	49.7	93.9	101.6	104.6	110.7	112.0	116.7	126.8	129.5	132.7	136.8	141.0	135.1	131.7	133.5	135.2
Spain.....	41.5	85.8	107.4	108.1	108.9	112.9	114.5	113.4	111.2	111.8	113.6	116.4	119.7	122.0	125.9	125.5
Sweden.....	51.0	92.9	90.8	84.5	85.3	88.5	85.2	83.3	79.3	77.3	83.3	79.5	77.8	71.7	69.1	66.8
United Kingdom.....	62.4	98.5	100.4	100.2	103.7	104.4	106.8	113.9	115.0	114.2	115.1	118.6	118.8	117.9	118.7	121.6
<b>Unit labor costs</b> (U.S. dollar basis)																
United States.....	81.8	96.7	99.2	97.3	95.5	93.7	92.2	91.2	90.3	91.6	92.7	89.9	90.5	86.4	87.1	87.2
Canada.....	66.3	97.5	90.7	83.4	84.0	86.3	83.2	77.9	76.2	74.3	74.8	74.9	87.1	94.7	102.0	111.8
Australia.....	—	100.5	93.0	98.7	107.4	115.4	110.4	92.7	97.5	86.5	79.8	84.1	102.2	119.1	128.2	134.5
Japan.....	51.5	83.9	115.3	125.8	131.7	109.6	98.3	92.2	103.3	102.9	94.4	89.0	88.0	89.1	85.1	79.2
Korea.....	57.3	90.7	104.2	109.6	126.5	128.6	105.3	69.6	74.0	76.7	69.7	72.3	74.4	79.3	89.7	92.8
Taiwan.....	42.1	88.7	99.6	100.4	101.1	96.7	91.3	77.5	77.2	77.2	72.6	63.2	62.5	62.4	63.0	59.5
Belgium.....	88.3	89.5	95.1	94.2	105.2	100.4	84.8	83.9	82.5	70.3	71.1	75.8	91.1	97.5	99.0	100.0
Denmark.....	58.1	92.7	95.1	89.4	103.5	107.6	90.4	92.0	89.0	75.6	76.9	84.2	103.4	109.4	109.3	108.7
France.....	69.6	90.2	95.7	94.1	102.2	100.7	86.2	81.7	77.4	65.8	64.6	68.7	81.2	89.5	85.4	85.3
Germany.....	59.6	87.3	99.3	98.6	115.8	112.3	93.8	93.4	89.4	76.2	74.2	79.5	94.0	100.2	96.1	93.1
Italy.....	58.5	92.7	80.6	76.3	76.2	85.2	79.2	77.7	75.7	65.1	65.5	72.1	91.0	104.5	107.9	109.3
Netherlands.....	77.1	88.5	95.2	93.0	104.1	98.6	86.9	86.6	82.7	70.2	70.9	76.8	93.7	100.4	99.1	99.7
Norway.....	62.6	93.3	88.9	92.1	108.6	107.7	102.3	104.3	103.1	93.6	94.5	109.8	118.6	121.4	128.8	131.1
Spain.....	59.3	86.2	86.3	82.6	89.5	91.3	80.0	77.7	72.9	63.5	62.6	67.7	83.4	93.3	96.4	97.0
Sweden.....	70.3	91.4	67.9	63.8	69.6	76.8	64.9	61.0	55.9	49.1	46.9	47.6	56.1	56.9	53.9	52.8
United Kingdom.....	82.2	99.5	85.3	86.9	92.7	92.3	99.0	106.9	105.3	98.0	93.8	100.9	109.9	122.4	122.3	126.9

NOTE: Data for Germany for years before 1993 are for the former West Germany. Data for 1993 onward are for unified Germany. Dash indicates data not available.

54. Occupational injury and illness rates by industry, <sup>1</sup> United States

Industry and type of case <sup>2</sup>	Incidence rates per 100 full-time workers <sup>3</sup>												
	1989 <sup>1</sup>	1990	1991	1992	1993 <sup>4</sup>	1994 <sup>4</sup>	1995 <sup>4</sup>	1996 <sup>4</sup>	1997 <sup>4</sup>	1998 <sup>4</sup>	1999 <sup>4</sup>	2000 <sup>4</sup>	2001 <sup>4</sup>
<b>PRIVATE SECTOR <sup>5</sup></b>													
Total cases .....	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3	6.1	5.7
Lost workday cases.....	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0	3.0	2.8
Lost workdays.....	78.7	84.0	86.5	93.8	-	-	-	-	-	-	-	-	-
<b>Agriculture, forestry, and fishing <sup>5</sup></b>													
Total cases .....	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3	7.1	7.3
Lost workday cases.....	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4	3.6	3.6
Lost workdays.....	100.9	112.2	108.3	126.9	-	-	-	-	-	-	-	-	-
<b>Mining</b>													
Total cases .....	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4	4.7	4.0
Lost workday cases.....	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7	3.0	2.4
Lost workdays.....	137.2	119.5	129.6	204.7	-	-	-	-	-	-	-	-	-
<b>Construction</b>													
Total cases .....	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6	8.3	7.9
Lost workday cases.....	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2	4.1	4.0
Lost workdays.....	143.3	147.9	148.1	161.9	-	-	-	-	-	-	-	-	-
<b>General building contractors:</b>													
Total cases .....	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0	7.8	6.9
Lost workday cases.....	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7	3.9	3.5
Lost workdays.....	137.3	137.6	132.0	142.7	-	-	-	-	-	-	-	-	-
<b>Heavy construction, except building:</b>													
Total cases .....	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8	7.6	7.8
Lost workday cases.....	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8	3.7	4.0
Lost workdays.....	147.1	144.6	160.1	165.8	-	-	-	-	-	-	-	-	-
<b>Special trades contractors:</b>													
Total cases .....	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9	8.6	8.2
Lost workday cases.....	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4	4.3	4.1
Lost workdays.....	144.9	153.1	151.3	168.3	-	-	-	-	-	-	-	-	-
<b>Manufacturing</b>													
Total cases .....	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2	9.0	8.1
Lost workday cases.....	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6	4.5	4.1
Lost workdays.....	113.0	120.7	121.5	124.6	-	-	-	-	-	-	-	-	-
<b>Durable goods:</b>													
Total cases .....	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1	-	8.8
Lost workday cases.....	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8	-	4.3
Lost workdays.....	116.5	123.3	122.9	126.7	-	-	-	-	-	-	-	-	-
<b>Lumber and wood products:</b>													
Total cases .....	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0	12.1	10.6
Lost workday cases.....	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7	6.1	5.5
Lost workdays.....	177.5	172.5	172.0	165.8	-	-	-	-	-	-	-	-	-
<b>Furniture and fixtures:</b>													
Total cases .....	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5	11.2	11.0
Lost workday cases.....	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9	5.9	5.7
Lost workdays.....	-	-	-	128.4	-	-	-	-	-	-	-	-	-
<b>Stone, clay, and glass products:</b>													
Total cases .....	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7	10.4	10.1
Lost workday cases.....	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4	5.5	5.1
Lost workdays.....	149.8	160.5	156.0	152.2	-	-	-	-	-	-	-	-	-
<b>Primary metal industries:</b>													
Total cases .....	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9	12.6	10.7
Lost workday cases.....	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3	6.3	5.3
Lost workdays.....	168.3	180.2	169.1	175.5	-	-	-	-	-	-	-	-	11.1
<b>Fabricated metal products:</b>													
Total cases .....	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6	11.9	11.1
Lost workday cases.....	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0	5.5	5.3
Lost workdays.....	147.6	155.7	146.6	144.0	-	-	-	-	-	-	-	-	-
<b>Industrial machinery and equipment:</b>													
Total cases .....	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5	8.2	11.0
Lost workday cases.....	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7	3.6	6.0
Lost workdays.....	86.8	88.9	86.6	87.7	-	-	-	-	-	-	-	-	-
<b>Electronic and other electrical equipment:</b>													
Total cases .....	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7	5.7	5.0
Lost workday cases.....	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8	2.9	2.5
Lost workdays.....	77.5	79.4	83.0	81.2	-	-	-	-	-	-	-	-	-
<b>Transportation equipment:</b>													
Total cases .....	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7	13.7	12.6
Lost workday cases.....	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4	6.3	6.0
Lost workdays.....	138.6	153.7	166.1	186.6	-	-	-	-	-	-	-	-	-
<b>Instruments and related products:</b>													
Total cases .....	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0	4.5	4.0
Lost workday cases.....	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8	2.2	2.0
Lost workdays.....	55.4	57.8	64.4	65.3	-	-	-	-	-	-	-	-	-
<b>Miscellaneous manufacturing industries:</b>													
Total cases .....	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4	7.2	6.4
Lost workday cases.....	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0	3.6	3.2
Lost workdays.....	97.6	113.1	104.0	108.2	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

54. Continued—Occupational injury and illness rates by industry,<sup>1</sup> United States

Industry and type of case <sup>2</sup>	Incidence rates per 100 workers <sup>3</sup>												
	1989 <sup>1</sup>	1990	1991	1992	1993 <sup>4</sup>	1994 <sup>4</sup>	1995 <sup>4</sup>	1996 <sup>4</sup>	1997 <sup>4</sup>	1998 <sup>4</sup>	1999 <sup>4</sup>	2000 <sup>4</sup>	2001 <sup>4</sup>
<b>Nondurable goods:</b>													
Total cases .....	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8	7.8	6.8
Lost workday cases.....	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2	4.2	3.8
Lost workdays.....	107.8	116.9	119.7	121.8	-	-	-	-	-	-	-	-	-
<b>Food and kindred products:</b>													
Total cases .....	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7	12.4	10.9
Lost workday cases.....	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3	7.3	6.3
Lost workdays.....	174.7	202.6	207.2	211.9	-	-	-	-	-	-	-	-	-
<b>Tobacco products:</b>													
Total cases .....	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5	6.2	6.7
Lost workday cases.....	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2	3.1	4.2
Lost workdays.....	64.2	62.3	52.0	42.9	-	-	-	-	-	-	-	-	-
<b>Textile mill products:</b>													
Total cases .....	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4	6.0	5.2
Lost workday cases.....	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2	3.2	2.7
Lost workdays.....	81.4	85.1	88.3	87.1	-	-	-	-	-	-	-	-	-
<b>Apparel and other textile products:</b>													
Total cases .....	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8	6.1	5.0
Lost workday cases.....	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8	3.0	2.4
Lost workdays.....	80.5	92.1	99.9	104.6	-	-	-	-	-	-	-	-	-
<b>Paper and allied products:</b>													
Total cases .....	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0	6.5	6.0
Lost workday cases.....	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7	3.4	3.2
Lost workdays.....	132.9	124.8	122.7	125.9	-	-	-	-	-	-	-	-	-
<b>Printing and publishing:</b>													
Total cases .....	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0	5.1	4.6
Lost workday cases.....	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6	2.6	2.4
Lost workdays.....	63.8	69.8	74.5	74.8	-	-	-	-	-	-	-	-	-
<b>Chemicals and allied products:</b>													
Total cases .....	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4	4.2	4.0
Lost workday cases.....	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3	2.2	2.1
Lost workdays.....	63.4	61.6	62.4	64.2	-	-	-	-	-	-	-	-	-
<b>Petroleum and coal products:</b>													
Total cases .....	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1	3.7	2.9
Lost workday cases.....	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8	1.9	1.4
Lost workdays.....	68.1	77.3	68.2	71.2	-	-	-	-	-	-	-	-	-
<b>Rubber and miscellaneous plastics products:</b>													
Total cases .....	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1	10.7	8.7
Lost workday cases.....	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5	5.8	4.8
Lost workdays.....	147.2	151.3	150.9	153.3	-	-	-	-	-	-	-	-	-
<b>Leather and leather products:</b>													
Total cases .....	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3	9.0	8.7
Lost workday cases.....	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0	4.3	4.4
Lost workdays.....	130.4	152.3	140.8	128.5	-	-	-	-	-	-	-	-	-
<b>Transportation and public utilities</b>													
Total cases .....	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3	6.9	6.9
Lost workday cases.....	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4	4.3	4.3
Lost workdays.....	121.5	134.1	140.0	144.0	-	-	-	-	-	-	-	-	-
<b>Wholesale and retail trade</b>													
Total cases .....	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1	5.9	6.6
Lost workday cases.....	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7	2.7	2.5
Lost workdays.....	63.5	65.6	72.0	80.1	-	-	-	-	-	-	-	-	-
<b>Wholesale trade:</b>													
Total cases .....	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3	5.8	5.3
Lost workday cases.....	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3	3.1	2.8
Lost workdays.....	71.9	71.5	79.2	82.4	-	-	-	-	-	-	-	-	-
<b>Retail trade:</b>													
Total cases .....	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1	5.9	5.7
Lost workday cases.....	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5	2.5	2.4
Lost workdays.....	60.0	63.2	69.1	79.2	-	-	-	-	-	-	-	-	-
<b>Finance, insurance, and real estate</b>													
Total cases .....	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8	1.9	1.8
Lost workday cases.....	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8	.8	.7
Lost workdays.....	17.6	27.3	24.1	32.9	-	-	-	-	-	-	-	-	-
<b>Services</b>													
Total cases .....	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9	4.9	4.6
Lost workday cases.....	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2	2.2	2.2
Lost workdays.....	51.2	56.4	60.0	68.6	-	-	-	-	-	-	-	-	-

<sup>1</sup> Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985-88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

<sup>2</sup> Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

<sup>3</sup> The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;  
EH = total hours worked by all employees during the calendar year; and  
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

<sup>4</sup> Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

<sup>5</sup> Excludes farms with fewer than 11 employees since 1976.

NOTE: Dash indicates data not available.

**55. Fatal occupational injuries by event or exposure, 1996-2005**

Event or exposure <sup>1</sup>	1996-2000 (average)	2001-2005 (average) <sup>2</sup>	2005 <sup>3</sup>	
			Number	Percent
All events .....	6,094	5,704	5,734	100
<b>Transportation incidents</b> .....	2,608	2,451	2,493	43
Highway .....	1,408	1,394	1,437	25
Collision between vehicles, mobile equipment .....	685	686	718	13
Moving in same direction .....	117	151	175	3
Moving in opposite directions, oncoming .....	247	254	265	5
Moving in intersection .....	151	137	134	2
Vehicle struck stationary object or equipment on side of road .....	264	310	345	6
Noncollision .....	372	335	318	6
Jack-knifed or overturned--no collision .....	298	274	273	5
Nonhighway (farm, industrial premises) .....	378	335	340	6
Noncollision accident .....	321	277	281	5
Overturned .....	212	175	182	3
Worker struck by vehicle, mobile equipment .....	376	369	391	7
Worker struck by vehicle, mobile equipment in roadway .....	129	136	140	2
Worker struck by vehicle, mobile equipment in parking lot or non-road area .....	171	166	176	3
Water vehicle .....	105	82	88	2
Aircraft .....	263	206	149	3
<b>Assaults and violent acts</b> .....	1,015	850	792	14
Homicides .....	766	602	567	10
Shooting .....	617	465	441	8
Suicide, self-inflicted injury .....	216	207	180	3
<b>Contact with objects and equipment</b> .....	1,005	952	1,005	18
Struck by object .....	567	560	607	11
Struck by falling object .....	364	345	385	7
Struck by rolling, sliding objects on floor or ground level .....	77	89	94	2
Caught in or compressed by equipment or objects .....	293	256	278	5
Caught in running equipment or machinery .....	157	128	121	2
Caught in or crushed in collapsing materials .....	128	118	109	2
<b>Falls</b> .....	714	763	770	13
Fall to lower level .....	636	669	664	12
Fall from ladder .....	106	125	129	2
Fall from roof .....	153	154	160	3
Fall to lower level, n.e.c. ....	117	123	117	2
<b>Exposure to harmful substances or environments</b> .....	535	498	501	9
Contact with electric current .....	290	265	251	4
Contact with overhead power lines .....	132	118	112	2
Exposure to caustic, noxious, or allergenic substances	112	114	136	2
Oxygen deficiency .....	92	74	59	1
<b>Fires and explosions</b> .....	196	174	159	3
Fires--unintended or uncontrolled .....	103	95	93	2
Explosion .....	92	78	65	1

<sup>1</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

<sup>2</sup> Excludes fatalities from the Sept. 11, 2001, terrorist attacks.

<sup>3</sup> The BLS news release of August 10, 2006, reported a total of 5,702 fatal work injuries for calendar year 2005. Since then, an additional 32 job-related fatalities were identified, bringing the total job-related fatality count for 2005 to 5,734.

NOTE: Totals for all years are revised and final. Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. N.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.